



2019
**SUSTAINABILITY
REPORT**

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CEO STATEMENT

We are publishing our 2019 Sustainability Report while facing one of the major challenges of the century. What we thought would be a health threat has suddenly turned into a global health crisis with unpredictable global socio-economic impacts, hitting countries, economies and people around the world disproportionately in the short and long term.

This unprecedented event accelerated the understanding that globalisation creates not only new opportunities for wealth and trade, but also adverse and unexpected impacts requiring transformative approaches and resilience at the same time. From now on, more flexible and faster responses and, above all, determination will be instrumental in developing new pathways. Working together is and will be more fundamental than ever, and sharing know-how and visions will certainly lead to a new generation of multi-stakeholder partnerships. Businesses, regulators and the investor community are already addressing some of those adverse impacts by jointly supporting the transition to a low-carbon economy, promoting stricter and more transparent due diligence processes as well as by generating or leveraging capital markets driven by impact investing and blended finance models based on ESG criteria.

There is no doubt that in order to create “the future we want”, we need to build a more equitable and sustainable process for development, including financial processes, where no one is left behind. Yet, to achieve this and allow growing tangible contributions to the realisation of the 2030 Agenda for Sustainable Development, we need to further enhance cooperation at all levels to secure the stability and long-term resilience of economies. This is of paramount importance as it is needed to ensure that all stakeholders are better prepared to overcome unexpected disruptions in value and supply chains, without compromising our ongoing collective global efforts towards fostering inclusive sustainable development.

The world needs changes, and we all need to play an active part in redefining the present while building the future. MSC's commitment to fully support this journey is well embedded in our DNA: as a family company, we feel an integral part of the global community. Helping to make this transition happen, through our unique approach to shipping and our fast decision-making process, is very important to us, and we consider it to be part of acting responsibly.

In this new era, we have clearly understood the true value of the word “indispensable” and have reassessed the importance of those activities that have been taken for granted so much that they became invisible. With the world suddenly paralysed, guaranteeing the transport of goods became fundamental and, in this scenario, the shipping industry has been praised for its central role in guaranteeing interconnection at global level. We commend the recognition in this respect received by the international community, including specialised United Nations Agencies such as the ILO and the IMO, in valuing our sector and especially seafarers as essential.

To better illustrate how we successfully translate our commitment into concrete actions, we have included in this report a dedicated section on the global crisis. The latter highlights our support in addressing global trade disruptions and helping to secure economies on the long-term while promoting responsible business practices, in line with our broader sustainability strategy and our four Sustainability Pillars.

During the outbreak and beyond, we played a key role in guaranteeing global logistics supply chain continuity. To do so, we continuously worked closely together with port authorities and relevant stakeholders to mitigate impacts on trade disruptions. Thanks to our global reach, flexible approach and support of governments, we were able to connect our customers with their final receivers, securing a direct consignment. And above all, we never stopped.



Diego Aponte Group President and CEO, **Capt. Gianluigi Aponte** Group Chairman, **Alexa Aponte Vago** Group Chief Financial Officer

Reviewing our contingency plans, adapting capacity and, whenever necessary, redefining our routes to offer better solutions to our customers and business partners, as well as absorbing the shift from air and intra-European cargo, were all part of this momentum. In parallel and, as a direct consequence, we contributed to reducing emissions on a global level, as liner shipping is still less impactful than other modes of transport. Despite this particular situation, we kept focusing on innovating responsibly. The significant fleet growth achieved in 2019 with new-generation ships enabled us to further increase our environmental efficiency, thus pursuing the ambitious challenge of decarbonisation.

Going the extra mile has always been part of the way we do business and we take the same approach to providing help. The initiative of converting passenger ferry vessels from Grandi Navi Veloci, part of the MSC Group, into floating hospitals to assist patients with COVID-19 and those convalescing, in cooperation with relevant stakeholders and Italian authorities, is a clear example.

Yet, all of these efforts have been possible thanks to the people who worked tirelessly to make this happen. All my gratitude, once more, goes to our staff ashore and

on board for their excellent work and for the extraordinary commitment demonstrated in such challenging times. Our top priorities will therefore continue to be strengthening human capital management, ensuring safe crew changes and the safe repatriation of our seafarers, as well as further enhancing robust health and safety protection protocols and measures across our ships, infrastructure and offices.

I would like to conclude by saying that being and remaining a successful and responsible business enterprise in these difficult times does not come without risks and challenges. However, it is the way we react to those risks and challenges that defines us and becomes our strength in the long term. Learning from this experience, remaining committed to excellence and leveraging our ongoing efforts to bring further sustainable value to our customers, communities and countries in our day-to-day operations and wherever we operate will be our very first step.

Diego Aponte
President and CEO

THE MSC GROUP, A FAMILY COMPANY

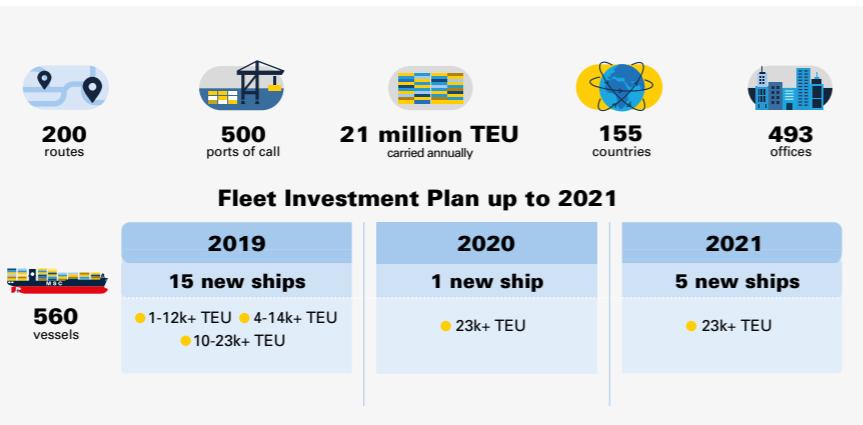
Headquartered in Geneva, Switzerland, and privately owned, the **MSC Group** is a leading shipping and logistics conglomerate.

Guided by an innovative, flexible and unique approach to shipping, MSC's visionary leadership transformed a single vessel operation in 1970 into a successful and sustainable global business. Over the years, despite changing trade patterns, global challenges, and competitive business environments, MSC's human capital, portfolio of activities as well as volume and fleet capacity have grown exponentially.

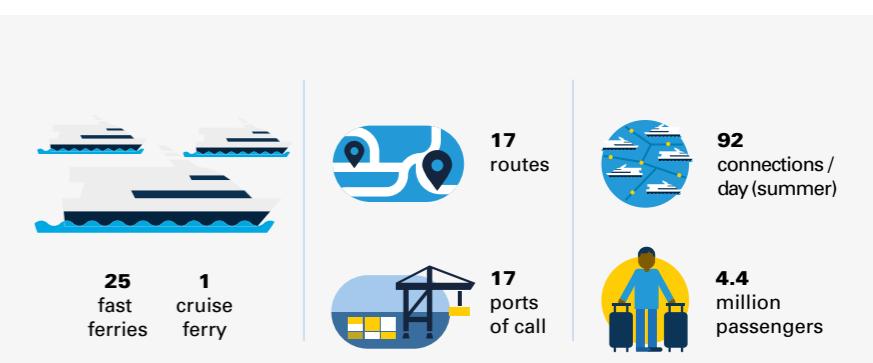
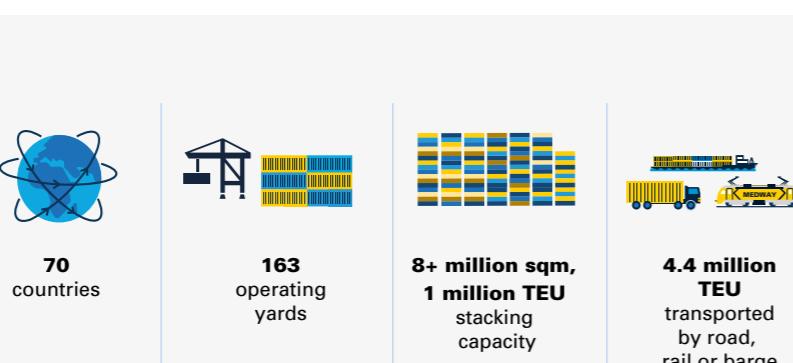
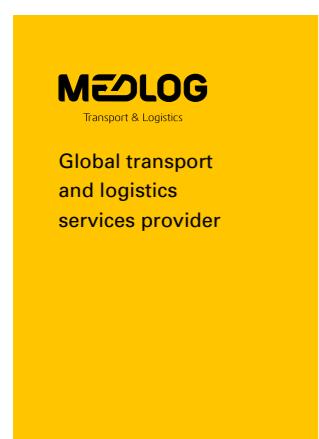
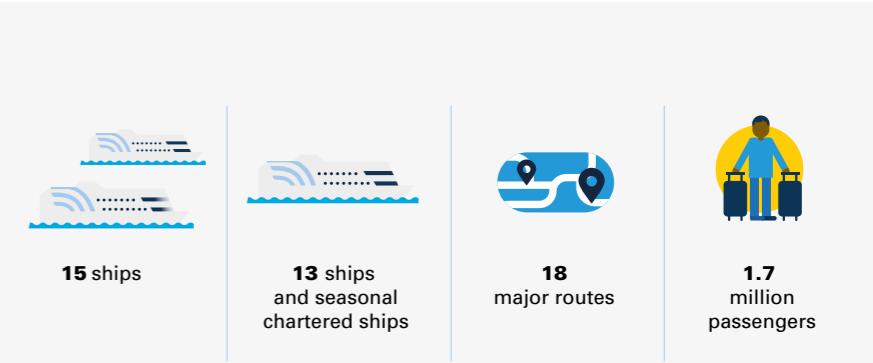
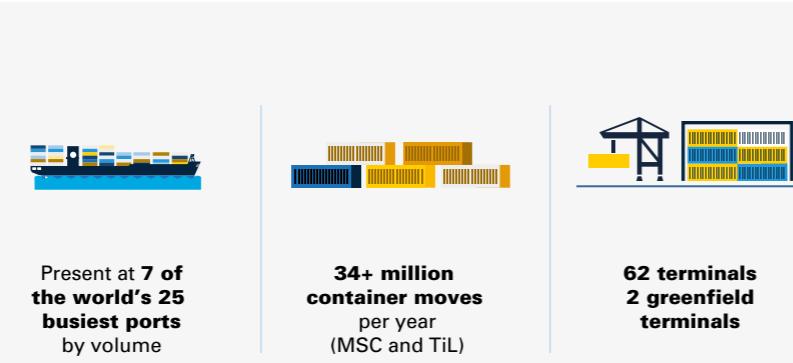
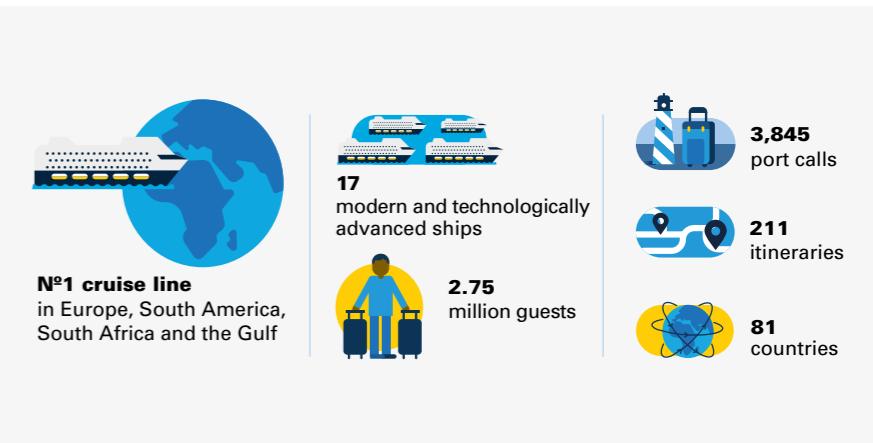
Today, the MSC Group is comprised of the **Cargo Division** (MSC Mediterranean Shipping Company, MEDLOG, TiL) and the **Passenger Division** (MSC Cruises, GNV, SNAV), employing over 70,000 employees for its offshore and onshore operations and activities, which go well beyond cargo services. With investments in terminals in some of the world's key shipping hubs and ports, integrated logistics solutions that stretch across the globe by road, rail and sea, as well as ferries and award-winning luxury cruises, MSC truly connects the world's populations and countries.



CARGO DIVISION



PASSENGER DIVISION



JANUARY

MSC was the primary shore-power user in Shenzhen: 42% of the calls were made by MSC vessels

FEBRUARY

MSC received recognition from Port of Oakland for 100% shore power-ready vessels

MARCH

MSC was the first shipping line to gain recognition for excellence beyond existing safety regulations, for its measures to mitigate fire risks onboard vessels

MEDLOG supported humanitarian relief during Cyclone Idai by providing logistic services

MSC Cruises Christening of MSC Bellissima, a state-of-the-art ship featuring the latest in environmental technology

JUNE

MEDLOG launched the Collateral Management (CM) Programme to promote innovative financial opportunities and facilitate access to finance for exporters or importers

MSC was the first liner carrier in the industry to offer customers the option to offset the unavoidable carbon emissions caused by the transportation of their cargo, thanks to a partnership with South Pole

APRIL

MSC committed to a leadership role in the Digital Container Shipping Association (DCSA) to establish a common technology foundation increasing standardisation and harmonisation within the shipping industry

MAY

MEDLOG activated the integration of four new electric locomotives into its Iberian fleet

JULY

MEDLOG officially became a rail freight operator in Italy, expanding its existing European intermodal network under the name of Medway

JUNE

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AUGUST

MSC The first three of the 23,000+ TEU Gülsün Class ships (MSC Gülsün, MSC Samar and MSC Isabella) were delivered – the largest container vessels in the world

SEPTEMBER

MSC jointly with **MSC Foundation** supported emergency response initiatives after Hurricane Dorian

OCTOBER

MSC was named 'The Greenest Shipowner of the Year' for its efforts to promote the sustainable use of marine resources and investments in green technologies

MSC announced that it will not explore or use the Northern Sea Route between Europe and Asia for container shipping, focusing instead on reducing the environmental impact of existing shipping trade routes

NOVEMBER

Launch of the **MSC Foundation** and disclosure of the main areas of impact

MSC Cruises Christening of MSC Grandiosa, one of the most environmentally sound ships at sea and an energy-efficient role model for modern cruising

DECEMBER

MSC Cruises launched the Ocean Cay Programme, the successful conversion of an industrial wasteland into a natural paradise

MSC is a key driving force behind a USD 5 billion global fund to cut emissions

MSC is the first major shipping line to use 30% biofuel blends

MEDLOG opened a barge terminal inland depot facility in Nigeria to connect inland locations and remote areas

TiL recorded significant increases in the number of TEU moved per quay metre and per hectare of yard space, a rise in berth productivity, as well as a reduction in fuel consumption per move

TiL made full or partial acquisitions at terminals in three strategic global locations: La Réunion, Seattle and Gioia Tauro

HIGHLIGHTS 2019



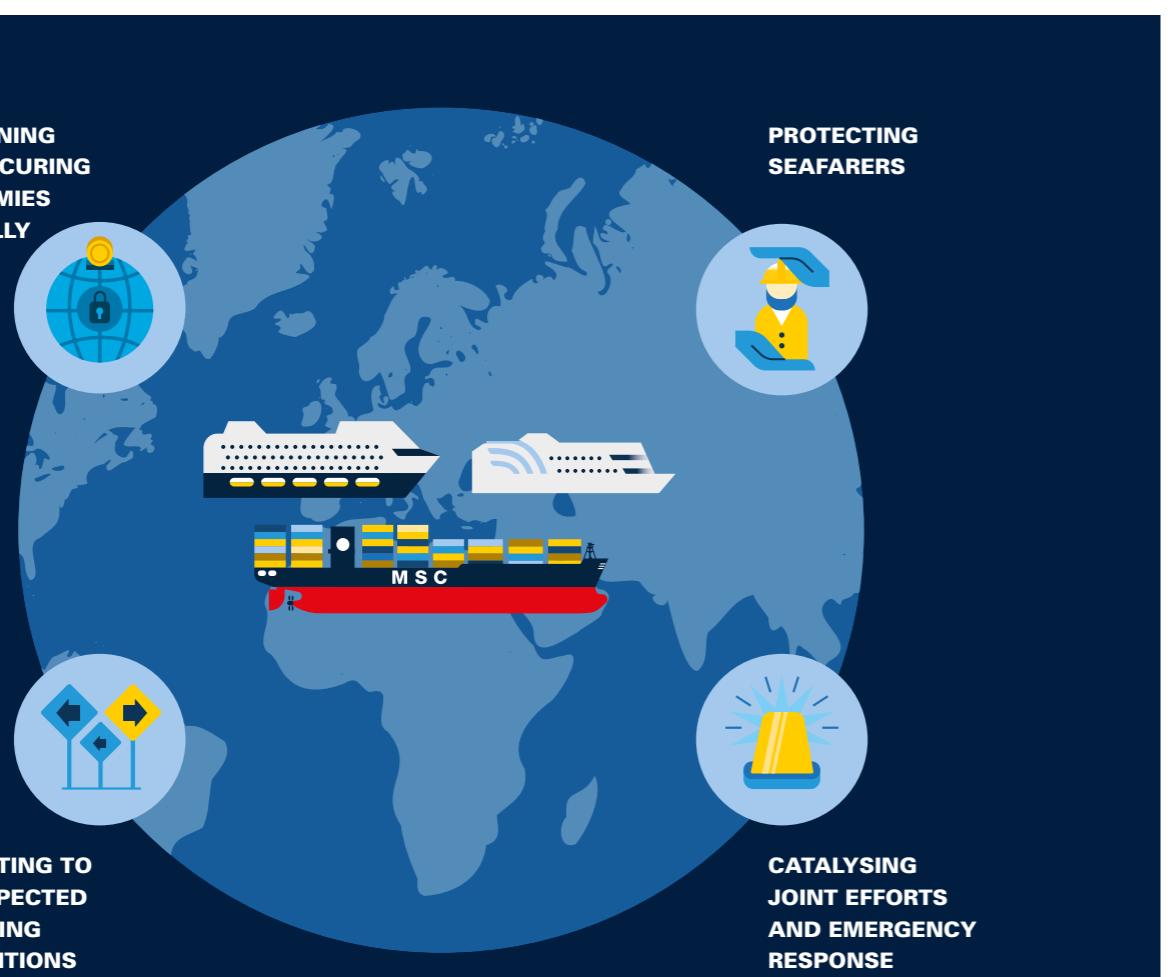
SUPPORTING DEVELOPMENT WHILE ADDRESSING DISRUPTIONS IN GLOBAL SUPPLY AND VALUE CHAINS



KEEPING THE WORLD MOVING RESPONSIBLY DURING THE GLOBAL HEALTH CRISIS

While we were writing this report, the new coronavirus (COVID-19) was suddenly changing our world and the way we were living and working. In just a few months, the pandemic affected all human beings, societies and economies. The global health crisis reshaped production and trade patterns, forcing to re-think global value chains while enhancing concerted efforts at the national and international level to minimise social impacts on workers and communities. Yet, above all, it helped

us to realise that we live in a truly globalised world, which relies on complex integrated systems with strong mutual dependencies across multiple countries. As a result, as never before in the last century, we observed that, although responses and mitigation measures were adapted to local specificities and settings, different cultures or different levels of development, current and future global challenges require and will require shared responsibilities and global solutions.



SHIPPING AS A STRATEGIC ACTOR IN THE CRISIS SCENARIO

This unprecedented event clearly showed the strategic role of the shipping industry in supporting the global economy. In fact, in the early phase, aviation had to dramatically reduce operations because of the closure of many airports worldwide. The transfer of goods was therefore mainly managed by sea.

In this scenario, granting continuity was vital to secure connections at international and intercontinental level and, at the same time, to directly support businesses as well as the distribution of medicines and medical equipment in the critical areas across the world, thus helping to mitigate the spread of the pandemic and to ensure medical treatment for those affected by COVID-19.

As one of the key actors in global supply chains, MSC reacted promptly, showing flexibility, resilience and financial strength, despite the difficult operating conditions. We remained fully committed to ensuring business continuity by maintaining essential services across all markets, thus contributing to the high-priority transport of essential goods such as foods, critical agricultural products, raw materials, medical equipment and other vital supplies. Connecting our customers with their final receivers also has a strategic implication related to the mitigation of the pandemic, due to the possible contamination of the goods during the transfer. Securing a direct consignment and reducing the risk of contamination while providing a door-to-door service are considered instrumental in this particular situation.

Additionally, we adjusted our capacity and, when necessary, reviewed our routes, to absorb the shift from air and intra-European cargo to maritime seaborne trade. As a consequence, this switch generated a significant impact on CO₂ emission reduction in the transport sector. This adds to our existing initiatives, measures and strategies we are implementing to meet and/or exceed international environmental regulations.

Thanks to the support of governments, our work never stopped. This enabled us to play a crucial role in supporting the world's population to enjoy basic needs by keeping trade flowing through our global network at global, regional, national and sub-national levels.

At the same time, MSC enhanced and continued to implement procedures to prevent health risks to its employees around the world and its crew on board ships. As soon as reports of the outbreak emerged, we immediately implemented robust health protection measures across our ships, infrastructure and offices, in line with the official guidance from the World Health Organization (WHO) and in compliance with national authorities' recommendations. We made sure to keep these measures in place as long as necessary to help counter the threat of the disease and protect our people and their families.

SUSTAINING AND SECURING ECONOMIES IN THE LONG TERM

In our efforts to support our customers in minimising disruption to their businesses and in securing the supply chain, we immediately adapted our shipping services networks to help companies ship goods more easily.

In Europe, in particular, we assisted shippers to use our **short sea shipping networks** as a reliable alternative to road transport to avoid new land-border blockages created by governments' essential action to curb the movement of people and to be prepared to meet current and future market demands. Building on our **extensive direct Mediterranean and Baltic feeder network** and in response to market and customer needs, shippers of dry and reefer cargo could rely on **MSC's European and Short Sea services** to help ensure the continuous and quicker flow of their goods across Europe.

Transportation of food, including perishable food, as well as pharmaceutical products and essential goods in Europe, was also ensured by Grandi Navi Veloci (GNV), part of the MSC Group.

As a leading player in supporting the development of the European strategic short-sea and regional connectivity networks known as "Motorways of the Sea", GNV never stopped focusing on supply chain continuity. To illustrate, during the crisis, GNV continued to ensure key services in the Mediterranean region, by connecting the islands to the main inlands and contributing to reduce social costs and traffic congestion: during the period March-May 2020, about 40,000 trucks used maritime services instead of road transport. Examples include services between northern and southern Italy

and from Italy to Spain, Tunisia, Albania and Morocco. Once again, during the outbreak, GNV confirmed its key role in Mediterranean seaborne connections, proving that maritime transport is an "essential infrastructure asset", especially for the major and small island connections. As soon as restrictions eased, GNV also continued to actively promote the growth and revival of the Italian tourism industry through the transportation of passengers (EUROPAX) connecting Italy and its two main islands, namely Sicily and Sardinia.

Furthermore, MSC has continuously worked closely with port authorities and relevant stakeholders to mitigate economic impacts on customers and disruptions to the global community. This was achieved through the constant monitoring of maritime network restrictions and joint efforts focused on adapting our complex supply chain system accordingly. Preserving our usual close contact and relationships with our customers was also essential for us during those challenging times, as a company that has always differentiated itself in the market through our personal touch. In addition to actively upgrading our online booking platform, myMSC, we worked tirelessly to continuously adapt contingency plans and advise our customers on how to manage changes, relying on our efficient internal information-sharing system that collects data from 155 countries.

During the first half of 2020, we also promoted innovative and cost-effective solutions to our customers and business partners. For example, we launched the **Suspension of Transit (SOT) Container Shipping Programme** using some of the world's leading transhipment hubs around the world (Bremerhaven in Germany, Busan in South Korea, King Abdullah Port

in Saudi Arabia, Lomé in Togo, Rodman PSA Panama International Terminal in Panama, and Tekirdag Asyaport in Turkey) as advance yard storage to help shippers begin moving goods early in anticipation of a resumption in demand. This provided flexibility and enhanced operational and financial efficiency, as it empowered our customers through the control of their storage costs at the booking stage, while allowing them to adapt the delivery date to their own needs.

It also helped to decrease congestion in ports of discharge and improve efficiency, as products were placed closer to distribution networks.

At the beginning of the pandemic, a sudden slowdown in trade resulted in a necessary reduction in capacity from container shipping networks in order to match lower demand for cargo shipments. However, as the impact of the crisis lessened during the start of the third quarter of 2020, we kept innovating with new shipping and logistics services, including storage facilities, while adapting solutions from the past. For example, we reintroduced a service which had been discontinued in the past but now perfectly suited a partial recovery in cargo volumes on a particular route. The subsequent rebounds in trade flows after the easing of lockdowns on businesses and communities have underscored the strategic importance of our flexible and reliable network management, as well as our strong competencies in delivering ad hoc services.

More information on how we bring long-term sustainable value and keep enhancing hinterland networks and regional connectivity can be found in the "Social Inclusion" chapter (pages 34-55).



PROTECTING SEAFARERS

The world's seafarers were among the categories of workers hardest hit by the pandemic, with many working long stints at sea due to the closure of borders and other restrictions on the movement of people. During the crisis, a number of statements, calls of action and communications were released by the broader international community urging governments to address the challenges faced by the shipping industry and the world's seafarers.

In June 2020, on the occasion of the International Day of the Seafarer, the UN Secretary-General acknowledged the essential role played by the world's seafarers during the global pandemic, "whose dedication and professionalism keep the vast majority of world trade moving safely, delivering vital goods – including food, fuel and medical supplies." He also stressed that "this year, more than ever, all countries in the world must honour our seafarers by recognising them as key workers and providing the necessary travel assistance to ensure safe crew changeovers and repatriations."

At the same time, the Secretary-General of the International Maritime Organization (IMO) addressed governments to emphasise that "safe ship operations and crew wellbeing should not be compromised. The humanitarian crisis seafarers face has implications for all of us, for the world economy and for the safety of life at sea and the environment."

To help manage the industry problems of crew stuck at sea, MSC extended contracts for container shipping

crew and provided social and financial support in relevant cases, while urging governments to respond to the call of the UN Secretary-General – and many others in intergovernmental and industry bodies – to facilitate crew changes in support of seafarers and their families.

In July 2020, a number of governments with leading global shipping hubs agreed to help seafarers still stranded at sea to return home by easing port and border restrictions and enhancing commercial flights. While welcoming these improvements, we continued to stand side by side with other shipowners and seafarer groups to encourage individual governments to act.

Meanwhile, on the land side, a similar label of importance and expression of gratitude should be aimed at workers in port terminals, depots and warehouses, as well as drivers of container-carrying trucks, trains and barges, who valiantly continued working during the crisis, where government rules permitted them to do so. We believe that the strategic role these workers played, and the value they generated by enabling business continuity, deserve further recognition at a global level.

More information about contingency plans related to prevention of illness, including during pandemics, can be found in the chapter "Occupational Health and Safety" (page 89). For more information on how MSC protects the human rights of seafarers, please refer to the chapter "Business Ethics and Protection of Human Rights" (pages 111-113)



KEY ACTIONS TO HELP ADDRESS THE MAIN CHALLENGES FACED BY THE SHIPPING INDUSTRY AND SEAFARERS DURING THE GLOBAL PANDEMIC



MSC crewing offices have been in close contact with our seafarers and their families to provide support during this period. MSC crew were remunerated as per agreed terms which may also include overtime, extended leave entitlement and certain additional allowances as per our standard terms



At various ports, shipping lines have been able to relieve their crew, thanks especially to the support of the United Nations and various governments in recognising seafarers as key workers



MSC Shipmanagement's technical, safety and support teams have been mindful of the crew condition on board due to delayed relief and have provided additional support not only for day-to-day issues but also motivated crew to share personal stories



MSC worked collectively through global industry associations to further protect its seafarers' health and their working conditions



Other assistance has included financial support, such as cash advances in certain cases, providing ad hoc allocations for seafarers to meet family's needs and for children's education



MSC also engaged directly with intergovernmental bodies and officials in certain countries to address specific repatriation challenges



MSC Shipmanagement offices worked with governments to extend seafarers' certificates, in accordance with IMO guidance, allowing crew on leave to start earning instead of waiting for the renewal of certificates

ENSURING REPATRIATION OF GUESTS AND CREW MEMBERS

In March 2020, following the official announcement by the World Health Organization declaring the COVID-19 as a global pandemic, countries around the world started to close borders and to implement restrictions on international and non-essential travel with a view to limiting the spread of the virus. These measures significantly impacted the travel and tourism sectors, including the cruise sector, requiring prompt and increasing efforts from all operators to address not only unexpected financial consequences but also unprecedented human capital risks and health and safety issues affecting passengers and crew members.

MSC Cruises' operations effectively halted by the end of March 2020. Yet, the company kept working tirelessly for months to guarantee safe working conditions on board, while arranging the repatriation of guests and crews from our cruise ships through charter flights or via other solutions, in collaboration with national authorities. To illustrate, a robust health protocol of periodical medical checks, temperature measurements, preventive isolation and quarantine, as well as the sanitization of spaces and goods has been implemented on board all of

our ships to ensure the health of our crew. A shore-side team of experts has been set up to provide psychological support to the crew to cope with stress, anxiety or other disorders that may have arisen during the pandemic. In parallel, a dedicated team was tasked to continuously monitor flight availability and work closely with authorities and relevant stakeholders in identifying the appropriate ports for disembarkation, including, whenever possible, ports in close proximity with health facilities and hospitals with sufficient capacity to accommodate patients in case of need.

ASSISTING OUR EMPLOYEES WORLDWIDE TO ADAPT TO UNEXPECTED WORKING CONDITIONS

Implementing our existing business continuity plans ensured that operations and customer service could continue, while our people avoided travel and practised confinement or social distancing. Within China, for example, we could keep business going by shifting certain functions to other offices in the country and by relying on the support of our shared services centres in other regions, as part of a plan determined before COVID-19.

The company's leadership was swift to implement a global ban on business travel and to cancel visits to our Headquarters from colleagues, customers and suppliers from the end of January 2020. This advice came just days after local management in China, the country where the first cases of COVID-19 were reported, raised the alarm to halt incoming visits from colleagues. International meetings shifted to video-conference format until further notice, following instructions from Headquarters. Remote working began in our offices in China in January, and subsequently at our Headquarters in Geneva and in many locations around the world. MSC provided IT equipment to enable employees to work remotely. Specific e-learning tools were also available to ensure MSC people could use technology to work remotely in an agile way. Shifting to remote working is part of our established business continuity processes, focused on the advancement of skills and knowledge in respect of both online conferencing and the efficient use of online workspaces. As soon as the situation improved, employees were requested to rotate their time in the office to ensure social distancing. For those coming to the offices, MSC provided protective equipment, including masks and gloves, and circulated strict safety rules to respect at all times.

The leadership, in collaboration with the Human Resources Department based at the Headquarters, regularly evaluated and analysed conditions to ensure that it was sufficiently safe for employees to return to the office.

Employees were provided with regular updates, communications and advice on how to respect safety and preventive measures. Additionally, relevant departments developed specific online tools to support employees around the world in protecting their mental health, enhancing resilience to stress and being able to cope with the difficult living conditions.

During these challenging times, MSC also regularly emphasised the importance of complying with its Code of Business Conduct and reporting any misconduct or violation, either by means of the MSC Speak Up Line or through any of the reporting channels indicated in the section of the Code "Reporting Misconduct." At the time of writing, most of these policies and procedures are still in place.

Additional information on how we promote responsible business conduct and our human rights due diligence processes can be found in the chapter "Business Ethics and Protection of Human Rights" (pages 106-123).



CONTRIBUTING TO COUNTRIES' AND COMMUNITIES' RELIEF EFFORTS

Expressing solidarity towards populations and countries affected by natural disaster, conflicts and other calamities remains a fundamental moral engagement for MSC. Additionally, all entities of the MSC Group have already been involved in similar humanitarian and emergency efforts in the past, in collaboration with relevant local and/or international stakeholders. In this respect, despite the challenging operating and market conditions, we actively contributed to COVID-19 emergency and relief initiatives, supporting a number of countries and communities in their fight against the global pandemic.

GNV FLOATING HOSPITALS IN THE MEDITERRANEAN AREA

Grandi Navi Veloci converted the ferry ship **GNV Splendid** into a floating hospital to aid patients with COVID-19 and those convalescing. GNV started working on the project together with classification society RINA¹ in early March,

in close coordination with Italy's Liguria Health System and Civil Protection. This solution was implemented in a very short period, thus increasing Liguria's hospital capacity and, where necessary, serving other areas of the country.

The project has a high level of flexibility and scalability and can be adapted quickly to meet the future needs of the Liguria Region as the COVID-19 emergency evolves. Stationed at Ponte Colombo in Genoa's Ferry Terminal, the solution offered a total capacity of 400 beds. The floating hospital also featured a heliport and areas dedicated to healthcare personnel and crew, organised to guarantee suitable standards, comfort and flexibility.

RINA verified that the new floating hospital complied with current regulations, identifying the correct balance between safety protection, naval regulations, the medical needs of a hospital indicated by the regional healthcare authority (ASL), and the urgent need to find a means of helping authorities and the National Health Service to address the fight against COVID-19.



¹ RINA is a founding member of the International Association of Classification Societies (IACS), formed in 1968. The purpose of a Classification Society («CS») is to provide classification, statutory certification and services as a Recognised Organisation acting on behalf of a flag Administration, and assistance to the maritime industry and regulatory bodies as regards maritime safety and pollution prevention, based on the accumulation of maritime knowledge and technology. For more information: www.rina.org/en/business/marine; www.iacs.org.uk/about/iacs-vision-and-mission/

This initiative catalysed joint efforts and actions from numerous partners, who provided products and services free of charge, in order to equip the ship with all necessary supplies, including HP-Aruba, Alpha Trading, Artigo Rubber Flooring, San Giorgio del Porto, Auscomar, ItalBrokers, Le Navi Maritime Agency, Burger King, Covim, Emis, Giunti Editore, IdealService, Infomaster, Mantero Sistemi, Provveditoria Marittima Ligure Angelo Novelli and Ansaldi Naval Technical Studio.

More recently, in August 2020, GNV joined forces with other MSC Group entities to provide the Italian government with two additional fully equipped ferries, **GNV Azzurra** and **GNV Aurelia**, to be used as floating hospitals in the south of Italy. Both ferries were made available to assist COVID-19 paucisymptomatic patients

for the entire course of the disease or to host guests needing to quarantine during the confinement period. A specific sanitary protocol has been implemented on board, strictly based on specific guidelines and instructions provided by the Italian Ministry of Health and the Italian Red Cross. Among other specific measures, an important upgrade of the onboard air-conditioning system was carried out by the GNV Technical Department under the supervision of the classification society RINA. The Italian Ministry of the Interior acted as coordinator of the emergency operation, by ensuring the effective implementation and monitoring of proper security measures at local level through its local offices responsible for the territory ("Prefectures") and its national police forces.

MSC GROUP AND MSC FOUNDATION: JOINT EMERGENCY RESPONSE

Additionally, in collaboration with the newly established MSC Foundation, MSC provided masks, medical equipment, food supplies as well as free transportation of emergency humanitarian aid cargo.

MAIN ACTIONS



Donation of more than **120,000** medical masks, value: **EUR 157,000**



Donation of **perishable goods**, value: more than **EUR 200,000**



More than **46,600 kg** of goods delivered, including **5,000** Easter products



6 countries involved for masks and goods: China, Italy, Switzerland, France, Portugal, Brazil, Guinea



China relief special mention: one of the earliest concrete acts of solidarity from outside China and first by any shipping or cruise company



2 containers donated in **Costa Rica**

More information on how MSC contributes to emergency and disaster relief initiatives around the world, through the MSC Foundation, independent actions and/or strategic partnerships with local authorities, partners and specialised humanitarian actors, can be found in the chapter "Humanitarian Aid" (pages 124-133).



LOOKING AHEAD

Despite the challenges we may face, MSC's fast and flexible decision-making process will remain guided by our core values which place employees, customers and our passion for the sea at the heart of our development strategy and business continuity planning. In future, we can only imagine doubling down on adapting to evolving trade scenarios, market needs and broader transformation in global value and supply chains.

Digitalisation has been slow to come to container shipping. Only recently have significant changes started to take place around documentation, finance and booking processes, the incorporation of e-business tools and the online connectivity of equipment. Nevertheless, we must also acknowledge the importance of technology and digitalisation during COVID-19, which have dramatically supported the shift to new ways of working and, we believe, also modified workers' expectations and habits in this respect.

In line with our socially inclusive approach, our investment in innovation, technologies and digital connectivity will promote the safety and the expertise of our employees, not their replacement. We will therefore continue to promote e-learning opportunities, while continuing to invest in enhancing physical connectivity between countries through our integrated network of road, rail and sea transport resources, which stretches across the globe.

Furthermore, MSC is currently focusing on improving existing emergency preparedness and response continuity/contingency plans, as well as health and safety operating protocols onboard our cruise and cargo ships. These are based on scenario analysis and designed in accordance with relevant international, national and/or regional guidelines.

We are and will remain fully committed to further enhancing existing management systems to minimise risks related to human capital management, as well as passenger and crew safety, both during the outbreak and in post-pandemic operations.



INTEGRATION OF SUSTAINABILITY INTO THE BUSINESS

GOVERNANCE: DECISION-MAKING AND COMMITMENT

MSC's sustainability governance structure is designed to support the progressive integration of ongoing and emerging strategic economic, social and environmental topics across the organisation. Our broader approach to sustainability focuses on the promotion of responsible business conduct in accordance with MSC Values, our Code of Business Conduct and applicable good corporate governance requirements in the countries of operation. Additionally, management measures, processes and priorities are set and formulated in line with international standards, regulations and principles. These include but are not limited to:

- A wide range of sector-specific international standards and requirements defined by maritime and labour conventions adopted at the international level by the United Nations
- Relevant standards developed by the International Standardisation Organization (ISO) and recognised Classification Societies
- Broader internationally recognised sustainability best practice, standards and principles, as well as voluntary commitments and pledges such as operating responsibly in alignment with the United Nations Global Compact's Ten Principles

Overall responsibility for sustainability rests with the Group Executive Sustainability Steering Committee, comprised of the Company Leadership and senior executives from various departments at the Geneva Headquarters. This Committee oversees the formulation and planning of sustainability objectives in alignment with MSC's business strategy and priorities, by providing policy guidance to key business units, functions and departments implementing related standards, policies

and processes. It also ensures that measures and activities reflect relevant external stakeholders' expectations and comply with the complex regulatory framework in which MSC operates.

REPORTING LINES

The Sustainability Steering Committee is advised regularly by Department Heads and subject matter experts from across the Company. Multiple corporate departments provide insights and counsel to senior management in the form of briefings, presentations and direct correspondence. Furthermore, due to the complex nature of our legislative and operational framework, MSC relies on the expertise of various teams based at its Headquarters to support sustainability initiatives and assist relevant departments in implementing sustainability matters throughout the Company's value and supply chains, as well as in embedding these within the business model. Activities include, for example, briefings, ad hoc training, improvement of policies, processes and procedures, and interactions with external stakeholders from both the private and public sector. Our approach is regularly evaluated and improved based on internal assessments and developments at the national and/or international level. Cross-departmental working groups are regularly formed as needed, to provide diverse expertise to management on cross-cutting themes.

MSC's sustainability subject matter experts also actively participate in international or sector-specific fora to advance good corporate practices by sharing best practices or expertise. Progress is regularly reported in our Sustainability Reports and in related external communications published on our official website.

MSC Headquarters, Geneva, Switzerland



METHODOLOGY AND MATERIALITY ASSESSMENT

CHOOSING OUR MATERIAL TOPICS

This report clarifies how MSC's decision-making process and day-to-day-operations bring inclusive social progress and contribute to economic growth on a global scale, while promoting respect for responsible business practices and the protection of the environment. Our materiality approach remains driven by our four Sustainability Pillars, which have been identified through a global assessment taking into account our complex regulatory frameworks, our sector specificities and the MSC Group Values.

This approach enables us to have a broad framework of reference, which can be adapted to a number of internal and external factors which are impacting the international shipping sector and global value and supply chains. This is essential to us, as we consider our materiality assessment a continuous process, allowing us to strategically redefine it against megatrends, evolving trade patterns and customers' needs, as well as ongoing and future global and geopolitical challenges.

In addition, we focus on reporting areas which are relevant to our wide range of key stakeholders and on the progress we make in terms of social impacts, environmental performance and governance efforts, both as an individual company and as part of collective actions. Regarding governance, given the complex nature of our regulatory frameworks, it is paramount that we stress how we ensure compliance with laws, including compliance with international standards, relevant maritime conventions adopted at the international level by the United Nations as well as our progress in implementing standards and recommendations defined and/or formulated by third parties such as recognised Classification Societies. This illustrates our commitment to invest in and conduct our business activities responsibly. Moreover, some "Case Studies" have a focus on specific programmes and initiatives which show how we cooperate/we work jointly with local communities, business partners and other stakeholders with a view to keeping and maintaining a constructive dialogue thus to contributing to enhance a social positive impact at local operational level.

In line with the above, each chapter of our 2019 report contains relevant information and explanations related to the shipping sector's regulatory frameworks, considerations related to compliance requirements and comprehensive lists of international conventions and regulations for each key area. Concrete examples included in this document demonstrate how we operationalise and implement relevant recommendations and international and/or sector-specific guidelines developed by a number of stakeholders, including the international community. This approach is fully integrated into our risk assessments and project finance processes.

While this report covers the 2019 fiscal period, we decided to extend the reporting scope to provide information on how we responded to the 2020 global health crisis, which, regrettably, while we are finalising this report, is still impacting economies and societies at a global level. In this respect, we have added an introductory section which describes our significant contribution to the UN 2030 Agenda for Sustainable Development despite the difficult operating conditions and the evolving scenario we are experiencing. In particular, we have highlighted how our decision-making process remains guided by our core values, the ESG factors and the United Nations Global Compact's Ten Principles, when addressing challenges and major global disruptions. To better demonstrate our systemic approach to sustainable development, we have linked our main actions and steps to each of our four Sustainability Pillars and related chapters. We have also illustrated the leading role we play in supporting economies in the long term, without compromising our strong commitment to environmental stewardship and to act responsibly, in accordance with internationally recognised human rights and labour standards. Furthermore, we have stressed our continuous engagement with key stakeholders, including national authorities and business partners, to ensure trade flow continuity and to minimise adverse impacts on populations, economies and regional and global markets. And this, we believe, goes far beyond a "business as usual" approach.

EMBEDDED MATERIAL TOPICS IN THE DECISION-MAKING PROCESS



ASSESSING AND IDENTIFYING IMPACTS ON THE SDGs

Being part of the international shipping sector, MSC contributes and impacts all Sustainable Development Goals (SDGs). Indeed, as we could observe during the 2020 global pandemic, transportation is one of the key sectors to secure and meet the basic needs of the world's population. In our globalised and interconnected societies, physical connectivity remains the prerequisite for inclusive growth and development.

In this respect, we design our risk assessment processes by giving a broader definition of the nature of the impacts we may have on societies, communities and countries. In particular, in line with the OECD Guidelines for Multinational Enterprises (MNE Guidelines) we not only manage and mitigate risks internal to our business, we also consider risks external to our business and the potential adverse impacts that may derive from our activities. We focus on how our investments and operations create value and positive impacts on populations and our planet with a long-term perspective. This includes considerations related to our contribution to addressing global issues and challenges, such as poverty and climate change.

Our approach is embedded in the different activities of each of our entities, taking into account their respective sector's specificities and the local contexts in

which they operate. Impacts may differ, however, our decision-making process and our systemic and dynamic assessment methodology remain the same. This report therefore explains how the different investments and initiatives undertaken by the MSC Cargo Division around the world take into account Environmental, Social and Governance (ESG) factors, with a view to maximising opportunities for generations to come and minimising forces that are affecting inequality as well as disruptions in global economies.

STAKEHOLDER ENGAGEMENT

In measuring potential impacts, being a global company with interests all around the world and given the nature of our business, we are in constant interaction with our key stakeholders, both from the public and private sectors. Their views and expectations are therefore involved and integrated in our decision-making process and risk assessment process. Multi-stakeholder engagement is also promoted as part of our partnership strategies or when addressing our sector's shared challenges. Additionally, with a view to continuously improving our internal processes and procedures, we regularly seek the participation of our internal stakeholders through surveys and/or interviews.



OUR IMPACT: CORE STRATEGIC AREAS AND CONTRIBUTION TO THE SDGs

- People-centred approach whilst supporting the development of international trade, which contributes to long-term inclusive social and economic growth
- Promoting cleaner seas, land and cargo through massive investments in low-carbon technology, energy efficiency and operational efficiency; continuous investments in responsible innovation and latest available technologies
- Whether on land or at sea, the health and safety of our people is our top priority
- Conducting business in a fair, ethical and responsible manner, promoting the respect of internationally recognised human rights and labour standards, including steps to identify, mitigate and prevent the risks of modern slavery in operations and supply chain

MSC

- Connecting people, continents, and economies through the MSC's global network
- Addressing global development challenges and priorities
- Trade facilitation and adaptation to evolving customer needs and unpredicted events
- Facilitating access to global shipping markets including for Small Islands Developing States-SIDS, Landlocked Developing Countries-LLDCs (which have no access to the sea)
- Enabling growth of shipping-related industries and services in emerging, developing countries, Least Developed Countries-LDCs and Small Islands Development States-SIDS
- Supporting the world's populations to meet their basic needs
- Capacity building: promotion of local employment opportunities without discrimination
- Enabling women's empowerment
- Protection of the environment and biodiversity
- Responsible use of natural resources

MEDLOG

- Increasing inland regional and inter-island connectivity
- Facilitating access to the global shipping market including for SIDS and LLDCs
- Supporting small players through ad hoc transportation solutions
- Investment in reefer technologies and sharing of know-how and expertise
- Continuous investment in and promotion of efficient and sustainable freight transportation systems
- Inland logistics centres to minimise and reduce negative externalities
- Capacity building: promotion of local employment opportunities without discrimination
- Strategic support for sites during national emergencies or natural disasters

TIL

- Modernisation of existing infrastructure and/or greenfield terminals, in collaboration with the International Finance Corporation (IFC), a branch of the World Bank, local stakeholders and/or governments (PPPs)
- Addressing growing coastal urbanisation/terminal congestion through operational efficiency
- Investments in climate change resilient infrastructure
- Deploying of state-of-the-art infrastructure, technologies and equipment
- Capacity building: vocational training
- Strategic support for sites during national emergencies or natural disasters



SOCIAL INCLUSION



MEETING EMERGING AND EVOLVING MARKET NEEDS TO FOSTER SUSTAINABLE DEVELOPMENT

According to the European Community Shipowners Associations (ECSA), "in a globalised world, the seamless and sustainable transport of goods and passengers is a key enabler for growth and prosperity. 90% of everything we consume travels to us by sea. Without any doubt, shipping is at the very centre of our globalised world."² Over the past 50 years, MSC has been shipping products, everyday goods and essential supplies across all continents, becoming an industry leader in the international

shipping sector. MSC is at the heart of global trade, contributing to the growth of many different sectors, developing and linking global supply chains in a responsible way. Additionally, MSC strives to continuously adapt to changes and challenges in global trade patterns by developing tailor-made end-to-end transport solutions to help customers and business partners to reach new markets and opportunities all around the world.

BOOSTING EFFICIENT LOGISTICAL AND DISTRIBUTION NETWORKS FOR LOCAL PRODUCERS AND INTERNATIONAL BUSINESS PARTNERS

"Maritime stakeholders are seeking more efficient and sustainable operations in the face of changing power dynamics and stricter environmental regulations. The short sea and feeder shipping sector is playing a valuable part in this evolution."³ Short sea shipping refers to the movement of cargo by sea over relatively short distances as opposed to intercontinental cross-ocean deep sea shipping. MSC's combination of deep-sea services and short sea services, connected to its landside intermodal operations, enable reliable door-to-door deliveries for dry and reefer cargo. This also allows us to help maximise the flow of regional supply value by offering integrated systems that strategically link transport solutions by sea, road, railway and

inland waterways on a global scale. Our aim is to further enhance strategic opportunities for both local actors and international business partners, driving economic and social growth in the long term. In line with the above, MSC continues to expand not only its freight transportation services but also its transshipment operations, as well as its logistics and terminal networks. Challenges in creating and improving physical infrastructure around the world remain. However, we continue to fill this gap through massive investments in container terminals and related facilities, such as warehouses and depots, while expanding our short sea services and feeder networks with extremely short transit times.

We also remain committed to contributing to port development by continuously improving productivity and operational efficiency. In doing this, we are developing and implementing sustainable and environmentally friendly measures and processes, in line with applicable national and international regulations and standards. Additionally, we are increasing hinterland networks and connectivity between regional and/or emerging hubs

and main consumption and production centres. This decreases port congestion and further enhances the viability of cross-border and regional trade when delivering both domestic and international cargo. It also allows us to proactively adapt our services to better anticipate our customers' evolving needs and to be prepared to meet current and future market demands.

COMBINED SHORT SEA AND INTERMODAL SERVICES: CREATING VALUE



Expanded freight capacity



Reducing the last mile distance carried by trucks, strengthening safety, reliability and minimising congestion and negative externalities



Helping to maximise the flow of **regional supply value**



Short transit times and increased on-time delivery



Ensuring business continuity despite changing trade patterns and geopolitical dynamics



Ad hoc expert advice and support offered by MSC's network of local agencies



Cost-efficient solutions



Lower emissions compared to other modes of transport, allowing significant CO₂ savings



Enabling **domestic and foreign market access** by increasing connectivity between regional/emerging hubs and main consumption and production centres around the world



Increased **flexibility and trade facilitation**, supporting local actors and international partners to address current and future domestic and foreign trade demands

² Source: ECSA Strategic Priorities for EU Shipping Policy 2019-2024

³ Source: www.greenport.com/news101/coastlink/short-sea-shipping-a-sustainable-option

CASE STUDY

FEEDER SERVICES AND INTERMODAL SOLUTIONS IN ASIA

MSC continues investing heavily in developing or enhancing existing regional and international trade corridors, including through feeder operations in strategic locations around the globe. Among container vessel sizes, feeders are the smallest segment with under 3,000 TEU of capacity. Feeders bring shipping containers to and from smaller or regional ports via international or transshipment hubs, serving bigger ships travelling on long-haul lanes.

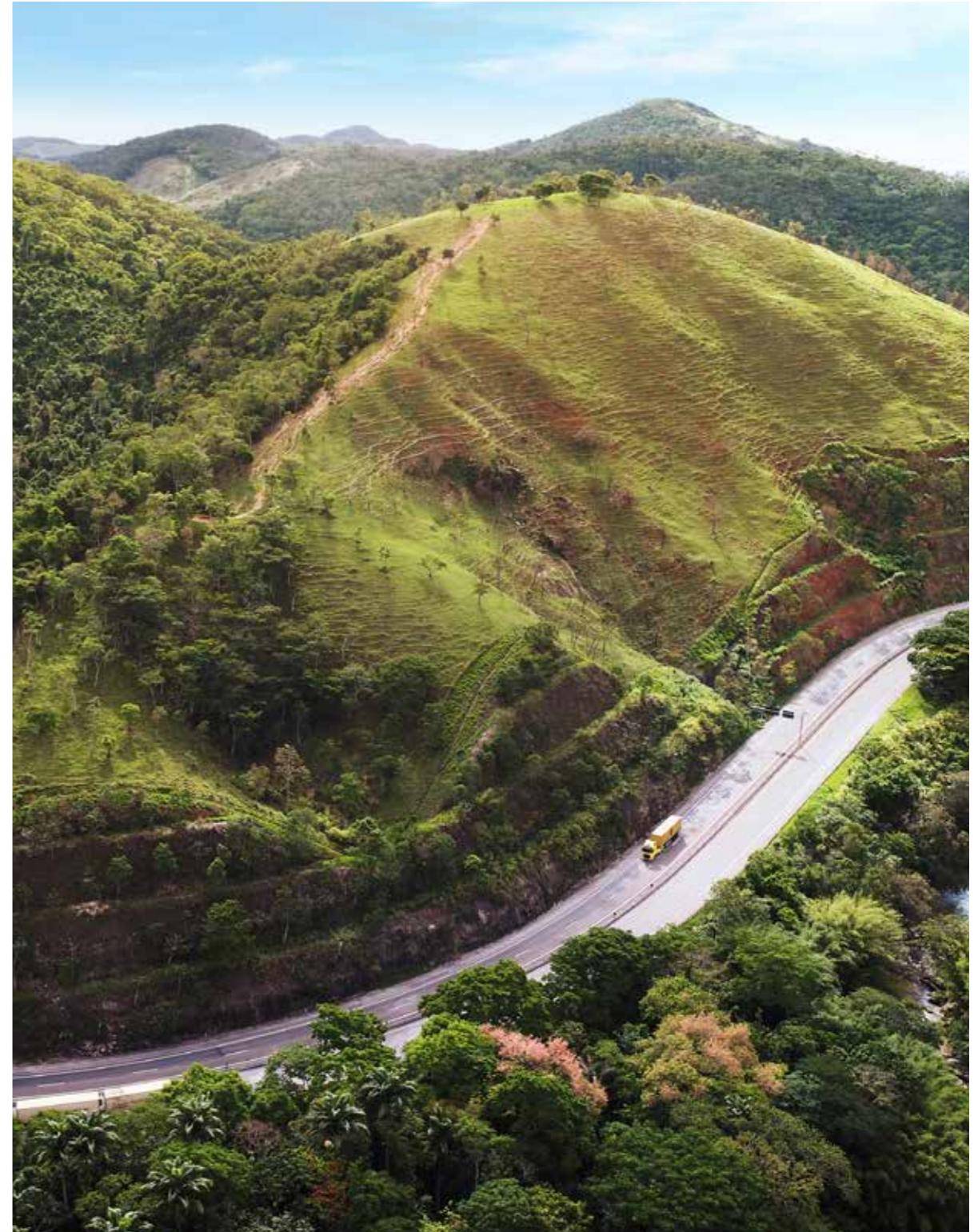
As an illustration, in April 2019 MSC joined the Intra-Asia trade, launching a number of dedicated feeder services, ensuring reliable services and competitive transit times between North East Asia and South East Asia. These services aim to further enable and support the growth of other trades by developing and enhancing cargo flow, while providing alternative solutions benefiting local shippers and producers, significantly impacting on local economies.

Figures reported by Alphaliner in December 2019 showed that the total capacity deployed in the Intra-Asia trade is equal to nearly three million TEUs, representing the largest capacity employed in a regional trade. Yet, such capacity is utilised for the Intra regional cargo and to assist bigger ships, with their long-haul/international cargo.

In the coming years, MSC is expected to further grow its network coverage in the region by introducing additional services, connecting regional terminals with major hubs in Asia.

Additionally, MSC has been expanding its competitive and sustainable inland transport solutions by increasing its intermodal transport routes through its subsidiary MEDLOG. In particular, during 2018 and 2019, MEDLOG China increased multimodal transportation services for inland manufacturers providing connections to Central West Europe and West Asia, benefitting from the decision of the local government to enhance critical structural infrastructure. Additionally, MEDLOG China has been working with local MSC Offices to jointly develop landside services in order to extend the company's capabilities to provide door-to-door services. Alternative ad hoc logistics solutions were also implemented through the use of RoRo and special equipment size types, in collaboration with both local and offshore MSC and MEDLOG counterparts. This helped to decrease the expected congestion during Chinese New Year and enabled us to meet the demand for more efficient and reliable services.

INTRA-ASIA FEEDER SERVICES



SUPPORTING THE SHIFT FROM TRUCKS TO ALTERNATIVE OF INTERMODAL SOLUTIONS

FOSTERING WATERWAY OPERATIONS WITH BARGES

MSC, through its subsidiary MEDLOG, supports the shift from trucks to alternative modes of transport by investing in the most efficient and sustainable intermodal solutions, wherever possible. In particular, we are enhancing our inland depot network in strategic areas to be able to use inland waterways such as rivers and canals, which allow us to significantly reduce the distance covered by trucks.

According to the European Commission, "the potential for increasing the modal share of inland waterway transport is significant. Compared to other modes of transport which are often confronted with congestion and capacity problems, inland waterway transport is characterised by its reliability, energy efficiency and major capacity for increased exploitation."⁴

In line with the above, through our investments in barges, we are promoting energy efficiency, supporting the reduction of congested corridors, and minimising negative externalities for populations. Additionally, barges allow us to further increase the safety level of operations especially when transporting dangerous

goods. Barge owners and/or operators comply with the highest safety standards, requirements and international regulations for waterway operations as defined by relevant stakeholders and by maritime conventions adopted by the International Maritime Organization (IMO) where applicable. Auditing, monitoring and evaluation processes are carried out by relevant Flag State authorities and/or certified third parties, such as recognised Classification Societies in their role as IMO-defined Recognized Organizations (RO) which also issue certificates verifying compliance. These processes aim to prevent unnecessary risks to employees and the environment, and to ensure safe operations throughout the integrated intermodal logistics chain, including operating, managing or handling third parties' assets. Where no inland and/or intracoastal waterways are available, MSC promotes its intermodal transportation solutions through its railway network to achieve the same goals.

⁴ Source: https://ec.europa.eu/transport/modes/inland_en



CASE STUDY

INCREASING INTERMODAL CONNECTIVITY IN BENELUX, GERMANY AND FRANCE

MEDLOG has been offering integrated intermodal solutions to a wide range of stakeholders and business partners in Belgium, The Netherlands, Germany and France since 1998. Our operations benefit from the increased inland waterways network developed by the European Commission in key regions and from the empty container network owned by Medrepair, MEDLOG's subsidiary.

In recent years, MEDLOG began promoting alternative intermodal services, improving reliability while enhancing financial efficiency for its key stakeholders. In 1998 only a minority of our carriers' haulage containers were

moved intermodally, compared to by truck. Today, MEDLOG cooperates with a wide range of suppliers offering more than 150 weekly barge sailings which are used to transport containerised freight via rivers and waterways. In 2019, approximately 120,000 containers were transported using barges instead of trucks via the ports of Antwerp and Rotterdam.

Transporting containers using barges as the main transport mode allows for a significant reduction in absolute CO₂ emissions. As a transport mode, trucks are more than three times more polluting than barges, as shown in the graphic below.

COMPARISON OF CO₂ EMISSIONS FROM TRUCKS VERSUS BARGES (G/TON/KM)⁵



Truck

162.6 grams
per ton/km



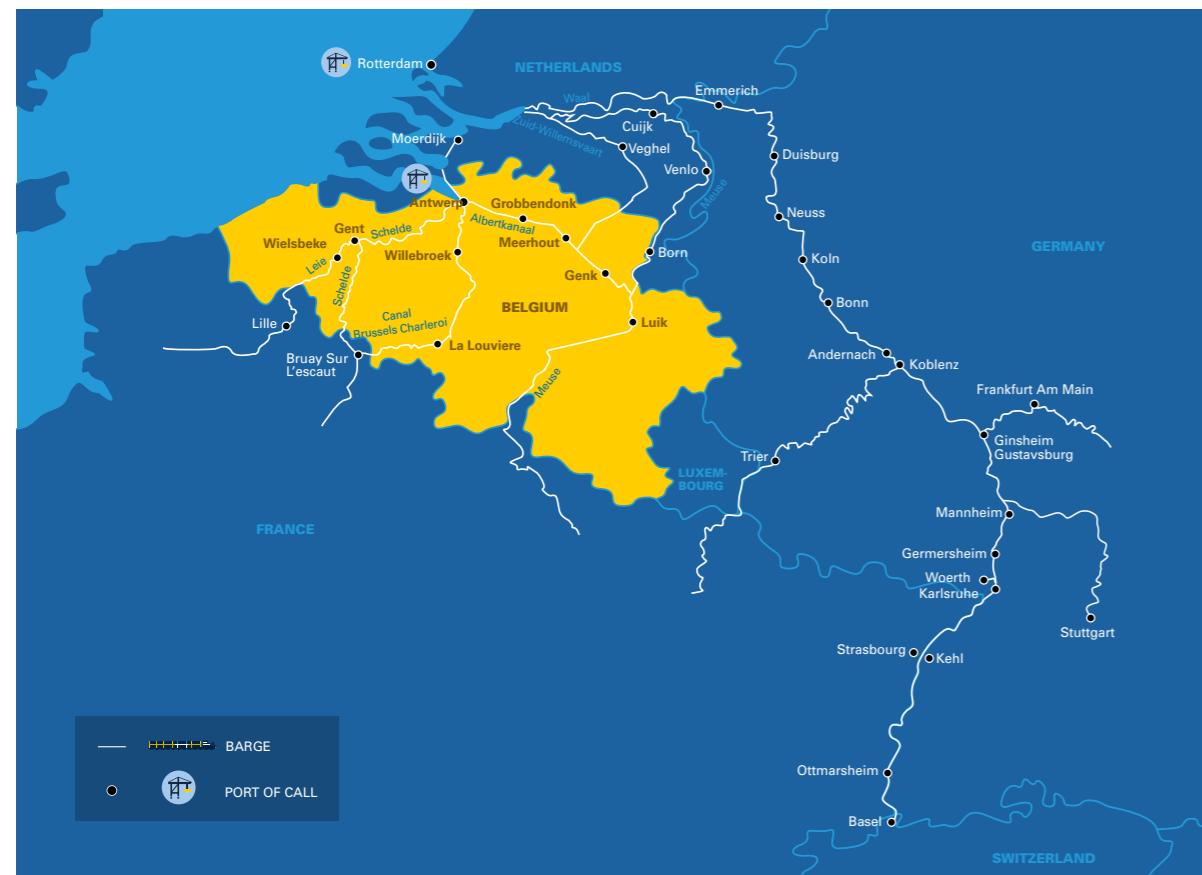
Barge

48.1 grams
per ton/km

⁵ Source: UK Department for Business, Energy and Industrial Strategy (BEIS) Greenhouse gas reporting: conversion factors 2018

The average distance of our carrier haulage is roughly 250km (round trip) and the average weight is 18 tons. Whilst truck transport is mainly on a round trip basis, intermodal transport by barge is based on one-way transport with only the first or last mile performed by truck; the empty container is picked up at or returned to one of our inland depots. When the main carriage is by barge, the truck part of the transport is reduced, allowing a reduction of total "road kilometres" of 45km to 100km. Furthermore, whenever possible, MEDLOG also actively promotes rail transport, offering a complete service with low emissions.

TERMINAL AND DEPOT NETWORKS (KEY EUROPEAN REGIONS)



In January 2020, MEDLOG moved the first cargo in northern France via the new, enlarged barge service to Bruay sur Escaut in the Hauts de France region, which covers a large area along the French-Belgian border. This first and last mile service benefits from the recent regional infrastructure investment made by the Flemish government in Doornik, a city in the Belgian/French border area, which allows barges of up to 2,000 tons to be operated.

CASE STUDY

SUPPORTING THE REDUCTION OF ROAD AND TRAFFIC CONGESTION IN NIGERIA

In December 2019, MEDLOG opened a barge terminal and depot facility in Nigeria in the western part of the Lagos Port. The infrastructure complies with the sector-specific Environmental, Health and Safety Guidelines for Ports, Harbours and Terminals produced by the International Finance Corporation (IFC)⁶. It also follows and continuously improves management systems and contingency plans for fire prevention, flooding and handling of dangerous cargo.

The facility promotes the shift from trucks to barges up to 70 metres in length and with 50 TEUs capacity, significantly reducing the congestion around Lagos port. Additionally, this new solution optimises land operations and reduces transit times up to one week, allowing importers and exporters to have a reliable and cost-effective solution, and cost-effective service.

Furthermore, the use of barges allows for the replacement of up to 50 trucks per day. This contributes to reducing both CO₂ emissions and the risk of road accidents in the port and its hinterland.

To meet the local market demand, MEDLOG Nigeria also offers intermodal services to connect our recently constructed depot with inland locations and remote areas. Our depot and trucks exceed local environmental compliance requirements, in order to reduce noise and air pollution and ensure safer working conditions for our drivers. To be hired, our drivers must have relevant certifications and strictly follow our policies.

As part of its broader sustainability strategy, MEDLOG Nigeria has built an access road to its barge terminal with a drainage system that prevents the area from flooding during heavy rain seasons, which also benefits local communities. In addition, MEDLOG Nigeria plans to allocate 5% of its annual net income to local communities. The 2020 budget will be approx. USD 250,000 and will be allocated to schools and water projects in line with regional development plans.

KEY FIGURES



Barge terminal:
18,000 sqm



110 locally recruited employees



Training on operational management and process control to enhance the technical and managerial skills of local managers (Commercial, Business Development and Finance Control for Heads of Departments)

Depot:
20,000 sqm

More than **200 indirect employees**

⁶ For more information: www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/sustainability-at-ifc/publications/publications_policy_ehs-portsharborterminals

PROMOTING RAILWAY NETWORK CONNECTIVITY

HIGHLIGHTS



Fleet of **4,282** wagons



Operations in **6 countries**
(**Turkey, Russian Federation, India, Portugal, Spain, Italy**)
with **4 different gauges**

KEY FIGURES



MEDWAY present as rail freight undertaking in Portugal, Spain and Italy;
Fleet of 78 locomotives



Total investment of more than EUR 100 million (2016-2019 period)

COMPETITIVE ADVANTAGES AND ASSETS



555 direct employees



Extensive investment in **capacity building and capital intensive**



Dedicated HQ Team
coordinating **MSC's Rail Strategy**
and driving development of
regional railway company



MSC continues to focus on developing the logistic and intermodal supply chains both at the local and global level. We believe in the potential of the railway sector and therefore we are enhancing our investments in equipment, assets and inland rail facilities.

In 2016, MEDLOG, MSC's logistics arm, historically a service provider, became a rail operator by acquiring the former national rail freight operator CP Carga, today renamed "**MEDWAY**".

Currently, we have a strategic focus in Europe and especially in Portugal, Spain and Italy where MEDWAY runs its own trains as a rail operator, providing tailor-made and reliable services to customers. In the coming years we plan to become rail operators in the majority of European countries.

Additionally, in line with MSC's broad sustainability approach, MEDWAY is promoting the shift from trucks to train, fully supporting Sustainable Development

Goal 3, Target 6 (SDG 3.6) and the European Commission's long-term goal to halve road casualties by 2020 and move close to zero fatalities in road transport by 2050⁷.

With this in mind, MEDWAY developed its own Health and Safety Management System (HSMS), approved by the European Rail Agency (ERA), which ensures compliance with a wide range of security and safety requirements. The HSMS also establishes appropriate management systems aimed at preventing, reducing and minimising any unnecessary risk to workers, communities and the environment.

Furthermore, MEDWAY operates in full compliance with the "**Regulation concerning the International Carriage of Dangerous Goods by Rail**" (RID)⁸ which has been transposed and enforced also in the countries of the European Union (EU) and of the European Economic Area (EEA)⁹ through European Directive 2008/68/EC.¹⁰

⁷ Ref: EU Safety policy framework for 2021-2030 and strategic action plan on road safety, both published in May 2018 as part of the 'Europe on the Move' package. Source: https://ec.europa.eu/transport/modes/road/news/2019-04-04-road-safety-data_en

⁸ For more information: https://otif.org/en/?page_id=1105

⁹ EU countries (2020 data): Austria, Belgium, Bulgaria, Croatia, Republic of Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain and Sweden; the EEA includes EU countries and also Iceland, Liechtenstein and Norway. It allows them to be part of the EU's single market. Switzerland is not an EU or EEA member but is part of the single market. Source: www.gov.uk/eu-eea

¹⁰ For more information: www.unece.org/index.php?id=25748

In line with the RID, MEDWAY conducts regular inspections on each train before departure. Also, a dedicated auditing team, which includes three certified Dangerous Goods Advisors, verifies compliance of procedures and operator competences as well as all applicable regulations related to the transport of dangerous goods.

TERMINAL AND DEPOT NETWORKS (KEY EUROPEAN REGIONS)



IN THE NEXT FIVE YEARS (2020-2024 PERIOD), MEDWAY PLANS TO INVEST:



EUR 380 million in private rail inland terminals: Lousado (Portugal), Saint Petersburg (Russia) and Cortenuova (Italy).



EUR 100 million in 26 new-generation interoperable locomotives. These have 15% more tractive effort and can pull trains up to 2,500 tons. They therefore have increased carrying capacity and are thus more efficient. Equipped with the latest technologies on board to guarantee driver safety, the new locomotives will be also fitted out with assisted guidance and automation.



EUR 15 million to acquire 300 new freight wagons with "whisper" brakes, fitted with an innovative composite material allowing a significant reduction of noise. Sophisticated telematic systems are able to track, monitor and report physical parameters such as weight, temperature and humidity levels of cargo. This will also increase the reliability and safety of the equipment, supporting predictive maintenance to eliminate unexpected failures.

More information about MEDWAY's investments in electric locomotives and key environmental initiatives to reduce CO₂ emissions and improve energy savings can be found in the "Environment" chapter (pages 56-87).

OFFERING VOCATIONAL TRAINING AND LOCAL JOB OPPORTUNITIES FOR YOUNG PEOPLE IN THE RAIL SECTOR

MEDWAY is currently supporting local capacity-building in the rail sector in collaboration with several stakeholders by offering tailor-made vocational training with its highly specialised trainers. Based on a comprehensive analysis of the labour market and related business outlooks, MEDWAY is also supporting national and regional development plans focused on reducing unemployment rates by promoting job creation in the railway industry.

As an illustration, since 2019, MEDWAY has been collaborating with the Scuola Nazionale Trasporti e Logistica¹¹ located in La Spezia, Italy, by offering vocational training for young people interested in pursuing a career as a train driver or rail operator. The school is the first training structure in Italy dealing only with logistics and transport. The vocational training programme is funded by the European Social Fund (ESF) Operational Programme (OP)

for the Liguria Region, Italy, and focuses on "employability, equal opportunities and helping young people make the transition from education into high-quality jobs"¹². In this respect, MEDWAY has developed ad hoc training modules to ensure that young people acquire the necessary expertise, technical competence and deep knowledge of innovative processes, procedures and equipment to become highly skilled professionals and enter the Italian railway's labour market. Additionally, as part of the agreement with the Liguria region, MEDWAY does not require any fees for these training opportunities and is committed to recruiting 70% of students upon completion of the courses. In 2019, 20 students completed the training. Additional courses will be launched for new apprentices in 2020.



¹¹ For more information: www.scuolatrasporti.com/en/home/

¹² Source and for more information: https://ec.europa.eu/regional_policy/en/atlas/programmes/2014-2020/italy/2014it05sfop006

CASE STUDY

IMPLEMENTING “I RAIL ACTION” TO SUPPORT INTEROPERABILITY IN KEY EU RAIL FREIGHT CORRIDORS

In recent years, the European Commission has enhanced its efforts to remove barriers that prevent the expansion of European rail logistics chains by promoting interoperability¹³ across Europe. The main objective of the interoperability strategy is to standardise the several sub-systems of the European railway network, at all levels, creating an enabling environment for operators and other relevant stakeholders that will allow trains to cross countries and contribute to the creation of a European Rail Network that is much more competitive and less fragmented. To achieve this, the European Commission is harmonising requirements, procedures and technical standards. Additionally, several member states have further increased their investments in structural infrastructure, for example by building new lines for passenger and freight trains and refurbishing existing infrastructure to allow an increase in train' length, weight and gauge in tunnels.

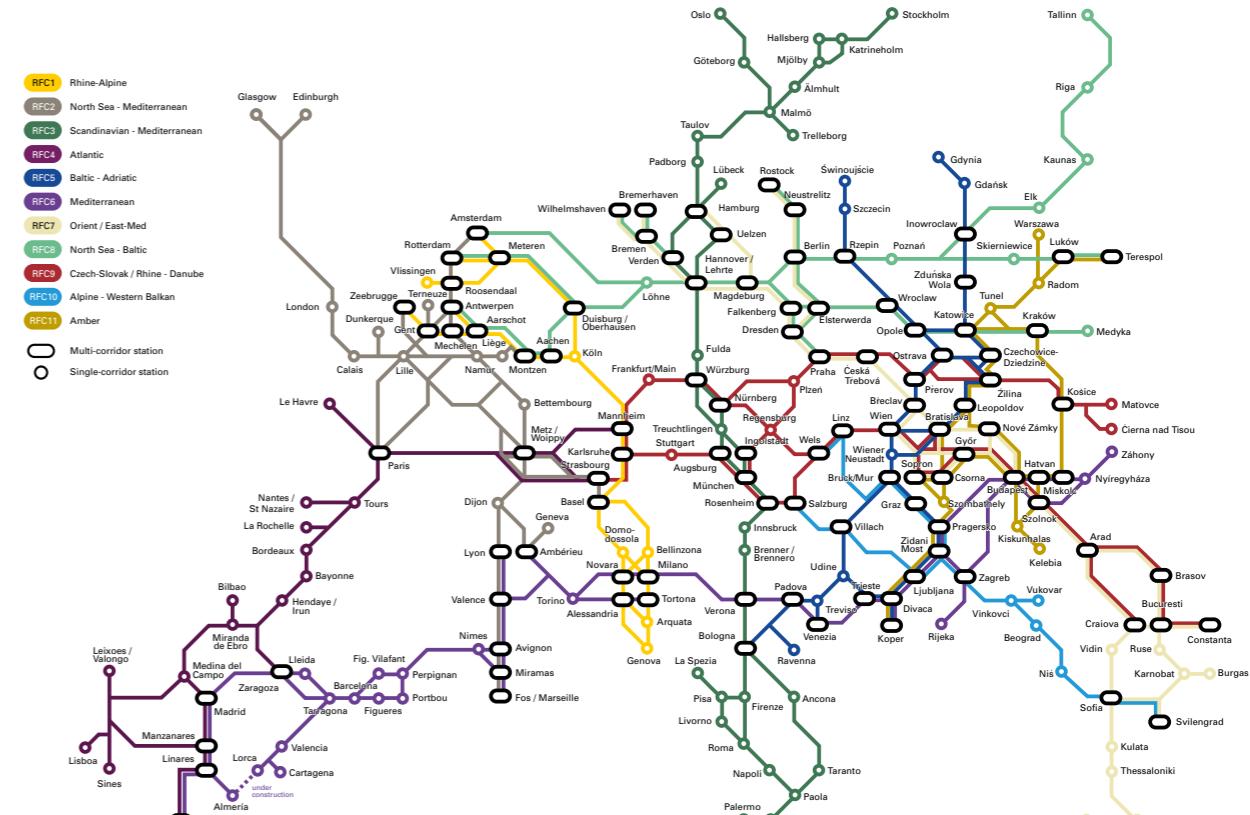
In line with the above approach, MEDWAY Iberia is currently implementing the project I RAIL Action, co-funded by the European Commission, which aims to implement European-wide procedures and interfaces between rail actors, in order to contribute to an interoperable and cost-efficient information exchange system within EU member states. The I RAIL project will support railway undertakings, infrastructure managers and wagon keepers, helping to ensure interoperability and data safety in five of the eleven EU Rail Freight Corridors: Mediterranean, Atlantic, Rhine-Alpine, Scandinavian-Mediterranean and Baltic-Adriatic.

MEDWAY is active in the Atlantic and Mediterranean corridors. We expect the project to have significant long-term impacts on several EU member states, as the actions will allow interoperability between any of the five corridors and the exchange of information will follow standard specifications.

The main expected project outcomes focus on the following specific objectives:

- Increasing the competitiveness of small and medium-sized railway undertakings, which must meet the requirements in terms of complexity of TAF TSI functionalities
- Improving the speed and quality of communication between rail stakeholders by replacing manual work and paperless processes through the implementation of TAF TSI standards and the digitisation of safety procedures
- Reducing operational costs by an average of 10% per year by implementing TAF TSI standards and the digitalisation of the Safety Management System
- Enhancing the efficiency of processes by planning in advance and decreasing idle time in operations by an average of 10-15%, resulting in improved service quality and cost-effectiveness.

RAIL FREIGHT CORRIDORS (RFCs) MAP 2020



Source: <http://rne.eu/rail-freight-corridors/rail-freight-corridors-general-information/>

¹³ Interoperability is regulated by the Interoperability Directive 2008/57/EC, amended by Directive 2016/797/EU and Safety Directive 2016/798/EU, which establish Technical Specifications for Interoperability (TSI), essential to ensure that trains can run safely and seamlessly throughout the entire European Union rail system. Link: www.era.europa.eu/activities/technical-specifications-interoperability_en.

CASE STUDY

EXPANDING INTERMODAL AND SHIPPING SERVICES VIA THE PORT OF TRIESTE, ITALY

According to Oxford Economics,¹⁴ the European shipping industry directly contributed EUR 54 billion to the EU Gross Domestic Product (GDP), employing 685,000 people. However, the same report reveals that if the spill-over effects on other sectors of the EU economy are taken into account, the total contribution of the European shipping industry rises to EUR 149 billion, providing employment opportunities for 2 million people.

Since its creation, MSC has been a key player in Europe, extensively supporting job creation and dramatically contributing to the development of connections between regional corridors and the rest of the world. Today we continue to focus on this strategic area, through massive investments in infrastructure, terminals and sustainable integrated shipping and logistics solutions.

For example, to complement our outstanding global port coverage, with over 200 sea-freight services worldwide, MSC developed a European intermodal network connecting Trieste Marine Terminal, in the north of Italy, to a number of inland destinations. The planning of the rail connections was coordinated with MSC's Far East Phoenix ocean-liner service to ensure efficient and competitive transit times for shippers. As of today, MSC provides direct calls from the Trieste Marine Terminal to the eastern Mediterranean area, Greece, Turkey, the Red Sea and Asia. Optimised connections from the Terminal to the rest of the world are ensured via Gioia Tauro Transshipment Terminal, located in the south of Italy.

Thanks to its advantageous geographical position, Trieste Terminal can serve multiple inland destinations in faster and more efficient ways compared to the standard route through which North and Eastern Europe are served. Indeed, a container shipped from Asia or Turkey to a German inland destination needs up to six extra navigation days to reach the main discharging port, where it continues its journey via rail. This not only improves the efficiency of the transportation itself, but also allows for the reduction of CO₂ emissions and thereby enhances the sustainability of the transportation. MSC collaborates with leading European retailers to provide tailor-made transport solutions. Through close coordination with customers, MSC focuses on individual shippers' needs and unique requirements, helping our business partners and customers to optimise their respective supply chains.



DIRECT CONNECTIONS FROM TRIESTE PORT



WORLD COVERAGE VIA GIOIA TAURO TRANSSHIPMENT TERMINAL



¹⁴ Source: Oxford Economics - The Economic Value of EU Shipping - Update 2020

TRIESTE MARINE TERMINAL'S KEY HIGHLIGHTS

Trieste Marine Terminal (TMT) started its operations in 2001, positioning itself as a key gateway in the heart of Europe. Today, the two shareholders of the terminal are Terminal Investment Limited (TiL), MSC's subsidiary, and the Maneschi Family, which has been acting in the shipping and terminal management business for the last 40 years. TMT extensively supports long-term inclusive social and economic growth in the region, while promoting operational efficiency, energy efficiency and CO₂ reductions thanks to its strategic location and through its rail facilities and intermodal networks.

FINANCIAL INVESTMENTS



**2015-2019 approx.
EUR 30 MILLION**

- Upgrading of **4 Ship-to-Shore (STS) cranes**
- 12 new reach stackers (mobile lifting machines)** to move containers in the terminal yard
- New Terminal Operating System (TOS): Navis N4** (one of the most used and state-of-the-art systems in the market)
- Second track** for the terminal rail gate
- 25 new terminal tractors**
- New stacking area**
- Upgrading of **7 RMG yard cranes**
- 78 additional direct employees**
- Terminal expansion in 2020**
100 metres length x 400 metres width

ECONOMIC BENEFITS



VOLUMES IN 2019:
688,000 TEU
(55% increase vs. 2015¹⁵⁾



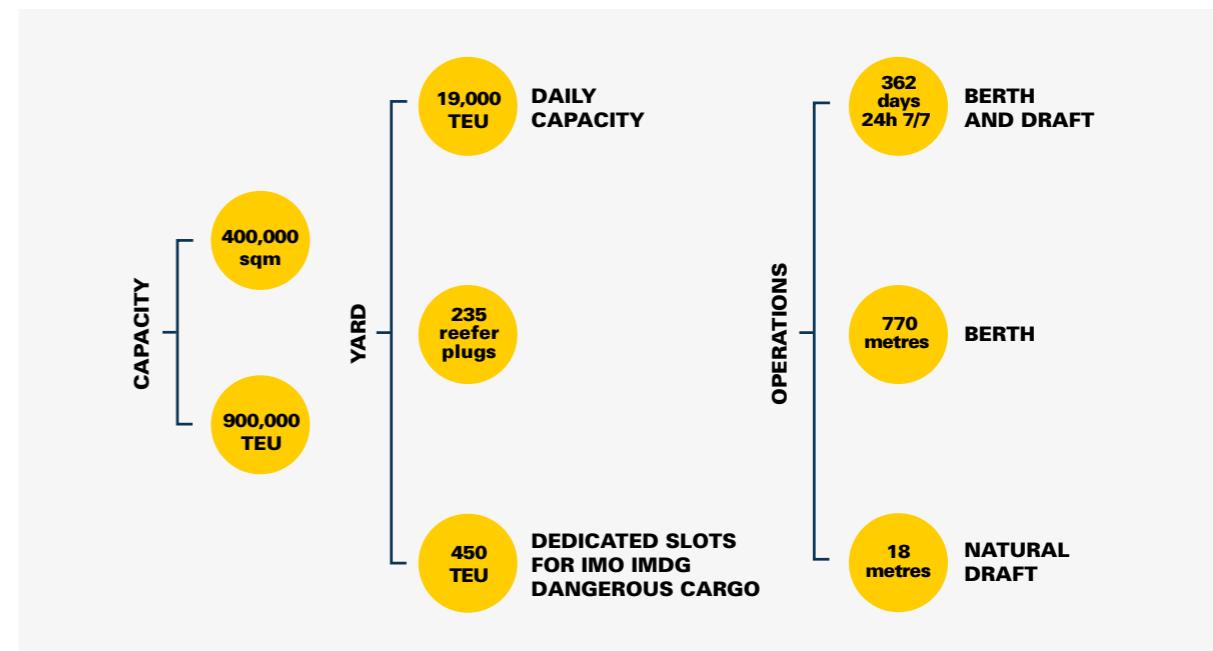
297 DIRECT EMPLOYEES
(an increase of **80 people** in 3 years)



OVER 150 INDIRECT EMPLOYEES
if we consider the external companies working directly for TMT
(several thousand if we consider the community working around the terminal)



STRATEGIC ASSETS



¹⁵ Source: www.trieste-marine-terminal.com/sites/default/files/attachment/Statistics%20-%20History%202004-2019.pdf

RAIL INFRASTRUCTURE SUPPORTING THE INTERMODAL NETWORK



Increased capacity from 12,300 (in 2019) to 17,000 trains per year (in 2020) thanks to the recent upgrading programme of the Port Authority and RFI carried out in 2019 and 2020



CFS station: 2,500 sqm covered area



5 rail tracks: 600 metres each



Dedicated cranes for operations

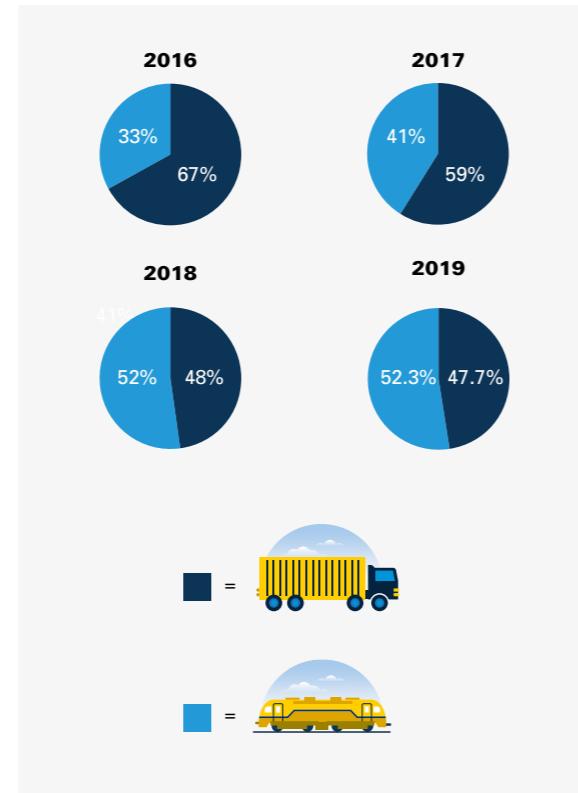


CO₂ emission reduction through the promotion of the shift of mode of transport (from trucks to trains): a reduction of approximately 7,800 tons of CO₂ was recorded in 2019. This amount was calculated by using the tool developed by Eco TransIT¹⁶.

SOCIAL INITIATIVES

Trieste Marine Terminal (TMT) is one of the most active logistics companies in the region, significantly contributing to the regional and national economy. In recent years, the Terminal carried out a number of actions to further strengthen the relationship between the citizens and the port community, in collaboration with major local stakeholders such as the yearly "Port Open Day". Furthermore, TMT is also a sponsor of various initiatives targeting the younger generations living in the region, including local sport clubs such as the main Trieste football and basketball teams.

TMT TRAFFIC COMPOSITION, A GROWING MODAL SHIFT BETWEEN TRUCKS AND RAIL



TRAINING AND APPRENTISHIP PROGRAMMES FOR YOUNG STUDENTS

Direct investments in school courses and the local Maritime Academy are further examples of how Trieste Marine Terminal actively participates in the social and economic life of the community. As an illustration, TMT supports selected transport and logistics learning programmes in schools. In particular, training and apprenticeship programmes have been launched in collaboration with the local Nautical Institute and the Maritime Academy. TMT managers regularly provide ad hoc courses on agreed key subject matters and accompany students during their visits to the container terminal.

INCREASING ACCESS TO FINANCE TO PROMOTE THE DEVELOPMENT OF THE AGRICULTURE SECTOR AND ALLEVIATE POVERTY

As part of its broad, holistic approach to sustainable development, MSC promotes innovative financial opportunities to facilitate access to finance for exporters or importers, through its subsidiary MEDLOG.

The **Collateral Management (CM) Programme**, launched in 2019, is a tripartite contract between MEDLOG, financing entities (bank, funds, seller) and borrowers in which goods are under custody of the collateral manager (MEDLOG) as a "third party holder". MEDLOG implemented this programme in collaboration with international institutional partners, local banks and Multilateral Development Banks (MDBs). The Collateral Management and its warehouse receipts are also used by the International Finance Corporation (IFC), a member of the World Bank Group, under its **Global Warehouse Finance Program (GWFP)**¹⁷. According to the IFC, "about 75% of the world's poor are rural and involved in farming and agriculture. The GWFP program is part of IFC's efforts to increase access to finance for farmers and to promote agriculture development as a means of alleviating poverty."

The programme aims to overcome barriers related to the lack of accessible credit that borrowers may face. It gives producers and traders the opportunity to grow their business, or start activities for newly established companies. It also supports local trade opportunities, preserves jobs and helps "increase market efficiency so that commodity producers will have more options to time the sale of the products and have better cash flow management". The programme provides local banks with liquidity (short term loans) or risk coverage (credit guarantee) backed by warehouse receipts. Exporters have access to financing by keeping farmers' goods

in a warehouse under Collateral Management. They have more flexibility regarding the timing of their sales and reimbursements. They pay back the loan once their goods are sold.

The CM programme fits perfectly into the value chain offered by MEDLOG SA and the MSC Group. So far, the CM programme has been implemented in East Africa, benefitting coffee producers and rice importers in West Africa. Cocoa and cashew in West Africa are also in discussion to support producers. Brazil will be the next step.

ENABLING SUSTAINABLE SUPPLY CHAINS

MSC also supports business partners, local producers and exporters by continuing to invest in cold chains and the latest available cooling technologies. Our reefer solutions allow fresh commodities to reach different trade areas, securing food supply regardless of the season and preventing food waste in the event of low market demand. Additionally, MSC's Controlled Atmosphere (CA) containers help perishable goods to travel further and for longer, potentially opening up new markets for exporters and importers.

By increasing the supply and affordability of quality food around the world, reliable cold chains can help reduce poverty, foster responsible consumption and promote the right to health.

Additional information on our investments in reefers and cold chain technologies can be found in the "Environment" chapter (page 80).

¹⁶ EcoTransIT World compares energy consumption, CO₂ and exhaust atmospheric emissions for planes, cars, trains and trucks.

The methodology behind the calculations is sound and scientific, taking a life cycle-based approach to energy, and is approved by the European Environment Agency; link: https://uic.org/sustainable-development/energy-and-co2-emissions/ecotransit-world?gclid=Cj0KCQjwyPbzBRDsARIsAFh15JYtPEQx-U53EmkddihLbBR2oLlqiwuxYaosfas0QDUjCgypagFBA8aApJoEALw_wcB

¹⁷ The Collateral Management and its warehouse receipts, are also used by International Finance Corporation (IFC), a member of the World Bank Group, under its Global Warehouse Finance Program (GWFP)



ENVIRONMENT



THE OCEAN IS OUR HOME

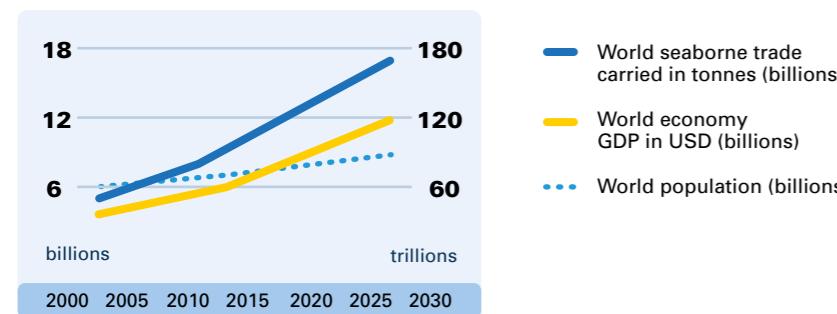
For MSC, the ocean is our home. We are part of a thriving ocean economy upon which we, and many millions of people all over the world, depend. Climate change poses short, medium and long-term risks to populations on every continent. Communities already in disadvantaged situations and vulnerable people are, and will continue to be, disproportionately affected by climate change effects, according to the Office of the High Commissioner for Human Rights (OHCHR)¹⁸. Addressing this global challenge with a clear understanding of interconnected social impacts is at the top of the international agenda and requires a multi-perspective approach. Since 1990, global annual greenhouse gas (GHG) emissions have risen by 41%¹⁹. To play our part in tackling this,

MSC's environmental focus is on vessel and operational efficiency, and emissions reduction. We are working hard to make a positive contribution to the associated SDGs, notably SDG 3 (Good Health and Wellbeing), SDG 13 (Climate Action) and SDG 14 (Life Below Water), while also providing a service that brings value to society. As a family-owned company, with a long-established seafaring heritage, MSC makes commitments knowing that they must succeed and endure. The trust of valued clients, partners and employees depends on this assurance. We see our focus on sustainable operations as a primary way to contribute to lasting business partnerships and future generations.

DECARBONISATION TRANSITION

Shipping is a vital facilitator of world trade: 90% of everything we consume travels by sea. Cargo transported by the liner shipping industry represents about two-thirds of the value of total global seaborne trade²⁰. There has been a 73% increase in world GDP in the last two decades; in parallel, seaborne trade has increased by more than 112% over the same period²¹. As shown in the graphic below, a consistent increase in world seaborne trade is expected over the next decade. In this scenario the decarbonisation transition poses a significant challenge for the whole industry, with direct impacts on the environment as well as on the global economy.

PREDICTED INCREASES IN WORLD SEABORNE TRADE, GDP AND POPULATION²²



¹⁸ www.ohchr.org/EN/Issues/HRAAndClimateChange/Pages/HRClimatChangeIndex.aspx

¹⁹ www.wri.org/

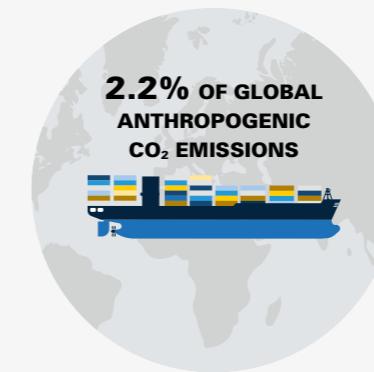
²⁰ Source: IHS Global Insight - economic contribution of liner shipping industry data November 2009/data 2007

²¹ The economic value of shipping and maritime activity in Europe, Oxford Economics (2016)

²² Source: Predicted Increases in World Seaborne Trade, GDP and Population. IHS Global Insight; World economy-OECD Statistics; World Population-UN Department for Economic and Social Affairs, Population Division www.ics-shipping.org/shipping-facts/shipping-and-world-trade/predicted-increases-in-world-seaborne-trade-gdp-and-population

In terms of the CO₂ impact of shipping, it has been estimated that the sector is responsible for 2.2% of total global anthropogenic emissions. However, shipping already compares favourably to other transport modes with respect to fuel efficiency and CO₂ emissions (grams per tonne-kilometre)²³.

SHIPPING INDUSTRY (0.3% OF GLOBAL GDP)



2019 global GDP: USD 87,265 billion

Shipping contribution: USD 261 billion

(Source: <https://stats.oecd.org/>)

CO₂ EMISSIONS: SHIPPING IN COMPARISON WITH OTHER TRANSPORT MODES



²³ 3rd IMO GHG Study, 2014

In addition, some shipping companies, including MSC, have already significantly improved their efficiency, as indicated by a reduction in the Energy Efficiency Operational Indicator (see page 63). MSC believes that decarbonisation of shipping is necessary. We support the ambitious emissions reduction targets that have been set by the International Maritime Organization²⁴(IMO) and are already investing heavily in available solutions and working hard with key partners to develop scalable and innovative solutions to reach these targets. We also acknowledge that decarbonisation depends on technology breakthroughs in propulsion technology and zero emission fuels. We are contributing to collective efforts in those areas through our participation, for example, in the **Global Industry Alliance**²⁵ (**GIA**), whose primary goal is greenhouse gas emission (GHG) reduction from the shipping sector. We are also members of the **Clean Cargo Working Group**²⁶, a leading buyer-supplier forum for sustainability in the cargo shipping industry. We have expressed our support for and helped shape plans to create a USD 5 billion environmental research fund²⁷, which aims to help international shipping achieve the transitions required to

meet the IMO's goal. It could even help accelerate the development of commercially viable zero-carbon ships by the early 2030s.

In parallel with the aforementioned collective initiatives, MSC is investigating emissions reduction solutions related to biofuel blends (see pages 66-67) and inter-modal solutions (as described in the chapter on Social Inclusion, see pages 34-55). We are evaluating applicable innovative solutions such as hydrogen fuel cells, complementary battery power, other alternative fuels and, possibly, wind and solar, to help accelerate research and development initiatives that will help meet our emissions reduction ambitions.

MSC believes that green financing mechanisms offer great potential to drive sustainability performance with a long-term approach. Lending or investment arrangements which integrate environmental, social and governance factors can serve as both an enabler and a facilitator of projects with positive social and environmental outcomes. MSC will continue to explore and intends to implement such new initiatives in the coming year, while cooperating with the key stakeholders to define criteria and targets.

EMISSION REDUCTION SOLUTIONS TO SUPPORT DECARBONISATION



ACTIVATED

- Biofuel blends
- Intermodal transport services
- Shore power



BEING EXPLORED

- Hydrogen fuel cells
- Complementary battery power
- Alternative fuels

²⁴ Reduction in carbon intensity of international shipping (to reduce CO₂ emissions per transport work, as an average across international shipping, by at least 40% by 2030, pursuing efforts towards 70% by 2050, compared to 2008); and reduction of total annual GHG emissions from international shipping by at least 50% by 2050 compared to 2008

²⁵ <https://glomeep.imo.org/global-industry-alliance/global-industry-alliance-gia/>

²⁶ www.clean-cargo.org/

²⁷ www.ics-shipping.org/news/press-releases/2019/12/18/shipping-sector-proposes-usd-5-billion-r-d-board-to-cut-emissions

REDUCING EMISSIONS FURTHER

READINESS FOR IMO 2020

On 1st January 2020, the Amendment to the IMO International Convention for the Prevention of Pollution from Ships (MARPOL) Annex VI regulation regarding IMO's sulphur limits (IMO 2020) came into effect. It aims to tackle the cardiovascular, respiratory and other diseases linked to poor air quality. For ships operating beyond designated Emission Control Areas (ECAs), it limits sulphur in fuel oil used to 0.5% (mass by mass), compared to a previous limit of 3.5%. This amendment will lead to an estimated 77% drop in overall sulphur oxide (SOx) emissions from the shipping sector, or an annual reduction of approximately 8.5 million metric tonnes of SOx²⁸.

FUEL SUPPLY CHAIN ESTABLISHMENT

To meet the sulphur emissions limit, many MSC ships switched to low sulphur fuel oil. MSC achieved timely and systematic preparation for IMO 2020 thanks to its status as a world leader in maritime transport as well

as its strong, well-established partnerships with major global fuel providers. These partnerships allowed the necessary flexibility during the transition period, ensuring compliance in all global regions and at all the ports in which MSC operates.

The coming into force of IMO 2020 is possibly the most significant disruption in shipping since commercial containerisation became widespread in the 1960s. Impacts extend beyond ship owners and operators too, as markets, manufacturers, retailers, consumers and maritime technology specialists are also affected by aspects of the transition to low-sulphur emissions operations. It is the most significant regulatory change for the shipping industry as a whole to ever be implemented. Throughout 2019, MSC was assiduous in its implementation of the final preparations for compliance with this regulation, with efforts focused on: (i) supply chain establishment for low sulphur fuels, (ii) ensuring IMO 2020 implementation onboard, and, (iii) Exhaust Gas Cleaning System (EGCS) installation.



²⁸ www.imo.org

ENSURING IMO 2020 COMPLIANCE ONBOARD

For a fleet as large as MSC's, throughout 2019, the preparation of vessels and crew for IMO 2020 required significant planning, investment and training, as well as communication and documentation of fuel handling and changeover management. MSC Shipmanagement developed and issued detailed internal guidance on the aspects listed below, with regular training for crew ashore and on board, in a classroom context and/or by webinars, to ensure proper implementation.



Fuel tank preparation was a major focus. Provisions were made for the emptying of main and overflow fuel tanks and the transfer of any remaining heavy fuel oil (HFO) to sludge tanks. Across the MSC-owned fleet approximately 4,000 fuel tanks, including storage tanks, and settling and service tanks, required cleaning to be ready to bunker 0.5%S fuel oil, known as very low sulphur fuel oil (VLSFO). Fuel tank cleaning at MSC began with the recruitment of dedicated teams from MSC Crewing Offices and selected vendors. More than 300 personnel were engaged worldwide in the onboard task of cleaning fuel tanks in the 10 months leading to implementation of the IMO 2020 regulation. Tasks related to tank cleaning and preparation were mostly carried out during navigation of the vessel, to avoid service disruption. MSC worked with a qualified maritime expert consultancy to develop a Ship Implementation Plan (SIP) for each vessel to ensure full and timely compliance

with IMO 2020. Specific to the fuel changeover, each SIP featured details on (i) risk assessment and mitigation, (ii) tank cleaning and bunkering, (iii) procurement of compliant fuel oil, and (iv) fuel changeover procedures and planning.

INSTALLATION OF EXHAUST GAS CLEANING SYSTEMS

In addition to a switch from HFO to VLSFO, the strategy used by MSC to ensure compliance with the progressively tighter IMO sulphur regulations has been investment in Exhaust Gas Cleaning Systems (EGCS). Despite being more expensive, MSC chose to invest in hybrid EGCS because of their greater reliability and operational flexibility, safety for the crew and, importantly, to future-proof the retrofitted vessels. Hybrid EGCS can operate in both open and closed loop, meaning that it is possible, if necessary,

to recirculate the EGCS wash water within the system, without discharging to the sea. MSC signed commercial contracts ordering a large number of scrubbers to be installed across the fleet. By the end of 2019, MSC was an industry leader on EGCS installation, with a greater number of systems installed, or being installed, than its counterparts²⁹.

With the new legislation now in place, and regulators working to ensure equitable enforcement of IMO 2020 globally, the focus in the sector is now on achieving other IMO objectives to reduce the shipping sector's environmental footprint. MSC is prioritising CO₂ emissions reduction, in line with the IMO Strategy on Reduction of GHG Emissions from Ships.

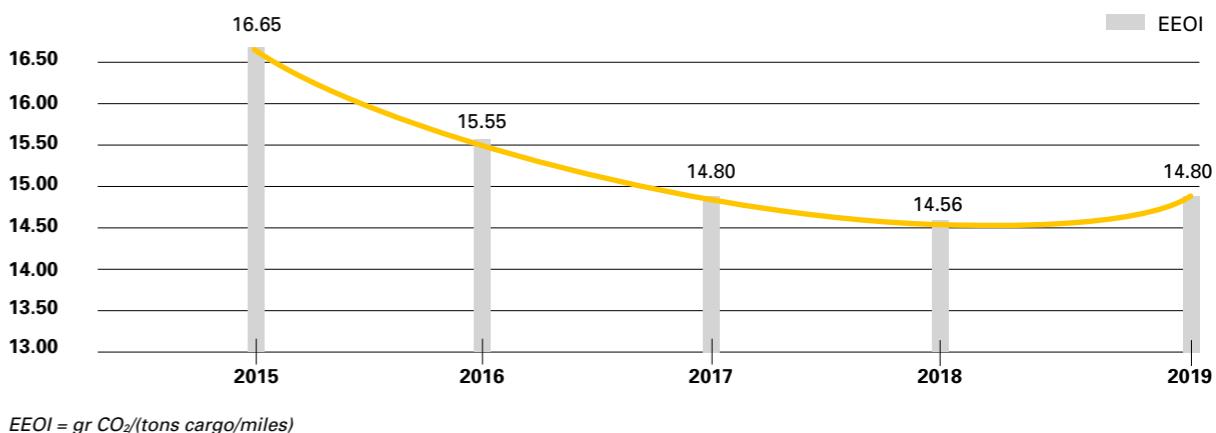
MONITORING ENERGY EFFICIENCY FOR ENVIRONMENTAL AND BUSINESS PERFORMANCE

MSC fully supports reporting CO₂ emissions transparently and precisely in the European Union (EU) Monitoring, Reporting and Verification (MRV) system, as mandated by EU legislation, and the IMO Data Collection System (DCS) on fuel consumption. MSC also continues to use the Energy Efficiency Operational Indicator (EEOI) to record and analyse individual ship and fleet performance over time. The indicator is set out in the IMO

Guideline MEPC.1/circ.684 and reflects ship performance in terms of transport work. EEOI can also be used to provide information on the benefits of maintenance measures such as hull or propeller cleaning, as well as operational enhancements. MSC began tracking EEOI in 2015 and then recorded a 13% improvement up to 2018. MSC has been awarded the Energy Efficiency Operational Index Certificate by a globally recognised third-party auditing company. In 2019 the EEOI was slightly above the value for the previous year, which may be explained by the disruption associated with the dry-docking of many MSC ships for the installation of EGCSs to ensure compliance with IMO 2020. Smaller vessels were deployed temporarily, to replace larger ones in dry dock, and there were some blank sailings, both of which contribute to an elevated EEOI.

MSC expects a reduction of EEOI in 2020 thanks to the arrival into service of the 10 new 23K+ TEU Gülsün class vessels in late 2019. Compared to 2003, when the average capacity per ship was 2,500 TEU, by the end of 2019, the average capacity was close to 6,800 TEU. This, together with MSC's focus on maintaining one of the most modern fleets on the high seas, are key ways in which MSC ensures optimal fleet efficiency. Consistent with our energy efficiency programme, and to set a further ambition for emissions reduction, we have agreed to an EEOI-linked target of 14.22 by 2023, down from 14.8 in 2019.

FLEET CARBON EMISSIONS - ANNUAL EEOI



²⁹ www.alphaliner.com

BIOFOULING: AN OPERATIONAL AND ECOLOGICAL CHALLENGE

In the context of shipping, biofouling refers to the accumulation of aquatic plants, animals and microorganisms on vessel surfaces that are either immersed in water or exposed to the surrounding marine environment. Biofouling can reduce a ship's efficiency. Encrustation causes increased hull frictional resistance, so more power is required to maintain service speeds. It is estimated that biofouling can cause an increase of up to 40% in fuel consumption, with consequent increases in costs as well as emissions of greenhouse gases (GHGs) and air pollutants. Furthermore, biofouling on ships can contribute to the transfer of alien (invasive) species. This poses a serious ecological threat because of the link between invasive species and biodiversity loss and the extinction

of native species of flora and fauna. This in turn has implications for the essential services derived from nature, such as medicines, food and clean water. Use of certain anti-fouling systems may pose further threats to marine life.

ACTING TO CONTROL BIOFOULING

MSC follows the IMO 'Guidelines for the control and management of ships' biofouling to minimise the transfer of invasive aquatic species'³⁰ ('Biofouling Guidelines'), which provide an approach to the global shipping community to follow when addressing this issue. All vessels managed by MSC carry an onboard Biofouling Management Plan, which provides practical guidance to crew on minimising the transfer of invasive aquatic species and keeping the ship's underwater surfaces and internal sea water cooling system free

from biofouling. The Plan takes into account the vessel's trading area, expected environmental conditions and operational requirements related to the prevention of biofouling (e.g. average sea water temperature, fouling severity, speed, dry-docking interval) for, in particular, the propeller, rudder, bow thrusters and sea chests.

EXPLORING ALL OPTIONS

There is no single solution to emissions reduction from shipping; a variety of approaches is required. MSC therefore embraces a 360-degree approach to improving efficiency, deploying a variety of solutions focused on significantly improving environmental performance. Propeller boss cap fins (PBCF), installed on the hub cap of the propeller, reduce the hub vortex generated by propeller, and the associated decreased load on the shafting helps to improve propeller efficiency. MSC carried out detailed technical studies and tests to confirm the reported benefits of PBCFs for vessels under its management. Following initial positive trial results regarding the effect of PBCFs, in 2012 MSC embarked

on a programme to retrofit the propellers of the entire fleet with optimised, lighter designs featuring PBCFs to achieve fuel efficiency gains, as well as benefits for noise reduction, as outlined on page 81. Recent monitoring and analyses performed by MSC Shipmanagement have confirmed that vessels equipped with PBCFs register savings of 3% in fuel consumption, which translates into significant gains for emissions reduction.

MSC celebrated another environmental milestone, arising from the decision to use an award-winning non-toxic foul release coating in its managed vessels. This coating makes it harder for fouling organisms to cling to surfaces, even at slow steaming. The biocide-free layer leads to reduced drag, and thus improved fuel efficiency and lower overall emissions. The coating has now been applied to 29 other vessels, resulting in a CO₂ reduction of around 4,000-23,000 tonnes over a five-year cycle in each case, depending on the size of the vessel, amounting to approximately 315,500 tonnes of CO₂ over the five-year period.

TYPICAL SCHEDULE OF PLANNED INSPECTIONS, REPAIRS, MAINTENANCE, AND RENEWAL OF THE ANTI-FOULING SYSTEMS FEATURED IN A STANDARD MSC BIOFOULING MANAGEMENT PLAN

TYPE OF INSPECTION / REPAIR / MAINTENANCE	SCHEDULE
Renewal of antifouling coating	Once every three or five years (drydocking)
In-water inspection of antifouling coating	Once every year (or scheduled in-water survey) based on vessel performance and handling
Renewal of cathodic anodes	Once every five years (drydocking)
Propeller blades polishing	Once every year (based on propeller slip/performance) unless propeller is silicon-coated
Bow thruster blades polishing	Once every five years
Cleaning sea chest areas/grills of macro organisms (barnacles)	Routine inspection of the strainer as per vessel's planned maintenance system and externally: once every year along with propeller polishing
Bow thruster + stern thruster grills inspection/cleaning	Once every year (in water survey) cleaning: based on condition
Hull cleaning	Based on condition and percentage of macro organisms



³⁰ Resolution MEPC.207(62)

BIOFUELS AS A PATHWAY FOR EMISSIONS REDUCTION IN SHIPPING

In line with MSC's commitment to climate action and, specifically, our support for the IMO Strategy on Reduction of GHG Emissions from Ships, we are working on the testing and implementation of various solutions. This ensures that progress will continue to be made, while technological solutions are developed for deployment at scale. In addition to the focus on energy efficiency, MSC is exploring other pathways to reduce its environmental impacts throughout its supply chain.

WHY BIOFUELS?

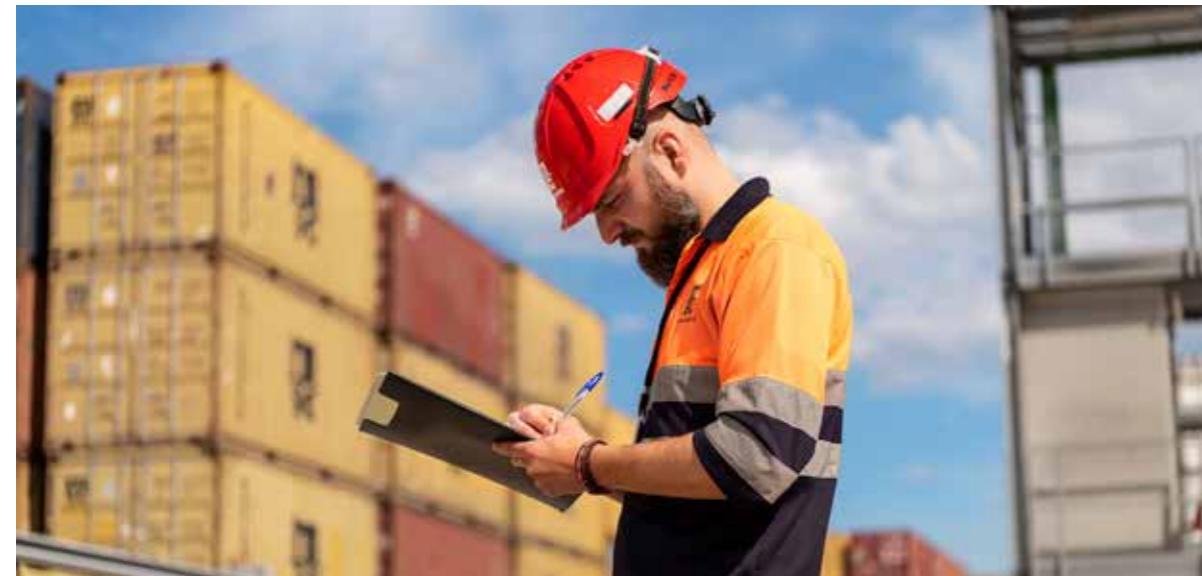
Use of biodiesel instead of conventional fuels offers environmental benefits for two primary reasons. Plants used to produce biodiesel absorb CO₂. This than regular diesel. Responsibly sourced biofuels could provide one solution to help the shipping sector to meet the 2030 IMO level of ambition for CO₂ emissions intensity reduction and could also make significant progress toward the 2050 levels of ambition.

Biofuels can also offer benefits for air quality and therefore human health, because SOx emissions from biodiesel, for example, are almost absent and particulate matter emissions are also very low.

TRIALS UNDERTAKEN

Despite these benefits, there has not been widespread use of biofuels by the shipping sector owing to concerns regarding cost and availability, both in terms of quantity and location. Nonetheless, following fruitful negotiations with a key partner, MSC began a series of biofuel trials in 2019. The trials focused on the use of a blend of fuel oil and ISCC³¹ certified UCOME (Used Cooking Oil Methyl Ester) biofuel. UCOME biofuel is made from used vegetable oils, fats or greases. The resulting biofuel can be used, in the form of a blend of biofuel and petroleum-based fuel, in diesel engines without engine modification.

Trials were run with the selected biofuel on two MSC ships, and performance was evaluated against criteria relating to machinery function, fuel viscosity, sulphur emissions and cold climate impacts, for example.



ISCC certification ensures that the biofuel meets criteria relating to:



Zero deforestation



Protection of land with high biodiversity value and high carbon stock



Compliance with human, labour and land rights



Measurement and reduction of greenhouse gas emissions



Traceability throughout supply chains



Integration of smallholders in international supply chains



Compliance with laws and international treaties



Good management practices



The trials were completed with a minimal 10% blend fuel, and following further trials, the Company is now using 30% blends

ENCOURAGING RESULTS

The trials were successful, proving not only the technical viability of the biofuel blend for use in large container ships, but also demonstrating an average CO₂ reduction of 15% compared to conventional fuel. In November and December of 2019 alone, at the start of the project, more than 100k metric tons (MT) of biofuel was bunkered by MSC, with associated estimated absolute CO₂ savings of over 30k MT. The potential CO₂ reduction in the bio component of these fuels could reach 80-90%, according to the biofuel supplier. MSC will monitor and confirm this over time.

Following this success, MSC has decided to continue bunkering blends with responsibly sourced, certified, second-generation³² biofuel. This is a highly significant measure, both in terms of the blend ratio and the extent of its application. MSC is proud to become the first major shipping line to take this step towards fully operationalising up to 30% biofuel blends in almost all of our 0.1% and 0.5% bunkering in Rotterdam. MSC will continue to investigate technological, fuel-based and operational solutions for meeting emissions reduction objectives.

³¹ www.iscc-system.org/

³² Second-generation biofuels, also known as advanced biofuels, are produced from non-food crops, such as the waste from food crops, agricultural residue, wood chips and waste cooking oil, and in this case they are palm oil-free.



ENVIRONMENTAL SPOTLIGHT ON MSC'S GÜLSÜN CLASS SHIPS

2019 was a landmark year in the world of container shipping, especially for MSC, and especially for environmental performance. The year saw the coming into service of the first 10 of the MSC Gülsün class 23K+ TEU ships, currently the largest container ships afloat. In August, MSC Gülsün, the first in this new class of ships, made its maiden voyage from the North of China to Europe.

These Ultra Large Container Vessels (ULCVs) can carry over 4,500 more 20 ft containers (TEUs) than the previous class, MSC's 19,000+ TEU Oscar class ships, which were already high-performing in terms of fuel and energy efficiency. This new class of 23,000+ TEU ship builds on the previous innovative design, maximising operational and environmental performance. At some 400 metres long and more than 60 metres wide, the Gülsün class ships have a record capacity for a container ship: 23,756 TEU. Due to the size, and technological innovations on board, this class of ship emits less CO₂ per container carried, helping companies which ship goods on MSC's services between Asia and Europe to

lower the carbon footprint of their supply chains. Their deployment is part of MSC's efforts to help ensure our customers have sufficient service on the world's major trade lanes between Asia and Europe.

The MSC Gülsün class ships feature a remarkable approach to energy efficiency with the shape of the bow designed to enhance hydrodynamics by reducing hull resistance. State-of-the-art engineering minimises wind resistance, resulting in lower fuel consumption. The ship's improved energy efficiency and fuel economy help ensure that MSC is on track to meet international 2030 emissions reduction targets set by IMO ahead of time, building on a 13% improvement in CO₂ emissions per ton of cargo moved already achieved across the MSC fleet between 2015 and 2018.

To comply with the IMO 2020 sulphur regulation, each of the ships is equipped with a UN IMO-approved hybrid Exhaust Gas Cleaning System (EGCS) and can switch to low-sulphur fuel when necessary; the vessels can also be adapted for liquefied natural gas (LNG) use in the future.

CONTRIBUTING TO MEETING GLOBAL AIR POLLUTION TARGETS

The International Convention for the Prevention of Pollution from Ships (MARPOL), overseen by the IMO, limits the primary air pollutants contained in exhaust gas from ships, including nitrous oxides (NOx). NOx has adverse impacts on human health and the natural environment. High levels of NOx in the atmosphere causes respiratory conditions with impacts on lung function; in plants, NOx in high concentrations has a negative effect on leaves and growth. NOx has been steadily increasing in concentration globally³³, particularly in areas with high levels of motorised transport. MARPOL Annex VI details progressive reductions in NOx emissions limits from marine diesel engines. Tier III emissions standards apply to all ships built after 1st January 2016³⁴, for trading in North American emission control areas (ECAs) and the United States Caribbean Sea ECA, and 1st January 2021 for ships operating in the Baltic Sea ECA and North Sea ECA. The standards call for an 80% reduction relative to earlier Tier I standards. MSC fully supports IMO-led efforts to curb atmospheric pollutants, including NOx, and has been investing in Selective Catalytic Reduction (SCR) technology which can lower ship NOx emissions from about 650ppm to 10-40ppm (80-95%). Selective Catalytic Reduction (SCR) is an emissions control technology whereby a reducing agent (ammonia, in the form of urea) reacts with a catalyst in the exhaust stream of an engine. The ensuing chemical reaction converts nitrogen oxides principally into harmless nitrogen and water, which are expelled through the exhaust funnel.

The first five MSC Josseline class vessels were delivered in 2019. These ships, along with the four due for delivery in 2020, are the first of the MSC fleet with IMO MARPOL

NOx Tier III compliant engines. MSC partnered with leading maritime technology providers to ensure the SCR systems installed use the most reliable, safest and most effective designs for each ship class. Safety and operational training on the use of the SCR is provided to all crew concerned. Already, as per the regulation, all new MSC ships calling at ports in the North American ECA and the United States Caribbean Sea ECA use SCR for NOx control when these requirements apply.

On her maiden voyage in July 2019, MSC Jewel from the Josseline class vessels called at the Port of Long Beach. The Port is a leader in tackling air emissions and associated health risks. The Clean Air Action Plan³⁵ Update, approved at Long Beach in 2017, provides guidance on achieving a zero-emissions future, while safeguarding and reinforcing the port's strong economic position. MSC Jewel is a new 14,436 TEU vessel equipped with shore power connection capability, powered by Tier III diesel engines in conjunction with SCR, which are 75 per cent cleaner than the International Maritime Organization's (IMO) Tier II standard. She was welcomed as the "cleanest container ship to visit the United States" by the Long Beach Harbour Commission President on 12th July 2019. MSC was also awarded for MSC Jewel's visit through the Port of Long Beach Green Ship Incentive Program.

PARTNERING FOR CLEAN SHIPPING TECHNOLOGY

In 2019, MSC entered a partnership with the South Coast Air Quality Management Directive (AQMD)³⁶ in California. It was agreed that in 2020, together with another partner, MAN Energy Solutions USA Inc. (MAN), MSC and AQMD will develop, install and demonstrate a retrofit technology to reduce NOx emissions from ocean-going vessels (OGVs). For the proposed project, the retrofit technology will be installed, tested and demonstrated on one of MSC's Tier II vessels.

³³ www.data.worldbank.org

³⁴ Keel laid or date of signing of the building contract.

³⁵ <https://cleanairactionplan.org/>

³⁶ www.aqmd.gov/home

CASE STUDY

GLOBAL LEADERS IN SHORE POWER

Ports are highly dynamic economic and logistic hubs, where shipping companies, such as MSC, play a key role in the movement of goods. Trade volumes across the world have increased substantially in recent decades, from approximately USD 10 trillion in 2005 to USD 17.5 trillion in 2017³⁷. In parallel with this, air pollution in ports from ocean-going vessels, as well as trucks, locomotives and other vehicles in operation at terminals, has also increased. Even when a ship is at port, though it does not need energy for propulsion, other ship functions such as ventilation, heating, cooling, pumps and control systems still require power. Running generators to provide this power can contribute to local noise and air emissions with impacts on public health. MSC is very aware of this and has been a strong advocate of the use of shore power to reduce emissions from ships in ports, contributing to SDG 3, Good Health and Well-Being, and in particular Target 3.9³⁸. All new MSC vessels are built with shore-power connection capability. At the end of 2019, a total of 173 vessels were equipped.

SYSTEMIC GROWTH OF THE COLD-IRONING INFRASTRUCTURE

Some of the world's largest, most sophisticated and most modern ports in the world are in China. In fact, China is home to six of the world's busiest ports. The Chinese government has spent ¥ 1 trillion since 2012 to expand the country's port facilities. Part of this included investment in measures to combat urban air pollution. All main port terminals were requested to install shore power to reduce emissions. Eight major ports in China now offer cold-ironing (shore power), with some ports providing this at multiple berths.

MSC CHINA CONNECTS TO SHORE POWER

Shenzhen, a major urban centre in Guangdong province, is a leader in China in the provision of shore power. For example, connections are available at 16 (80%) of

the berths at Yantian International Container Terminal (YICT) in Shenzhen. The infrastructure in place has an output of 60Hz, which corresponds to a potential reduction of vessel-related CO₂ emissions by an estimated 3,500 tons/year, as well as 10 tons/year of SO₂ and 70 tons/year of NOx.

MSC China has been swift to use the shore-power connections in Shenzhen. Of the 670 port calls that used shore power in Shenzhen in 2019, 283 (42%) were made by MSC vessels, making MSC the primary shore-power user in Shenzhen. Of the 459 calls made by shore-power equipped MSC vessels to terminals in Shenzhen in 2019, 283 voyages connected to the available shore-power infrastructure, representing over 62% of all MSC calls; an increase of 10% is expected in 2020.



BRIDGING THE GAP: MSC CARBON NEUTRAL PROGRAMME

The above sections explain the lengths to which MSC is going to reduce emissions. We continue to make progress in this area and are confident that technological breakthroughs will help the sector achieve the IMO emissions reduction objectives. However, despite all the efforts to increase the energy efficiency of vessels, marine transportation of goods currently still causes unavoidable CO₂ emissions. To offer an interim solution to compensate for these unavoidable emissions, MSC has partnered with a world leader in the development of emissions reduction and renewable energy projects, South Pole³⁹. Since early 2019, MSC has been offering

its clients the possibility to compensate for their cargo's environmental impact through the purchase of offsets, which direct funds to two emission reduction projects with verified environmental and social benefits. Carbon certificates are then generated, which are audited and third-party certified according to the most stringent international standards. MSC was the first liner carrier in the industry to offer certified offsets to customers.

Further information on the MSC Carbon Neutral Programme can be found on www.mscliner.com/carbon-neutral

³⁷ unctad.org

³⁸ By 2030 substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water, and soil pollution and contamination

³⁹ www.southpole.com/

CASE STUDY

ENVIRONMENTAL PERFORMANCE AT TiL: A FOCUS ON PRODUCTIVITY

Container terminals provide the essential interface between the container shipping industry and landside multimodal logistics and distribution networks. A business as complex as this may have various environmental impacts, but these can be managed responsibly to ensure an overall positive contribution to the local port community and broader economy. Since it was founded in 2000, Terminal Investment Limited (TiL) has grown to become one of the largest and most geographically diverse container terminal operators in the world. The company has material ownership interests in 38 operating terminals and two development terminals in 26 countries on five continents. There are 11 MSC Terminals under TiL management. TiL works to apply principles of eco-efficiency throughout its operations, i.e. value generation through technology application and process optimisation, while also minimising resource use and environmental impact. TiL has become a market leader through strong and consistent business performance, strategic investment at many of the world's busiest ports, prioritisation of health and safety and an environmental approach which integrates sustainability considerations with high productivity.

FOCUSING ON PRODUCTIVITY

At TiL, the sustainability approach is characterised by a focus on boosting productivity. Sustainable operations require strategic planning and careful management of inputs and outputs; the same is true for productivity. By focusing on productivity metrics, TiL is also achieving reductions in fuel use, optimising use of quay and yard space, reducing machine wear and cutting truck idling time.

Since 2006, the cargo handled by TiL has more than quadrupled, to 33 million moves in 2019. This excellent performance is a result of consistently high-quality service and strong partnerships combined with capacity expansion projects. TiL records and monitors a range of energy efficiency indicators to ensure that its strong business performance runs in parallel with responsible environmental management. For example, TiL has achieved a 14% increase in the number of TEU moved per quay metre and a 16% increase in the number of TEU moved per hectare of yard space, since the end of 2016.

Fuel consumption per move at TiL has been reduced by 25% since 2017. In a further reflection of improvements in operational efficiency, berth productivity, measured in terms of the number of moves per hour, has increased from 55 in 2016 to 60 in 2019.

A HOLISTIC APPROACH TO SITE-LEVEL ECO-EFFICIENCY

The optimisation of operations by TiL has wider benefits for emissions reduction, beyond the company itself. For instance, average truck turnaround time at TiL terminals has been reduced by six minutes (15%) since 2016, meaning less time idling or queueing. TiL works to ensure a smooth service to the trucking community and to deliver this in tandem with superior waterside service.

Broader environmental responsibility is practised by TiL at site level through, inter alia, compliance with applicable and relevant domestic and local laws, as in the case of waste management for example. Offices and workshops

typically segregate waste voluntarily (e.g. paper, plastic, glass, wood, fluorescent tubes, metals, used oil and electronics) for disposal and recycling, where facilities are available. Only authorised vendors are engaged to handle waste, which is processed and documented according to national guidelines. All TiL greenfield projects are designed and implemented in accordance with relevant International Finance Corporation (IFC) Performance Standards on Environmental and Social Sustainability⁴⁰. Examples of our social and environmental risk impact assessments and management systems can be found in the "Social Inclusion" chapter of our 2018 Sustainability Report (pages 26-39). A total of 15 terminals across the world that are either managed or co-managed by TiL are ISO 14001 certified. These sites have adopted a recognised framework for the establishment of a site-based environmental management system. This enables them to identify, manage, monitor and control their environmental priorities in an integrated way.

TiL-owned terminals and joint ventures are also working to attain globally recognised energy management standards through the development of formal energy management systems (EnMS). Asyaport in Tekirdag, Turkey, Klaipedos Smelte in Klaipeda, Lithuania and MSCTV in Valencia, Spain have already been ISO 50001 certified in recognition of their progress. This certification is a key element in integrating energy management into broader site-level efforts to improve quality and environmental management. Asyaport and MSCTV have both also received the European Port Environmental Review System (PERS) certification, the only port sector-specific environmental management standard. In North America, three terminals (New Orleans Terminal LLC, PET Port Everglades and Termont Montreal) have been awarded GreenMarine certifications for their exemplary environmental performance, following assessment on performance indicators focused on air, land and water pollution.



⁴⁰ www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/sustainability-at-ifc/publications/publications_handbook_pps



© Port of Long Beach

TERMINALS: FOCUSING ON CAPACITY BUILDING

With the continuous modernisation of terminal operations worldwide, TiL maintains a focus on personnel, team performance and skills development. To achieve employee satisfaction and talent retention, TiL focuses on reskilling and professional development to support career evolution and progression, through training, for example. Business thrives when the welfare of employees, the

environment and the port community are managed in tandem with the needs and expectations of clients, partners and suppliers. With this as a guiding principle, TiL will continue to make a significant contribution to SDG 9 (Build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation), and specifically target 9.4⁴¹.

INVESTING IN INNOVATIVE ENVIRONMENTAL SOLUTIONS

MSC is constantly seeking business, technical and operational innovations to improve our service and reduce our ecological footprint.

TAKING ON THE PLASTICS CHALLENGE

MSC is working to ensure that we do not contribute to the widespread problem of marine plastics, and that our activities support SDG 14, and particularly target 14.1⁴². An estimated eight million tons of plastics enter the world's oceans every year, causing serious injury or death to marine wildlife⁴³. Plastic pollution also contributes to climate change, and puts human health, coastal tourism, and food safety and security at risk. In addition to the provisions of the IMO's MARPOL Annex V, with which all ships must comply, banning plastic disposal from ships anywhere at sea, countries are also imposing national-level measures to curb plastic waste. For example, in late 2019, Kuwait announced its policy to prohibit the use of certain single-use plastic items onboard Kuwaiti and foreign ships while in port in Kuwait or in Kuwaiti waters. India is also introducing similar measures, in a phased approach. MSC's primary approach has always been to focus initially on plastic reduction, through engagement and negotiation

with product suppliers. Further, MSC's commitment to ensure ISO 14001 compliance has led to the establishment by MSC Shipmanagement of robust, externally audited procedures for onboard waste management for all ships in our fleet. Waste generated on board our vessels is gathered, sorted and deposited at ports where MSC has partnerships with certified third parties for appropriate disposal in accordance with local waste management regulations. MSC works to instil awareness about plastic waste through the Company's Quality, Safety and Environment Management System (QSEMS), providing regular crew briefings on the need for plastic waste management, as well as the recycling procedures onboard.

In 2019, MSC Shipmanagement also made the firm commitment to reduce single-use plastics (mainly in packaging material, including bottles) onboard all of its vessels. As part of this initiative, MSC now procures concentrated water-based cleaning agents, for which the solution is prepared on board, resulting in a significant reduction of plastic waste generation. For example, the use of a dilutable concentrate available in a 10-litre drum can produce 1,000 litres of ready-to-use (RTU) solution, thereby replacing 1,000 smaller 1 litre plastic containers.



⁴¹ By 2030 upgrade infrastructure and retrofit industries to make them sustainable, with increased resource use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes

⁴² By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution.

⁴³ www.iucn.org/resources/issues-briefs/marine-plastics

DIGITALISATION FOR ACHIEVING THE SDGs

MSC is a modern, global company both in spirit and practice. We are forward-thinking and moving with and adapting to the changing world around us. For these reasons, we are driving and supporting digital solutions to facilitate collaboration and transparency across our global operations and within the broader shipping sector.

BOOSTING GLOBAL TRADE

Expanding global trade is essential for reducing poverty⁴⁴. By boosting economic growth, trade enables the realisation of a number of SDGs, allows access to technological input and creates incentives for innovation. MSC's worldwide transport services facilitate trade primarily by interconnecting global markets. But the benefits of trade are only sustainable and equitable when systems are in place to allow for information sharing, and to overcome trade barriers such as lack of standardisation. Digital technologies, part of what is sometimes referred to as the 'Fourth Industrial Revolution', are one of the six transformations required to achieve the SDGs⁴⁵. The 2019 CEO Study conducted by the UN Global Compact⁴⁶ also revealed that digital technologies are considered one of the primary ways in which companies can contribute to the SDGs. For logistics and mobility alone, it is estimated that digital solutions could abate 3.6 gigatons of carbon dioxide equivalent (CO₂e)⁴⁷. But like any enabler of sustainability, this transformation requires deep, long-term and coordinated investment to succeed, and this is an area in which MSC is currently active.

COLLABORATION AND SECTOR BENEFITS

Players in the aviation sector have been benefitting from collaboration for some years. For historical reasons, the shipping sector is still gaining momentum in this area, and MSC is working hard to support this. For example, MSC has committed to a leadership role in the **Digital Container Shipping Association (DCSA)**⁴⁸. Together with other leading shipping companies, through the DCSA, MSC is helping to establish standards for a common technology foundation that enables global collaboration, the scalability of Internet of Things (IoT) solutions, operational efficiencies and interoperability. The broader goal is to make shipping services easy to use, flexible, efficient, reliable and environmentally friendly⁴⁹. A major achievement of the DCSA in 2019 was the publication of the '**Industry Blueprint**', agreed upon by nine of the largest carriers in the world. It defines more than 50 shipping 'events', relating to berthing and mooring for example. This enables carriers and customers to have a precise, shared and agreed understanding of events through the use of common terminology. Also, in 2019, with the objective of reliably sharing requirements and specifications for IoT solutions installed on containers, DCSA began work on a specific track to address the communication technology layers of IoT solutions. This work aligns with MSC's investment in smart container technology described below.

The rise of new digital platforms such as TradeLens are of considerable interest to MSC. Tradelens is a blockchain-enabled digital platform collaboration between IBM and some of the shipping sector's largest actors, including MSC. Our involvement in TradeLens is a further sign of MSC's commitment to greater trust and collaboration across supply chains. MSC will continue to explore opportunities to use such platforms and other digital tools that drive efficiency, improve the service we offer to clients and meet our business needs.

TradeLens offers visibility to its members, enabling them to connect and exchange information across the full shipping supply chain⁵⁰. The platform offers users a means to access data and to collaborate as cargo is shipped around the world, helping create a secured, transparent and incontrovertible record of transactions. Today there are more than 100 participants in

TradeLens, and over 10 million discrete shipping events and thousands of documents are processed every week. The shared visibility that the platform provides helps to build trust between carriers, shippers, customs authorities, port officials, freight forwarders and other players across the shipping value chain.

MSC is also represented in the **Port Call Optimisation (PCO) Task Force**. PCO draws on existing industry standards and is backed by a range of organisations internationally recognised for their deep knowledge of the shipping sector and standards. The PCO Task Force is working towards the long-term goal of interoperability between shipping lines, agents, ports and, where applicable, other associated

industries. The broader purpose is to streamline port call planning and execution and to reduce unnecessary waiting time. MSC is working closely with the DCSA on the topic of PCO to help achieve these important goals.

Source: <https://portcalloptimization.org/>

CUSTOMER BENEFITS

Shared visibility (SV)⁵¹ (common situational awareness) is one of the benefits of digitisation and digitalisation⁵². It allows not only for business optimisation but, in the case of the shipping sector, it offers the ability to track the whereabouts of cargo. Nowadays, improvements in cloud and mobile technologies, together with the Internet of Things (IoT), are making it possible to offer customers the visibility they demand in order to better plan their operations. MSC was one of the early backers of Traxens, a French company, which provides tracking capabilities for dry containers and also provides security features such as alerts in response to door opening, shocks or changes in humidity and temperature, for example. Traxens was purposely designed to improve transparency and control in the container shipping sector using IoT and Big Data. 'Smart assets', which include dry containers, reefers and trailers, can be tracked using embedded sensors which capture various

physical parameters and provide information on the status and movement of the container. These assets are linked digitally to a monitoring platform. This allows for delivery predictions and deviation alerts which provide important information on trip status and progress. MSC is expanding its work on smart technologies in the knowledge that such innovation brings greater customer confidence, with simultaneous gains for safety, efficiency and carbon footprint, arising from more seamless integration. Ancillary environmental benefits of improved tracking and tracing of containers include increased defence against illegal wildlife trade. This kind of optimisation of business processes is part of the broader pursuit of efficiency and best practice which underpin MSC's environmental approach. In 2019, MSC invested in smart technology for 10,000 reefer (refrigerated unit) containers, in response to shippers' demand for innovation.

⁴⁴ Bartley Johns, Marcus; Brenton, Paul; Cali, Massimiliano; Hoppe, Mombert; Piermartini, Roberta. 2015.

The role of trade in ending poverty (English). World Trade Organization: Geneva.

⁴⁵ Sachs, J.D., Schmidt-Traub, G., Mazzucato, M., Messner, D., Nakicenovic, N., Rockström, J. 2019.

Six Transformations to achieve the Sustainable Development Goals, *Nature Sustainability* volume 2, pages 805–814 (2019)

⁴⁶ [www.unglobalcompact.org/library/5715](http://unglobalcompact.org/library/5715)

<https://gesi.org/>

⁴⁸ For more information: <https://dcsa.org/>

⁴⁹ <https://dcsa.org/>

⁵⁰ www.tradelens.com/

⁵¹ Source: www.weforum.org/agenda/2020/02/how-the-global-logistics-industry-can-collaborate-to-increase-trade-and-reduce-poverty/

⁵² Digitisation describes the converting of information from a physical format into a digital format; digitalisation is the process of using digitisation to enhance business processes.

POR T CALL OPTIMISATION: JUST IN TIME ARRIVAL TRIAL

MSC is a strong supporter of the emissions reduction targets of the IMO. Resolution MEPC.304(75) (from the IMO Maritime Environment Protection Committee (MEPC)) on the Initial IMO Strategy on Reduction of GHG Emissions from Ships sets out a vision for reducing and eventually eliminating GHGs from the shipping sector. One of the measures presented in the Strategy includes the optimisation of the logistic chain and its planning, including ports. As the interface between the sea and the land, ports play a central role in the broader supply chain. MSC is actively participating in collaborative digital and data-based projects involving ports through its membership of the Global Industry Alliance (GIA), a public-private initiative, established under the framework of the GEF-UNDP-IMO GloMEEP.

Just in Time Arrival (JIT) is a concept that has been successfully implemented in other industries such as manufacturing. In the context of the maritime sector, it describes how ships may optimise their voyage speed to arrive at the port when availability of the berth, fairway and port nautical services (e.g. pilots and tugs) is assured. The benefits of JIT Arrival are increased safety, reduced environmental footprint and cost reduction. However, a prerequisite for JIT Arrival is real-time data exchange, which requires agreed data standards and a common language. To this end, MSC is participating in an international task force promoting Port Call Optimisation (PCO)

which is currently focused on improving the quality and availability of master and event data. JIT Arrival of ships contributes to GHG emissions reduction and air quality improvement in two primary ways:

- Voyage optimisation: Engine efficiency and associated fuel consumption reductions are achieved through optimised sailing speeds
- Reduced manoeuvring and anchorage time: The approach to port and waiting time at anchor is minimised. (It is estimated that ships may spend 5-10% of their time at sea waiting to call at port⁵³)

JUST IN TIME ARRIVAL



In 2019, MSC participated in a desktop trial in JIT Arrival ship operations at the Port of Rotterdam, led by the Global Industry Alliance (GIA). During the desktop exercise, a 247 nautical mile voyage between Bremerhaven and Rotterdam was simulated in various scenarios. First, a “business as usual” scenario was modelled, i.e. the ship received an update regarding requested arrival time at the pilot boarding place at the first ‘Calling In Point’ (typically about 30 nautical miles from port, when the ship is within radio communication range). In the second scenario, under JIT Arrival conditions, the ship received regular updates earlier in

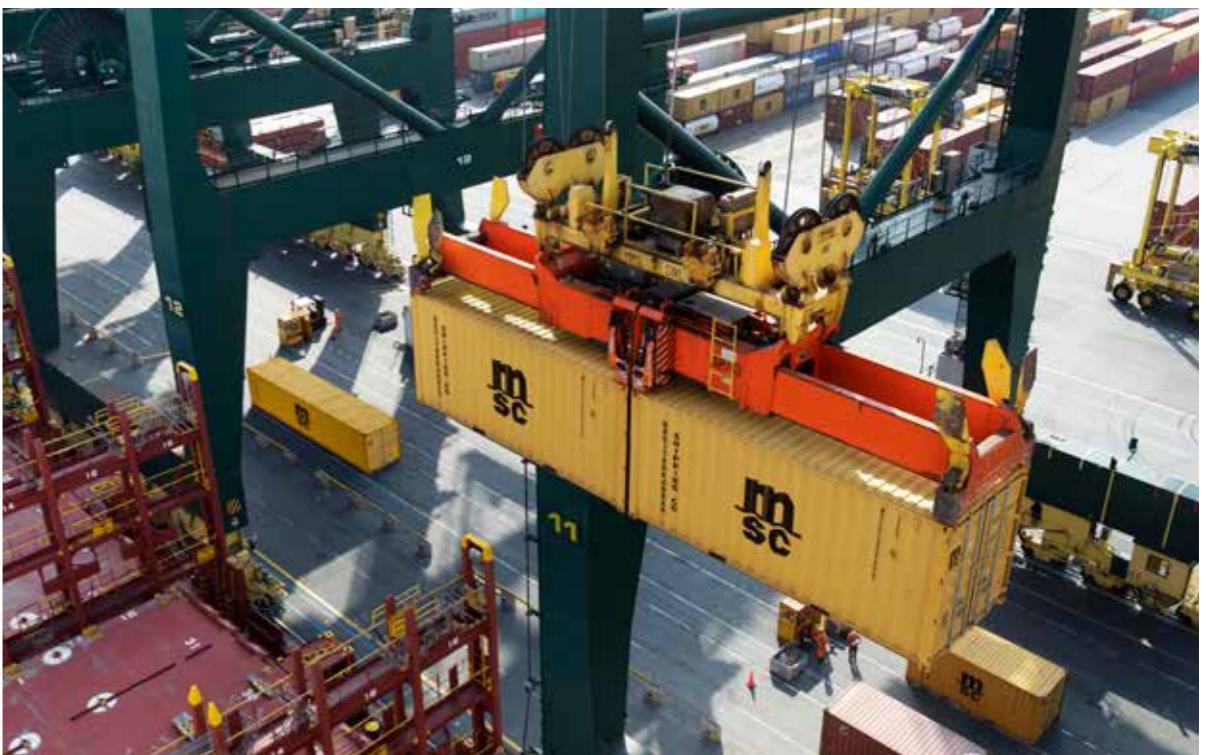
the voyage on when the ship was requested to arrive at the pilot boarding place. The ship could then adjust to its optimum speed. When compared, 23% less fuel was consumed in the JIT scenario. The study also pointed to other likely opportunities to reduce emissions, namely through (i) increasing the ship's draught and (ii) reducing the port stay duration. These measures offer significant fuel consumption reduction potential, with ancillary benefits for GHG emissions and port air quality. The consolidated findings of the GIA roundtables will be presented in a Guide on JIT Arrival for delivery in 2020.

MULTIPLE ADVANTAGES ACROSS THE COMPANY

Digital technologies can raise productivity, lower production costs, reduce emissions, expand access, and make public services more readily available. However, MSC recognises that returns on investment in digitisation only follow when those investments are targeted and strategic; only practical projects bring tangible benefits. MSC’s Real-Time Monitoring system is one example of a project with highly actionable outputs that benefit the environment. Our Real-Time Monitoring system provides diagnostic information about ship performance to the masters and to Shipmanagement teams. This informs decisions on which retrofit or operational measures could be applied to optimise energy use and thereby reduce emissions, as well as to reduce costs. Across the Company, MSC is moving towards more efficient, inter-connected and less resource-intensive digital technologies. We have established strategic

partnerships with a range of IT service providers to develop practical solutions that bring real value to customers by, for example, reducing administrative burden and paper-based documentation processes. One such internal initiative is OneVision. OneVision is a collection of centrally coordinated projects involving Agencies and Headquarters to streamline global business processes, standardise data flows and harmonise the management of our systems.

Digital transformation and sustainability present an array of opportunities to companies ready to learn and move with the times. MSC is pleased to operate at the convergence of these two forces. We believe that this is another way we can help to promote prosperity, drive efficiency and drive the development of clean technologies and greener operations.



⁵³ <https://portcalloptimization.org/>

REEFERS: INVESTING TO MEET CUSTOMER DEMANDS AND HIGH ENVIRONMENTAL STANDARDS

The UN Food and Agriculture Organization (FAO) estimates that 14% of food produced annually for human consumption worldwide is lost during the post-harvest production stage, before reaching the retail stage of the food system⁵⁴. This presents a significant sustainable development challenge, particularly with respect to SDG 2, Zero Hunger. Unsustainable food production and supply have related or indirect impacts on other SDGs related to, for example, water use, biodiversity protection and soil degradation. To help draw attention to these issues, the UN General Assembly nominated 29th September as International Day of Awareness of Food Loss and Waste.

The global demand for fresh fruit is growing steadily. In 2018, it reached a total volume of 868 million metric tonnes⁵⁵. Meeting this global demand at a time of climate concern and ever-higher customer expectations requires planning, investment and innovative transport solutions, and MSC excels in all of these areas.

REDUCING FOOD LOSS AND WASTAGE

MSC is a market leader in delivering fruits and vegetables in excellent condition to customers across the world. In 2019, MSC transported more than 1.8 million TEU of reefer cargo. MSC's services go well beyond the port too, as we also offer inland transport by road, rail and barge. The commitment to cargo-specific delivery services extends to MSC's intermodal network, ensuring that high-quality produce is reliably transported to coastal and inland destinations to the standard the growers expect.

In 2018, MSC invested in reefer containers equipped with Controlled Atmosphere (CA) system technology, and in containers chilled by an innovative, sustainable refrigeration system. In 2019, adding a new dimension to MSC's reefer shipping abilities, MSC expanded the fleet with the addition of 5,000 new Star Cool CA™ reefer units, following a three-year trial period on closed services

and dedicated service routes. Compared to conventional reefer containers, the integrated Star Cool CA™ refrigeration system offers a lighter, more energy-efficient reefer container with higher capacity, without compromising strength or reliability.

The O₂ and CO₂ levels in these reefers can be regulated independently to prolong the ripening process, thus keeping fruit fresher for longer. For perishable fruit, this is particularly valuable in reducing loss due to over-ripening during transport. This also allows for a wider range of destinations to be reached, and thus more markets accessed with deliveries of fresh fruit.

EMISSIONS REDUCTION IN THE COLD CHAIN

MSC has been thorough in ensuring compliance with the Kigali Amendment, which came into effect on 1st January 2019⁵⁶ following ratification by 65 countries. The Kigali Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer will help reduce the production and consumption of hydrofluorocarbons (HFCs), which are potent greenhouse gases (GHGs).

2019 saw the installation of StarCconomy temperature control software by MSC on its entire StarCool fleet, reducing energy consumption by up to 50%. Furthermore, the ability of these reefers to keep food cooler for longer gives MSC clients a wider range of transport modes to choose from, potentially avoiding air freight, with associated benefits in terms of costs and emissions reduction.

Mindful of the need for a closed-loop approach to the use of materials, MSC is selecting reefers that can be recycled when they reach their end-of-life. MSC believes that further improvements in environmentally sound transport will be achieved, and we will continue to work with technology providers as well as local growers, farmers and producers to provide tailor-made services to meet the food needs of consumers worldwide.

NOISE REDUCTION

The number of oceangoing vessels, both commercial and recreational, is increasing worldwide. In tandem with this, underwater noise is on the rise in many global regions. This can have a detrimental effect on marine life⁵⁷. Noise from ships and other motorised maritime vehicles can impact the ability of cetaceans (i.e. whales, dolphins and porpoises) to detect prey, communicate, navigate, rest, avoid danger, mate and reproduce⁵⁸. Propeller cavitation, the biggest source of underwater noise from a ship, is generated as the propeller turns in water. The turning of the propeller causes changes in pressure on propeller leading and trailing edges, resulting in the bursting of many tiny water bubbles. In April 2014, based on work carried out by the Marine Environment Protection Committee (MEPC), the IMO published guidelines⁵⁹ on this subject. Design considerations for propellers were provided, in addition to other technical (e.g. hull design, engine mounting and selection of onboard machinery) and operational (e.g. propeller cleaning and ship speed) measures for noise reduction.

Although the propeller boss cap fins (PBCF) are primarily known for their energy-saving merits, as explained on page 65, their installation reduces propeller cavitation and consequently underwater noise. This is a positive and noteworthy secondary effect of MSC's propeller retrofit campaign, started in 2012. Having confirmed the performance of the PBCFs, MSC Shipmanagement decided to install them on the entire managed fleet as part of the propeller retrofit programme. The Port of Vancouver authority-led Enhancing Cetacean Habitat and Observation⁶⁰ (ECHO) programme is a collaborative research initiative that aims to better understand and reduce the cumulative effects of shipping on at-risk whales in the region. This includes the northern resident killer whales, humpback, fin, blue and sei whales. In recognition of the value of PBCFs from a nature conservation perspective, since January 2017, PBCFs has been recognised by the Port of Vancouver as an approved device for reducing underwater noise. Vessels fitted with this technology are awarded a discount in harbour dues. A large part of the MSC-owned fleet has already been fitted with PBCFs, and further propeller retrofits are ongoing.

⁵⁴ www.fao.org/publications/sofa/en/

⁵⁵ www.statista.com

⁵⁶ www.unido.org

⁵⁷ Weilgart, L. 2018. The impact of ocean noise pollution on fish and invertebrates. Report for OceanCare, Switzerland. page 34.

⁵⁸ https://research.ocean.org/research/cori

⁵⁹ MEPC.1/circ. 833 Guidelines for the reduction of underwater noise from commercial shipping to address adverse impacts on marine life

⁶⁰ www.portvancouver.com/environment/water-land-wildlife/echo-program/

MEETING AND EXCEEDING THE STANDARDS

MSC customers deserve the utmost clarity when it comes to understanding how our Company operates. Demonstrating through voluntary certification that our procedures, policies and operations meet global benchmarks for excellence is one of the main ways that we can prove to our stakeholders that we hold ourselves to high standards that are externally verified. Adherence to International Organization for Standardization (ISO)⁶¹ standards also helps companies, such as MSC, to contribute to the SDGs, by providing guidelines and frameworks for key sustainability topics such as energy efficiency and environmental management.

MSC follows an extensive programme of work to reach and maintain the ISO standards. The programme includes meeting fundamental expectations of our clients, such as ISO 9001 (2015) certification for quality management, to more recent certifications for ISO 28000 (security management system for the supply chain). This is a reflection of the heightened measures put in place by MSC for security along the shipping supply chain, and demonstration of precautions taken to avoid delays rising from the seizure of illegal cargo.



ISO CERTIFICATIONS

DESCRIPTION	MSC HEADQUARTERS (GENEVA, SWITZERLAND)	MSC SHIPMANAGEMENT (CYPRUS AND SORRENTO)	MSC AGENCIES
ISO 9001: 2015 (QUALITY MANAGEMENT)	Specifies requirements for a quality management system	Scope: Liner agency services and container cargo management	Scope: Ship management of container carriers, car carriers, bulk carriers and Ropax vessels
ISO 14001: 2015 (ENVIRONMENTAL MANAGEMENT)	Maps out a framework to be followed to set up an effective environmental management system	Scope: Maritime container cargo management (IAF 35) evaluated according to the requirements of Technical Regulations RT-09	Scope: Ship management of container carriers, car carriers, bulk carriers and Ropax vessels
ISO 28000: 2007 (SECURITY MANAGEMENT SYSTEM FOR SUPPLY CHAIN)	Specifies the requirements for a security management system, including those aspects critical to security assurance of the supply chain	Scope: Security design and management of maritime container cargo information	
ISO 50001: 2011 (ENERGY MANAGEMENT)	For establishing, implementing, maintaining and improving an energy management system (EnMS) for continuous improvement of energy performance and the EnMS		Scope: Ship management of container carriers, car carriers, bulk carriers and Ropax vessels
OHSAS 18001 (OCCUPATIONAL HEALTH AND SAFETY)	Helps to put in place the policies, procedures and controls needed to achieve the best possible working conditions and workplace health and safety, aligned with internationally recognised best practice		Certification held by MSC Shipmanagement, Cyprus and Sorrento, which will transition to ISO 45001 in 2020, replacing OHSAS 18001

⁶¹ For more information: www.iso.org/standards.html

PROTECTING MARINE LIFE

The melting of polar ice is a serious environmental concern for multiple reasons. For example, ice and snow reflect the sun's energy back into space in what is known as the albedo effect, which helps to keep Earth cool; melting of large tracts of land-based ice causes sea levels to rise, putting populations in regions close to sea level at risk across the world; thawing permafrost releases large amounts of CO₂, exacerbating climate change. MSC is deeply concerned by these impacts and the implications for people and wildlife, and accordingly, has taken a strong position on the use of the Northern Sea Route. The Northern Sea Route connects Europe with Asia through Arctic waters, which until now have typically been blocked by year-round sea ice. The Route has been heralded by some as an opportunity for new commercial shipping lanes with additional potential for fossil fuel extraction. MSC will not use the Northern Sea Route for container shipping. MSC prides itself on a long nautical heritage and passion for the sea; entry into these Arctic waters would contravene these deeply held principles. We believe that efforts should be focused on limiting environmental emissions and protecting the marine environment, and that the 21 million containers that we move each year can be transported through existing shipping global trade routes.



RESPECTING WILDLIFE AND ECOSYSTEMS

All over the world, human populations are dependent on healthy oceans for food, jobs, climate regulation and economic wellbeing; the environmental, economic, social, cultural and spiritual value of healthy oceans is staggering. For example, an estimated one billion people in developing countries rely on seafood for their primary source of protein⁶². MSC is concerned about ocean biodiversity and environmental degradation and is actively involved in a number of projects aimed at protecting marine ecosystems.

THE MULTIPLE BENEFITS OF BIOCIDE-FREE ANTI-FOULING

Anti-fouling refers to the protection of a vessel's hull from marine growth through the application of a layer of protective paint. MSC complies with the International Convention on the Control of Harmful Anti-fouling Systems in Ships ('AFS Convention'), which entered into force in September 2008 and prohibits the use of harmful anti-fouling paints and other anti-fouling systems that contain harmful biocidal substances. MSC also implements an internal policy requiring the surface preparation of each ship's hull every five years. MSC is working in collaboration with leading coating manufacturers to stay abreast of improvements in low-friction anti-fouling paints. MSC's trials of silicon coating on vessel propellers more than a decade ago led to a decision by MSC to apply silicon paints on rudders fleetwide, except where locational or other factors prevent this. This practice has brought multiple advantages, including time and cost saving for routine cleaning, as well as the reduction of scrapings and residues from underwater cleaning which may contain microplastics, invasive species and biocides, which can all potentially affect the marine environment. MSC will continue to explore technologies and partnerships for further efficiency and environmental gains through the use of novel hull treatment and coatings.

SUPPORTING WILDLIFE PROTECTION CAMPAIGNS

MSC is pleased to partner with various organisations whose work is focused on the protection of wildlife on land and in the sea. For example, we are signatories of the Buckingham Declaration Against Wildlife Trafficking, a pledge to combat illicit wildlife trafficking, and have a zero-tolerance policy on the trade of endangered species or banned wildlife products. Throughout 2019, MSC continued its participation in the United for Wildlife⁶³ Task Force whose work is focused on combatting illegal wildlife trade (IWT). We are continuously strengthening our systems to identify and trace illegal shipments of goods, including IWT.

In 2019, MSC became a member of the North American Marine Environment Protection Association (NAMEPA). NAMEPA is a marine industry-led organisation of environmental stewards preserving the marine environment by promoting sustainable marine industry best practices and educating seafarers, students and the public about the need and strategies for protecting global ocean, lake and river resources⁶⁴.

In 2019, as in 2018, MSC received an award from the National Oceanic and Atmospheric Administration⁶⁵ (NOAA) for voluntary vessel speed reduction in Cordell Bank and Greater Farallones National Marine Sanctuaries, where endangered whale species feed. MSC was placed in the top 'Sapphire' performance category (75% or more of distance travelled at 10 knots or less). The speed reduction programme goals are not only to improve air quality, but also to reduce the potential for fatal whale strikes, which are one cause of whale injury and mortality worldwide. MSC's involvement in other wildlife protection activities is coordinated through the MSC Foundation⁶⁶, for which environmental conservation is a core project area.

COLLABORATING ON INCIDENT RESPONSE AND INVESTIGATION

On 2nd January 2019, 342 containers were lost in the North Sea from the MSC Zoe during very heavy weather. The Company immediately began an unprecedented response effort and has continued to work closely with Dutch and German authorities to perform extensive mapping of the seabed, recover items from the North Sea, and remove related debris from the surrounding shoreline. The relevant authorities are continuing their investigative efforts, and MSC will apply information and conclusions drawn from those investigations to minimise the risk of any future container losses at sea.

⁶² www.worldbank.org/

⁶³ <https://unitedforwildlife.org/>

⁶⁴ www.namepa.net/

⁶⁵ www.noaa.gov/

⁶⁶ <https://mscfoundation.org/>

SHIP RECYCLING

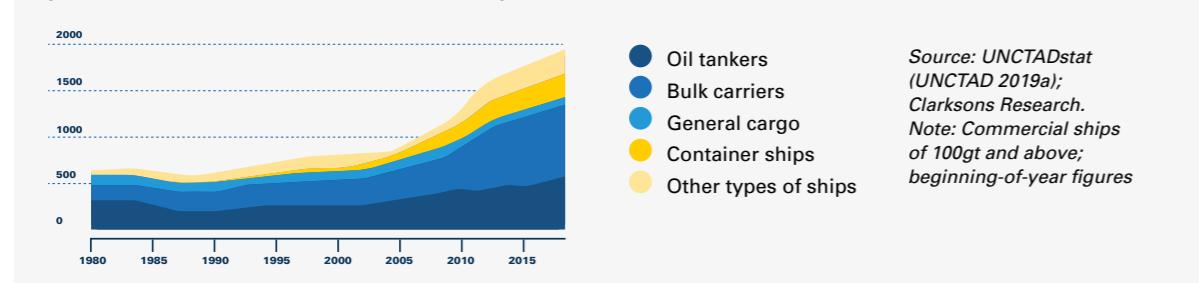
The large amount of steel and other metals from end-of-life ships can be recycled or re-used to produce other finished products, helping to reduce pressure on natural resources. According to the European Commission, "the recycling of scrap metals from ships also reduces the need for mining, an environmentally damaging practice. In this way, it is a vital part of the circular economy – which purports to minimise waste and recycle some materials infinitely."⁶⁷ Additionally, the ship recycling industry contributes considerably to the creation of thousands of much-needed employment opportunities and to boosting inclusive local economic development in a number of countries, such as Bangladesh, India, Pakistan and Turkey.

STATUS OF SHIP RECYCLING REGULATIONS: MAIN CHALLENGES

In the past 20 years, the ship recycling sector has received growing attention from the international

community and its importance is now widely recognised. Significant steps have been taken to extend regulatory measures aimed at promoting greener and more sustainable practices, such as the EU Ship Recycling Regulation (EUSRR) 2013. Yet, at this stage, there is no global regulatory framework in force to ensure a level playing field for all stakeholders involved. In this respect, the *2009 IMO Hong Kong Convention on the Safe and Environmentally Sound Recycling of Ships*, known as the Hong Kong Convention (IMO HKC), has not yet entered into force and challenges in implementing responsible environmental and labour practices in the yards remain. Due to the significant growth of the world's merchant fleet⁶⁸ (as shown in the graph below) and other market factors, an increase in the number of ships being recycled may be expected in the near future. Thus, there is a need to enhance the availability of yards operating in compliance with the relevant internationally recognised standards.

GROWTH OF THE WORLD'S MERCHANT FLEET BY PRINCIPAL VESSEL TYPE (MILLIONS OF DEAD-WEIGHT TONS)



In this respect, in 2019, MSC welcomed the adoption of the Recycling of Ships Act 2019⁶⁹ as well as the accession to the IMO HKC by the government of India, the world's largest ship recycling country, as a positive step towards the enforcement and full implementation of global standards. According to the IMO, "India's accession brings this important convention a significant step closer to entering into force, with the required 15 States now party to it and

with India's ship recycling volume considerably contributing to the required recycling capacity."⁷⁰ At present, 20 Indian recycling yards have made an application for their inclusion in the list under the EUSRR, which will allow vessels registered under the flag of European Union member states to be recycled at these facilities. We believe that this will provide further incentive for the Indian yards to continue upgrading their facilities.

⁶⁷ Source: Science for environmental policy, Thematic Issue: Ship recycling reducing human and environmental impacts, European Commission, 2016

⁶⁸ Source: https://stats.unctad.org/handbook/MaritimeTransport/MerchantFleet.html#ref_Unciad_2019a

⁶⁹ The Act not only imposes a financial penalty for the use of hazardous materials during recycling, but has also made this a criminal offence with a possible prison sentence.

⁷⁰ www.imo.org/en/MediaCentre/PressBriefings/Pages/31-India-HKC.aspx

PROMOTING RESPONSIBLE SHIP RECYCLING PRACTICES

In the absence of a consistent and systematic approach to responsible ship recycling practices at the global level, MSC has taken proactive steps, striving to ensure that the recycling of materials and ship components are performed at yards without any unnecessary risk to human health, safety or the environment.

MSC has an excellent track record in vessel maintenance, which makes it possible to extend the life of its vessels in many cases. Additionally, in line with its Ship Recycling Policy (available at www.mscl.com/che/sustainability/ship-recycling-policy), MSC adheres to the relevant provisions of the IMO HKC and its relevant recycling standards, from design, construction and operation to the preparation of ships for the end of their operational cycle.

Also, in taking the decision to recycle a vessel, MSC requires that the recycling yard complies with the relevant provisions of the IMO HKC Convention. MSC would blacklist any buyer of its vessels which does not comply with the Company's high standards, as well as the provisions contained in its sale contracts in relation to green ship recycling processes and procedures. Additionally, in line with its Ship Recycling Policy, MSC periodically conducts on-site audits to monitor the recycling yards it uses. These audits include an assessment of the working conditions of yard employees.

As an illustration, during its recent visit to the ship recycling facility located in Alang-Sosiya, India, MSC was pleased to note significant improvements in terms of training and environmental stewardship put forward by the Gujarat Maritime Board (GMB), a state organisation responsible for the infrastructure development of ship recycling yards along the coast of the province of Alang. GMB has focused on enhancing the training provided at the governmental 'Safety Training Institute', including basic safety awareness and skills training for gas cutting, as an example. Further investment by GMB in downstream waste handling, including incinerators, has helped achieve compliance with environmental standards. We are also pleased to report the further enhancement of a number of services for workers, such

as water and sanitation, housing and healthcare facilities. These aspects were highlighted for attention during previous visits by MSC, or by industry delegations. We believe those improvements arise from the accession to the IMO HKC and the adoption of the Recycling of Ships Act 2019.

IMPLEMENTING THE EUSRR ON BOARD VESSELS

In accordance with the EU Ship Recycling Regulation (EUSRR) 2013⁷¹, MSC ensures that its ships calling at European ports have an Inventory of Hazardous Materials (IHM) on board. MSC began preparing its fleet five years ago to comply with this regulation. Each vessel now has an IHM formulated in line with the 2015 Guidelines for IHMs developed by the IMO, together with a statement of compliance issued by a recognised Classification Society. The IHM is considered a valuable tool not only for ensuring environmentally sound ship recycling processes and for better protecting yard employees, but also for enhancing health and safety measures for crew members working on board ships. Additionally, MSC procurement systems require that existing vendors, or potential new vendors, provide a signed Materials Declaration (MD) as well as a Supplier Declaration of Conformity for Material Declaration in line with the high standards set forth in its policies on the subject. This is a requirement for conducting business with MSC. As an illustration, MSC requires that all materials delivered on board be asbestos free. Recently, MSC has taken additional steps in its due diligence process as well, as in its responsible procurement practices, by contracting a third-party specialist company to assess and monitor its main suppliers' facilities and the repair yards where the majority of its vessels come for repairs. All findings are communicated to the responsible leadership for immediate corrective action.

⁷¹ The EUSSR (No. 1257/2013) requires mandatory carriage of an Inventory of Hazardous Materials (IHM) onboard new vessels of 500 GT or above flying the flag of an EU/EEA member state, effective 31st Dec 2018; from 31st December 2020 it will extend to all vessels flying EU/EEA member state flags or third-party flags calling at a port or anchorage of an EU/EEA member state.



OCCUPATIONAL HEALTH AND SAFETY



ENSURING OUR PEOPLE ARE SAFE

MSC is not just about ships; people are at the epicentre of everything we do, and ensuring our people are safe and well is part of our purpose and one of our MSC Values⁷². It is also part of our commitment to promote responsible business practices, in line with internationally recognised human rights and labour standards as well as with the SDGs 3 (Good Health and Wellbeing) and 8 (Decent Work and Economic Growth). In this respect, MSC takes a strong leadership role in ensuring that the health and safety of all seafarers and shore staff is prioritised. MSC safety procedures and policies are designed and implemented to exceed the requirements of international conventions and guidelines, most notably the International Safety Management Code⁷³ (ISM), the Maritime Labour Convention⁷⁴ (MLC) and the International Convention for the Safety of Life at Sea¹ (SOLAS). This same ethic applies to compliance with the International Convention for the Prevention of Pollution from Ships² (MARPOL), for matters relating to environmental safety. MSC also believes that accident avoidance is a shared responsibility; everyone has a role to play in ensuring tasks are completed without incident. Therefore, we invest in training our employees on safety measures and procedures, and we promote open communication on these issues as a basis for the continuous improvement of existing practices and procedures. Safety is a theme throughout MSC, on shore and on land, and appropriate measures are in place in each context to help ensure safe working spaces for all our employees. However, the following sections apply primarily to the safety of seafarers, whose operating conditions require particular attention to avoid accidents and injury.

SAFE AT SEA

In operational terms, our approach to safety at MSC is based on ten elements, observed for accident avoidance on our vessels.

⁷² www.msccom/cmr/careers/our-values

⁷³ www.imo.org

⁷⁴ www.ilo.org

PRIMARY SAFETY PRECAUTIONS



Risk prevention

- Risk assessment should be carried out
- All onboard jobs should be well planned and organised to ensure safety procedures are followed
- Any hazardous tasks and/or exposure to hazardous materials should be identified, and control measures developed and implemented



Crew involvement and communication

- The departmental heads should organise regular safety briefings to discuss the work for the day with all the crew, explaining the safety procedures, and identifying any hazardous tasks and associated control measures
- There should be good communication amongst the team members. Instructions should be simple, clear and in the language understood by all the crew
- All crew should be advised that safety is paramount and that shortcuts should never be taken. If anyone feels unsafe, they should not hesitate or be afraid to stop the work, take corrective actions or advise the departmental head of their concerns



Information availability (manuals and signage)

- Instruction manuals and plans should be available for crew to follow the correct procedures
- Protrusions of the vessel's structure in the walkways should be highlighted. First and last ladder steps should be highlighted
- Any deck areas which can get wet due to rain or spray should be coated with antiskid aggregates
- Any areas that must be kept clear must be marked with striped coating and open manholes, or areas which can result in trip, slip or fall hazards, should be highlighted in contrasting colours and cordoned off



Training

- Continuous training and drills for the crew. This includes on-the-job training, showing videos, understanding the various safety posters and completing 'Look, Act, Report, Prevent' (LARP) cards



Qualified personnel

- Work should be allocated based on the skill and ability of the person
- A permit system should be used, including hot work permits and enclosed space entry permit
- All power equipment, electric or pneumatic, should be checked by competent person(s) before use



Personal protective equipment (PPE) and other equipment

- Proper task-appropriate personal protection equipment (PPE) should be worn, as indicated in the fleet-wide PPE matrix
- Protective clothing should be comfortable and well-fitted. Only safety shoes with steel toecaps and slip-resistant soles should be worn. Appropriate gloves should be worn to protect the skin against heat, chemicals, sharp edges, etc.
- Tools and equipment should be kept in good order and their correct use should be advised to the crew
- Portable tools and equipment must be carried with both hands. If climbing ladders or staircases, the tools should be carried in tool belts or bags worn across the body leaving both hands free to hold the railings for climbing or descending
- All moving machinery should be well guarded
- The lockout/tagout system should be used – to shut down the machinery, disconnect from the power source, etc.
- While using lifting equipment such as cranes, hoists or chain blocks, the safe working load should not be exceeded

- First aid equipment, eyewash stations, firefighting and lifesaving appliances, and any emergency or protective equipment should be stowed in the correct locations and be ready to use. The use of the equipment should be demonstrated to the crew



Supervision

- A competent person(s) must supervise any work that poses special hazards and where several of the crew are involved. Otherwise constant supervision should also be maintained



Appropriate rest periods

- Appropriate work and rest hours to be followed to prevent accidents due to fatigue



Clean and orderly workspaces

- The work area should be kept clean and safe for work. Safe working practices should be followed



Accident investigation and reporting

- Near-miss situations should be reported regularly, so actions can be taken to prevent reoccurrence and major accidents
- All accidents and near-misses should be fully investigated, the root cause identified, and lessons documented and shared

In addition, in accordance with each ship's Cargo Securing Manual, all MSC crew engaged in cargo securing operations are trained in checking the proper securing of containers, the identification of defective equipment, manual handling skills, the handling of cables and other related aspects of operations that may pose a safety risk.

MSC SHIPMANAGEMENT: PROMOTING SAFETY, HEALTH AND WELFARE OF SEAFARERS

In addition to the coordination of all tasks related to the technical management of vessels, MSC Shipmanagement oversees the recruitment, training, welfare, professional development and administrative needs of our seafarers, in accordance with international standards. For example, together, MSC Shipmanagement centres in Limassol, Cyprus and Sorrento, Italy, are major centres for this work. MSC Shipmanagement sets an exemplary standard for safety performance, and in 2019 qualified for OHSAS 18001: 2007 (which since transitioned to ISO 45001 in 2020), a third-party assessed internationally

recognised safety certification. However, regrettably, not all accidents are preventable, and occasional errors occur. In 2019 MSC Shipmanagement recorded one fatal accident. During 61,619,920 working hours, a total of 215 accidents occurred, of which 29 crew members (13%) required repatriation for treatment. A significant proportion of accidents recorded are due to trips, slips and falls, with other cases including contact with machinery and injury from falling objects. The two MSC Shipmanagement offices recorded lost time injury frequencies (LTIF) of 1.17 and 1.16.

As part of the mission to further embed a safety culture across our fleet, MSC Shipmanagement coordinates the safety training of MSC employees.

Some 12,834 crew members employed to work on MSC's managed vessels received safety-related training in 2019, amounting to 387,012 hours.

MSC Shipmanagement has been in receipt of multiple industry awards in wider recognition of performance and commitment to excellence, including in the area of safety. We continue to embed a safety culture throughout our operations and are working tirelessly to make working with MSC both safe and rewarding.



Safety-related
training



12,834
crew members trained



387,012
hours of training

LEADERSHIP IN CARGO SAFETY AND PREVENTATIVE INSPECTIONS

Loss prevention and avoidance of cargo-related incidents is a fundamental priority for MSC, and is part of our work to ensure the safety of our crew, our vessels and the marine environment in which we operate. While most shipping companies screen hazardous bookings, MSC is exceptional in its development and interlinking of an ever-increasing number of technical and analytical solutions to produce a world-class screening system: the **Dangerous, Sensitive Cargo Management System (DSCM)**.

While ISO certifications, notably ISO 9001: 2015, ISO 14001: 2015, demonstrate MSC's commitment to cargo safety and security, the DSCM takes our performance to the next level of excellence. Each of the components which currently comprise the DSCM adds an additional layer of checks and intelligence to the system. For example, the MSC Cargo Inspection (MSCI) application was developed by MSC to make container inspections more targeted. It draws data from a wide range of sources to screen bookings for risks. This in turn informs third-party inspection teams which containers to investigate. MSCI has led to a more than 95% success rate in identification of mis-declared hazardous cargo in the flagged containers, thereby greatly reducing the chances of possible incidents. Wider recognition of the value of MSCI is evident in MSC's receipt of the award for the 'Most Sustainable Commitment to Health, Safety, Security and Environment (HSSE)' at the Green Shipping Summit in 2019. MSC also received fifth prize in the TT Club Innovation in Safety Award for its MSCI container cargo screening and inspection process.

One of the unique strengths of the DSCM is its consistently high reliability. Automated upload and screening

of documents using optical character recognition, algorithms and artificial intelligence ensure that the screening process is consistent and standardised. Automatic analysis of port, partner and vessel restrictions by the system increase the level of safety checks and controls.

Speed is an outstanding feature of the DSCM. For example, the Reply Timer is a component of the system that measures how long it takes MSC to reply to customers when they place a hazardous booking. This feature indicates that MSC is substantially faster than others in the market at confirming these bookings. Furthermore, the Reply Timer provides KPIs that give feedback to MSC on system performance, which is valuable from the perspectives of quality assurance monitoring, as well as continuous improvement. The strength of the DSCM lies not only in the efficacy and utility of the individual components, but the way in which they link and interact, contributing to an integrated and sophisticated screening system. For example, the identification of hazardous cargo by the system links to stowage and terminal space planning and segregation. Also, there are plans to incorporate container tracking and monitoring devices into the DSCM, to provide further intelligence on variables such as heat, light conditions and location of containers with hazardous cargo, to provide early warnings of possible incidents.

MSC will continue to enhance the DSCM with additional components in the coming years, in parallel with our broader work on digitalisation (see page 76), to ensure we are serving our customers with cargo safety as a top priority. Our ambition is to continue to integrate existing technologies not yet linked to the system and to pursue our vision of ever-greater cargo safety and risk reduction.

CASE STUDY

SAFETY MEASURES ABOARD THE MSC GÜLSÜN CLASS VESSELS



MSC's new 23,000+ TEU ships have broken records and set new standards in terms of size, efficiency and safety. However, such large vessels introduce a new suite of challenges related to fire prevention, navigation, cargo loading and discharging, maintenance and mooring.

ENHANCED FIXED FIRE-FIGHTING SYSTEM FOR ON-DECK CARGO

Fires on container ships can pose a serious risk to the lives of seafarers and the environment. As container ships have become larger in recent years, the volume of cargo carried on deck has also increased considerably, with associated implications for the fire risk to the

crew, vessel and the cargo itself. In response to this, the **International Convention for the Safety of Life at Sea (SOLAS)** Chapter II-2 Regulation 10 has been revised in accordance with IMO Resolution MSC.365(93) to enhance portable fire-fighting equipment. However, misdeclaration of hazardous cargo and the incorrect stowing of hazardous cargo in containers warrant additional fire safety measures.

MSC's 'Gülsün Class' of 23,000+ TEU ships are currently the largest container ships in the world. To ensure that onboard fire safety standards on these vessels extended beyond compliance with regulatory requirements, MSC decided to install the enhanced fixed fire-fighting system for on-deck cargo areas.

ADVANCED FIRE PREPAREDNESS

The MSC Gülsün Class vessels broke new ground in terms of crew and cargo safety because of the new dual-tower fire-fighting system with high-capacity pumps, which further enhance the safety of seafarers onboard and protect cargo carried across the whole deck of the ship. This equipment, which was designed and installed for the first time in the industry by the Company and certified by DNV-GL, a world leading classification society, shows clearly how responsible innovation represents a strategic asset. The approach pioneered by MSC to equip the vessel with an advanced fire-fighting system far beyond existing international regulations will guide the maritime industry to a higher safety level and lead the container shipping industry to a new standard.

The system offers three primary benefits:

- **Crew:** Large volumes of water pumped reduce the risk to crews by (i) reducing the spread of fire and (ii) improving the fire-fighting conditions. The system also enables crew to provide a faster response without needing to approach the fire, helping to contain a fire in the early stages
- **Vessel and cargo:** There is a cooling effect from the amount of water sprayed, reducing fire spread and further fire damage
- **Customer:** Increased cargo safety and thus reliability of service

Each of the enhanced fire-fighting systems installed on the funnel top and the compass deck features four new and additional long water jet monitors. The monitors can be rotated 360° and have a flow rate of 250m³/hour and a water spray reach which can extend up to 120m. There are four high pressure (15 bar) booster pumps on board that connect to the monitors, which increase water jet flow volume, and these pumps are supplied in turn with water by two ballast water pumps, each with a flow rate of 1000 m³/h.

In addition to the fire-fighting infrastructure installed on all the Gülsün Class ships, an innovative fire-detection system is being trialled on one ship. In this case, fixed thermal cameras are installed on the bridge and funnel, to monitor irregularities and alert the crew to potential fires.

NEW FIRE SAFETY STANDARD AWARDED TO MSC

MSC is the first shipping line to be awarded a top new notation in relation to fire safety on board our container ships. The new notation from classification society DNV-GL highlights the strong systems in place across MSC's Gülsün Class. The new fire safety notation, specifically aimed at container ships, is designed around a function-based approach, focusing on:

- enhanced safety level beyond present SOLAS requirements
- increased hazard awareness
- enhanced ability to detect and fight container fires

NAVIGATIONAL AND OPERATIONAL SAFETY

The great size of new ships creates additional considerations for navigation, especially in areas with high density traffic or congestion. Navigational actions are anticipated well in advance because the response time of larger vessels is longer than smaller ones. For the same reason, Masters of the MSC ships also plan anchoring particularly carefully, factoring in current and wind, for example. The large number of containers carried by these ships presents additional safety considerations for cargo loading and discharging procedures. Large ports may operate up to 11 gantry cranes at a time, the progress of which needs to be tracked simultaneously by duty officers and crew. Stowage of many containers on upper tiers also demands extra checks to ensure lashings are secure. Furthermore, with multiple gantry cranes operating at once, Masters and their crews must control listing of the ship through, for example, the judicious use of heeling tanks. Masters of these Ultra Large Container Vessels (ULCVs) also work to ensure adherence to MSC policy on maintaining an even keel on departure from port, which can be complicated by vessel length and squat effect. The large size and height of the cargo holds require thorough and meticulous inspection, which frequently must be undertaken with short turnaround times at ports, placing extra demands on the crew specially trained for this important task.

In addition to the fire-safety measures described on pages 94 and 95, further safety measures have been installed on these 23k+ TEU vessels. These include:

- the installation of 16 CCTV cameras on the deck and in the engine room, some of which can be rotated and zoomed in and out for providing information on vessel clearance while berthing and unberthing
- ECDIS charts which can be overlaid on radar screens
- entirely enclosed bridge with separate air conditioning and heating
- hardened glass floor of bridge, for monitoring pilot boarding and disembarking and for accurate positioning of the gangway while berthing
- floating, lightweight, easy-to-handle mooring ropes
- search lights which can be remotely operated from bridge and moved through 360 degrees and vertically, using a joystick
- two gangways on either side of the vessel for use depending on vessel load condition
- lashing bridge ladders on extreme ends of the fifth and sixth tiers with protective railings on fore and aft sides to prevent falls
- location and configuration of fuel tanks, which avoids ballast tank contamination

There is never any complacency when safety is concerned. MSC is continuously learning and noting design modifications that may further increase the safety on board our ships.

CREATING A HEALTHY LIFE ON BOARD

A working life at sea has many challenges. MSC Shipmanagement is very aware of this, so has established a dedicated team to run programmes that embed the strong MSC company culture that is focused on safety, performance and skills development, with an emphasis on empowering its people.

ENABLING A POSITIVE AND OPEN WORK CULTURE

MSC Shipmanagement strengthens the motivation and engagement of seafarers by working to build a positive

working environment. This begins with creating regular and open communication channels between team members and their superiors. In this way, in keeping with the MSC Value 'Continuous Evolution'⁷⁵, feedback can be gathered, needs expressed, ambitions shared, misunderstandings avoided and conflict mitigated.

A productive workplace is also one where effort and talent is recognised and rewarded. MSC has a well-established programme of training and professional development opportunities, described on pages 101-105. Furthermore, as a large, growing company, MSC offers possibilities for career progression. And while job

creation and evolution are important, MSC also ensures that jobs are meaningful, and that people have the tools and autonomy to succeed in their roles.

Finally, in keeping with the MSC family spirit, MSC takes the view that each crew member is a vital part of a ship's team, and each ship is a vital part of the MSC fleet. We recognise hard work and performance through promotion, challenging assignments and talent development, to demonstrate to our seafarers that their individual jobs and professionalism contribute to the success of a great company that, in turn, brings value to clients across the world and supports the global economy.

CREW ENGAGEMENT SURVEY RESULTS

In 2019, for the third time, MSC Shipmanagement conducted its biennial Seafarer's Engagement Survey. All seagoing MSC staff on cargo ships were invited to provide feedback across 10 Key Areas. The scale and breadth of the survey highlights the commitment of MSC Shipmanagement to seeking staff opinion on matters relating to operational excellence, sustainable growth and progressive policy formulation. Care for people

is one of the core values of MSC and the Seafarer's Engagement Survey is one important way in which Management can gauge the needs and sentiments of its seafaring employees.

Although the main structure of the survey remained the same as in previous years to allow us to compare trends, the 2019 edition saw the addition of some new questions and areas in order to measure some changing operational parameters. The response rate in 2019 was high (76%), up from 67% in the 2017 survey. 6,944 responses were received across all ranks and nationalities and from both active crew and those on leave. Overall, crew satisfaction across all the Key Areas was very high, scoring an average Net Promoter Score (NPS) of 6.31 out of 7. NPS is a metric that is widely used in business to evaluate client or employee satisfaction. The three highest NPS scores were found in the areas of (i) Sustainability, (ii) Commitment and (iii) Company values, all of which recorded scores of more than 6.4 out of 7. In addition to the scores recorded, written comments provided by respondents provided further insights into the views of seafarers.

CREW ENGAGEMENT SURVEY: KEY AREAS



⁷⁵ www.msccom/swe/careers/our-values

CREW ENGAGEMENT SURVEY: KEY RESULTS



TALENT RETENTION

The survey results provided rich, quantified, actionable evidence to MSC Shipmanagement on all Key Areas, but some key findings stood out. For example, in a demonstration of MSC's success in talent retention, the survey showed that the majority (65%) of those surveyed intended to sail with MSC for the full duration of their careers. Other indicators of seafarer satisfaction were evident in responses to questions in the new Key Area 'Attractiveness of MSC Compared to Others'. A very high rating of 6.33 was recorded. Furthermore, when asked if MSC had improved over the past two years, all seafarers gave a score of at least 6.35 out of 7.



LEADERSHIP AND PERSONAL DEVELOPMENT

In the area of leadership, the survey indicated that not only are MSC seafarers generally satisfied that their supervisors keep them well-informed, but they also felt that they could communicate freely with them. While the results on the ability to motivate and inspire junior staff improved since 2017, the survey pointed to this as an area for further improvements in the coming years. It is of utmost importance to MSC Shipmanagement that seafarers feel their professional development and working conditions are being prioritised. Survey results show that this is the case. Seafarers who rated this as an important theme for them feel there are good opportunities for personal growth and development with MSC: the survey reported a score of 6.25/7 for this issue. The satisfaction level with promotions at MSC improved since 2017 and MSC Shipmanagement will continue to address this to ensure ever-higher levels of satisfaction for seafarers in this area.



QUALITY OF LIFE ONBOARD

According to survey results, the majority of seafarers consider that the onboard environment, quality and cultural sensitivity of the food experience, and internet availability are key aspects of quality of life on board. Installation of more crew-friendly facilities likely led to an increase in the score for internet availability. Results show an improvement in onboard food quality too, which follows improvements already recorded in 2017 relative to 2015. Across the eight areas relating to quality of life on board, all have improved since 2017. The main area for further management attention is the quality of protective clothing.



ORGANISATIONAL EXCELLENCE

In the Seafarer Survey there are eight measures for Organisational Excellence. In previous years, MSC already scored highly in these areas, so the 2019 survey did not record substantial changes. Yet, when overall satisfaction levels are already high, even small increments are significant. For example, timely remittance of wages received the highest rating across all survey questions, scoring 6.8/7, an uptick of 0.02 since the 2017 survey.



SUSTAINABILITY PERFORMANCE – SEAFARER PERSPECTIVE

Sustainability has always been a priority for MSC Shipmanagement, and survey results show that seafarers are also concerned about environmental protection. The results also suggest that our emphasis on sustainability is well understood by seafarers, and that MSC is making progress on raising awareness of these issues. Like the results from 2017, the 2019 survey results indicate that our seafarers feel proud that MSC puts effort into fuel efficiency initiatives to make a positive environmental impact. Sustainability was the best-rated area in the survey, with no questions registering scores under 6.51 on a 7-point scale.

PREVENTING ILLNESS

In a world so reliant on global trade, seafarers play a crucial role in ensuring that goods are exchanged between markets. Any threat to the health and welfare of seafarers is therefore a concern for MSC.

In the event of a pandemic, specific actions taken depend on the nature of the disease (e.g. MSC's response to COVID-19 is described on pages 12-25). MSC's approach is to provide immediate guidelines, fleet circulars to the vessels and internal memos, all of which are regularly updated. Protection kits are provided as required to crew and office staff to safeguard against transmission of the illness. Further specific measures are taken based on the advice of internal experts and guidelines

from international bodies, notably the World Health Organisation (WHO) and the IMO, and integrated into an Outbreak Management Plan.

As part of the Outbreak Management Plan, illness-specific information is made available by MSC Shipmanagement, explaining the origins, symptoms and incubation period and risk factors, for example. Advice on the establishment of onboard Illness Prevention and Control Task Forces is provided, along with detailed information on measures to prevent infection, as summarised below. The Outbreak Management Plan also provides clear guidance in case of a suspected case of the virus on board.

OUTBREAK MANAGEMENT PLAN: KEY THEMES

DISEASE PREVENTION MEASURES

- Awareness raising
- Clear communication
- Personal hygiene
- Use of onboard equipment
- Disinfection and cleaning procedures
- Ship ventilation and HVAC systems
- Use and disposal of PPE; laundering
- Ship-shore personnel exchange
- Food safety

EMERGENCY RESPONSE PROCEDURES

- Determination of source and extent of illness among crew
- Isolation and exposure prevention
- Actions to be taken when at port
- Actions to be taken when at sea
- Contact tracing
- Clinical management of suspected cases
- Attending to patients isolated in their cabins
- Managing close contacts
- Transfer of suspected patients
- Disposal of medical waste
- Reporting and record keeping protocols and requirements
- Prioritising crew mental health during the pandemic

SUPPORT FOR SEAFARERS AND THEIR FAMILIES

MSC Shipmanagement Crewing Department undertakes a wide range of tasks to ensure the wellbeing of our seafarers. There are many important administrative aspects of the work, but it is the human dimension that makes the MSC core values of 'People' and 'Family' stand out. MSC recognises that for crew members who spend months at sea, knowing their families are cared for brings comfort, and allows them to focus on the requirements of their roles. The MSC ethic is clear; seafarers' family members are also part of the MSC family.

While employment agreements define the duration of the period at sea, at times urgent requests are received for disembarkation, due to, for example, death or illness of family members, or other personal requests of importance to the seafarers. In such situations the MSC Crewing Office reviews the request and puts in

motion the arrangements to relieve the crew member. MSC goes to considerable lengths, administratively and financially, to plan logistics, and where necessary, liaise with government officials, and oversee the bureaucratic aspects of swift, unplanned repatriation. In addition, MSC Shipmanagement is very aware that when working on the high seas, contact with family and friends can be a lifeline. The Company has installed internet across its fleet to enable crew members to contact their families as needed.

Once they have successfully completed a contract onboard an MSC vessel, all MSC seafarers are insured by a Medical Plan which extends to their vacation periods. Medical plan by Marine Benefits offers client service, claims handling and member support, around the clock, 365 days a year. Furthermore, prompt payment of wages has always been a priority for MSC, and even in times of global economic downturn, MSC protects staff salaries by first seeking cost saving measures elsewhere.



PROFESSIONAL DEVELOPMENT

MSC Shipmanagement has been investing in the capacity building of its team both on board the ships and ashore since its inception. We consider that creating a culture of learning and leadership is part of growing our organisation and empowering our people. It is part of value creation, which itself extends beyond financial measures of performance to include intangible, but nonetheless invaluable, aspects of our success, such as relationships, trust, experience and reputation.

EXCELLENCE THROUGH LEADERSHIP

Creating the conditions for excellence in safety requires skills in communication, influencing others and leading by example. MSC Shipmanagement, headquartered in Limassol, Cyprus, and in Sorrento, Italy, have been running a leadership development course since 2011. 2019 saw the transformation of the course with the addition of new content. The new Excellence in Leadership course was launched in 2019 and 250 officers have already participated. It explores leadership characteristics and examines what makes a great leader and how leadership style can be applied in different situations. MSC Shipmanagement values strong and successful leaders and depends on them to manage the various challenging scenarios that life at sea can present.

A key message of the course is the need for leadership by example, because of the trust and respect that this engenders amongst peers. The 'Excellence through Leadership' programme aims to achieve the following fundamental outcomes:

- Create leaders of the future
- Improve management and leadership capabilities within the business
- Identify and develop talent for management positions
- Enable high-performing teams
- Energise and engage employees

DEVELOPING SKILLSETS FOR SAFETY AND ENVIRONMENTAL PROTECTION

A knowledgeable and well-trained workforce is not just part of responsible business operations, it is also an investment in the future. Shipping is a highly regulated and technical sector, which requires advanced levels of expertise upon which the safety of the crew, security of the cargo and, ultimately, the performance of MSC depend. One specific skillset that is rapidly evolving, owing primarily to emerging regulations and advances in technology, is environmental protection, and specifically, the use of machinery and technology for this. Autonomous ships may be a reality in the future, yet at MSC we believe that human capital is an invaluable asset, and thus remain focused on training our staff both onboard and onshore in this important area.

PRIORITISING IT KNOWLEDGE AND SKILLS

Despite the growing need for staff with IT skills, there are no official standards or certifications required by the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW). To fill this gap, MSC Shipmanagement has put in place regular training to improve the IT skills of its officers on board by focused tutorials, webinars or seminars with service providers. For example, in collaboration with a leading maritime training institution in India, as part of the crew onboarding programme, MSC Shipmanagement has established a training programme for all ranks on board. Currently offered to cadets, it focuses on maintaining relevant and current IT knowledge and skills as well as instilling a digital mindset amongst our crew. This is very important for building both the confidence and competence to use technology to its full potential. The programme will soon be extended to other crew training centres.

NAVIGATIONAL SIMULATOR TRAINING

At MSC, we have been early adopters of simulator training to provide lifelike practical preparation for operational scenarios and incident avoidance. For example, the use of technology to simulate real-time navigation, berthing and unberthing of our ships helps to make navigation safer. Navigational incidents pose a risk to the environment for a variety of reasons: containers can fall overboard; fuel tanks may be damaged; other vessels may be damaged, which may also contribute to pollution. The MSC simulator training has undergone major changes since it started over 15 years ago. It is now conducted across all ranks of officers and deck ratings, and real incidents are simulated based on possible environmental factors such as wind, swell, sea and visibility conditions.

ELECTRONIC CHARTS FOR NAVIGATION AND PASSAGE PLANNING

MSC Shipmanagement started installing the ECDIS (Electronic Charts Display Information System) on board its vessels in 2012, well before subsequent regulation came into force. We also started training our deck officers, including Masters, on ECDIS use, so when it became mandatory in 2018, there was already a good level of familiarity with ECDIS operation amongst MSC officers. Lack of familiarisation with ECDIS has contributed to serious navigational incidents in the shipping

industry. MSC prepares officers for future e-navigation⁷⁶ and for compliance with our strict harbour manoeuvring plan (HMP) requirements. HMPs were first developed and used by MSC in 2012 to further enhance navigational safety. These plans are followed by a vessel's bridge team and by harbour pilots, and have contributed significantly to smooth navigation through harbours. MSC Shipmanagement was an important partner in the EU-funded Sea Traffic Management Validation Project⁷⁷, in which over 90 Company-managed vessels participated between 2015 and 2018.

In 2019, MSC introduced new online training for passage planning on ECDIS for Masters and Navigating Officers. The course aims to provide the required knowledge, skill and understanding of passage planning to ensure the safe navigation of vessels whose primary means of navigation is ECDIS. The course emphasises specific requirements for passage planning, calculating of safety limits and the usage and update of available data layers. It is an important step in achieving MSC's fundamental objective of zero navigational incidents.

The environmental technology on board MSC ships requires specific, technical user knowledge to ensure its safe and reliable operation. The following sections provide examples of the measures taken by MSC to ensure crew members are trained on the purpose and function of such equipment.



⁷⁶ The harmonised collection, integration, exchange, presentation and analysis of marine information on board and ashore by electronic means to enhance berth to berth navigation and related services for safety and security at sea and protection of the marine environment (IMO)

⁷⁷ www.seatrafficmanagement.info

SAFE USE OF BALLAST WATER TREATMENT SYSTEMS

MSC complies with the requirements of The International Convention for the Control and Management of Ships' Ballast Water and Sediments (BWM Convention). These regulations entered into force in September 2017 and aim to protect the marine environment from the transfer of harmful aquatic organisms in ballast water carried by ships. The Company has retrofitted ballast water treatment systems on more than 250 vessels (approximately 50% of the fleet). In addition, all vessels delivered since 2012 have this technology already. Crew training on these systems is carried out on a regular basis in the following ways.

EMISSIONS REDUCTION CONTROL: EXHAUST GAS CLEANING SYSTEMS

Meeting the requirements of IMO 2020 in full and on time for the 1st January 2020 deadline required not only substantial investment in equipment and retrofits (see page 62), but also in the training of crew on the use of

emissions reduction technology. MSC opted to install hybrid exhaust gas cleaning systems (EGCS) on many vessels in its fleet because of their greater reliability and safety from the perspective of the crew.

The proper and reliable operation of EGCS depends on the training of both crew and shore-side personnel, as well as support from a dedicated Shipmanagement maintenance team. Each crew member involved in the operation is provided with specific training and a digital manual with troubleshooting tips and real-time scenarios to deal with operational issues.

CLOUD-BASED SOFTWARE FOR CARGO PLANNING

Until recently, MSC used a variety of software for loading cargo onto different ships. In 2019, the decision was taken to implement a uniform cloud-based cargo planning system across whole MSC fleet. This measure was to achieve consistency, to provide standardised vessel-loading information to all stakeholders and to ensure that possible safety risks such as overloading, high stresses and excessive lashing force are addressed.



Simulators and coaching
at MSC Training Centres



Briefing in Manning and Technical Offices



Onboard webinars and training of staff

CREATING CAREERS AND OPPORTUNITIES

MSC Shipmanagement recruits approximately 500 cadets from various countries, mainly India, Ukraine and Russia, and actively promotes shipping as a career avenue in other countries such as Cyprus, Pakistan and Bangladesh. Some cadets are recruited from these regions too. Our support ranges from investing in independent maritime training institutes by means of equipment for training, to contributing to the development of training programmes relevant for the future growth of maritime professionals. MSC supports these institutes by making subject matter experts available, delivering lectures on key topics, providing regular interaction with sponsored cadets, inviting them on board our ships for practical experience, and later supporting them with further education and certification. The success of this investment in cadet training is evident in the Masters and Chief Engineers now

employed by MSC, as well as the recruitment of onshore staff across various MSC offices as Superintendents or Planners, Port Captains in crewing offices, and in management positions in global MSC offices. This form of capacity building also creates competencies that will be of value outside the Company, with a positive ancillary impact on local economies too.

MSC TRAINING ACADEMY, INDIA

MSC has been associated with the International Maritime Institute⁷⁸(IMI), the leading maritime institute in India, for over two decades. MSC Shipmanagement has been consistently investing in and supporting the training of cadets and taking care of their welfare. In recent years MSC has further strengthened this relationship by setting up the MSC Training Academy, a joint venture with IMI to train crew for their cruise line vessels, thereby furthering maritime careers and creating opportunities for future generations.



A LONG-TERM COLLABORATION WITH NATIONAL UNIVERSITY ODESSA MARITIME ACADEMY, UKRAINE

National University Odessa Maritime Academy⁷⁹(OMA) was founded in 1944 as the Odessa Higher Engineering Marine School. In 2016 it was renamed the National University Odessa Maritime Academy. Over the years the University has trained over 40,000 professionals from 45 countries.

Odessa Maritime Academy has been a well-known and respected institution in the world maritime community for decades, and in January 2019 celebrated its 75th anniversary. Its main objective is to satisfy the growing educational and cultural needs of Ukrainian citizens and foreign nationals in obtaining higher maritime education which ensures employment opportunities, a good salary, lifelong career development perspectives and competitiveness in the world labour market.

Students and cadets at the academy number in the region of 10,000, with thousands of additional seafarers undertaking refresher courses at the Academy each year. The Academy offers a modern theoretical and technical education, as well as advanced maritime simulators. MSC Shipmanagement (Cyprus) has been supporting and collaborating with the Academy for more than 10 years, in partnership with the MSC Crewing Services LLC, based in Ukraine. In recent years, new equipment, laboratories and simulators have been installed. MSC Shipmanagement (Cyprus) sponsored the deployment of new navigational equipment for training, including gyro compasses, magnetic compasses, an echo sounder, a GPS receiver with a display, an antenna and matching power supply.

ADOPT-A-SHIP PROGRAMME

The Cyprus Shipping Chamber (CSC) and the Cyprus Marine Environment Protection Association (CYMEPA) have developed a voluntary 'Adopt-a-Ship' Programme. The Programme has a dual purpose; firstly, to encourage children aged 10 to 12 years old to consider a career in shipping, and secondly, to promote shipping as a safe, efficient and modern mode of transport.

The details of the operations and processes in the shipping industry are not widely understood. Articles in the media at times present a negative image of the sector. Whilst the Adopt-a-Ship Programme cannot change the wider public perception of shipping, it aims to help the children participating in the scheme to better understand, for example, what a ship does, where it travels, the cargoes it carries, etc. The programme runs for the entire school year and typically requires a weekly email exchange between the school and the ship to which it is assigned. The school children have a maritime map in their classroom showing where the ship is, the latest email posted, details of ports of call, cargoes carried, etc. In addition to a weekly message, the ship may send photos, old charts and accounts of the crew's activities onboard. The Masters of the vessels share pictures, challenges and adventures at sea, which help to inform and inspire the students.

The Adopt-a-Ship programme was first introduced on 12 MSC vessels in 2016 and has proven hugely popular with schools and students alike. Since then, the number of participating ships has increased to over 20 and over 25 children from local schools have visited our MSC Shipmanagement premises. The Programme is set to continue its educational mission, and its objective to highlight the contribution of shipping to the local community and economy in Cyprus, as well as the central role of shipping in global trade.

⁷⁸ www.imi.edu.in



BUSINESS ETHICS AND PROTECTION OF HUMAN RIGHTS



HUMAN RIGHTS DUE DILIGENCE PROCESSES

According to the Office of the United Nations High Commissioner for Human Rights (OHCHR) "it is increasingly recognised that human rights are essential to achieve sustainable development.⁸⁰ The Sustainable Development Goals of the 2030 Agenda for Sustainable Development "seek to realise the human rights of all and to achieve gender equality and the empowerment of all women and girls"⁸¹. As reported by the Danish Institute for Human Rights, "more than 90% of the goals and targets are grounded in the Universal Declaration of Human Rights and other international human rights instruments⁸²".

In line with this approach, MSC believes that the respect for human rights begins with the respect for its employees and other key stakeholders who might be impacted by its business activities and operations. MSC's Human Rights Due Diligence Processes therefore focus on leveraging existing compliance infrastructure within the organisation to maximise the creation of long-term sustainable value while preventing adverse impacts on people and communities.

MSC's broader sustainability approach reinforces the message that all SDGs are equally important and inter-related, as all MSC's Sustainability Pillars have the same strategic importance. For us, this is crucial not only to prevent legal, financial, commercial or reputational risks, including those related to human rights, but also to ensure business continuity and preserve our natural resources for current generations and others to come. As an illustration, MSC's commitment to the progressive realisation of the UN SDG 8 (Decent work and Economic growth) is strongly linked to all others, including the environmental goals such as the SDGs 14 (Life below water) and 15 (Life on land). If all employees, including seafarers, have decent working conditions and their rights are guaranteed, they will be committed to their

work and, as a result, this will significantly reduce the risk of accidents and incidents on land and at seas. They will also help promote responsible practices wherever we operate.

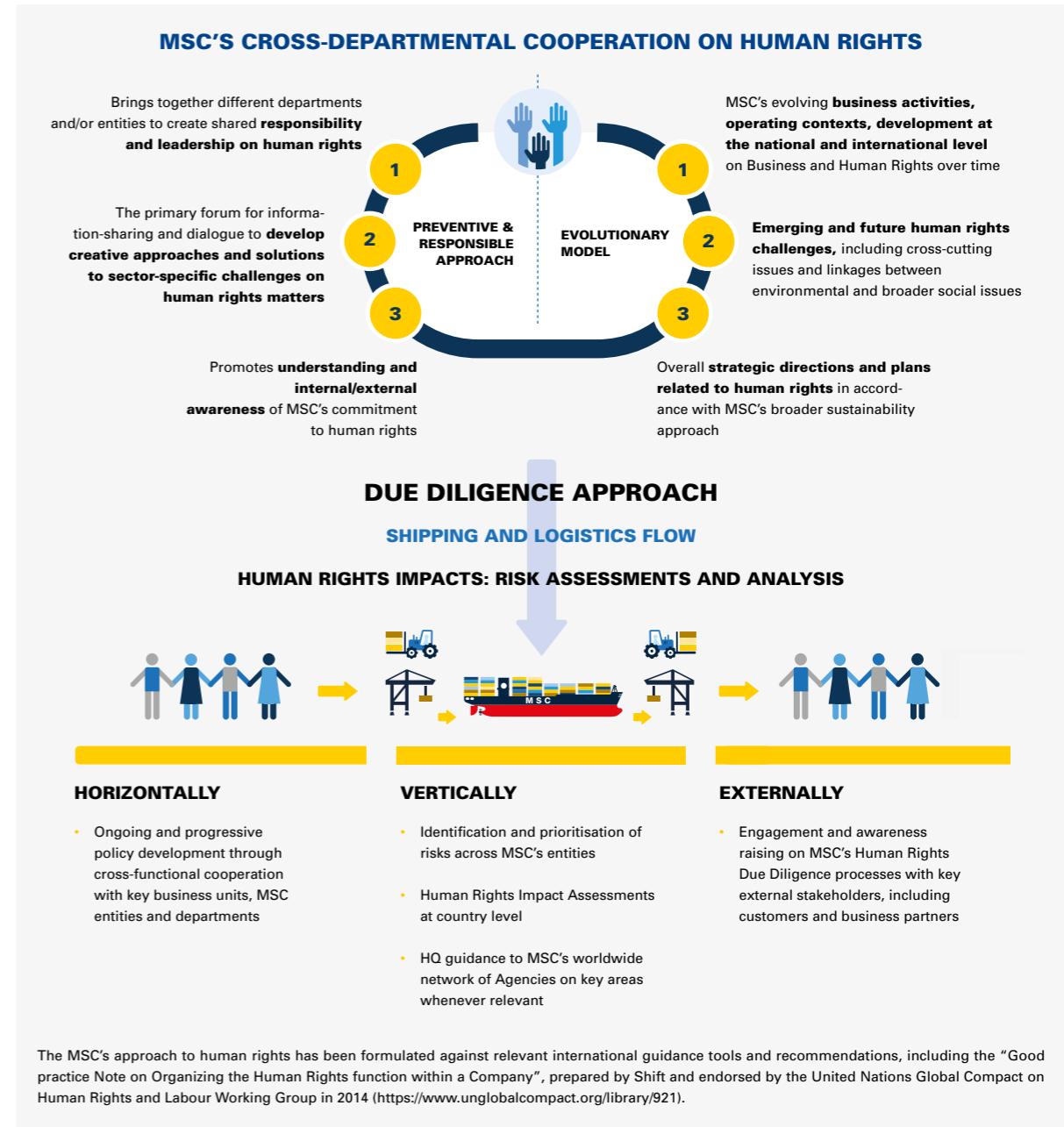
Furthermore, MSC believes that sustainable development can only be achieved by promoting non-discriminatory management processes allowing employees to have an enhanced and fulfilled human existence. In this respect, MSC offers and secures long-term employment opportunities, supports participatory and inclusive access to quality professional development plans and promotes healthy and safe working environments. For us, this means helping people "to have the right tools to lift themselves out of poverty, combating the cycle of poverty as well as reducing the risk of transmitting poverty to the next generations. And this can only be progressively realised by empowering human beings, increasing their sense of ownership, and improving their access to their basic needs and to the enjoyment of their fundamental rights and freedoms"⁸³.

ESTABLISHMENT OF A HUMAN RIGHTS FUNCTION

To better improve internal processes, promote policy development within the organisation and raise awareness of our complex human rights frameworks internally and externally, MSC introduced a **cross-departmental Human Rights function** based at the Headquarters. This supports key HQ Departments and MSC's entities by further bringing a human rights lens to their respective existing activities, processes and practices. The function provides policy guidance and supports MSC's due diligences efforts, both internally and externally, in the areas of Business and Human Rights, Labour Standards and Modern Slavery.

In recent years, human rights considerations, in accordance with the latest and expected developments at the national and international level, have been progressively integrated into the work of key departments and entities. These include, but are not limited to, MSC Shipmanagement, Global Accounts, Global Human Resources, Audit, Compliance and Contracts Teams,

Procurement and Finance Departments. Our main current practices and processes related to human rights and the steps we have taken to mitigate the risk of Modern Slavery and human trafficking in our business activities and supply chain are reported and published every year on our official website: www.msccom/modern-slavery-statement.



⁸⁰ Source: www.ohchr.org/EN/Issues/SDGS/Pages/The2030Agenda.aspx

⁸¹ Source: <https://sustainabledevelopment.un.org/post2015/transformingourworld>

⁸² Source: "Navigating Human Rights-A guide to Human Rights Due Diligence and Salient Human Rights Issues in Shipping", page 2, Danish Institute for Human Rights

⁸³ Source: MSC's Sustainability Report 2016, page 27; for more information on how MSC alleviates poverty through social inclusion and promotes the respect of human rights, please visit: www.msccom/sustainability

INTERNATIONAL STANDARDS AND PRINCIPLES: OUR HUMAN RIGHTS ASSESSMENTS

MSC commends the ongoing efforts put forward by the international community in the area of Business and Human Rights. We particularly appreciate the steps taken to encourage policy coherence in government action⁸⁴ and related discussions advancing corporate human rights regulatory frameworks at the regional and/or global level. Despite the increasing number of international guidelines and tools providing guidance on how to implement the United Nations Guiding Principles on Business and Human Rights (UNGPs), we still face a fragmentation at the domestic level in the enforcement of corporate requirements related to the protection of human rights. Furthermore, operational best practices and related recommendations seeking to clarify governance gaps, risk assessments and human rights considerations, are, at this stage, mainly tailored to businesses dealing with the production/sourcing of commodities ("upstream sectors") or to those processing commodities, products, software, technology or other materials into final products for end-users ("downstream sectors").

In contrast to the above-mentioned sectors, MSC is a service provider dealing with transportation and, whenever relevant, the storage of commodities ("midstream sector"), operating worldwide in one of the most regulated industries at the global level. Therefore, MSC's responsible business practices adhere to and draw upon internationally recognised human rights and labour principles and standards.

In this respect, we developed our due diligence processes against the existing complex regulatory frameworks, including our sector-specific human rights regulatory framework, which we already comply

with and implement. We focus on identifying areas of improvement in alignment with developments at the international level and in domestic legislations, and on working collaboratively with our peers and other stakeholders to meet our industry's shared challenges, whenever relevant. Our policies, processes and procedures consider the following: ad hoc interpretations of human rights potential risks and impacts; interactions with concerned/relevant stakeholders and right-holders to prevent human rights abuses; compliance with a wide range of international standards and requirements defined by maritime and labour conventions adopted at the international level by the United Nations. These include, but are not limited to, working conditions, human development and training at the workplace set forth by the International Labour Organization (ILO) and the International Maritime Organization (IMO) for our sector and local health and safety requirements at the ports of call or repair facilities.

Additionally, MSC has management systems assessing, preventing and mitigating potential environmental, human rights and broader social risks in project finance. Whenever applicable, MSC complies with the International Finance Corporation (IFC) Performance Standards on Environmental and Social Sustainability, which "have become globally recognised good practice in dealing with environmental and social risk management."⁸⁵

More information on due diligence processes and social and environmental risk impact assessments and management systems can be found in the "Social Inclusion" chapter of our 2018 Sustainability Report (pages 16-45).

HUMAN RIGHTS OF SEAFARERS

At the international level, seafarers are considered as a category of workers needing specific and comprehensive protection due to their type of work. In this respect, to ensure decent living and working conditions on board ships, in 2006 the International Labour Organization (ILO) adopted the Maritime Labour Convention, 2006 (MLC, 2006), widely known as the "Seafarers Bill of Rights".

MSC meets and/or exceeds the requirements of the MLC, 2006 and strictly complies with the terms and conditions of the applicable collective bargaining agreements negotiated by the International Transport Federation (ITF) on behalf of seafarers. The MSC Shipmanagement Crew Welfare Department monitors the effective implementation of international standards on board ships through:

- periodical audits on board ships
- individual interviews with crew members to understand their concerns/feedback
- follow-up and implementation of any gaps or areas of improvement as noted during audit/onboard inspection/third-party inspections

The Department works closely with MSC Shipmanagement's Technical, Safety and Quality, Crewing, and Learning and Development Team to ensure that all corrective actions and findings related to compliance with the MLC, 2006 are addressed as a matter of priority. The Team has also the responsibility to proactively keep abreast of any amendments or developments in international regulations and to ask the relevant departments to review and implement policies or processes accordingly.

MSC allocates an operational budget for crew welfare on board its ships to guarantee that there are no financial constraints in implementing ongoing and expected new regulations and requirements in this area. As an illustration, in accordance with the 2014 amendments to the MLC, 2006, which came into force in January 2017, MSC has financial security in place to comply with the following new regulations:

- Repatriation costs and other expenses for all essential needs, including food, medical, accommodation and communication (as per MLC regulation 2.5) to ensure that seafarer repatriation takes place effectively and that crew members are paid and repatriated in a timely manner;
- Ship owner's liability (as per MLC regulation 4.2) to ensure that the seafarers are protected from financial consequences arising from sickness, injury, death or long-term disability in connection with their employment

Additionally, MSC Shipmanagement has already started to implement the 2018 amendment to the MLC, 2006 related to piracy and armed robbery since 2019, even though it has not yet come into force.

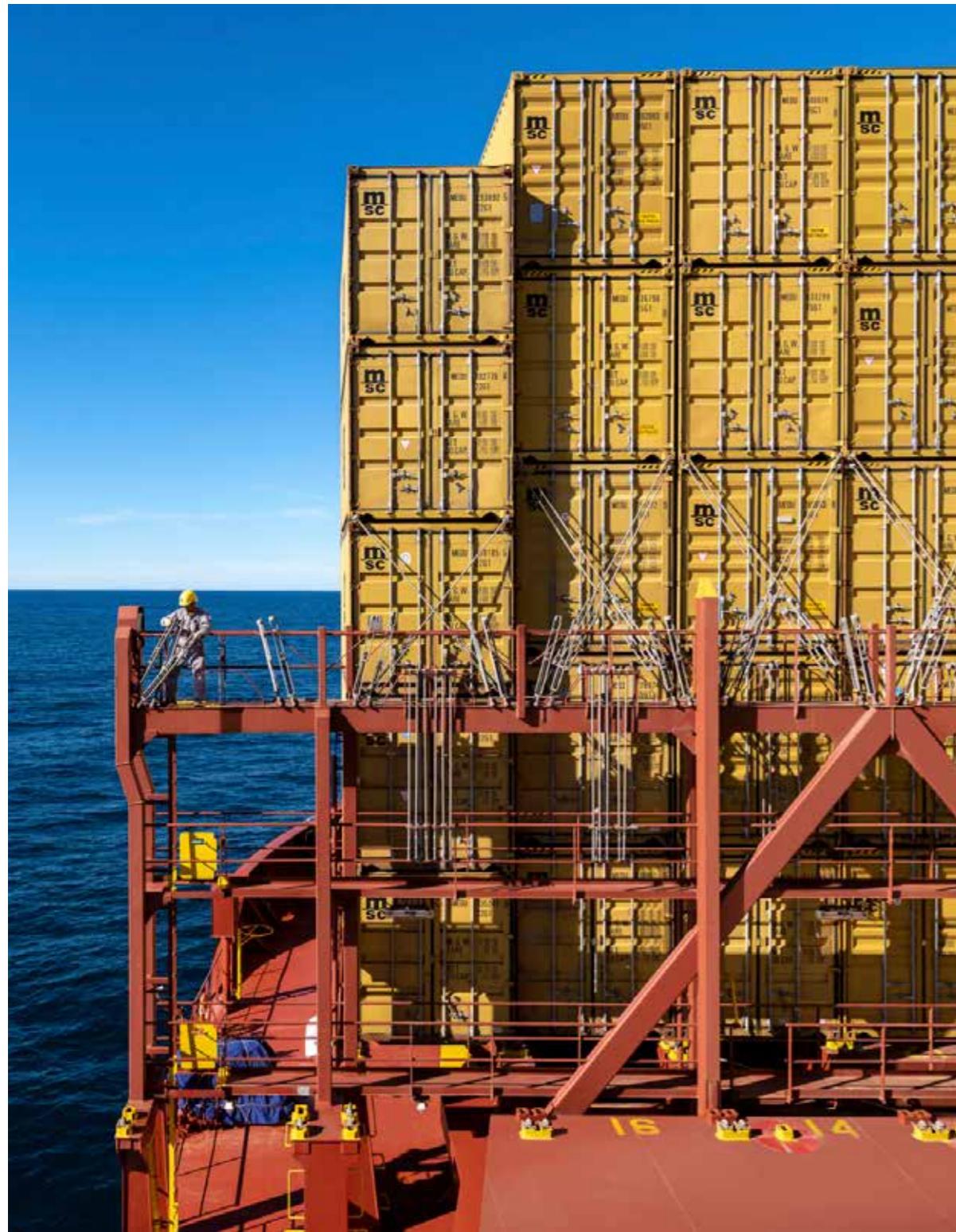
The financial security fund has been arranged with our P&I Clubs⁸⁶ and a copy of the financial security certificate is available on board each vessel. It is also accessible to each crew member, and a copy is kept with the respective flag administration of the vessels.

More information on how we promote the human rights of our seafarers can be found in the "Business Ethics and Protection of Human Rights" chapter of our 2018 Sustainability Report (pages 98-102).

⁸⁴ Source: United Nations Document A/74/198 entitled "Report of the Working Group on the issue of human rights and transnational corporations and other business enterprises: Note by the Secretary-General"

⁸⁵ Source: www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/sustainability-at-ifc/company-resources/sustainable-finance/equator+principles+financial+institutions

⁸⁶ The P&I Clubs provide marine liability cover (protection and indemnity) for approximately 90% of the world's ocean-going tonnage. Each Club is an independent, not-for-profit mutual insurance association, providing cover for its shipowner and charterer members against third-party liabilities arising out of the use and operation of ships; for more information: www.igpandi.org/about



INTERNATIONAL STANDARDS FOR SEAFARERS

The Maritime Labour Convention, 2006 has two primary purposes:

- To bring the system of protection contained in existing labour standards closer to the workers concerned, in a form consistent with the rapidly developing, globalised sector (ensuring "decent work")
- To improve the applicability of the system so that shipowners and governments interested in providing decent conditions of work do not have to bear an unequal burden in ensuring protection ("level-playing field" - fair competition)

It is often called the "fourth pillar" of international maritime regulatory regime, because it will, when it enters into force, stand beside the key IMO Conventions (SOLAS, MARPOL and STCW⁸⁷) that support quality shipping and help eliminate substandard shipping.

Source: www.ilo.org/wcmsp5/groups/public/---ed_norm/---normes/documents/presentation/wcms_230030.pdf

It should be noted that the MLC, 2006 applies to all ships, whether publicly or privately owned, ordinarily engaged in commercial activities, other than ships engaged in fishing or in similar pursuits and ships of traditional build such as dhows and junks. This Convention does not apply to warships or naval auxiliaries. All merchant ships vessels over 500 GRT⁸⁸, with the exception of those navigating exclusively in inland waters or in waters subject to port regulations, must carry the MLC certificate of compliance. For vessels under 500 GRT, international guidelines recommend the vessels to be voluntarily in compliance with the MLC, 2006 and as documented by the flag states.

For more information: www.ilo.org

EMPLOYEES AND THIRD PARTIES

In a globalised economy where workers and employers are based in different countries which may have different levels of enforcement of social protection and development, achieving equal decent work conditions throughout the whole value and supply chains is often challenging. Nevertheless, in addition to national applicable legislation and requirements, MSC strives to promote responsible business conduct based on international standards. In this respect, MSC supports:

- the UN Global Compact Ten Principles in the areas of human rights, labour, environment and anti-corruption
- the respect of relevant principles as contained in the International Bill of Human Rights as well as the respect of relevant provisions and recommendations of International Labour Organization (ILO) instruments and Conventions
- the OECD Guidelines for Multinational Enterprises, the OECD Due Diligence Guidance for Responsible Business Practices, the United Nations Guiding Principles on Business and Human Rights (UNGPs) and related sector-specific guidance tools developed by the international community. As a Swiss company, MSC also supports the relevant recommendations as contained in "The Commodity Trading Sector: Guidance on Implementing the UN Guiding Principles on Business and Human Rights"⁸⁹, published by the government of Switzerland in 2018.

⁸⁷ International Convention for the Safety of Life at Sea (SOLAS); International Convention for the Prevention of Pollution from Ships (MARPOL); International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW)

⁸⁸ GRT is the gross register tonnage of the vessel which shows the volume of space on ship available for cargo, stores, fuel, crew, etc.

⁸⁹ Source: www.seco.admin.ch/seco/fr/home/Publikationen_Dienstleistungen/Publikationen_und_Formulare/Aussenwirtschafts/broschueren/Guidance_on_Implementing_the_UN_Guiding_Principles_on_Business_and_Human_Rights.html

POLICY COMMITMENT TO FOSTER RESPONSIBLE BUSINESS CONDUCT (RBC)⁹⁰

As stated by the United Nations, "transport is the backbone of global trade and the global economy. The jobs and livelihoods of billions of people in the developing world, and standards of living in the industrialised and developed world, depend on ships and shipping. The shipping industry has played an important part in the dramatic improvements in global living standards that have taken millions of people out of acute poverty in recent years⁹¹".

As a world leader in international container shipping, MSC's worldwide daily operations enable and support development and inclusive growth across five continents. To ensure long-term benefits wherever we operate, we are strongly committed to conducting our business activities legally, responsibly and with integrity, and we expect the same from our affiliates and business partners. This commitment is endorsed by the top management and reflected in a number of policies, processes and practices implemented by relevant departments.

Considering MSC's global operations and the international shipping sector's complex regulatory framework, MSC's compliance with its legal obligations is a daily task that requires continuous monitoring of applicable laws and regulations. To meet this challenge, MSC has created a compliance programme in accordance with the ethical standards of responsible business conduct, as set forth in the **MSC Code of Business Conduct (the "Code")** and in line with the **MSC Values**.

Throughout 2019, MSC continued monitoring the implementation of the Code within MSC's Agencies, in close collaboration with the local Code Implementers. A network of approximately 160 local Code Implementers

is actively ensuring that the Code complies with local applicable requirements. To ensure a correct understanding and the widest dissemination of the Code's principles and standards, employees have access to the Code in 20 different languages.

Furthermore, MSC continuously focuses on employee capacity-building and professional development. We therefore provide regular **training sessions** on specific modules of the Code to MSC employees and Agencies. Our objective is to raise awareness of legal requirements that are relevant to each employee's daily work. Such trainings are tailored to our industry with illustrative examples and case studies. Since 2018, MSC Geneva's Corporate Legal Compliance Team has delivered mandatory trainings on the Code to newcomers to MSC as part of their onboarding programme at MSC's Headquarters. The MSC Shipmanagement team delivers similar training to all of its shore-based employees and crew members, including master and senior officers employed onboard its managed vessels.

In the spirit of constant development of its compliance programme and adherence to international standards, including the United Nations Global Compact Ten Principles in the areas of anti-corruption, human rights, labour and the environment, MSC launched a review process of all sections and topics of the Code, in collaboration with relevant in-house subject matter experts. The revised version of the Code was published in 2020, while we were writing this report.

Another part of MSC's Compliance Programme is preventing employees from being involved in any activity that would conflict or alter their judgement

in performing their professional duties. Since 2017, MSC has adopted the **MSC Conflicts of Interest Policy** which provides guidelines on how to identify, report and manage actual and potential conflict of interest situations.

In order to adopt more efficient methods of reporting, by 2019 all employees were requested to disclose via an online platform any potential or actual conflict of interest, by completing and submitting the conflict of interest questionnaire on a dedicated web-based platform.

TACKLING CORRUPTION

The fight against corruption is at the core of MSC's Compliance Programme. In support of this position, MSC has adopted policies and procedures that oblige all employees to comply with the letter and spirit of all applicable anti-corruption laws. Our internal Anti-Bribery Policy applies to all employees around the globe. MSC's anti-corruption programme includes trainings and e-learnings focusing on anti-bribery.

Throughout 2019, MSC focused on developing anti-bribery measures by putting in place a Procedure for Gifts and Corporate Hospitality, applicable to its

employees worldwide. More precisely, MSC focused on a global assessment of appropriate thresholds regarding gifts and corporate hospitality within MSC Agencies worldwide and adopted policies on the subject. The policies take into account the fact that gifts and corporate hospitality are part of establishing and maintaining a good business relationship, but state that they should be reasonable, proportionate, transparent and justifiable for the occasion. The threshold takes into consideration applicable laws, cost of living, minimum wage, etc. Any gift or corporate hospitality with a value exceeding the threshold set by MSC's Procedure for Gifts and Corporate Hospitality, as implemented, is subject to the approval of MSC Geneva's Corporate Legal Compliance Team. In relation to third parties, in 2019 MSC actively enhanced its efforts by contractually requesting identified business partners (such as terminal operators and connecting carriers) to comply with applicable anti-bribery laws. In addition, MSC expects such business partners to perform their services in accordance with similar ethical principles to those set out in the Code. MSC also performs compliance screenings and due diligence on identified third parties.

MACN MARITIME ANTI-CORRUPTION NETWORK

In order to confront the challenges of anti-corruption within the shipping industry, since October 2017, MSC has been a member of the MACN Maritime Anti-Corruption Network. MSC Geneva's Corporate Legal Compliance Team, in collaboration with MSC Shipmanagement, engages with external stakeholders and participates in discussions, collaborates and exchanges views with other shipping lines to share best practices and develop strategies to tackle corruption in the maritime sector and more specifically in the container shipping industry. MSC is part of the Container Working Group within the MACN which represents around 65% of the container carrier market. In 2019, MACN's collective actions have generated major outcomes such

as the reduction in demands for facilitation payments during operations at Nhava Sheva Port in India. MSC joined the "MACN Port Integrity Campaign in India" which tackles corrupt practices at Nhava Sheva Port. Key activities of the campaign include the implementation of integrity training for port officials and the establishment of clear escalation and reporting process.

To foster integrity, MSC continuously focuses on embedding the anti-bribery culture among vessel masters and crew members. Throughout 2019, over 770 senior officers, including MSC Shipmanagement Masters, have been trained in anti-bribery matters.

⁹⁰ As intended by the OECD Guidelines for Multinational Enterprises: "the business should i) make a positive contribution to economic, environmental, and social progress with a view to achieving sustainable development; and ii) should avoid and address adverse impacts through their own activities and seek to prevent or mitigate adverse impacts directly linked to their operations, products or services by a business relationship"; for more information: Due Diligence for Responsible Corporate Lending and Securities Underwriting, OECD 2019, Annex A. Terminology (page 69)

⁹¹ Source: www.un.org/press/en/2016/sgsm18129.doc.htm

NAVIGATING A COMPLEX GLOBAL SANCTIONS LANDSCAPE

MSC is fully committed to ensuring that all its activities and operations are in line with applicable sanctions regulations when conducting business anywhere in the world. Compliance with Swiss and European Union sanctions regulations is at the core of MSC's business model. Therefore, all our employees and MSC Agencies performing shipping-related services on our behalf have to comply with them.

With this in mind, MSC developed and implemented a sanctions compliance programme consisting of a set of procedures to ensure compliance with such sanctions regulations.

MSC has a dedicated team dealing with compliance with sanctions regulations and a network of compliance officers in each MSC Agency implementing our procedures. MSC provides its employees with compliance training through webinar or live sessions to its employees. Such trainings are tailor-made and adapted to the shipping industry.



SPEAKING UP: A CORNERSTONE OF MSC'S COMPLIANCE PROGRAMME

Establishing a culture of speaking up is a continuous objective for MSC. In that respect, confidential means of reporting such as the "MSC Speak Up Line" are at employees' disposal to raise their concerns. This tool is an online platform developed by a third-party service provider, complementing MSC's existing reporting procedures.

Throughout 2019, as required by MSC's Values, the **MSC Speak Up Line** led to an open and accountable workplace. Our employees worldwide were strongly encouraged to report any misconduct or violation of laws without fear of retaliation. This mechanism is adapted to applicable laws and requirements. All reports received were carefully and confidentially evaluated on a case-by-case basis by experts in the relevant subject matter. Depending on the report, internal investigations may be initiated, and an action plan is adopted where deemed necessary.

DIVERSITY AND INCLUSION

KEEP INVESTING IN OUR PEOPLE

MSC's people are at the heart of our business and proactively contribute to our long-standing success. They are our key asset and one of our main competitive advantages. Just as our services cover all continents, spanning land, sea and inland waterways, our employees come from the four corners of the globe, bringing a wealth of local knowledge and richness that support the growth of MSC's brand in a manner that makes us stand out from the rest. Indeed, they embody our corporate culture and meaningful core values, transmitting to our millions of customers our passion for shipping, commitment to responsible business practices and our heightened sense of service.

Since 1970, MSC has seen exponential growth in terms of volume, fleet capacity and global number of employees, while diversifying its activities and services. Despite the extremely competitive business environment and the wide range of economic, social and geopolitical challenges our industry has faced, we have navigated each decade with versatility, business agility and a resourcefulness that still keep us at the top of our industry. We are strong because we come together, and we never stopped investing in our human resources capacity and the continuous development of our employees. As our business continues to expand, in recent years, our People Development Team, within the Human Resources Department based at the Headquarters, has further increased its range of e-learning and courses on technical, soft skills, and health and well-being. We are also multiplying our efforts to embed MSC's Values throughout our growing value chain and to enhance our support for employees and managers in further developing the core competencies that define our own unique corporate identity.

Additionally, our Global Human Resources Department continues to work closely with MSC's network of Agencies worldwide, providing courses and related educational material, adapted to the various local contexts and regional and/or country-specific thematic areas. In line with this approach, the Department has

also strengthened its collaboration with local human resources officers, continuously striving to ensure that processes and procedures respect relevant domestic requirements and legislations while promoting social and cultural awareness and sensitivity.

PROMOTING EQUAL OPPORTUNITIES AND NON-DISCRIMINATION PRACTICES

Since the beginning, MSC has focused on promoting an inclusive, diverse and multi-cultural working environment through the recruitment of local employees in each country of operation, without discrimination. Today, MSC prides itself on having a global workforce that consists of 157 nationalities and spans four generations, from baby boomers to Generation Z. With a view to maintaining and reinforcing our richness of representation, we keep adapting our recruitment processes and procedures to further attract and retain young talent coming from different social, educational and economic backgrounds.

MSC works across boundaries, geography and cultures. Consequently, it is important for us that people are able to work together in a respectful environment where their voices and ideas are heard, and that they are given the opportunity to be included in decision-making processes at all levels. We believe that a working environment where fruitful cognitive exchanges and diversity are promoted drives changes and increases motivation, employee engagement, and productivity.

In order to achieve this, we work to maximise the performance of each individual and actively encourage teams to work collaboratively toward ambitious goals. Bullying and discrimination based on any grounds are forbidden, in line with our Code of Business Conduct. There are rules in place ensuring that decisions affecting employment, performance, training, promotion and career development are based on an individual's capability and potential to grow. Additionally, we strive to prevent any passive acceptance of an environment in which discrimination or working-related abuses may occur by constantly promoting open communication via

a number of platforms and reporting channels, without fear of retaliation.

REDUCING THE GENDER GAP

In line with the 2030 Agenda for Sustainable Development and its Sustainable Development Goal 5, MSC believes that “gender equality is a fundamental and inviolable human right and women’s and girls’ empowerment is essential to expand economic growth, promote social development and enhance business performance.”⁹²

Despite significant advancements in reducing barriers to improve gender balance and eradicate gender stereotypes, attracting female talents to work in the maritime sector, and in particular on cargo ships, still remains a challenge. According to the International Maritime Organization (IMO), only 2% of seafarers are women and 94% of female seafarers work in the cruise industry.⁹³ Being part of the international shipping sector, MSC acknowledges that a number of factors may prevent women from being interested in pursuing a career at sea. Nevertheless, we have been strongly promoting on-shore employment opportunities for women, encouraging their progressive integration into maritime activities. This is now possible as the industry has evolved tremendously during the past decades, becoming more sophisticated and therefore requiring an increase in new functions and departments both at the Headquarters and local levels. We are therefore also focusing on empowering women through extensive investment in capacity-building efforts. Our aim is to provide further support in developing the technical skills and competences that our complex sector demands. In addition to specific technical courses, we also encourage people in managerial positions to share with their respective teams - and especially with younger generations of female employees - their knowledge, best practices and lessons learnt from years or decades of experience in the sector.

The number of women employed within our organisation may still appear to be very low. This is because the data is combined with positions and senior managerial roles requiring an extensive nautical knowledge. These roles are therefore mainly occupied by men who have previously worked onboard cargo ships. However, it is important to report that we have almost reached a gender balance in other critical departments.

Furthermore, MSC Shipmanagement Cyprus is currently working with some leading maritime training institutes in its crew sourcing countries. The project focuses on sponsoring the recruitment of a number of female cadets for working on cargo ships' deck and engine departments. Cargo ship crews are mostly male dominated and, over the years, MSC Shipmanagement has created a mindset among its crew members where the working environment is based on trust, mutual respect and accountability, in line with its internal policies. Based on recent assessments, MSC Shipmanagement believes that now is the appropriate time to increase the number of females working on board cargo vessels. MSC Shipmanagement will not only be involved in the selection of the sponsored female cadets, but will also follow their progress throughout their career in order to support the female cadets to become successful at sea.

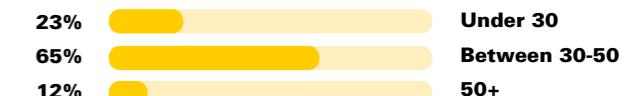
Our commitment to gender equality and women's empowerment was recently reinforced by further mainstreaming gender considerations in our Human Resources processes and procedures. As an illustration, we have improved our existing data collection by adding specific “Social Performance Indicators”, which are gender-sensitive and focus on tracking progress on our current and future initiatives related to diversity and inclusion.

CARGO HQ AND MSC AGENCIES

NUMBER OF EMPLOYEES DISAGREGGATED BY GENDER

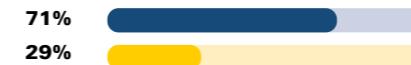


FEMALE DEMOGRAPHICS



157 nationalities

MANAGERIAL POSITIONS ACROSS REGIONS



(Americas, Asia Pacific, Europe, Africa and Middle East)

LEADERSHIP POSITIONS (CARGO DIVISION)



MSC SHIPMANAGEMENT

MSC Shipmanagement's overall number of female employees ashore has increased by 5% compared to the year 2016. In past three years, in terms of recruitment, 48% of new recruited employees were female. We are also glad to report that the number of female managers has increased from 8% in 2016 to 23% in 2019. We believe that this was mainly due to the increase of our portfolio of career development programmes.

Throughout 2019, over 1000 hours of training in soft skills and non-technical skills were provided to female employees on a wide range of matters, including but not limited to leadership, performance management and top management culture. In the coming years, our female employees will receive additional support from a certified business coach who will assist them in their development plans and career growth.

OVERALL NUMBER OF EMPLOYEES ASHORE



OVERALL NUMBER OF MANAGERS ASHORE



5% increase

in total female employees



⁹² Source: <https://sdgcompass.org/sdgs/sdg-5/>

⁹³ Source: www.imo.org/en/OurWork/TechnicalCooperation/Pages/WomenInMaritime.aspx



LOOKING AHEAD: THE FUTURE IS NOW

As stated by the Secretary General of the IMO on World Maritime Day 2019⁹⁴, “empowering women is not just an idea or a concept. It is a necessity that requires strong, positive action to address structural, institutional and cultural barriers. Shipping has always been a male-dominated industry and the same applies to many of the associated jobs and professions in the maritime community.”

In line with the IMO’s approach, in the coming year, MSC Geneva will be implementing a three-year **Diversity and Inclusion Action Plan** which will also focus on education, awareness and behavioural shift. In particular, we will develop and launch a “Mental Bias” e-learning as well as a “Diversity and Inclusion” e-learning. In order to promote diversity inclusion and gender considerations

across our value chain, MSC will also establish a Diversity and Inclusion Committee of executives representing company departments. This will help to increase accountability at all levels across the organisation.

These initiatives will follow the launch of our **Diversity and Inclusion Policy**. In line with our values and in particular with the value “Equal Opportunity”, our Code of Conduct, as well as our commitment to the progressive realisation of Sustainable Development Goal 5, the Policy aims to further support our continuous efforts to be a truly inclusive company, in which individual employees can demonstrate their potential to the fullest and through different approaches. For us, this means further embracing and valuing diversity of perspective, thus building a flexible organisation where each and every employee is treated with respect and dignity, without discrimination.

DIVERSITY AND INCLUSION ACTION PLAN: MAIN EXPECTED OUTCOMES

- Improved sense of belonging to our corporate culture and MSC’s Values
- Increased understanding among employees on how to operationalise MSC’s Values in their day-to-day work and relationships at all levels
- Enhanced employee motivation and well-being thus improving productivity, performance and innovation
- Long-term career path in safe and healthy working conditions, especially in developing countries
- Improved recruitment practices ensuring the creation of larger talent pools, including with high levels of cognitive diversity
- Improved employee retention rates, especially in developing countries
- Increased representation of women in the workforce
- Increased representation of women in leadership roles
- Foster the MSC brand as an employer of choice

⁹⁴ The theme promoted was “Empowering women in the maritime sector”; link: www.imo.org/en/About/Events/WorldMaritimeDay/Pages/WMD-2019.aspx

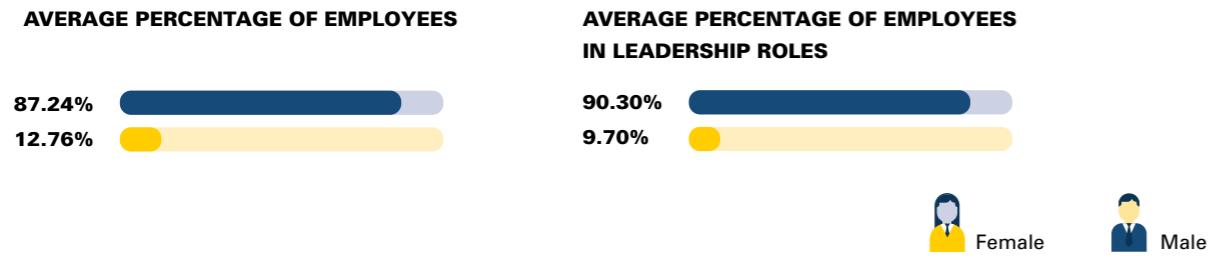
CASE STUDY

TiL: PROMOTING GENDER EQUALITY IN LKAB KLAIPEDOS SMELTE

LKAB “Klaipedos Smelte” is a modern container terminal located in Lithuania, on the Eastern coast of the Baltic Sea. Since 2008, it has been fully owned by Terminal Investment Limited (TiL), MSC’s port container terminal investor and operator. Currently the terminal plays the role of a strategic regional gateway to the emerging and growing markets of Lithuania and Belarus, among some other neighbouring countries. In 2019, 253,000 TEU were handled by the Terminal. In addition to general container handling and transshipment operations, the terminal supports MSC and its customers by offering competitive services such as Project Cargo handling as well as access to empty container depot, cold storage, a Container Freight Station⁹⁵.

LKAB “Klaipedos Smelte” offers equal employment opportunities to all its employees and has proactively supported the recruitment of women since the beginning of its operations. Nevertheless, as other port companies, the terminal is still male-dominated and faces challenges in attracting female workers due to the specific types of work involved, which are traditionally carried out by men.

NUMBER OF EMPLOYEES DISAGGREGATED BY GENDER



In line with MSC’s broader efforts to promote women’s empowerment, the Terminal believes that gender equality is key to removing social and cultural barriers that may prevent the creation of a more inclusive working environment. In this respect, the Company has developed and implemented a number of policies and measures to help ensure that all employees have equal conditions for work, equal pay and the same career opportunities, in accordance with applicable domestic laws, regulations and requirements.

NUMBER OF TRAINING AND/OR SKILLS DEVELOPMENT INITIATIVES DISAGGREGATED BY GENDER



As an illustration, the Terminal’s Equal Opportunity Policy guarantees equal status to all the employees or applicants, in all aspects of employment as well as in all aspects of the employment processes, strictly prohibiting discrimination based on any grounds.

Additionally, the Policy provides a set of measures aimed at further promoting equal rights for women and men in the workplace. These include, but are not limited to, opportunities for professional development, requalification and mandatory social benefits, including those related to childcare, maternity and paternity leave. All Company employees have equal possibilities to submit an application for childcare leave, regardless of their gender or age. The company also has procedures in place to protect women who have recently given birth and are breastfeeding, in accordance with domestic laws. These include part-time work upon request and/or the opportunity to work remotely for at least one fifth of their total working time upon request.

In addition, any employee raising two or more children under the age of 12, or a disabled child under the age of 14, is given one extra rest day per month (or two extra days

per month when raising more than two children under age of 12). The extra day granted is paid by the employer. Gender equality is also guaranteed and regulated by a specific internal payment system. The latter ensures transparency and equal pay for the same work or for work to which equal value is attributed, including additional remuneration paid in any form by the employer or its representative to employees for the work performed, in compliance with the Law on Equal Treatment⁹⁶ and the Labour Code of the Republic of Lithuania.

All employees are informed about the Company’s procedures and related changes, if any, over time and requested to sign the acquainting register.

All employees and all candidates for vacant positions have the right to report any misconduct, without fear of retaliation, to the company’s Chief Lawyer. Any suspected non-compliant behaviour or practice is reported to the leadership and investigated by the Ethics Commission, in line with the Terminal’s non-judicial complaint resolution procedure. The procedure is kept strictly confidential.

⁹⁵ Source: www.smelte.lt/index.php/en/about-us/about-company/

⁹⁶ Source: <https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/77e54a933db211eabd71c05e81f09716?jfwid=-m1syin5ov>

CONTRIBUTION TO HUMANITARIAN RELIEF

SUPPORTING PEOPLE AND COMMUNITIES IN NEED WHERE WE OPERATE AND BEYOND

According to the United Nations Office for the Coordination of Humanitarian Affairs (OCHA) "the size and number of humanitarian emergencies across the world continues to grow, testing our capacity and ability to respond effectively"⁹⁷. Furthermore, the number of people affected by humanitarian crises has almost doubled between 2010 and 2020⁹⁸.

In addition to the rising number of disasters, the nature of the emergencies is changing as well, with severe weather and other natural disasters increasing in intensity due to climate change⁹⁹. According to the United Nations Environment Programme (UNEP), "climate change can drive mass migration; battles over natural resources can plunge countries into prolonged war; and a fragile environment can increase the risk and severity of natural disasters." It is widely recognised by the international community that natural disasters have a far-reaching impact on already vulnerable communities. They further widen inequality and poverty. People living in vulnerable communities are more impacted and tend to have less access to essential resources for preparedness, mitigation and relief.

MSC is deeply committed to providing emergency logistics services through its core shipping and logistics activities, contributing and supporting peace-building efforts, as well as facilitating timely access to relief goods in compliance with international regulations. In this respect, MSC's global network enables us to provide effective assistance to humanitarian relief efforts and we strive to offer our assets, equipment and expertise to deliver containers filled with lifesaving supplies in different parts of the world. Moreover, we continue to maximise the effectiveness of our response operations and deliver timely assistance through strategic partnerships both with local entities and international

humanitarian organisations. These include longstanding support for organisations such as the World Food Programme (WFP), the International Committee of the Red Cross (ICRC) and the United Nations Children's Fund (UNICEF).

INTRODUCING THE MSC FOUNDATION

In addition to providing humanitarian assistance through its core business activities, MSC has been actively contributing to addressing the needs of the most vulnerable communities for over a decade through a wide range of impactful environmental conservation and humanitarian programmes.

The MSC Group established the non-profit MSC Foundation to consolidate, leverage and expand its environmental conservation, marine protection, sustainable development and humanitarian commitments worldwide. The Foundation was officially launched on 8th November 2019 on board the new MSC Cruises ship MSC Grandiosa. The relief efforts and charitable projects previously carried out by MSC or MSC Agencies have now been incorporated into the MSC Foundation portfolio. Aligned with the United Nation's Sustainable Development Goals (UN SDGs), the MSC Foundation works to protect and nurture the planet, help disaster-struck populations to recover, and support vulnerable communities around the world to realise their full potential. Areas of activities include the promotion of inclusive and equitable access to quality education for all and awareness-raising campaigns on sustainable development and the responsible use of natural resources. The MSC Foundation drives and supports interventions focused on the marine environment, social issues and healthcare through the facilitation of funds, relief aid and research. It also helps steer the MSC Group's commitment and strategic approach to fostering sustainability and promoting responsible business practices that can have long-term positive impacts around the world.

JOINING HANDS TO MAKE A DIFFERENCE

The MSC Foundation works both independently, implementing initiatives of its own design, and in conjunction with trusted partners that have a strong innovative vision or track record for effective action, leveraging MSC Group engagement to connect communities, raise awareness and mobilise the financial support of millions of people. Its longstanding partners include UNICEF, the Andrea Bocelli Foundation, Marevivo and Mercy Ships.

The Foundation's programmes are concentrated in four key focus areas:



MSCFOUNDATION
m
sc



EDUCATION

Environmental education, school education and vocational education are key for the younger generations who are our future.



ENVIRONMENTAL CONSERVATION

The Foundation supports the most vulnerable communities around the world to realise their full potential through education, sustainable development and lifesaving humanitarian programmes.



EMERGENCY RELIEF

The Foundation aims to intervene promptly in disaster situations, securing and transporting emergency relief to crisis areas worldwide.



COMMUNITY SUPPORT

The Foundation shares the same passionate commitment to the environment as every entity in the MSC Group. This commitment is expressed through impactful projects around the world.

⁹⁷ <https://business.un.org/en/documents/11208>

⁹⁸ <https://business.un.org/en/documents/11208>

⁹⁹ www.unenvironment.org/news-and-stories/story/rebuilding-future-role-humanitarian-aid-climate-resilience

ORGANISATIONS AND PROGRAMMES SUPPORTED BY THE MSC FOUNDATION

PROGRAMME	DESCRIPTION	KEY FACTS
SEVERE ACUTE MALNUTRITION IN MALAWI WITH UNICEF	To contribute to the response of the hunger situation by supplying Ready-to-Use therapeutic food to help reduce death rates in children under five years.	Completed with the following results: <ul style="list-style-type: none">• 6,858 children treated since start of programme in 2015• With MSC's support, incidence of acute malnutrition in Malawi was reduced from 4.1% in 2016 to 1% in 2019
PLASTIC WASTE TO SCHOOLS IN CÔTE D'IVOIRE WITH UNICEF	To foster a women-empowering recycling market that transforms plastic waste into safe, low-cost bricks to build classrooms.	<ul style="list-style-type: none">• The possibility to deliver an environmental impact by addressing the plastic waste problem while improving education quality convinced us to become the first corporate donor to support this important programme.• MSC Foundation was able to provide catalytic funding by pre-ordering construction kits for classrooms - allowing the first plastic bricks plant in Africa to be built in Côte d'Ivoire.• MSC Foundation thus created the basis to provide better learning conditions for 8'350 children by 2021.• Supporting the global scale-up of a sustainable plastic waste recycling market by supporting research to develop a sustainable investment model. We are making an important contribution to address the global waste management problem.
YING YAO BAO IN CHINA WITH UNICEF	To ensure equitable access to appropriate nutrition support by providing counselling and "Ying Yang Bao" micronutrient delivery (YYB) five demonstration counties in Qinghai province.	Between January and July 2019 at national level: <ul style="list-style-type: none">• 3 national 'train the trainer' workshops were held in several provinces in China.• 120 maternal and child health (MCH) staff members from the programme provinces were trained on YYB programme management. Qinghai province results: Out of 19,739 children aged 6-23 months in 5 counties: <ul style="list-style-type: none">• 99.63% received YYB• 80.02% eat one sachet of YYB a day at least four days per week• 66.70% reported improved dietary diversity
OCEAN CAY: MARINE RESERVE AND ECOSYSTEM RESTORATION IN THE BAHAMAS	To protect and restore the tropical ecosystems and vulnerable coral species in 64 sq. km of marine reserve waters around Ocean Cay with a pioneering project.	Reserve area: 64 sq. km Freestanding coral colonies: 816 Fish species: 88
IL PARCO DEL MARE IN ITALY WITH ANCH'IO PER GENOVA	To fund the innovative "Il Parco del Mare" park for families, to regenerate the Valpolcevera area struck by the Morandi Bridge collapse.	The Ballata per Genova fundraising concert <ul style="list-style-type: none">• Supported by more than 40 famous artists live on stage in front of 16,000 people• A unique opportunity for the relaunch of Genoa• EUR 500,000 raised for Il Parco Del Mare Ecopark

ORGANISATIONS AND PROGRAMMES SUPPORTED BY THE MSC FOUNDATION

PROGRAMME	DESCRIPTION	KEY FACTS
MOBILE CLINIC IN HAITI WITH ANDREA BOCELLI FOUNDATION (ABF)	To benefit the communities in five of the island's poorest areas, providing medical care, treatments, vaccines and training.	Direct impact: 8,850 direct beneficiaries <ul style="list-style-type: none">• 2,850 children• 6,000 members of the communities Indirect impact: 16,075 indirect beneficiaries
MARINE EDUCATIONAL ACTIVITIES IN ITALY WITH MAREVIVO	To support youth-centred educational activities to raise kids' awareness of the importance of marine protection and of combating sea pollution.	GUARDIAN DOLPHINS Direct impact: Students: 700 per year Teachers: 50 per year Indirect impact: Families: 700 approx. Parents: 1,400 approx. Total family members: 2,800 approx. indirectly involved
NAUTICAL INSTITUTES		Direct impact: Students: 550 per year approx. Teachers: 60 approx. Indirect impact: All classes in every school where the programme is provided are indirectly involved Families: 550 approx. Parents: 1,200 approx. Total family members: 2,200 approx. indirectly involved
ON BOARD		200,000 young people worldwide voyaging with MSC Cruises engage in our onboard "edutainment" and awareness-raising activities every year
THE SHIPS OF HOPE IN AFRICA WITH MERCY SHIPS	To support its hospital ship, volunteer crews and medical staff to provide lifesaving operations in remote areas without access to healthcare facilities.	Life changing surgeries: over 1,800 Medical consultations: over 19,500 Dental procedures: over 29,900 Palliative care encounters: over 200 Trained in nutritional agriculture: over 30 Professionals trained: over 1,300 Direct beneficiaries: over 20,200
KIRCHWERDER LIFELINE IN HAMBURG, GERMANY WITH ELBE HABITAT FOUNDATION	To improve the ecological status of the River Elbe, restoring the unique habitats and natural diversity of its river landscape.	Elbe Habitat Charity Gala <ul style="list-style-type: none">• A visionary concert programme performed by a 100-piece youth orchestra• 1,920 tickets sold• EUR 250,000 raised and donated to the Kirchwerder Lifeline Initiative to help restore the unique habitats and natural diversity of the River Elbe• Global visibility to the cause

CASE STUDY

MERCY SHIPS, ENSURING QUALITY HEALTHCARE SERVICES TO VULNERABLE COMMUNITIES

Mercy Ships is a global charity that uses hospital ships staffed by all-volunteer crews as the most efficient way to deliver free, world-class healthcare services to people in desperate need in some of the poorest countries in the world.

MSC has been supporting Mercy Ships since 2011 with a special focus on sub-Saharan Africa, bringing hope and healing to thousands of people without access to safe, modern healthcare and surgery. As part of this partnership, MSC provides free containers and utilises all its resources to support the organisation's commitment to performing lifesaving operations in areas that are without easy access to healthcare facilities.



© Mercy Ships

Mercy Ships reports that over 18 million people die due to lack of surgical care every year¹⁰⁰. 25% of the world's diseases are concentrated in the continent, yet there are less than 10 physicians per 100,000 people. MSC's global transport and logistics network enables us to transport medical supplies and other resources even to remote locations. Thanks to this support, Mercy Ships has been able to perform 18,550 free, life-changing surgeries since the partnership with MSC was launched in 2011. In addition, Mercy Ships provides training, capacity building and infrastructure renovations that leave a lasting impact after their ship sails. Throughout 2019, the partnership facilitated the increase in the level of healthcare in countries lacking access to proper facilities and expertise.

IMPACT OVERVIEW

- More than **1,800** life-changing surgeries
- Over **19,500** medical consultations
- 29,900 dental procedures
- Over **200** palliative care encounters
- 30 trained in nutritional agriculture
- 1,300 professionals trained in their fields
- More than **20,000** direct beneficiaries
- MSC Cargo supported Mercy Ships with the shipment of **54 free containers**

For more information:
mscfoundation.org/programmes/mercy-ships

¹⁰⁰ <https://mercyships.ch/en/annualreport>

CASE STUDY

UNICEF: WORKING TOGETHER TO REDUCE MALNUTRITION, FACILITATE ACCESS TO EDUCATION FOR CHILDREN AND EMPOWER WOMEN

Since 2009, the MSC Group and UNICEF have partnered in life-changing projects to fight malaria in Africa, provide education for children living in the slums of Brazil and combat child malnutrition, saving over 112,000 young lives.

In 2019, The MSC Foundation committed to support one of UNICEF's most innovative programmes worldwide: the '**Plastic Waste to Classrooms**' programme in Côte d'Ivoire which combines environmental action with women's empowerment and increasing access to education.

At present, only 5% of plastic waste is recycled in Côte d'Ivoire, a country where 46% of households live below the poverty line and 1.6 million children are out of school because of poverty and a lack of classrooms¹⁰¹. The MSC Foundation's new project with UNICEF addresses all three of these problem areas simultaneously by

facilitating women's access to employment through a recycling market that makes it possible to transform plastic waste into innovative low-cost bricks to build much-needed modern classrooms.

Since 2019 MSC has been working with UNICEF on the 'Plastic Waste to Schools' project which will enable to:

- Recycle 881,179 kg of plastic waste
- Build 152 equipped classrooms
- Bring 8,360 children improved access to education
- Provide 66 women per year with a steady income

Furthermore, MSC Foundation and UNICEF created a new edition of the "MSC for UNICEF Kids United Magazine" dedicated to MSC's partnership with UNICEF and the new project in Côte d'Ivoire. The magazine will be distributed to 83,000 young readers on MSC Cruise ships.

IMPACT OVERVIEW

- Since 2009, the MSC Group has supported UNICEF's work, both through the MSC Cruises "**Get on Board for Children**" initiative and by providing **logistic support**
- Donations from passengers of MSC Cruises reached **EUR 10.56 million** (by end of 2019)
- In 2019, 16,478 children were treated for severe acute malnutrition in Malawi with a recovery rate of 93.1%
- Since 2013, **over 112,657 children** have been treated for severe malnutrition in Ethiopia, South Sudan, Somalia and Malawi
- MSC transported 4 containers of life-saving supplies to the **victims of Cyclone Idai in Mozambique** and 2 containers to the **victims of Ebola in the Democratic Republic of Congo**
- In 2019, UNICEF joined two christening ceremonies onboard MSC's flagship cruise vessels MSC Grandiosa and MSC Bellissima, **promoting UNICEF's work to an audience of millions of people**

For more information:
mscfoundation.org/programmes/msc-unicef

¹⁰¹ <https://mscfoundation.org/projects/msc-unicef>

CASE STUDY

CYCLONE IDAI – REBUILDING DISASTER-STRICKEN COMMUNITIES

COUNTRY SITUATION

When the intense tropical cyclone Idai hit Mozambique in March 2019, several provinces were severely impacted, leaving an estimated 1.85 million people in need of humanitarian relief¹⁰². Cyclone Idai is regarded as one of the worst tropical cyclones on record to affect Africa and the Southern Hemisphere as a whole, causing catastrophic damage and a humanitarian crisis in Mozambique and neighbouring countries. In addition to lacking access to shelter and essential goods such as food, fresh water and medicine, people in the affected areas also suffered from a fast-spreading cholera outbreak¹⁰³. One of the worst affected areas was Beira. The Port of Beira is the second largest port in Mozambique, acting as a strategic gateway not only to central Mozambique but also to the land-locked countries of Zimbabwe, Zambia and Malawi.

KEY ACTIONS

MSC, along with its logistics arm MEDLOG, supported the intergovernmental and international aid organisations responding to the crisis by providing shipping and logistics services. This included the provision of containers and space on ships for food imports as part of the overall relief effort.

The MV Border was the first locally organised relief vessel to reach Beira, delivering 185 standard 20-foot containers packed with food, water, medicines and emergency relief aid cargo. Over 100 of these were provided by MSC. The company also collaborated with the World Food Programme (WFP) to transport 81 standard containers of rice to Beira.

The MSC Capri was the first container vessel to berth in Beira after the cyclone, coming alongside just four days after the cyclone hit. The work done by the logistics community in Beira in the days immediately after the cyclone could support those who most needed it and helped to guarantee in the long run the wellbeing of numerous families, in Beira and the region, who rely on this logistics network for employment and more.

In the first 72 hours following the landfall of Idai in Beira, the city remained completely cut off from the country's communication, transport, water and electricity networks. Operations in the port of Beira, including major rail and truck connections, were suspended for days. Customs and terminal operations resumed on 22nd March 2019. Two weeks after the cyclone hit, all MSC-operated infrastructure and hinterland connections had been repaired and were operational, causing only minor delays in vessel operations.

MSC's employees were among those badly affected by the tropical storm. MSC's Beira office was severely damaged, and our container depot suffered a complete structural collapse. In addition, numerous MSC employees suffered significant damage to their homes. Forty MSC employees reported damage to roofs, windows, doors, walls, and severe water damage from the heavy rainfall, as well as damaged insulation. The company quickly responded and covered the rebuilding costs for all of the affected employees.

¹⁰² United Nations Office for the Coordination of Humanitarian Affairs (OCHA)

¹⁰³ www.unocha.org/southern-and-eastern-africa-rosea/cyclones-idai-and-kenneth

CASE STUDY

HURRICANE DORIAN – FROM HUMANITARIAN RELIEF TO RECOVERY

Hurricane Dorian ravaged the Bahamas in September 2019. Dozens were killed and thousands left homeless. Under a joint initiative with the MSC Foundation, MSC enlisted the help of scores of customers and partners to collect donated items that matched the aid requirements identified by the Bahamian government. MSC was able to carry thousands of vital goods such as building materials, generators, tarpaulins, water, food, sanitary and medical supplies to local people in need.

A global taskforce was established to design and coordinate the efforts across the MSC Group of companies, working closely with local officials, community leaders and key relief and recovery organisations. The aim was to provide both immediate first responder relief and effective longer-term assistance with the rebuilding

efforts. In addition to having provided and delivered over 250 containers full of essential goods and making geared container ships available for the emergency relief cargo service from the US to the Freeport, Marsh Harbour and Abaco container terminals, the MSC Group's efforts focused on providing semi-permanent prefabricated modular housing for people made homeless (delivered in 2020).

MSC has been present in the region for the past 20 years and it has long been the leading cargo import and export operator in the Bahamas. Its local Headquarters are based in Freeport, Grand Bahama. Working closely together, the MSC Foundation and MSC Group were able to take immediate, effective action, providing EUR 5.5 million of vital aid in the aftermath of Hurricane Dorian.



TRANSFORMING AN INDUSTRIAL SITE INTO A MARINE RESERVE AND A STUNNING TROPICAL DESTINATION

The MSC Foundation and a panel of conservation expert partners are restoring and nurturing the coral reefs around Ocean Cay in the Bahamas, which are populated by one of the most vulnerable sets of coral species on the planet. The Ocean Cay Marine Restoration Programme is our effort to pioneer the protection and restoration of the Caribbean reefs and marine species facing growing environmental pressures. The MSC Foundation is supporting the protection and restoration

of 64 square miles of marine waters and ecosystems near Bimini in the Bahamas, adjacent to the new MSC destination of Ocean Cay. The Foundation focuses its efforts on making the Ocean Cay Programme a reality. The programme aims to protect and restore the tropical ecosystems of coral reefs, fish and other marine species such as the Queen Conch, by applying innovative techniques, building knowledge and educating the next generation of marine ecologists.



ABOUT THIS REPORT

EXTERNAL ASSURANCE

This report has not been assured externally. However, it takes into consideration relevant international and sector-specific guidance tools, stakeholders' expectations, recommendations received by external auditors and the revised GRI Standards.

REPORTING AREAS AND TERMINOLOGY

This report covers the MSC Cargo Division and uses internationally agreed terms in relation to risks, impacts and broad sustainable development issues. More information about our material topics and the terminology we use can be found in the chapters "Methodology and Materiality Assessment" and "Business Ethics and Promotion of Human Rights." Regarding the MSC Group, all data refer to the end of June 2020; in this edition of the Sustainability Report, it has been decided to include a specific section to highlight how the MSC Group responded to the unprecedented global health crisis. All information and data related to the scope of this specific section are updated as of end of August 2020.

CONTACT

For further information about this report and MSC's approach to sustainability, please feel free to contact us:
sustainability@msc.com

MSC Mediterranean
Shipping Company
12-14, Chemin Rieu
1208 Geneva, Switzerland
www.msc.com



