



2018
**SUSTAINABILITY
REPORT**

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ABOUT THIS REPORT

A WORD FROM OUR PRESIDENT & CEO

Throughout 2018, MSC further increased its efforts to promote sustainable and ethical business practices within all entities of the Group, in line with its strategic approach to sustainability and the Ten Principles of the United Nations Global Compact in the areas of human rights, labour, environment, and anti-corruption.

In addition to responding to the evolving and stricter complex maritime regulatory framework we must comply with as an international shipping company, we continued adding layers to our existing internal methodologies and monitoring mechanisms in terms of governance, compliance, and risk management. Given the nature of our business activities and the growth of our diversified value and supply chains, we are making additional investments to ensure the effective implementation of our processes on a global scale. These include the establishment of new functions, the optimisation of our supplier relationship management, and the reinforcement of a number of strategic teams responsible for supporting the broader transformation of MSC's value chain.

Our ongoing organisation-wide coordination process led by headquarters and underpinned by our core MSC Group Values, includes an increase in our investments in personal development and training opportunities for all our employees. Additionally, we continue enhancing cross-departmental cooperation to ensure further improvements in embedding all dimensions of sustainability in our current practices, promoting a culture of integrity and encouraging a participatory approach in the decision-making processes at all levels within the business.

Our activities and operations all over the world require engagement with a wide range of stakeholders from most sectors and from both the public and private spheres. Therefore, in our 2018 Sustainability Report, we describe sustainability considerations from a variety of perspectives, including those of the asset management and investor community, by underlining the interrelation among all our strategic Sustainability Pillars and our continuous focus on Environmental, Social, and Governance (ESG) factors. We also report on the way in which we continue to address our sector's trends and global development challenges along with cross-cutting human rights principles and considerations in our investment models to ensure long-term benefits in local communities and to minimise our impact on the environment. Furthermore, we demonstrate how we implement fundamental responsibilities in the area of protection of human rights in line with internationally recognised human rights and labour principles and standards, in addition to domestic laws, requirements, and regulations of the countries in which we operate.

In terms of environmental performance, MSC embraces precautionary actions to mitigate or adapt to broad climate change global challenges and has substantially reduced CO₂ emissions per ton of cargo moved. Our Energy Efficiency Operational Indicator (EEOI) analysis for 2018 indicates an improvement of 13% since 2015. In addition to this, MSC has obtained an EEOI certification by a globally recognised third-party auditing company. This attests to the accuracy and usability of the monthly EEOI figures calculated by the MSC Energy Efficiency team.



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

MSC is also investing heavily in low-carbon technologies and extensive new-build and retrofit programmes to boost performance and ensure its fleet is modern, fuel efficient, safe (for crew, environment, and cargo), and is prepared for the future. New vessels on order feature state-of-the-art engineering and design innovations to ensure optimal efficiency. We are also committed to full compliance with new environmental regulations such as IMO Sulphur 2020, which has very significant operational and financial implications for our sector. MSC has taken a proactive approach in this regard, leading the way on the installation of the best available and most flexible hybrid exhaust gas cleaning systems. This represents an investment of more than one billion US dollars. We see the regulation as a way that the whole sector can contribute to tackling air pollution and therefore support, among other initiatives, the progressive realisation of the UN Sustainable Development Goals (SDGs).

While promoting dialogue and partnerships with our industry peers and other stakeholders, we believe that global progress on the SDGs should not follow a purely sector-specific approach. Indeed, nowadays, a majority of consumers expect an engagement from all companies regardless of the industry, for a responsible, socially, and environmentally friendly offer of products and services. Evolving trade scenarios, new geopolitical dynamics and challenging market environments require changes in collaboration patterns among all actors of global supply chains and the public sector. This is essential to enable the business community to have an equal level playing field where competitive advantages can be maximised and enjoyed by all stakeholders. Ensuring business activities are truly sustainable and able to address current and future market imperatives, while maintaining strong financial performance that can effectively support inclusive development in the long term, is a responsibility that we all share.

Diego Aponte
President and CEO

A FAMILY COMPANY

INTRODUCTION TO THE MSC GROUP

Headquartered in Geneva, Switzerland, and privately owned, MSC is a recognised world leader in the international shipping sector, serving millions of customers around the globe, with a much respected 365 day a year operation. MSC Group has significantly expanded and diversified its business since it was founded as a shipping line in 1970. Today, the Company is comprised of the Cargo Division and the Passenger Division and employs over 70,000 people around the world. This report specifically serves to detail efforts and accomplishments for the Cargo Division.



CARGO DIVISION



A global leader in shipping and logistics

520 vessels
200 trade routes
500 ports of call
21 million TEU carried annually (2019)
493 offices
155 countries



One of the largest terminals investors and operators

62 terminals (TiL and MSC)
7 of the world's 25 busiest ports by volume
+ 34 million container moves per year (MSC and TiL)
2 greenfield terminals



Transport & Logistics

Global transport and logistics services provider

70 countries
150 operating yards
(6 million sqm, 1 million TEU stacking capacity)
3.5 million TEU transported by road, rail, or barge

PASSENGER DIVISION



The world's largest privately owned cruise company

No 1 cruise line in Europe, South America, South Africa, and the Gulf
17 modern and technologically advanced ships (2019)
3,845 port calls
211 itineraries
2.4 million guests (2018)
81 countries



A leading shipping company operating in the fields of coastal navigation, cargo, and passenger transport in the Mediterranean Sea.

15 ships
18 major routes
15 prime destinations
1.7 million passengers (2018)



A shipping company operating ferry services, which is a leader in the Mediterranean Sea.

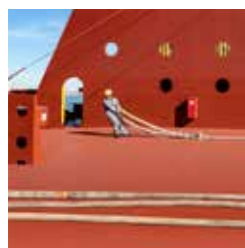
25 fast ferries
1 cruise ferry
17 routes
17 ports of call
80 connections/day (summer)
4.2 million passengers (2018)

MATERIALITY ASSESSMENT AND GOVERNANCE

METHODOLOGY

The MSC 2018 Sustainability Report highlights our active participation in the broad development process, in the context of the United Nations Agenda 2030 for Sustainable Development and Climate Change regulatory initiatives and measures. It also shows how we are continuously improving our existing business models and strategies to find innovative, systemic, and sustainable solutions with explicit measurable social and environmental impacts on the long term, alongside financial returns. In line with MSC's commitment to transparency, our reports follow the Global Reporting Initiative (GRI)¹, the "Business Reporting on the SDGs: an analysis of the Goals and Targets", the UN Guiding Principles Reporting Framework along with a number of similar relevant tools developed by a number of stakeholders, including the International Organization for Standardization as well as the asset management and investors' community. These tools have helped us formulate and develop our broader sustainability initiatives related to our four priority Sustainability Pillars: Social Inclusion, Occupational Health and Safety, Environment, Business Ethics and Protection of Human Rights.

In our sustainability approach, economic, social, and environmental performance as well as the linkages between development goals and targets (e.g. inclusive growth, social equity, and environmental protection) and key business goals (revenue growth, resource productivity, and risk management) are crucial. Furthermore, we mainstream UN Global Compact values and principles into our analysis of socio-economic trends and related considerations. This allows us to address all dimensions of sustainability, including peacebuilding and security matters, and to relate our impacts to cross-cutting and/or associated SDGs targets. In line with the above, in our Sustainability Reports, we strive to demonstrate how we have enhanced our multi-stakeholders' holistic approach to foster development and how our long-term financial investment decisions and/or financing flows are in line with our sustainability strategy. In our decision-making process and analytical framework, we take into account both new and emerging challenges as well as global issues and evolving trends, including climate change challenges and geopolitical and macroeconomic uncertainty and instability.



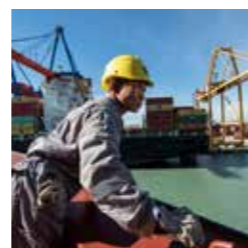
SOCIAL INCLUSION



ENVIRONMENT



OCCUPATIONAL HEALTH AND SAFETY

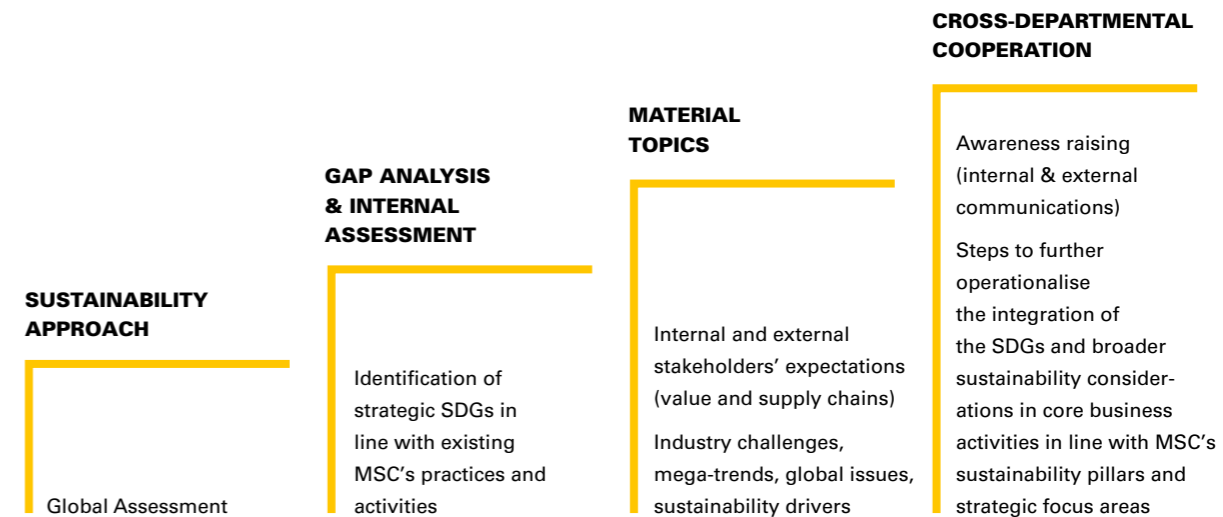


BUSINESS ETHICS & PROTECTION OF HUMAN RIGHTS

INTEGRATING THE SDGs IN OUR SUSTAINABILITY APPROACH: OUR PROCESS

MSC has conducted a global assessment to better analyse its contribution to sustainable development as well as the direct and/or indirect linkage of its operations to each SDGs. This resulted in the development of an organisation-wide shared vision promoting common areas of focus in existing practices and activities of each entity of the Cargo Division within the Group. In our sustainability approach, MSC's four Sustainability Pillars are considered as our most salient material topics. Specific issues under each pillar are further

developed and leveraged whenever relevant to meet our stakeholders' expectations and/or to reflect improvements in our internal processes and procedures. All our Sustainability Pillars are equally important, inter-related, and contribute to translating our core values and vision into concrete actions and initiatives designed to mitigate our impacts and bring long-term benefits to local communities wherever we operate.



¹ The GRI Standards are the first global standards for sustainability reporting. <https://www.globalreporting.org/standards/>

MSC SUPPORTS THE UN SUSTAINABLE DEVELOPMENT GOALS (SDGs).

We believe our approach to the business and our values will help us contribute to a more sustainable supply chain.



OPERATIONALISING SDGs

In our report, we explain how we assess the potential impacts of our activities and ensure effective business continuity management plans to minimise, prevent, and avoid negative externalities, disruption of operations as well as unnecessary risk to human health.

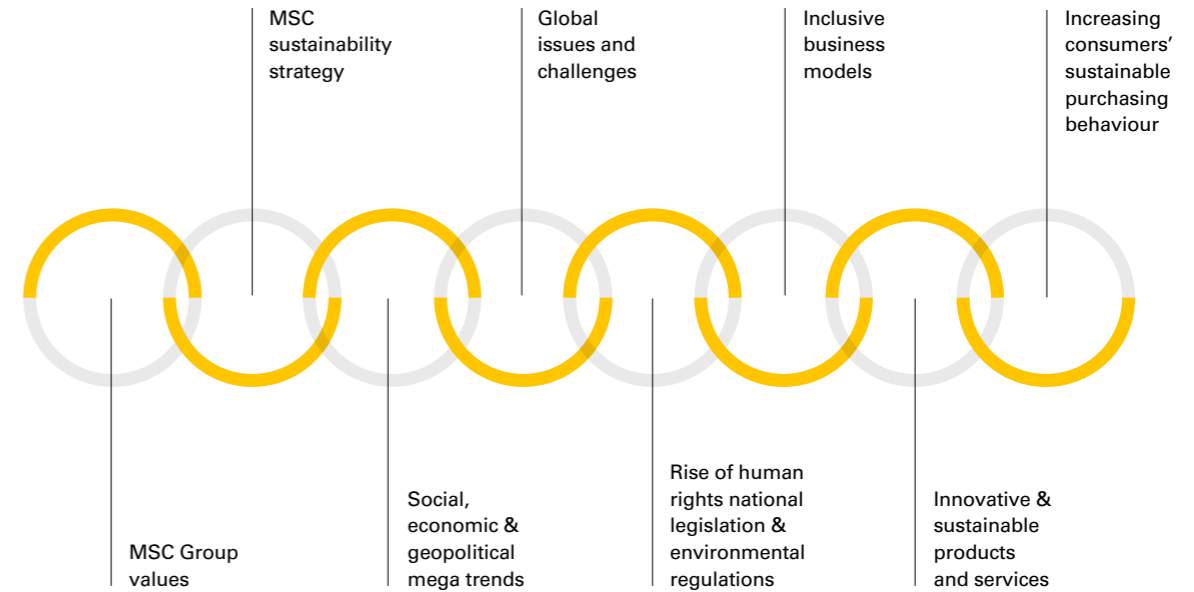
As an illustration, we are continuously adapting our corporate practices, investments, activities, and operations around the globe to a changing and unpredictable market while considering socio-economic changes and shifts that are influencing the shipping industries and transforming supply chains.

Our offer of new trade routes results in opportunities for serving new emerging markets, including more underserved markets located in emerging/developing countries. New services and transportation models developed ensure not only the effective delivery of products to distribution channels, but also have an impact on how ports, terminal operators, and truck operators are managed. Additionally, by investing on land infrastructure, such as depots, in strategic locations and being a freight rail operator, we actively support sustainable freight transport connectivity and the improvement of the whole logistics supply chain. Regulations, and particularly IMO Sulphur 2020, are an impetus for MSC's major investment in advanced technologies for reducing air pollution, which is in line with the objectives of SDG 13, Climate Action.

As a forward-thinking family company with an innate passion for the sea, SDGs 14 and 15, focused on Life below Water and Life on Land respectively, are key considerations for sustainability action at MSC. This encompasses initiatives aimed at conserving marine life, such as responsible ballast water management, oil pollution prevention and waste management, slow steaming, programmes which reflect the many significant linkages between business and the natural environment and the associated connections to communities, livelihoods, and well-being.

Risk assessment and management, a safe working environment, and employee training are also considered as cross-cutting issues related to how we promote respect for human rights and ethical business practices. We deliver on this by focusing on SDG 3 (Health and Well-being), SDG 4 (Quality Education) and SDG 8 (Decent Work and Economic Growth) and by taking into account our sector's complex regulatory framework. This includes the implementation of strict safety policies and procedures, the availability of protective and security equipment on board, and the provision of comprehensive computer-based, onshore and onboard training and professional development programmes. In addition to our internal measures, we also support activities and development projects carried out by a variety of stakeholders, well beyond compliance.

SUSTAINABILITY DECISION-MAKING DRIVERS



MSC's LONG-TERM IMPACTS

- Improving business operations and revenue generation: promote international trade; continuous improvement of operational and environmental efficiency; promotion of investments in new markets, such as emerging markets and developing economies (EMDEs); securing delivery of supplies; contribute to the well-being of future generations by supporting countries to achieve long-term sustainable economic and social growth, employment opportunities, stability.
- Strengthening the enabling environment & active participation in key national policy developments to amplify the impact of sustainability activities; address development gaps whenever possible in collaboration with local stakeholders; sharing of best practices and know-how.
- Increase of partnerships with a wide range of stakeholders both at the international and national levels to foster sustainable development.
- Ensure sustainable and long-term impacts on populations: implementation of social and environmental risks and impacts assessments; leapfrogging of new technologies; and inclusive capacity building efforts; supporting the diversification of economies by investing in logistics and shipping related services.

STAKEHOLDERS

As a global company with interests all over the world and given the nature of our business activities, MSC regularly interacts with a wide range of stakeholders from the public sector, financial institutions as well as partners and players belonging to almost all sectors. Therefore, MSC's 2018 Sustainability Report was prepared with a view to address diverse stakeholders' expectations and involved the participation of a multi-disciplinary team with expertise in each Sustainability Pillar. The drafting process included several months of internal consultations involving professionals at all levels based at the Headquarters, in the MSC Agencies, in MSC Shipmanagement offices and in each of the entities of the MSC Group of Companies. This participatory approach helped to identify and address the most relevant material issues and prioritise key challenges and progress made since 2017.

INTERNAL AND EXTERNAL COMMUNICATION

As part of our strategic approach to sustainability and to better raise awareness on our sector's sustainability matters and related considerations, throughout 2018 MSC has further strengthened the collaboration between the Sustainability Teams and the Marketing Department. Our approach was summarised in a variety of internal communications to management and employees to appeal to a wider internal audience. The topics mentioned in this report also feature in MSC's internal company magazine, along with explanations of the UN Global Compact and UN Sustainable Development Goals.

Additional corporate communications channels, such as our global Intranet, website, and social media accounts were also regularly updated by a dedicated team of experts. To further raise the profile of MSC's Sustainability efforts as an integral part of the Company's external relations, flag speaking appearances by company experts and executives at international conferences on sustainability-related topics were organised throughout the year.

SUSTAINABILITY GOVERNANCE

MSC has a Group Executive Sustainability Steering Committee led by the leadership and executives from the Headquarters in Geneva. The Committee is responsible for providing strategic guidance and directions on MSC Sustainability strategy and broader economic, social, and environmental matters.

Key departments such as the MSC Corporate Legal Department, the Corporate Audit Department, the Global Human Resources Department, and the Corporate Social Responsibility (CSR) Department, are actively engaged in strengthening the ongoing harmonisation aimed at further promoting ethical and good governance practices throughout MSC value and supply chains. These include employees as well as third parties, local and international business partners, and other relevant stakeholders.

Subject matter experts within each relevant department are responsible for advising, providing training, and supporting the integration of ethical and sustainability matters into the daily work of the value and supply chain. They also track operational, environmental, social, and economic performance and report on progress and/or advise about improvements whenever necessary in their respective areas of expertise.

The MSC CSR Department, based at MSC Headquarters, complements efforts carried out by other key MSC Departments by continuously improving existing responsible environmental and social organisational processes and practices in collaboration with relevant functions and MSC Agencies worldwide. These include the involvement of relevant MSC subject matter experts in auditing processes and/or other evaluation mechanisms carried out under the standards of the International Organization for Standardization (ISO) and by other third parties on issues related to sustainability, human rights, and labour standards.

A CROSS-DEPARTMENTAL HUMAN RIGHTS FUNCTION

In line with its commitment to continuously improve internal processes, MSC introduced a cross-departmental human rights function to support key HQ Departments by further bringing a human rights lens to their respective existing activities and practices. To illustrate, relevant human rights issues, including those related to modern slavery, in accordance with the standards contained in

the MSC Code of Business Conduct, were incorporated into the regular internal auditing practices. The "Social Virtual Audit" was launched online in 2018 for MSC Agencies with the aim of having a preliminary human rights risk assessment.





CREATING SUSTAINABLE VALUE

SOCIAL INCLUSION

FREIGHT TRANSPORT AS ENABLER OF OTHER SECTORS' ACHIEVEMENTS

As stated by the United Nations Conference on Trade and Development (UNCTAD) "the 2030 Agenda does not include a dedicated goal on transport, yet the strategic importance of the sector as a cross-cutting factor that can enable the realization of various Goals is widely recognized."² It is also widely recognised that maritime and intermodal freight transport is an enabler of other sectors' achievements as over 90% of goods³ are transported by sea and approximately 180 million⁴ containers are moved around the world every year.

The transport of goods between the continents, wherever there is a need for it, is a prerequisite for growth and development, including for ensuring the enjoyment of basic needs for the world's population. According to the World Bank "around the world, in much of development

work, transport is the ultimate enabler. By serving other sectors of a nation's economy, it puts development goals within reach. We know, for instance, that an estimated 75 percent of maternal deaths could be prevented through timely access to childbirth-related care, facilitated by transport. We know that girls' enrolment in education can more than triple after completion of a rural road. And, we know that lowering transport costs along a modernized international corridor can unlock growth potential, create jobs, and bring wealth to local communities."⁵ Indeed, during the last century, shipping companies have significantly contributed to increase global wealth, other sectors' sustainable growth and world trade by offering transportation solutions to millions of customers at competitive costs with reliable and reduced transit times.



MSC reefer truck services

CONTRIBUTING TO SUSTAINABLE DEVELOPMENT AROUND THE WORLD

LINKING SUPPLY CHAINS

Over the past fifty years MSC has been carrying products, commodities, food, and people all over the world becoming one of the key leaders in the international shipping sector. Globally, our business activities have supported the development of international trade, dramatically contributing to foster inclusive social and economic growth. Today, our operations and logistics services provide consumers based around the globe with just-in-time delivery of all kind of products at

affordable prices and continue to stimulate the growth of local industries as well as to bring long-term development across continents.

To allow producers and business partners to deliver their products to consumers in a safe, fast, efficient, and sustainable manner we invest and rely on a fully integrated system with strong mutual dependencies. This improves resource management and efficiency as well as reducing operational costs while enhancing collaboration with all actors across our complex value and supply chain.

A FULLY INTEGRATED SYSTEM



Producers: need container shipping lines to transport goods.

Container shipping lines: require suitable ports to dock at.

Container terminals: have to undertake the physical movement of containers between one mode of transport and another.

Inland logistic providers: have to move the containers between final origins and destinations and the container terminals.

Consumers: receive the goods at affordable prices, fast delivery, safely.

² Source: https://unctad.org/meetings/en/SessionalDocuments/cimem7d17_en.pdf

³ <http://www.ics-shipping.org/shipping-facts/shipping-and-world-trade>

⁴ Projection based on internal market outlook research undertaken by MSC's dedicated teams.

⁵ http://siteresources.worldbank.org/INTTRANSPORT/Resources/336291-1211381200616/Transport_Business_Strategy_web.pdf

ADDRESSING PRESSING GLOBAL DEVELOPMENT CHALLENGES

According to the United Nations Department of Economic and Social Affairs (UNDESA)⁶ over the past years, the global challenges to sustainable development have been driven by a broad set of 'megatrends', such as changing demographic profiles, changing economic and social dynamics, advancements

in technology, and trends towards environmental deterioration. Being a truly global company, political, economic, social and technological megatrends as well as evolving trade patterns have always been at the centre of our decision-making process and continue to be taken into account when developing our business strategies. Since 1970, when our first one-vessel operation started, MSC's long-term vision, passion, and approach to shipping have not diminished.

SHIPPING SECTOR'S GLOBAL ISSUES AND CHALLENGES*

ECONOMICAL

- Shift in trade patterns
- Unstable market conditions
- Trade policy developments & risks
- Increasing of protectionism
- Costs related to the enforcement of new and expected environmental regulations
- IMO Sulphur 2020
- Volatile fuel prices
- Overcapacity
- Digitalisation

SOCIAL

- Growing demand for goods and food scarcity
- Poverty
- Inequality
- Energy and natural resources scarcity
- Skills shortage & increase in capacity-building efforts to adapt to changing and challenging market needs
- Climate change and natural disasters affecting population & business operations
- Population growth & unemployment rates especially in developing countries
- Evolving skill needs

GOVERNANCE

- Geopolitical uncertainty & threats (terrorism, conflicts, etc.)
- Corruption
- Governance gaps
- Technological threats & costs related to cybersecurity
- Operational costs related to sanctions and diplomatic crisis

* This list is not exhaustive, it refers to ongoing major global issues and challenges related to the material issues reported in this document.

⁶ <https://sustainabledevelopment.un.org/content/documents/2843WESS2013.pdf>

Our continuous evolution, fast decision-making processes and responsible business practices still drive our way to effectively respond to our sector's challenges and broader global issues. We also continue to ensure the integration of social, economic, and environmental dimensions in all our business activities and investments around the globe. Nevertheless, we have adapted our business models and investment strategies and have continuously increased our portfolio of activities

to remain competitive and to strive to bring long-term sustainable freight transport solutions and services wherever we operate. We have also enhanced our partnerships with local and international stakeholders at all levels to drive changes, meet consumers' evolving expectations, demands, and needs all around the world as well as to face challenging and unstable market conditions.

MEGATRENDS: AN OVERVIEW*

EVOLVING TRADE SCENARIO

- Growth in global GDP
- Trade liberalisation
- Growth of intra-regional trade
- Access to/growth of new markets, such as emerging markets and developing economies (EMDEs)
- Increase of partnerships with the public sector (e.g. Governments, Multilateral Development Banks)
- Services targeting all segment of the population
- Changes in consumers and recipients of services (e.g. middle class, people at the Base of the Pyramid)

ENVIRONMENT

- Decarbonisation
- Increased exposure and vulnerability to climate-related extreme events (adaptation to climate change)
- Transition to less dependence on fossil fuel
- Increase in Research & Development

TECHNOLOGICAL ADVANCES & INCREASE OF TRANSPARENCY IN OPERATIONAL PROCESSES

- Big data
- E-commerce
- Blockchain
- Interoperability
- Digitalisation of internal process
- Real-time tracking
- Increasing importance of use of mobile cell phones and IoT (Internet of things)

RISE OF SOCIAL CONCERNS AND GOVERNANCE GAPS

- Rise of cross-industry cooperation to address global challenges
- Enhancement of private sector's engagement with regulatory authorities
- Social media presence and importance, fast and real time news sharing
- Developments in human rights national legislation impacting the private sector
- Inclusive business models
- Innovative and sustainable products and services
- Push for a greater company disclosure on sustainability performance

* This list is not exhaustive, it refers to ongoing major megatrends.

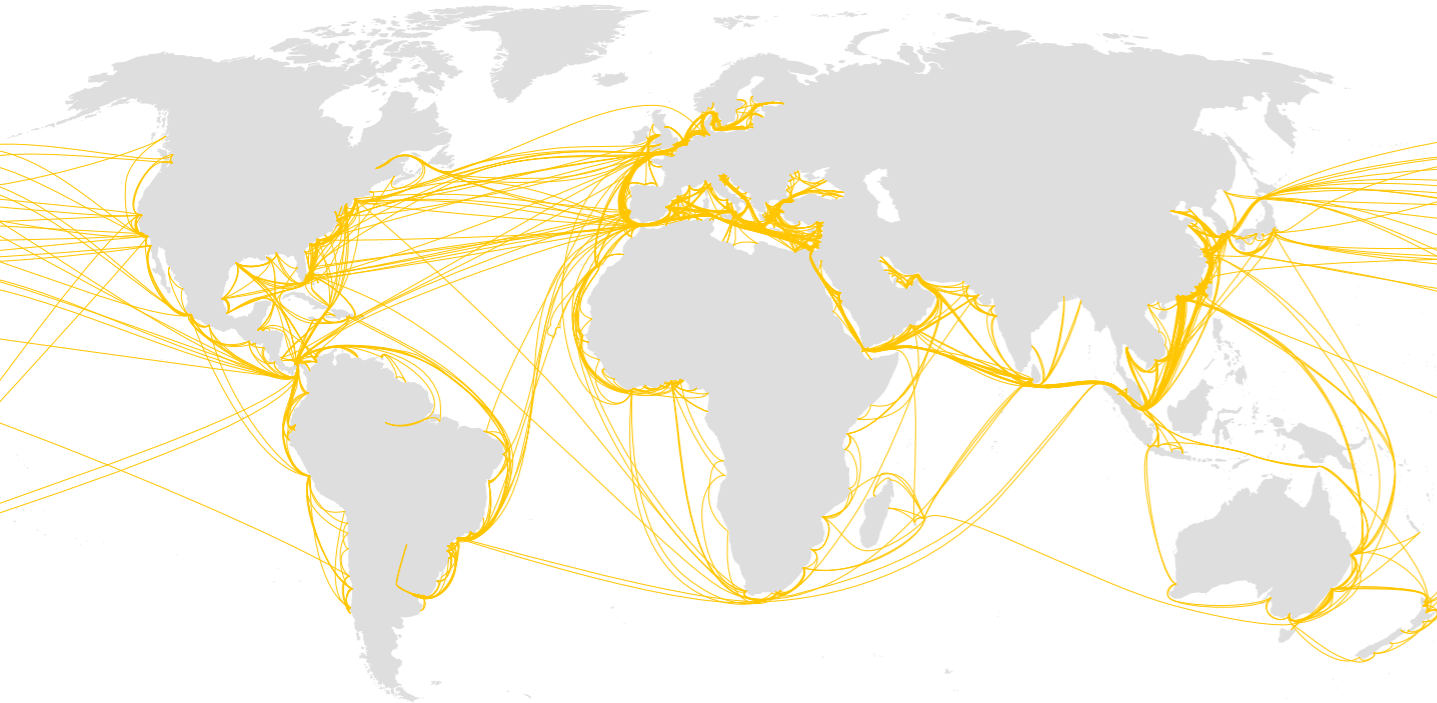
MAXIMISING OPPORTUNITIES THROUGH OUR GLOBAL NETWORK

We keep increasing physical connectivity between populations and countries by continuously expanding and adapting our trade routes and liner services. As an illustration, throughout 2018, MSC has focused its efforts on enhancing its Intra-Asia network, connecting countries in South Asia with key hubs in China and developing new business opportunities for shippers. In 2019, we also plan to offer new services in Malaysia, Thailand, and Vietnam.

Through our global network of MSC Agencies, we ensure that local specificities are taken into account in our business activities. This allows us to further tailor

our services and operations to local needs, customers and other stakeholders' expectations, and enhancing long-term partnerships with governments, financial institutions, and business partners.

MSC Agencies are responsible for commercial and operational activities in each of the countries where global shipping and transportation services are provided. They are directly supervised and regularly managed from the Headquarters by the Agencies Department.



MSC'S KEY SOCIAL IMPACTS AND SDGs WE ARE CONTRIBUTING TO

- Trade facilitation & adaptation to customers' needs (continuous offers of new routes and services)
- Connecting people and continents through the MSC global network
- Facilitating access to global shipping markets including for Small Islands Developing States (SIDS), Landlocked Developing Countries (LLDCs) (that have no access to the sea)
- Reliability providing just-in-time delivery with competitive transit times
- Increasing inland regional and inter-island connectivity through logistics, multimodal, and intermodal services (including for remote areas, SIDS, emerging and developing countries, and Least Developing Countries (LDCs))
- Supporting small players through ad hoc transportation solutions & tailor-made services for small cargo volumes, with competitive freight rates
- Continuous investments in efficient and sustainable freight transportation systems as well as inland logistics centres to minimise and reduce negative externalities
- Contribution to develop shipping-related industries and services in emerging, developing countries, LDCs and SIDS
- Reefers expertise and investment on reefer technologies (agribusiness, fisheries, food loss, help small farmers to enter the global economy, fostering responsible consumption and food safety)
- Job creation (local long-term employment opportunities)
- Increase capacity-building through vocational training and sharing of know-how
- Short sea connectivity



BRINGING VALUE TO LOCAL COMMUNITIES



“Develop quality, reliable, sustainable and resilient infrastructure, including regional and trans-border infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all.”

OUR IMPACT TO SDG 9: INDUSTRY, INNOVATION, AND INFRASTRUCTURE

MSC invests heavily in filling infrastructure gaps in both developed and developing countries through its subsidiaries, TiL and MEDLOG. In particular, we strive to contribute to the modernisation and development of terminals as well as national, regional, and international freight corridors. This contributes to increase energy and operational efficiency, enhance countries’ competitiveness at a regional and global level as well as to enable our customers, local stakeholders, and business partners to effectively benefit from our global network.

As stated by the United Nations, Conference on Trade and Development (UNCTAD) “better infrastructure reduces transaction costs, makes capital goods more durable and facilitates trade and investment. Solid

infrastructure creates more business opportunities and boosts private entrepreneurship. Investment in regional transport systems and communications is also crucial for the facilitation of economic integration, the development of markets, and the promotion of intraregional trade.”⁷

To maximise our contribution to sustainable development and governmental efforts in this respect, our investments are based on extensive assessments of market outlooks, social needs, and geographical landscapes. Our private-public partnerships (PPPs)⁸ are in line with international standards and national development plans. By doing so we support countries to meet their respective strategic development priorities and achieve mutually beneficial outcomes in the long term.

⁷ https://stats.unctad.org/Dgff2016/prosperity/goal9/target_9_a.html

⁸ <https://ppp.worldbank.org/public-private-partnership/sector/transportation/ports>: “With the majority of global trade carried by sea, developing strong, well-functioning maritime transport infrastructure is a key element of economic growth for many developing and emerging countries. Public-private partnerships (PPPs) in ports have become a means to manage port operations more effectively, traditionally an exclusively government function. Different port management structures are used worldwide but in the majority of large and medium sized ports the landlord port model is used. In this model management responsibilities are delegated to the private sector, while the title in the land and assets remains with the government.”

TIL'S KEY IMPACTS

- Modernisation of existing infrastructure and/or greenfield terminals, some in collaboration with the International Finance Corporation (IFC), a branch of the World Bank and individual Governments (PPPs)
- Massive investment in resilient infrastructures and in adaptation to climate change (Infrastructures are designed and built in specific landscapes to address climate change challenges)
- Leapfrogging of state-of-the-art technologies & equipment
- Ensuring Health and Safety best practices and management systems
- Minimise environmental impacts
- Promotion of efficient natural resource management
- Addressing growing coastal urbanisation/terminal congestion through operational efficiency
- Creation of local direct and indirect jobs
- Vocational training
- Disaster risk management: strategic supporting sites for national emergencies or natural disasters



CASE STUDY

IMPLEMENTING RESPONSIBLE SOCIAL AND ENVIRONMENTAL MANAGEMENT SYSTEMS

BRASIL TERMINAL PORTUÁRIO (BTP)



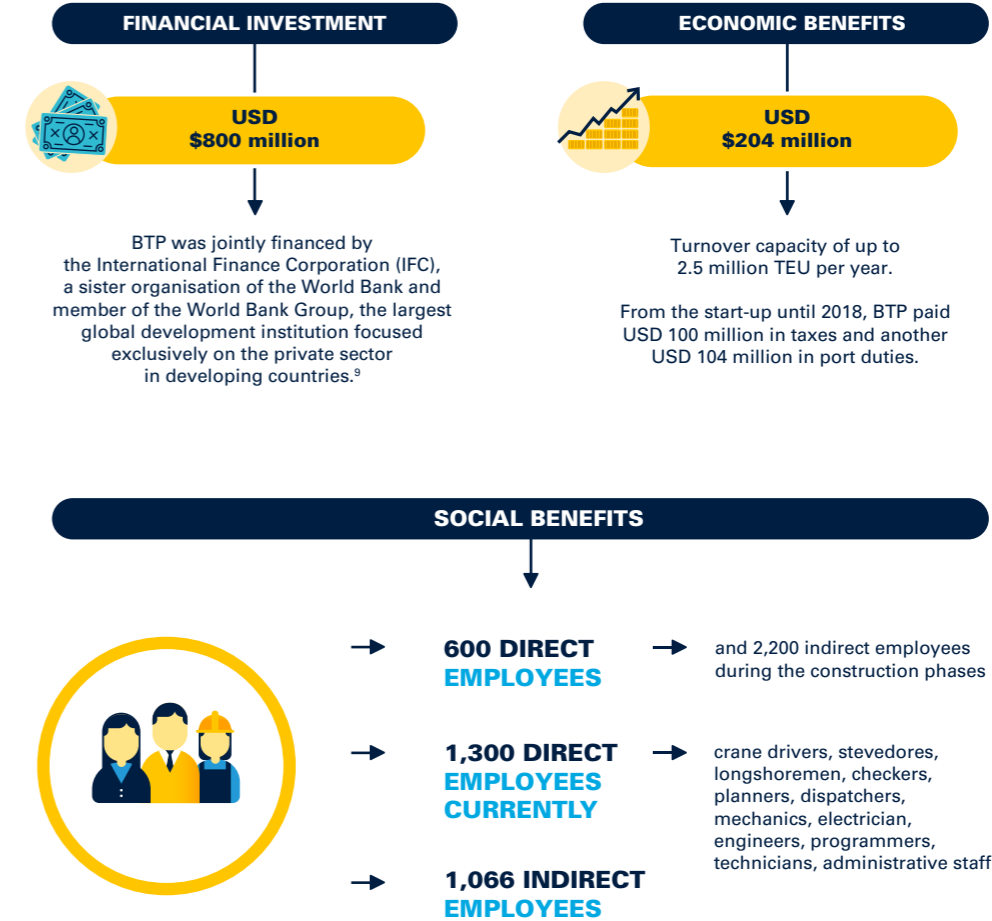
© Brasil Terminal Portuario

Brasil Terminal Portuário (BTP) is the leading port operator in Brazil and the largest container terminal in South America that is managed and operated under a joint venture agreement by Terminal Investment Limited (TiL), MSC’s subsidiary, and APM Terminals, both world leaders in the container handling market. A privileged location and routes serving all regions of the world are some of the main characteristics of the terminal. BTP strives to position itself as a reference in the port and terminal sectors not only by boosting the inclusive economic growth of the region through its economic performance but also by promoting responsible social and environmental management systems in compliance with international standards.

LAND RECOVERY: PROJECT HIGHLIGHTS

BTP is a container handling terminal strategically located on the right bank of the Port of Santos, in a projected area of 490 thousand sqm. For over five decades, the place where the terminal is located was among the

largest environmental liabilities of the State of São Paulo, and the largest port area in the country. Formerly known as the “Antigo Lixão da Alemoa” (Alemoa’s Former Dumpsite), the land lot was a mangrove that received all kinds of waste products for five decades, as well as debris from the activities developed in the Organized Port of Santos. In October 2009, BTP started environmental remediation of the land, which was completed in March 2012. Approximately **1.14 million tons of contaminated soil** were removed from the site and 17,500 truck trips were needed to transfer the soil to an industrial yard approved by the Environmental Agency of the State of São Paulo (CETESB) to eliminate all contaminants and restore the area to its original purpose. The terminal was officially opened in November 2013 and in June 2015, BTP received the official certification from the relevant environmental authority attesting the full recovery of the area.



- Continuous investments in training and professional qualification programmes.
- BTP is one of the few terminals in the country with its own operational training centre with one of the most modern simulators in a port area in the world.
- Promotion of city-port relationship: BTP has opened the doors to the community to further strengthen relations with citizens and explain how a modern and innovative terminal is vital for the economic development of the region.
- BTP para Todos (BTP for all): BTP launched the annual course “The work in the port sector” which focus on creating employment opportunities to people with disabilities. So far 27 people have been hired by BTP.

⁹ https://www.ifc.org/wps/wcm/connect/corp_ext_content/ifc_external_corporate_site/home

PROMOTING CITY-PORT RELATIONSHIP



© Brasil Terminal Portuário



© Brasil Terminal Portuário

Biodiversity programmes

- A non-contaminated area is still preserved by BTP to ensure conservation and sustainable use of mangrove ecosystems. The mangrove plays a significant role in coastal stabilisation and promoting land accretion, fixation of mud banks, dissipation of winds, tidal and wave energy.
- The mangrove area contains thirty thousand square metres of native vegetation.
- 546 seedlings of three regional mangrove species were replanted.

Biodiversity offsetting

- Environmental Compensation Programme in compliance with Federal Law 9.985/2000
- Forestry Compensation Programme
- Rescue of fauna and wildlife animals found in the terminal area that are rehabilitated and sent to environmental body to be released in their habitat

DUE DILIGENCE PROCESS

A number of social and environmental assessments were carried out in three phases for five years. These demanded close consultations and collaboration with local stakeholders, including local communities, environmental public entities, and the scientific community.

The construction phases were conducted by taking into account the International Finance Corporation (IFC) Performance Standards on Environmental and Social Sustainability, which “have become globally recognized good practice in dealing with environmental and social risk management”. Additionally, the entire project was designed and implemented in compliance

with the Equator Principles (EPs), “a risk management framework, adopted by financial institutions, for determining, assessing and managing environmental and social risk in project finance. It is primarily intended to provide a minimum standard for due diligence to support responsible risk decision-making.” An Annual Monitoring Report continues to be submitted to the

IFC Health, Safety, Security and Environment (HSSE) team of experts, who also regularly conducts on-site visits and inspections. The due diligence and risk impact assessments take place every couple of years. BTP expects to conclude repayments of the IFC loan by 2020.

BTP SOCIAL & ENVIRONMENTAL RISK IMPACT ASSESSMENTS AND MANAGEMENT SYSTEM: AN OVERVIEW

Environmental risks/ potential impacts	Mitigation procedures & strategies to avoid potential identified risks
Land, air, water resources, and ground pollution	Environmental Risks assessment in collaboration with local authorities
Negative impacts on the community’s health	Centralised Environmental Management Plan
Exposure to hazardous waste and substances	Solid Waste & Hazardous Waste Management Programme
Contamination of water and soil degradation	Wastewater Management Programme Emergency Response Plans (PAE & PEI) Weekly Operation Environmental Control
Biodiversity risks/potential impacts	Mitigation procedures & strategies to avoid potential identified risks
Negative effects on human health	Monitoring Subprogramme of Aquatic Biotic
Disruption of local wildlife	Terrestrial Fauna Monitoring Subprogramme
Biodiversity loss	& Awareness-raising programme for vessel’s crew about ballast water
Occupational Health and Safety potential risks and impacts	Mitigation procedures & strategies to avoid potential identified risks
Occupational illness	Hazard Identification & Risk Assessment
Risks related to exposure to physical, chemical, biological, and ergonomic hazards	HSSE Objectives & Improvement Plans
Lack of appropriate welfare facilities for workers	HSSE Training: Health surveillance programme

Source: Simplified table based on the IFC ESMS Implementation Handbook.

BTP SOCIAL & ENVIRONMENTAL RISK IMPACT ASSESSMENTS AND MANAGEMENT SYSTEM: AN OVERVIEW

Labour Rights potential risks and impacts	Mitigation procedures & strategies to avoid potential identified risks
Use of contracts not understood by workers	Policy development (contracts, Code of Conduct, internal policies and procedures)
Bribery & Corruption	Whistle-blower hotline
Harassment	Due diligence questionnaire for suppliers
Discrimination	Stakeholders engagement
Disruption of operations/operational and reputational risks	Business Continuity Plan
Regulatory risks based on the complexity of the regulation of the port sector in Brazil	Permanent Ethics Committee
Labour liability	Consistent and transparent communication plan and compliance channels
	Contingency plan for the terminal
	Active involvement in associations of the sector
	Note: “migrant workers” and “modern slavery” are not mapped as a potential risk as domestic labour legislation contains ‘protective mechanisms’, including obligation for labour contracts with clear clauses of employee’s rights and obligations as well as strong Trade Unions regulations.
Community involvement & Community Health, Safety and Security potential risks and impacts	Mitigation procedures & strategies to avoid potential identified risks
Damage to people, assets, communities, and the environment	Social Communication Programme
Negative externalities	Emergency preparedness and response programme
Congestion	Deceleration bands to enter the internal area of the BTP. Internal areas for parking and accommodation. Truck scheduling system for the terminal. Adoption of collective transportation of employees. Refurbishment of the avenue in front of the terminal (~1km of extension)
Excessive or irregulated traffic near the facility	

CASE STUDY

COMPLYING WITH IFC PERFORMANCE STANDARDS AND THE EQUATOR PRINCIPLES

PORTONAVE TERMINAL

Located in the city of Navegantes, Santa Catarina State, Portonave started its operations in October 2007, as Brazil's first private port container terminal. The Company distributes the production of the South, Southeast, and Midwest regions of Brazil and other South American countries and receives cargo from all over the world. Internationally recognised for its quality services and high productivity, the Company has become one of the main local employers generating more than 1,000 direct jobs and contributing 45% of tax from services income by the city.

Strongly committed to excellence and the promotion of sustainable development, since 2013 Portonave has been an active member of the Movimento Nacional ODS Santa Catarina, which is officially endorsed by the United Nations and the United Nations Development Programme (UNDP) and includes more than 320 entities from Santa Catarina State. The movement seeks to develop actions that encourage the Santa Catarina community to achieve the Sustainable Development Goals (SDGs). Portonave's Sustainability reports are prepared in line with GRI Standards and the UN Global Compact's reporting framework.

Over the year, the State was affected by political and economic instability and the business environment demanded assertive strategies to ensure financial performance. Portonave's Consolidated Gross Operating Revenue grew by 6.7%. This strengthening of the business led to an external recognition: in 2018, Portonave remained the leader in container handling in Santa Catarina, with a 49% market share, reaching 7 million TEU handled since the beginning of its operations. At the same time, the Company was ranked among the 20 largest ports in Latin America, in the ranking of the Economic Commission for Latin America and the Caribbean (ECLAC), and as the 24th company among the 100 largest in Santa Catarina, according to the ranking prepared by Amanhã magazine in partnership with PricewaterhouseCoopers (PwC).



Portonave Terminal

For more information, please visit: www.portonave.com.br/en/sustainability/sustainability-report/

PORTONAVE'S PERFORMANCE IN 2018

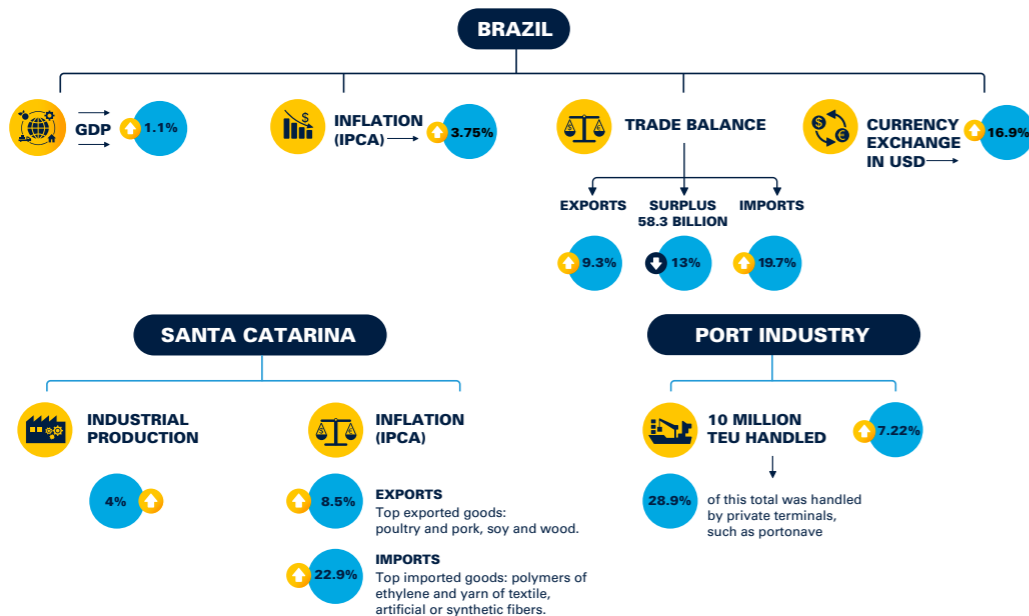
Competitive Advantages

- USD 723,000 invested in social projects
- USD 154.2 million in gross operating revenue
- 975 direct professionals (95% locally recruited)
- 1,256 suppliers and service providers
- Responsible of 45% of ISS collected in the city of Navegantes
- 3,390 clients
- 49% market share in Santa Catarina
- Average 81.51 hours of training per professional
- Approx. USD 215,000 invested in scholarships for professionals

Infrastructure

- Area of 400,000 sqm
- 3 docking berths
- 900 m linear wharf
- 30,000 TEU of static storage capacity
- 6 portainers
- 18 transtainers
- 40 terminal tractors
- 5 reach stackers
- 4 forklifts for empties
- 2,100 reefers outlets
- 1 automated cold room (50,000 sqm storage area)
- 1 scanner HCVM T to inspect containers and up to 150 trucks per hour to increase safety to the port operation

MACROECONOMIC & INDUSTRY SCENARIO IN 2018*



* The indicators are compared to the 2017 indicators issued by the official entities.

Sources: Brazilian Institute of Geography and Statics (IBGE – Instituto Brasileiro de Geografia e Estatística), Ministry of Economy, National Agency of Waterway Transportation (Antaq – Agência Nacional de Transportes Aquaviários.)

STRUCTURAL WORKS TO LEVERAGE SANTA CATARINA'S ECONOMY AND STAKEHOLDER ENGAGEMENT

- New Turning Basin of the Itajaí-Açu River Port Complex, key to the future of the industry in the region.
- In 2010 Portonave invested over 6 million US dollars to connect the terminal with the road BR 470 (currently in the process of duplication) a strategic highway for the production outflow and to reduce traffic related impacts on the Navegantes community. The work on building this important connection which is now called "Avenida Portuária" and is the main access road to the terminal, (Port Avenue) complied with the Equator Principles (EPs).

PLANS AND PROGRAMMES TO MITIGATE RISKS FOR THE COMMUNITY, WORKERS, AND THE ENVIRONMENT

- An environmental study for the insertion of the new roadway (EAS).
- The Action Plan for Indemnity and Resettlement (PAIR), which was designed to address the population and economic activities affected by the highway.
- Establishment of on-call social support and settlement of cases as part of its grievance mechanisms and stakeholder engagement process. This is to ensure a transparent consultative process which is culturally appropriate and accessible to all. The Social Plan's scope includes all families involved with the Construction of the Access Road to the Port of Navegantes and aims to raise awareness on the terminal processes among the population and addressing potential concerns and questions. In addition, a psychologist made weekly visits to the families involved whenever necessary.

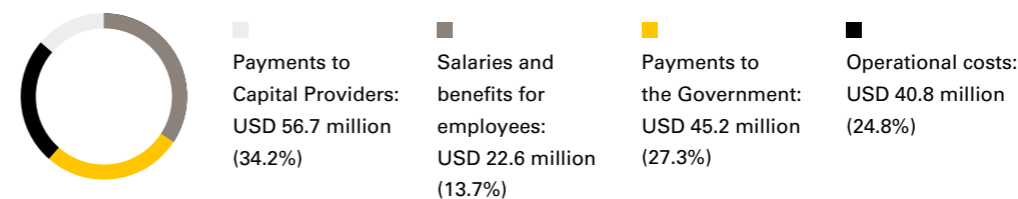


Terminal, Navegantes, Brazil

GENERATION AND DISTRIBUTION OF VALUE

In 2018, Portonave's Added Value Revenue reached around USD 165.3 million. The chart below shows the distribution of the added value.

Distributed Economic Value

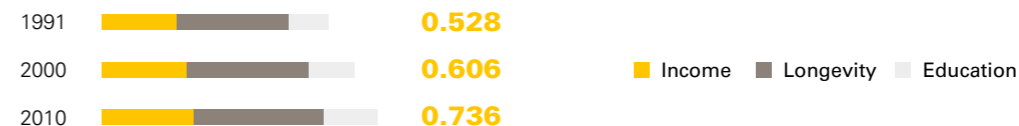


Economic Outlook

The boost to the economy can be seen in the population increase; according to the latest estimate by the Brazilian Institute of Geography and Statistics (IBGE – Instituto Brasileiro de Geografia e Estatística), the local population reached close to 80,000 people in 2018, a

30% increase from the last official survey in 2010. The Human Development Index (HDI) has been following the evolution of the city, rising from 0.528 in 1991 to 0.736 in 2010 – a high level compared to the Brazilian average, placing Navegantes at 876th among the 5,56 cities in the country.

Navegantes' Human Development Index (IDHM)



Source: Atlas of Human Development in Brazil (UNDP)

RISK MONITORING & COMPLIANCE WITH INTERNATIONAL STANDARDS

Greenfield construction: promoting a participatory approach

Since the initial phases and throughout the entire project management life cycle, Portonave has established and maintained a systematic process for identifying, monitoring, and effectively managing the most significant environmental and social potential risks in order to prevent possible impacts to ecosystems and local community. The following are some of the actions,

carried out during the implementation of the terminal project, promoting engagement and a participatory approach with relevant local stakeholders, including national authorities and the community. The greenfield construction was completed in 2007 in compliance with the Equator Principles (EPs) and applicable IFC Performance Standards. Please see table below for additional information on our social and environmental impact risk assessment.

**RELEVANT IFC
PERFORMANCE STANDARDS**

MAIN ACTIONS

**Assessment and management
of environmental
and social risks and impacts**

Identification of potential environmental, social risk, and potential biodiversity losses and development of specific remediation/compensations plans
Development of an Integrated Management System
Regular monitoring, review, and evaluation processes
To improve actions and procedures whenever necessary
Based on stakeholders' concerns (workers, communities, national authorities, and entities, independent experts)
Development of an Emergency preparedness and response programme

Note: no impact on cultural heritage, therefore this topic was not addressed in the management plan.

**Labour and
working conditions**

Hazard Identification & Risk Assessment
HSSE Objectives & Improvement Plans
HSSE Training
Health surveillance programme
Facilitation of understanding of contracts
Code of Business Conduct
Bribery & Corruption
Harassment
Labour Issues & development of related policies

**Resource efficiency and
pollution prevention**

Centralized Environmental Management Plan
Solid Waste & Hazardous Waste Management Programme
Emergency Response Plans (PAE & PEI)
Weekly Operation Environmental Control
Sediments: Collection and assessment of sediment in the underwater portion and in the emerged portion of the land in the area for dredging
Surface water: Monthly monitoring of physical, chemical, and microbiological aspects of the Itajaí-Açu River waters, evaluating possible environmental changes existing before the execution of the project
Underground water: Piezometric wells implanted in the project area to evaluate the quality of groundwater in the project area

**RELEVANT IFC
PERFORMANCE STANDARDS**

MAIN ACTIONS

**Community health,
safety, and security**

Minimised negative externalities (noise, dust, traffic near the facility)
Communication and training tools for workers and the local community, for the awareness of existing risks and the care to be taken so that no accidents and/or inconvenience occur
Community perception on port, routine change
Communication development with the population in general and specifically with the inhabitants of the vicinity of the access routes to the project. This creates a direct channel for the exchange of information about the enterprise, both in the implementation and operational phases, providing greater clarification to the residents

**Land acquisition and
involuntary resettlement**

The land was not occupied by local population; therefore, the terminal had no cases of economic displacement or physical displacement.
However, the following plans were developed:
Stakeholder engagement process
Livelihood Restoration planning and implementation
Grievance Mechanism
Compensation plan

**Biodiversity conservation and
sustainable management of
living natural resources**

Rescue of animals found in the area of the enterprise
Sick animals were catalogued and sent to recovery centres
Native animals were rescued and released in the area of permanent preservation, in order to facilitate their reinsertion into natural ecosystems
Reallocation and cultivation of native flora
Native animals were rescued and released in the area of permanent preservation, in order to facilitate their reinsertion into the natural biome

TERMINAL'S EXPANSION PHASE

The construction of the greenfield terminal was financed over a syndicated loan of USD 182,4 million (May 2006), in compliance with the Equator Principles. On October 2007, Portonave received its first container ship. In 2015, Portonave was expanded to more 130 thousand square metres, enhancing its static capacity to 30 thousand TEU. This required an investment of a total amount of USD 30,74 million, co-founded by Brazilian internal banks (debentures). After completion of the enlargement project, the yard become about 400 thousand square metres, the equivalent of 40 soccer fields. It is important to note that this work did not directly impact the community, once the activities were concentrated in the Direct Influence Area (AID) of the project, which is comprised in the areas owned by the terminal. The main impacts related to vehicle movement, particle suspension, and noise were limited to the benefit of the project. To avoid potential identified risks a wide range of mitigation procedures and strategies were put in place.

In addition to the license requirements, as compensation for the local impacts on land and biodiversity, Portonave invested in a wide range of environmental initiatives and the 'Nossa Praia Project', in partnership with Navegantes' municipal government. Considered one of Brazil's most important shoreline recovery works, the Nossa Praia project covers an area of 102 hectares of Navegantes' beaches. The initiative aimed to recover the native ecosystem (called "restinga") through actions such as removing exotic vegetation, planting native species, rebuilding dunes, and closing irregular access trails. In addition, the project also included the revitalisation of the beach waterfront, the construction of a deck and the lightening of bicycle paths.

NOSSA PRAIA PROJECT KEY HIGHLIGHTS

- Investment: over 1 million US dollars
- Extension: 102 hectares (considered one of the largest urban beach restoration projects in Brazil).
- Timeline: 2015 to 2018



Nossa Praia
© Portonave

CORPORATE ENVIRONMENTAL AND SOCIAL RESPONSIBILITY

Today, Portonave has an Integrated Management System (SGI) which ensures that operations and activities comply with applicable domestic law, regulations and requirements as well as with applicable international standards, guidelines, and indicators on quality, environment, work safety, and health. The system is regularly reviewed and improved by the Management and/or the Board of Directors whenever necessary. Macroeconomic, regulatory, financial, social, and environmental matters – including climate issues – are part of the Company's Risk Matrix. SGI's fundamental principles also include requirements on standards in which the terminal is certified: ISO 9001 (Quality Management), ISO 14001 (Environmental Management) and OHSAS 18001 (Occupational Health and Safety Management). An independent external organisation annually audits the SGI to verify non-compliances and/or opportunities to improve. Computer systems and access control processes for people, vehicles, and cargoes are also regularly audited.

INVESTMENTS THROUGH INCENTIVE LAWS

Every year, Portonave invests in several projects approved under incentive laws to further ensure that the wealth generated by its activities will particularly benefit the population of Navegantes and its surroundings. In 2018, Portonave invested **USD 723,000** in a wide range of activities and projects for the local community in the areas of health, education, sports, and culture. These included contributions to a number of initiatives for students such as 'Music in Schools', 'Street Soccer for Education', and 'Training Center for High Performance Artistic Gymnastics (Curitiba – PR)'.

YOUNG TALENT PROGRAMME – YOUNG APPRENTICE PROGRAMME

In 2008, Portonave created the Young Talent Programme, which offers high school students from Navegantes' public schools the opportunity to enter the labour market, combining practical experience and theoretical learning. The programme benefits young people aged between 16 and 18 years old having a per capita family income lower than the minimum wage in line with national minimum age requirements. Hired as apprentices, the young people stay for up to one year in the Company and work in different areas of the terminal, guided by Portonave's professionals. Since 2008, 108 students completed the programme. The hiring rate of young people who successfully completed the programme is 48%.

For more information on other projects and educational programmes, please visit: www.portonave.com.br



Young Talent Programme
© Portonave

SUPPORTING THE DEVELOPMENT OF INTRA-REGIONAL LOGISTICS SERVICES AND LOCAL CAPACITY BUILDING IN REMOTE AREAS



Through its subsidiary MEDLOG, MSC is continuously expanding and diversifying its business activities in remote areas and developing countries. Our investments are significantly contributing to the development of intra-regional trade as well as to the creation of logistics services in underserved markets, such as those through transportation solutions, warehouses, depots, and Maintenance & Repair of containers (M&R). Additionally, we generate thousands of direct and indirect long-term employment opportunities for local communities, for all segments of the population, without discrimination. Our investments also include a wide range of vocational training and mentoring programmes aimed to improve our locally recruited employees' soft and technical skills while ensuring compliance with applicable international standards. By doing so we seek to support governments to address poverty and unemployment rates, alleviating challenges related to domestic labour markets and levels of inequality across supply chains on both a local and global scales. Read more about our work in promoting economic and social development in remote areas in the following case studies in Chile and Vietnam.



CASE STUDY

LEVERAGING LOCAL KNOW-HOW

MEDLOG, IN SAN ANTONIO, CHILE



In September 2018, MEDLOG opened its third depot in Chile, located in the coastal town of San Antonio, next to the port. The Company, MEDLOG San Antonio, offers dry and reefer container storage, maintenance and repair, and warehousing services employing 50 professionals, mainly locally recruited.

All our employees have been trained in communication and teamwork, as well as in safe crane operations to reinforce and complement their abilities and ensure compliance with occupational health and safety standards. Additionally, to further promote social inclusion, MEDLOG is establishing a partnership with Aldea de Niños, a recognised local non-profit organisation working in the area since 1978. Our main joint projects in 2019 will focus on the implementation of music and environment workshops as a learning tool, targeting 48 vulnerable children between 4 and 18 years old.

SOCIO-ECONOMIC PROFILE

- San Antonio is in the region of Valparaiso, central area of Chile and next to the Pacific Ocean.
- It is considered one of the main ports in Chile, with three terminals
- Its main economic activities are connected to the shipping industry
- Approximately 100,000 inhabitants. According to the National Statistics Institute, 83.6% of the children that live in San Antonio, belong to the first- and second-income quintile, or the families with lowest income and reduced access to health and education
- 8.5% of the population in San Antonio belongs to the lowest income quintile¹⁰
- 89% of the population live in rural areas
- 14% poverty index
- 10.1 unemployment in the past year¹¹

A dual internship which includes a mentoring programme will also be launched in collaboration with two public schools based in San Antonio. This will allow senior students to learn manual and technical skills needed to work at MEDLOG. Our experts will provide some theoretical courses to the students to raise awareness of the depot operations and promote careers in the logistics sector. The project includes the creation of a Job Notice Board with a list of all available positions in the depot. It will be implemented in the fourth quarter of 2019 in local schools.

¹⁰ Source: Ministry of Social Development, through the national socioeconomic characterization survey (CASEN) that is carried out periodically to measure the poverty index in terms of education, health, housing, labour, and income in the country. The last CASEN was implemented in 2015.

¹¹ Source: National Statistics Institute, as per the quarterly report of April 2018

CASE STUDY

SUPPORTING THE ENHANCEMENT OF TECHNICAL EXPERTISE

MEDLOG IN HAI PHONG, VIETNAM

MEDLOG South-East Asia (SEA) started its depot container operations in Vietnam in 2012 by creating the "Green Future Star Depot ("GFS Depot")" in the city of Hai Phong. Today, the Company is present in 22 locations in South East Asia and in all major seaports of the region, offering 321,491 sqm of depot yard space which is equivalent to 53,227 TEU container storage capacity.

BUSINESS OUTLOOK

Situated about 100 km from the capital Hanoi, Hai Phong is one of the five centrally governed cities of Vietnam and a strategic gateway thanks to its proximity to the main ports. The city has increased its competitiveness at the regional level through massive investments in infrastructure becoming the most attractive destination for foreign investors and one of the major manufacturing and logistics hubs in Vietnam.

VOCATIONAL TRAINING

Since the beginning of the operation, to enhance quality services for customers, MEDLOG has been investing in transfer of know-how through extensive technical Maintenance & Repair training conducted by professional international consultants, in line with the Institute of International Container Lessors standards (IICL). The IICL has developed container chassis inspection examination programmes to further promote important industry wide efforts of proper inspection, repair, maintenance, and operational issues. Medlog SEA's M&R experts were also deployed from other SEA locations to GFS Depot to share knowledge and practical expertise to locally recruited staff. Audits and survey are conducted on a regular basis to monitor compliance with international standards and continuously improve practices and procedures.

INFRASTRUCTURE HIGHLIGHTS

- 20,000 sqm area
- 2,640 TEU total capacity storage
- 94% depot occupancy rate (2018 average)

KEY STRONG INCLUSIVE SOCIAL AND ECONOMIC RETURNS

- Job creation
- 40 permanent employees
- Indirect jobs: repair vendor: 20-40 workers, depending on the repair volume; trucking vendor: 15 drivers

ECONOMIC PERFORMANCE

Volumes handled have increased more than ten times in the past twelve years, reaching 1,600,000 TEU in 2018

PROMOTING TRADE OPPORTUNITIES ACROSS THE SUPPLY CHAIN & REDUCTION OF FOOD LOSS



MSC continues investing in cold chains and the latest available cooling technologies, which are essential to enhance the supply of quality food and reduce post-harvest food loss.

We are also preparing well in advance to comply with the hydrofluorocarbon (HFC) phase-down as per the Kigali Amendment to the Montreal Protocol which entered into force in January 2019. In this respect, MSC is taking necessary actions to reduce the global production and consumption of hydrofluorocarbon which are harmful man-made greenhouse gasses.

MAIN INVESTMENTS

- Carrier Transicold PrimeLINE™ reefer containers, which can be equipped with low-GWP refrigerants, such as R-513A (GWP=631)
- Carrier Transicold NaturaLINE™ reefer containers equipped with CO₂ (GWP=1), the most environmentally safe refrigerant
- Controlled Atmosphere reefer containers, which reduce the use of chemical treatments to perishable cargo, therefore ensuring the highest level of food safety and quality to final consumers
- Special reefer gensets for rail application: Through its subsidiary MEDLOG, MSC has invested in special power generators in Portugal and Spain in order to transport reefer containers by rail

MSC REEFER MASTER CLASS

At the time of writing, MSC has launched its Reefer Training sessions in Valencia, Spain. These combine theory with practical demonstrations. Attendees learn about the very latest reefer technologies available to ensure optimal transport conditions for perishable cargo. The modules also have a specific focus on the evolution of the global reefer trends and markets as well as on post-harvest chemical treatments related to all commodities, which are carried out by a dedicated expert in this area.

Specific commodities case studies are also provided on demand to facilitate a better understanding of the new technology and its benefits.

So far, attendees have included MSC customers, major Spanish fruit and vegetable exporters, technicians, health inspectors, and MSC staff from Spain, Geneva, Macedonia, and Greece.



MSC NaturaLINE™ reefer containers

PARTNERING TO DEVELOP SUSTAINABLE PRACTICES IN PRODUCER COUNTRIES

In some cases our customers gained understanding on how to access new trade opportunities, expand their local business activities to global locations as well as to increase their market shares.

As an illustration, SanLucar™, a Spanish fruit exporter, has started to use our latest controlled atmosphere technology to ship its first cargo of blueberries from Spain to the Middle East. “This innovative system regulates the levels of carbon dioxide (CO₂) and oxygen (O₂) inside the transport container, reducing and eliminating the ethylene released by the fruit. Thanks to this

technology, it is possible to slow the natural ripening process of the fruit down, to extend its shelf life while preserving all its freshness and quality. All these benefits are especially important for a product as delicate as blueberries, and essential to maintain the premium quality of the fruit and vegetables that SanLucar produces and sells worldwide.”¹²



¹² Source and for more information: <https://www.freshplaza.com/article/9098498/sanlucar-makes-its-first-shipment-of-blueberries-from-spain-to-middle-east/>



CREATING SUSTAINABLE VALUE

ENVIRONMENT

CLIMATE & ENVIRONMENT: DEFINING TOPICS OF OUR TIMES



Throughout business, policy and civil society forums, on screens, in print and on social media, the topics of climate and the environment are centre stage. This is understandable, given the increasingly evident impacts of climate change, together with the warnings from the scientific community, notably the Intergovernmental Panel on Climate Change (IPCC¹³) and the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES¹⁴) about the state of our planet. Accordingly, sustainability is on the agenda of every major company in the world. At MSC, our concern for the environment begins with the seas and stretches beyond these horizons. We understand that marine and terrestrial ecosystems are linked through myriad complex physical and biological interactions. It is highly appropriate therefore, that our actions to protect the environment are numerous, diverse, and prioritised in areas where we can have the greatest positive impact.

A SECTOR MOVING FORWARD

At MSC, we are very proud of our nautical heritage and strong business performance. We are also proud of the broader role of the shipping sector in driving the global economy, connecting people and goods, and of our efforts to do this in a way that is socially inclusive and sustainable. We believe that the evolving regulatory landscape and rising expectations of customers, stakeholders and investors -which present challenges to the shipping industry- can also be a positive force that drives progress and creates a shift towards more sustainable business. As an industry leader, we feel a particular responsibility to rise to these challenges and respond in a comprehensive, proactive and participatory way.

Partnering for progress

MSC considers that people, and especially dialogue and exchange, will drive the sustainability agenda and advance the sector forward as a whole. Participation in international industry and sustainability forums are essential for strengthening collaboration, formulating policy-based and technical solutions, sharing best practice and planning for the continued success of the sector as a whole. MSC participates in a wide range of environmental, sector specific and sustainability-focused organisations, some of which are summarised below.

MSC PARTICIPATION IN GLOBAL ENVIRONMENTAL INITIATIVES AND PLATFORMS*

ORGANISATION	HOST	PRIMARY AIMS
CARGO INCIDENT NOTIFICATION SYSTEM (CINS)	CINS	<ul style="list-style-type: none"> To highlight risks posed by certain cargoes and/or packing failures in order to improve safety in the liner shipping industry <p>www.cinsnet.com</p>
CLEAN CARGO WORKING GROUP (CCWG)	Business for Social Responsibility (BSR)	<ul style="list-style-type: none"> To measure, report, and evaluate performance data in marine container transport To share best practice and promote member engagement To support responsible corporate engagement on public policy To catalyse and partner on projects that drive sustainability performance improvement <p>Source: www.clean-cargo.org</p>
GLOBAL INDUSTRY ALLIANCE (GIA)	GloMEEP (Global Maritime Energy Efficiency Project), co-hosted by the Global Environment Fund, United Nations Development Programme (UNDP) and the International Maritime Organization (IMO)	<ul style="list-style-type: none"> To bring together maritime industry leaders to support an energy efficient and low-carbon maritime transport system To focus on priority areas including energy efficiency technologies and operational best practices, alternative fuels, and digitalisation <p>Source: glomeep.imo.org</p>
NORTH AMERICAN MARINE ENVIRONMENT PROTECTION ASSOCIATION (NAMEPA)	NAMEPA	<ul style="list-style-type: none"> To preserve the marine environment by promoting sustainable maritime industry best practices and educating the public <p>Source: namepa.net</p>
UNITED FOR WILDLIFE	The Duke of Cambridge & The Royal Foundation	<ul style="list-style-type: none"> To tackle illegal wildlife trade by bringing together conservation organisations, governments, and global corporations To protect endangered species so they can share the world with future generations <p>www.unitedforwildlife.org</p>
WORLD SHIPPING COUNCIL (WSC)	WSC	<ul style="list-style-type: none"> To play an active role in the development of programmes that improve maritime security without impeding the free flow of commerce To promote sound environmental stewardship through new international standards for ships and achievement of reduced air emissions, including carbon dioxide <p>Source: www.worldshipping.org</p>

* This list is not exhaustive.

¹³ The United Nations body for assessing the science related to climate change, <https://www.ipcc.ch/>

¹⁴ An independent body, established by UN member States to strengthen the science-policy interface for biodiversity and ecosystem services, <https://www.ipbes.net/about>

THE PATH TO SUSTAINABLE SHIPPING

Environmental protection is a topic that is relevant to the work of multiple business areas especially in a large global company such as MSC Shipmanagement, procurement, certification, compliance, and operations departments, to name a few, take environment and sustainability into consideration in their activities. As sustainability risks and opportunities become better understood, teams addressing supply chain, human resources, finance, and insurance are increasingly factoring the environment into their decisions. At MSC, sustainability is not a single department, but a mindset, that we seek to embed throughout the Company. Similarly, there is no one 'solution' for sustainability. The path to sustainable shipping involves commitment, innovation, dialogue, advocacy, and investment. The following sections demonstrate some of the work of MSC in these areas.

SAVING ENERGY AND REDUCING EMISSIONS

MSC engineers and design teams are constantly working to reduce energy consumption and therefore the Company's CO₂ and other air emissions. There are multiple ways in which MSC is making progress in this regard. The actions of MSC in this area respond to the Sustainable Development Goals 3 (Good Health and Well-Being), 7 (Affordable and Clean Energy) and 9 (Industry, Innovation, and Infrastructure) especially. MSC's work on energy efficiency and the fleet retrofit and newbuild programmes make a particularly strong contribution to targets 3.8, 7.3 and 9.4, referring to air pollution, energy efficiency, and resource-use efficiency and environmentally sound technologies respectively.

Energy Efficiency Design Index (EEDI)

In 2011, the International Maritime Organization (IMO) adopted the EEDI, the world's first globally binding design standard that aims to drive improved environmental performance of ships by requiring them to become more energy efficient. Almost all new ships are subject to the standards, which will become increasingly stringent over time. For MSC, efficiency is an environmental imperative that also has cost benefits. Work in this area is already well underway to optimise vessel performance and to even go beyond the regulatory requirements if possible.

One way that MSC achieves optimal fleet efficiency is by ensuring vessels are modern with the latest advances in design and technology, details of which are outlined in the sections below. Further, through investments in capacity management and economies of scale, MSC has increased average capacity per ship from 2,500 TEU in 2003 to 6,500 TEU in 2018, which is significantly higher than the average figures that can be found on the market.

Energy Efficiency Operational Indicator (EEOI)

MSC uses the EEOI to record and analyse individual ship and entire fleet performance over time. EEOI is a tool set out in the IMO Guideline MEPC.1/circ.684, which gives a reliable indication of ship performance in terms of transport work. It provides data on the fuel efficiency of a ship in operation as well as the impact of operational enhancements or modifications such as better voyage planning or more regular propeller and hull cleaning. EEOI is defined as the ratio of mass of CO₂ emitted per unit of transport work (unit = gr CO₂/Tons cargo/miles).



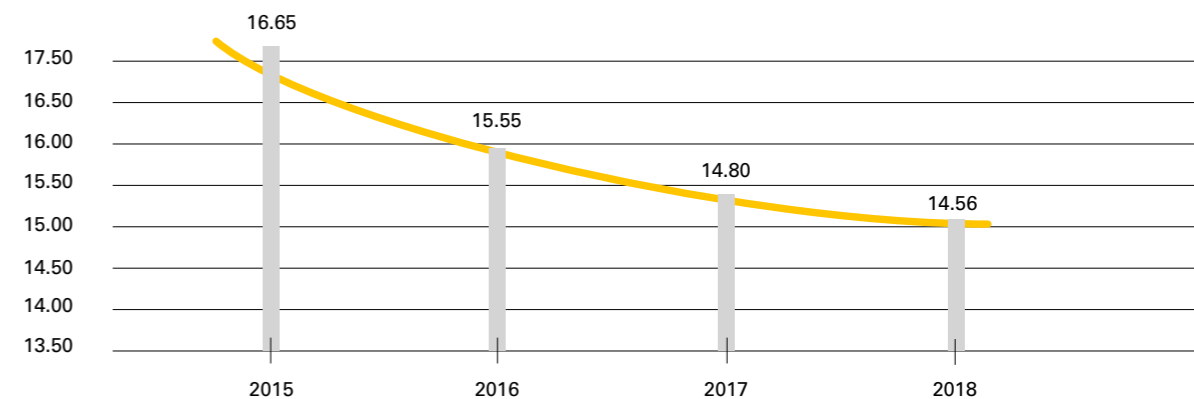
Fleet-Network-Terminal Efficiency Team, Geneva Headquarters

Since records began, MSC has substantially reduced emissions per ton of cargo. Our EEOI analyses for 2018 indicate an improvement of 13% since 2015. In addition to this, MSC has been awarded the Energy Efficiency Operational Index Certificate by a globally recognised third-party auditing company. This certifies the accuracy and usability of the monthly EEOI figures calculated by MSC Energy Efficiency (EE) team.

Delivery of new Ultra Large Container Vessels (ULCVs) scheduled for 2019 and 2020 will further reduce emissions per amount of cargo carried. These mega-ships will be propelled by ultra-efficient G-type engines, will include the latest energy-saving technologies in line with the EEDI standards, and some of them will have an air lubrication system to further reduce friction of the hull, which translates into substantial emissions reductions.

MSC FLEET CARBON EMISSIONS 2015-2018

EEOI = GR CO₂/(TONS CARGO/MILES)

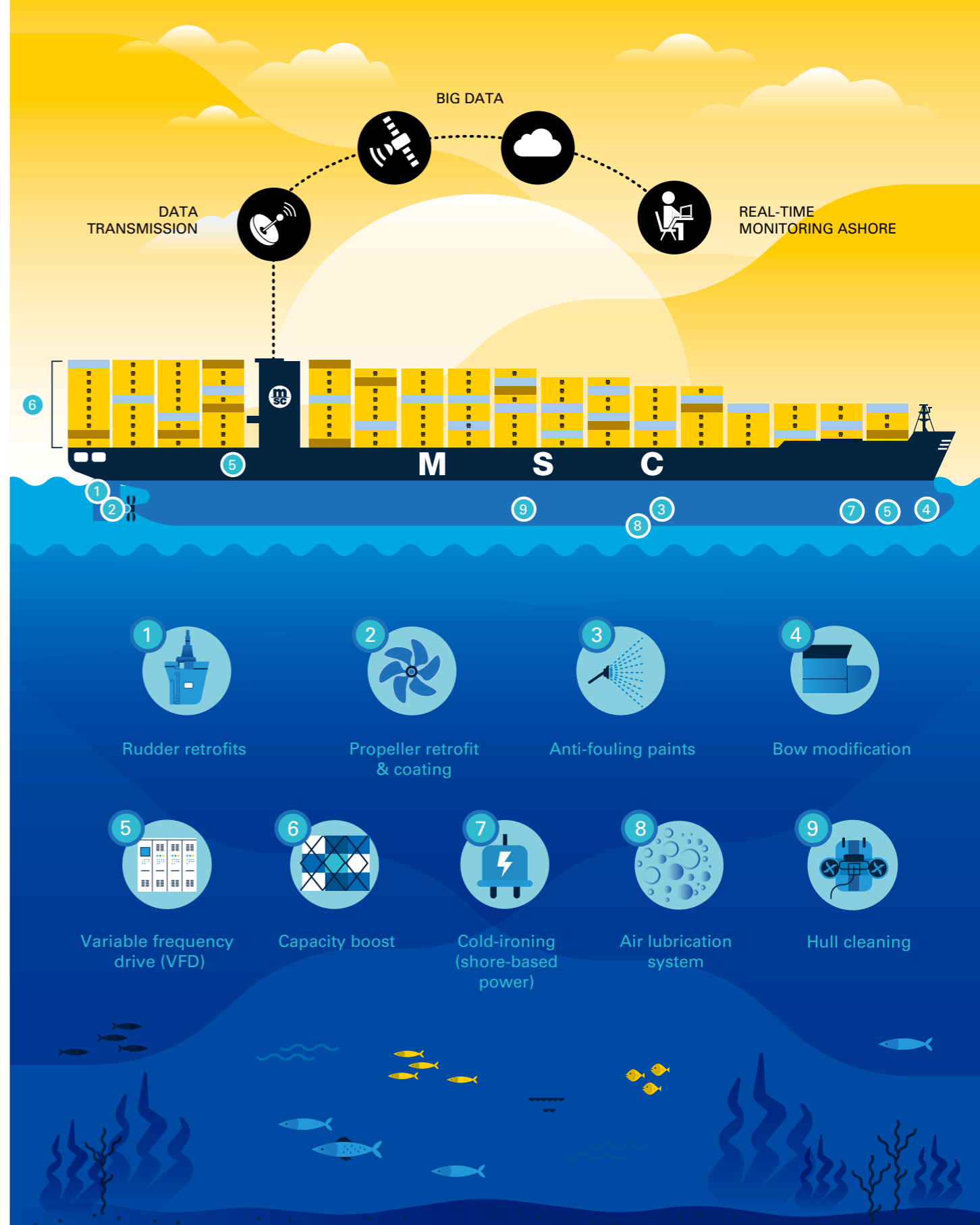


Real-time monitoring

Performance monitoring at MSC is led by the Geneva-based Energy Efficiency (EE) team and MSC Shipmanagement. The EE and MSC Shipmanagement teams continuously monitor the emissions and fuel performance of the fleet. To ensure the information available is accurate, detailed, and current, MSC has invested heavily in real-time performance monitoring. As a result, MSC now operates a world-class fleet monitoring system. It provides vessel-specific information-rich 'dashboards' to technical, operational, and voyage planning staff with instantaneous details on, for example, engine power and output, fuel consumption and speed, as well as geographical information such as route, location, and environmental zone. In addition to allowing specific voyages to be planned, observed, and optimised in view of load and weather conditions, the system provides invaluable data to Shipmanagement for decision-making on vessel maintenance and upgrades, to ensure optimal performance. This also allows monitoring of vessels with regard to the Company's navigational policy compliance and security measures. MSC is committed to transparency and compliance on environmental performance. The data collected from various sources, including the real-time monitoring system installed on MSC vessels, contributes to this by providing the Environmental Ship Index (ESI) scores required by port authorities and the Clean Cargo Working Group for their emissions calculations. The ESI is used to identify vessels that perform better than IMO standards requirements in terms of emissions. The index assesses the amount of nitrogen oxides (NOx) and sulphur oxides (SOx) emitted by a vessel and provides a reporting scheme on its greenhouse gas emissions. In this way, the ESI is a useful additional indicator of a ship's environmental performance. Recognition by port authorities of the leading environmental performance of MSC ships is evident in the extent of incentives provided based on ESI scores.

Vessel adaptations and enhancements

An extensive and comprehensive retrofitting programme for the entire existing fleet is underway at MSC to reduce emissions and achieve fuel consumption reductions. By the end of 2018, more than 200 adaptations had been made as part of the MSC 'Eco retrofit' programme to optimise fleet performance. This represents a significant area of investment for MSC. For example, MSC has invested EUR133 million in the propeller retrofit programme and well over EUR47 million in the bulbous bow retrofit. While the benefits of these modifications vary from ship to ship, together with the fact that MSC operates one of the youngest fleets in the world, they contribute strongly to the impressive environmental performance of the fleet. In 2018, we revised our methodology for analysing fuel savings, considering a wider range of factors than previously. Based on our calculations, we estimate that the hull and propeller cleaning alone have resulted in a saving of 55,000 tons of fuel, with a consequent emissions reduction of 179 million kg CO₂.



TECHNICAL SOLUTIONS USED BY MSC TO IMPROVE VESSEL EFFICIENCY*

EFFICIENCY MEASURE	EXPLANATION	MSC PROGRESS
AIR LUBRICATION SYSTEM	Air blower produces tiny bubbles that pass continuously beneath the hull to reduce friction	Pilot vessel will enter into service during 2019
ANTI-FOULING PAINTS	Low-friction anti-fouling paints reduce hull resistance	<ul style="list-style-type: none"> Partnership established with leading marine paints manufacturer As policy, all vessels' underwater areas are treated to highest standards prior to anti-fouling paint application
BOW MODIFICATION	An optimised bulbous bow can reduce the hull resistance considerably for specific operational profile	>80 vessels retrofitted with bulbous bow design at end 2018
CAPACITY BOOST	Modifications to the lashing system and reinforcement of the hatch covers to achieve additional container storage capacity per vessel	The 13.8K TEU, 14K TEU, 16K TEU and 19K TEU are involved in the capacity boost project. 50% of nominated vessels have been modified
COLD-IRON (SHORE-BASED POWER)	Provision of shoreside electrical power to a vessel at berth, to enable main and auxiliary engines to be switched off	Featured on all newbuilds and a portion of the existing fleet
HULL CLEANING	Fouling of the hull can cause increased resistance which results in higher power demand therefore higher fuel consumption	Data derived from real-time monitoring used by MSC technical staff to inform scheduling of dry-docking or unscheduled underwater cleaning of hull and propeller

* This list is not exhaustive

EFFICIENCY MEASURE	EXPLANATION	MSC PROGRESS
PROPELLER BOSS CAP FINS	Improves efficiency by minimising hub vortex losses and reduces underwater noise	Retrofit started in 2012. More than 130 vessels retrofitted by end 2018. Where the propeller is replaced with new design, MSC typically also changes the cap fin
PROPELLER RETROFIT	Design upgrade optimises performance and reduces cavitation	More than 130 vessels retrofitted by end 2018
PROPELLER COATING WITH SILICON PAINTS	Maintains propeller free of fouling and thus maintains performance	Standard procedure during dry-dock on all new vessels and most of the new building programme since 2014
RUDDER RETROFIT	Becker Twist rudder solution limits noise by cavitation and reduces fuel consumption and emissions	<ul style="list-style-type: none"> Standard feature on all newbuild vessels The largest flap rudder in the world is in use on some MSC vessels
VARIABLE FREQUENCY DRIVE (VFD)	An adjustable speed drive to control auxiliary electric motor speed and torque to use power based on demand	<ul style="list-style-type: none"> Standard design for new vessels Retrofit underway for existing vessels

Receiving recognition for performance

The efforts by MSC to prioritise sustainable use of marine resources and investments in green technologies, and the notable successes achieved, have been widely recognised by global certification schemes and award schemes. For example, in 2018, MSC Mediterranean Shipping Company was delighted to win the title of ‘Greenest Shipowner of the Year’ at the annual Green Shipping Summit in Amsterdam, The Netherlands. The award recognised MSC’s retrofitting of hundreds of ships with technologies for energy efficiency, as well as the extensive investments to prepare for upcoming regulatory changes regarding marine fuel use.

MSC Shipmanagement also claimed several significant regional prizes in 2018, including Green Company of the Year Awards in both India and Ukraine. In California, the state government has been actively encouraging shipping lines to switch to shore power while in port, to reduce air pollution in urban areas. MSC was grateful

to the Port of Oakland for acknowledging the MSC’s 100% record for shore-power ready vessels. Every MSC vessel that called at Oakland in 2018 was fitted with cold-ironing equipment. This enabled MSC to consistently connect to the port’s local power connection, and thereby comply with local regulations.

Standards certification provides robust evidence of MSC’s integration of environmental priorities into management systems. In 2018, MSC Headquarters in Geneva and MSC Shipmanagement in Limassol, Cyprus, and Sorrento, Italy, all received certifications as outlined below. In addition, 2018 saw the extension of ISO 9001: 2015 (Quality management) certification to all MSC Agencies worldwide.

CERTIFICATION	MSC HEADQUARTERS GENEVA, SWITZERLAND	MSC SHIPMANAGEMENT, LIMASSOL, CYPRUS	MSC SHIPMANAGEMENT, SORRENTO, ITALY
ISO 9001 (Quality management)	✓ 2015 version	✓	✓
ISO 14001 (Environmental management)	✓ 2015 version	✓	✓
ISO 50001 (Energy management)	–	✓	✓
OHSAS 18001 (Occupational health and safety)	–	✓	✓
ISO 28000 (Security management system for supply chain)	✓	–	–





MSC NEWBUILD PROGRAMME BRINGS LARGER, MORE EFFICIENT, GREENER SHIPS

MSC is committed to reducing the environmental footprint of global supply chains. We have been working closely with shipbuilders, classification societies, design firms, and a wide range of other experts and stakeholders to ensure that future investments in our fleet are both economically viable and feature the best available technology and vessel adaptations for environmental performance. In October 2017, MSC confirmed an order for 11 new 23,000+ TEU vessels (Ultra Large Container Vessels – ULCVs), setting a new record for the world’s largest container ship capacity. They can carry around 3,000 TEU more than the current largest MSC ships and will replace a significant number of 13,000 and 14,000 TEU vessels.

These bigger vessels will reduce the energy requirements needed per container through use of the latest green technologies and economies of scale. The new ships will feature a single engine designed to lower the optimum engine speed and allow the use of a larger, more efficient propeller. MSC is also trialling a new air lubrication system for these ULCVs. This consists of an air blower that causes tiny air bubbles to travel continuously beneath the hull, like a carpet of air, to reduce the resistance to ship movement caused by sea water. Even allowing for the energy required to run the system, the reduced friction leads to major fuel savings and a 10-15% net reduction in CO₂ emissions.

To allow for future changes in low-emission technologies available, and possible changes in the regulatory landscape, the newbuilds will burn conventional fuel and use IMO-approved Exhaust Gas Cleaning Systems (EGCS) to provide a safe and practical way to minimise air pollution. The ships have the potential to be converted to run on LNG in the future. To address emissions concerns while at berth, and thus concerns about air quality and human health in urban area, where shore-side infrastructure exists, the ULCVs can cold-iron when in harbour, allowing onboard generators to be shut down.

Cargo efficiency is also closely evaluated at MSC. MSC has carried out several cargo system upgrades to match

the needs of individual ship series and to take into account trade and operational profile. The tailor-made cargo system upgrades increase the average carrying capacity and optimise loading efficiency. This lowers the energy required to transport each container, and therefore reduces emissions too.

MSC takes considerable pride in its dedication to distil 40 years of nautical experience into practical, modern solutions for fleet optimisation. It reflects a company that excels in combining market awareness, adherence to regulatory obligations and leadership, to constantly push the limits of innovation and performance.



FUEL CAP OF IMO SULPHUR 2020: A GAME-CHANGER

From 1 January 2020, an enhanced global cap on fuel sulphur content set by the IMO will come into place. The aim of the International Maritime Organization (IMO) MARPOL Annex VI Reg. 14 regulation is to control sulphur oxide (SOx) emissions from ships. The regulation, which will reduce the sulphur limit for marine fuel from 3.5% m/m (mass by mass), to 0.50% m/m applies to ships operating outside designated Emission Control Areas. MSC strongly believes it has a positive contribution to make to global initiatives to reduce air pollution from ships; we fully support uniform enforcement of the IMO MARPOL Annex VI regulation, as detailed in resolution MEPC 184(59).

In addition to the technical measures described in the previous section to improve fuel efficiency, MSC is continuously evaluating the range of best-practice fuel-related and technical solutions to ensure compliance with the IMO 2020 Sulphur Cap. Efforts are currently focused primarily on Exhaust Gas Cleaning Systems (EGCS). EGCS technology offers an economical and environmentally sound solution for addressing all new and existing rules and regulations concerning sulphur emissions from ships. Following extensive research and preparations by the MSC Technical Team, and collaboration with leading equipment manufacturers, MSC opted to invest in Hybrid EGCSs. Despite being more expensive and not widely available, MSC chose this design because of greater reliability, safety of the crew and, importantly, to future-proof the retrofitted vessels with

regards to environmental protection. Operation of these Hybrid EGCSs generates an emission of SOx equivalent to that from engines using low sulphur (0.1% m/m) fuel. In April 2018, MSC was the first company to invest in this technology, signing a contract for 56 EGCS. Since then, MSC has been signing commercial contracts to ensure that we have sufficient orders for our fleet during 2019 and 2020. MSC is proud of its decision to be a leader among shipping companies in investing in Hybrid EGCS to address its environmental commitment in a practical and quantifiable manner.

Exhaust Gas Cleaning Systems (EGCS)

OPEN LOOP SYSTEMS	CLOSED LOOP SYSTEMS	HYBRID SYSTEMS
use seawater to treat the exhaust gas	use continuously circulated and recycled water, with the addition of an alkaline chemical to treat the exhaust gas	can operate in both open loop and closed loop modes and provide maximum flexibility of operations

Liquefied natural gas (LNG) reduces SOx emissions by more than 99% and nitrogen oxide emissions (NOx) by up to 85%, as well as carbon dioxide emission (CO2) by approximately 20%. However, LNG is not a viable option at present for our cargo ships owing to the relatively small number of ports with full-scale LNG bunkering facilities and other practical considerations. Another option for staying within the emissions limit is to use low sulphur fuels. This includes the use of Marine Gas Oil (MGO) and blends of Ultra Low Sulphur Oil (ULSFO). The latter is already widely used by MSC, though the future cost, quality, and availability considerations of this option will require thorough evaluation and consideration prior to further scaling up. Fuel solutions will form a part of our 2020 compliance strategy, as well as utilisation of EGCS technology.

MSC is already a market leader in terms of the environmental performance of its fleet, as evidenced, for example, by the high level of port reduction incentives awarded to MSC, as well as the EEOI performance. Nonetheless, we strive to continuously improve on this, through a sulphur compliance strategy that is deliberately agile, allowing for a response to advances in vessel propulsion technology and changes in the availability and cost of marine fuels.

MSC is also helping to minimise airborne environmental emissions through increased use of shore power supply ('cold-ironing'). Auxiliary systems such as lighting, powering reefer containers, air conditioning, and crew accommodation can be powered with electricity from the local grid. By connecting to the grid in this way, instead of relying on onboard generators, ships can reduce their emissions in port by around 80%. MSC is a pioneer in this area, having started the installation of the cold-ironing systems in 2007, and has been recognised by the classification society, DNV GL for its inclusion of cold-iron technology in its newbuild programme. MSC has increased the number of vessels equipped to run onshore supply from 100 in 2015 to 150 by the end of 2018. At present, few global ports feature the technology required to support these shore power systems. MSC continues to advocate for increased availability of shore power so its vessels can harness this technology for reducing air pollutions in ports.

INVESTING IN ADAPTATION TO CLIMATE CHANGE



1.5 By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks

“Transport has been traditionally looked upon as a challenge in terms of reducing greenhouse gas emissions, and a lot of effort has been rightly directed at that issue. In recent years, however, with the Sustainable Development Goals and the Paris Agreement, adaptation of transport to the future climate, once a ‘poor relation’ in terms of climate change response, is increasingly being recognised as vital to the continued success of mobility and global trade and development.”¹⁵

In line with the above, MSC’s investments in infrastructure and equipment in some highly exposed geographical areas include costs associated to climate change risks and variability. As an illustration, TiL, MSC’s terminal operator, already invests in cranes and other equipment to reduce the risk of climate change impacts and enhance preparedness in case of natural disasters that might lead to disruption of operations and create risk to employees working in difficult conditions. Some of the climate change variabilities taken into account in our decision-making include the rising of sea levels as well as changes in frequency and intensity of extreme weather events, including hurricanes and tropical storms.¹⁶

In this respect, TiL has incorporated the use of wind tunnel analysis modelling, solid modelling analysis, and Finite Element Analysis in the design of the cranes, and temperature range from -40°C to +50°C in order to increase the stability, improve the performance, reduce the weight, and simulate the reaction of the cranes under various extreme weather conditions.

This resulted in a specific design for cranes installed in locations with extreme weather events such as:

- STS cranes delivered in Freeport Container Terminal in the Bahamas have been designed with temporary water ballast reservoirs allowing the terminal, in anticipation of a hurricane, to pump 300 tons of water in the lower section of the crane structure: this lowers the centre of gravity of the structure, and makes the crane more stable in extreme winds, up to 72 metres/second (260 km/h).
- STS cranes installed in Asyaport Container Terminal in Turkey, where a very high seismic risk is present, have been designed with a seismic isolation system which increases the crane resistance to the oscillation caused by an earthquake, and limits the damage.

Additional costs for implementing such designs range from USD 250,000 for the engineering to USD 1,000,000 per crane for the enhanced manufacturing. Smaller container handling equipment also benefit from the engineering developed for the larger STS cranes.

Furthermore, TiL’s terminals located in some geographical areas considered more exposed and/or vulnerable to tropical storms and hurricanes such as in Callao (Peru) and in Houston and New Orleans (Gulf of Mexico) have developed and implemented a “Disaster risk management plan” in line with national requirements. During emergencies, our terminals may also serve as strategic supporting logistic and staging sites, providing power outlets, power packs, lifting equipment, water supplies, and broader assistance to local communities.

More information on our contribution to the SDG 1.5 as well as interrelated SDGs such as 13.1 “Strengthen resilience and adaptive capacity to climate related hazards and natural disasters in all countries”, can be found in the chapter Occupational Health and Safety, page 90 (case study on earthquake resilience).



Asyaport Container Terminal, Turkey

¹⁵ [https://unctad.org/en/pages/newsdetails.aspx?OriginalVersionID=2083&Sitemap_x0020_Taxonomy=UNCTAD Home;#1788;#Transport Policy and Legislation;#2197;#Transport, Climate Change Impacts and Adaptation;#1721;#Transport;#2170;#Transport, Climate Change and Maritime Transport](https://unctad.org/en/pages/newsdetails.aspx?OriginalVersionID=2083&Sitemap_x0020_Taxonomy=UNCTAD+Home;#1788;#Transport+Policy+and+Legislation;#2197;#Transport,+Climate+Change+Impacts+and+Adaptation;#1721;#Transport;#2170;#Transport,+Climate+Change+and+Maritime+Transport)

¹⁶ https://unctad.org/en/PublicationsLibrary/ser-rp-2017d18_en.pdf

CASE STUDY

TRANSLATING GLOBAL LEADERSHIP INTO SITE LEVEL EXCELLENCE

MEDREPAIR, ANTWERP TERMINAL, BELGIUM

A HOLISTIC APPROACH TO LOGISTICS

MEDLOG is MSC's rapidly growing logistics arm. Thanks to MEDLOG subsidiaries such as MEDREPAIR, MEDLOG develops and operates inland infrastructures and corridors to provide shipment solutions across the world. MEDLOG is fully aligned with MSC's commitment to safety, energy efficiency, and environmental protection. A prime example of one of MEDLOG's large-scale logistic investment is the S11 left-bank terminal ('S11') in Antwerp. Here MEDREPAIR operates more than 30 empty container handlers, a barge gantry crane, multi-trailer shunts and full reefer monitoring. More than 450 employees work twenty-four hours a day to ensure delivery of constant quality service to meet MSC logistics requirements.

Air quality and combatting trafficking

Ensuring a safe working environment is the primary sustainability concern at MEDREPAIR. This includes, maintaining a high standard of air quality in the workshops through the use of a sophisticated air circulation and filtration system.

The safety programme is led by a manager of health and safety who is responsible for risk assessment and overseeing compliance with Belgian and European standards and regulations.

A safe working environment also includes measures to combat drug trafficking. This spans several corrective and preventive measures including installing fencing and barriers, night guards, and camera surveillance. Anti-drug and awareness campaigns, drug inspections, and stronger engagement with police are also key elements of the S11 agenda.

Automation and digitalisation reduce emissions

Automation and digitalisation are key elements of the expanding sustainability policy at MEDREPAIR. In the last three years, MEDREPAIR has invested more than six million in automation and digitalisation. This has modernised data-sharing and reporting whilst greatly reducing the requirements for paper and printing. Streamlining inspection processes in the yard has reduced the number of forklifts moves with measurable gains for fuel efficiency. A study is also underway to examine feasibility of deploying robotised trailer systems and container tugs at the site. Measures already in place to optimise equipment efficiency, with benefits for emissions reductions, include the use of spreaders that can carry two containers instead of just one. Electric gantry cranes are used with semi-automatic steering and twin-lift spreaders. This has improved the number of barge moves per day, which in turn reduces truck congestion.

Energy, air, and water

There are two wind turbines installed at S11, with proposals under consideration to scale-up wind and solar energy production to 5,000 Megawatt/yr. Energy-saving measures on the site include motion-activated LED lights and automatic power-off functions of cranes and showers. Cleaning of containers has been optimised to save time and energy through the use of blowing/sweeping processes and deployment of state-of-the-art high-pressure cleaning systems. Water-saving measures have also been put in place at S11. Rainwater is used for toilets and grey water from cleaning stations is removed for treatment. Concrete floors are oil resistant, allowing the separation of grease from water.

Waste management

At S11, aluminium, steel, iron, copper, wood, foam and refrigerants and plastic are separated and, as far as possible, recycled. Plastic drinking cups are no longer used. Sustainability is incorporated into procurement processes by purchasing more environmentally friendly consumables such as water-based reefer foam, solvent-free paint, and recycled paper (as well as only low-sulphate diesel). Waste volumes are reported by type to the authorities.

Mobility

Antwerp is known for traffic congestion, partly due to high container volume created at the port. To help reduce this issue, S11 operates throughout the night. MEDREPAIR participates in working groups with the port authorities with the goal of optimising transit of containers and reducing congestion and unnecessary emissions. MEDREPAIR also encourages low-emission mobility amongst staff and has 40 e-bikes on lease to encourage cycling to work. Finally, MEDREPAIR contributes to scoping of ideas for investment in sustainable mobility by participating in the Board of Innovation run by MSC Belgium.



MEDREPAIR activities at Antwerp Terminal

CASE STUDY

SUSTAINABLE WATER MANAGEMENT

MEDLOG IN SOUTH EAST ASIA

The supply of freshwater on earth is precious, and constantly dwindling. MSC has a range of programmes in place both on board and on shore, to conserve water where possible. The following examples illustrate how MSC transport and logistics company, MEDLOG, provides wastewater treatment facilities in two regions of the world with high populations water concerns and limited supply of fresh water.

JAKARTA, INDONESIA

The urban area of Jakarta, the capital of Indonesia, is home to 10.6 million people¹⁷. Rapid population growth is putting enormous pressure on water supplies and contributing to problems of water contamination¹⁸. The local MEDLOG CPC Depot installed a wastewater treatment system to help combat water pollution, locally. The system removes organic compounds, suspended solids and microbial pathogens. Residue removed from treated water is collected and disposed of at approved locations. Water that has been treated at the site meets the national standards for water quality (Ministry of Environment decree no. 68/2016), allowing it to be disposed in the public sewer, ensuring that water released does not contaminate municipal facilities. 5,000 litres per day are treated at this Marunda Depot site.

HAI PHONG, VIETNAM

Hai Phong is the third largest city in Vietnam¹⁹, located about 100km from capital Hanoi. In recent years, the city has evolved rapidly as a commercial and population centre. This growth has put a strain on the city's infrastructure, especially for water supply and sanitation²⁰. Recognising the need to avoid pollution from the MEDLOG site, the MEDLOG GFS Depot installed additional water tanks to treat the water on-site. Once treated, the water is safely released into the municipal system, where it is subject to further filtration and recycling processes to ensure it meets Vietnamese government standards for safe discharge. More than 1,500 litres of water are filtered per day at the Hai Phong site.

¹⁷ <https://populationstat.com/indonesia/jakarta>

¹⁸ <https://water.org/our-impact/indonesia/>

¹⁹ <https://www.urban-pathways.org/hai-phong.html>

²⁰ <https://www.oecd.org/countries/vietnam/green-growth-in-hai-phong-viet-nam-9789264260207-en.htm>



MSC truck leaving MEDLOG depot in Hai Phong, Vietnam



MSC depot

CONSERVING LIFE BELOW WATER, AND ON LAND



“The ocean provides food, energy, water, jobs and economic benefits for people in every country, even those that are landlocked. It is a crucial buffer against climate change, and a massive resource for sustainable development. The health of our oceans and seas is inextricably linked with the health of our planet and all life on Earth.”

H.E. António Guterres, United Nations Secretary General
Opening remarks to the Ocean Conference, 5 June 2017

Communities all over the world depend on healthy oceans and functioning marine ecosystems for food and livelihoods. Yet, marine environments are increasingly threatened and degraded by ocean warming, plastic and microplastic pollution, sewage and chemical discharge, invasive species, and overfishing. Safeguarding marine ecosystems is a central tenet of SDG 14, ‘Life Below Water’. Given MSC’s inherent connection with the seas, we do not undertake our environmental responsibilities in this regard lightly.

FACTS & FIGURES

- Biodiversity: The world’s oceans contain somewhere between 500,000 and 10 million marine species
- Oxygen source: Marine phytoplankton (the plant components of the plankton community) produces 50% of the oxygen on earth
- Carbon sink: Oceans have absorbed as much as half of all anthropogenic carbon emissions over the past two centuries. ‘Blue carbon’ ecosystems such as mangroves, seagrass beds, tidal marshes, and other marine and coastal vegetated ecosystems are among the most intense carbon sinks on the planet
- Oceans at risk: Today 60% of the world’s major marine ecosystems that underpin livelihoods have been degraded or are being used unsustainably

Source: www.unesco.org

BALLAST WATER MANAGEMENT

2018 was a significant year for improvements to ballast water management in the shipping industry. It was the first full year after entry into force of the IMO International Convention for the Control and Management of Ships’ Ballast Water and Sediments (BWM). These regulations aim to protect the marine environment from the transfer of harmful aquatic organisms in ballast water carried by ships. In response to these regulations, all new MSC vessels are being fitted with compliant ballast water systems that offer superior performance in fresh, brackish, and marine waters. In addition, existing vessels are being retrofitted with ballast units that are also fully compliant with IMO and United States Coast Guard requirements. As specified by the Convention, plans were established in 2012 to schedule the installation either during dry-dock or during voyage. MSC has provided training simulators and online training programmes to familiarise crew with the ballast water management equipment and its operation and has worked closely with leading manufacturers to improve the reliability of this equipment.

PRESERVING WILDLIFE, NOW AND FOR FUTURE GENERATIONS

As a company with a strong family ethic, the well-being of current and future generations matters greatly to us at MSC. This includes concern about threatened and endangered wildlife populations that should be an essential part of the natural environment upon which we all depend.

MSC has partnered with various organisations to contribute to protection of biodiversity on land and in the seas. We are signatories of the Buckingham Palace Declaration Against Wildlife Trafficking, a pledge to combat illicit wildlife trafficking. Believed to be worth up to USD20 billion per year, this trade is almost as lucrative as the human-trafficking and narcotics and arms smuggling²¹. The Declaration is an initiative of United for Wildlife, to protect iconic species such as elephants, tigers, and rhinos, in addition to less well-known species including pangolins. MSC is also a member of the Task Force taking a stand against illegal wildlife trafficking by operating a zero-tolerance policy on the trade of endangered species or banned wildlife products. In 2018, MSC banned the carriage of animal hunting trophies and endangered shark fins. MSC will continue to advocate for improved systems of detection and information-sharing on suspicious activities related to illegal wildlife trade.

²¹ <https://www.thegef.org/topics/illegal-wildlife-trade>

SHIPS SLOW DOWN TO PROTECT WHALES

In August 2018, MSC was honoured to receive an award for setting an industry example by reducing vessel speeds in areas where endangered whale species feed. The National Oceanic and Atmospheric Administration (NOAA) and the Cordell Bank and Greater Farallones National Marine Sanctuaries granted the awards to MSC, and a select number of other companies, for showing a high degree of cooperation with their vessel speed reduction requests.

The purpose of this speed-reduction programme is to improve air quality, reduce risk of fatal whale strikes, and protect whales within National Marine Sanctuaries, notably blue whales and humpback whales. Ship strikes are a significant cause of whale mortality worldwide.

The speed restrictions during the period when whales migrate to the area help to mitigate potential collisions in two ways: by reducing the risk of serious or fatal injuries if a strike does occur, and by increasing the odds that a whale will have sufficient time to react and avoid the collision.

Compliance with the programme was verified through Automatic Identification System (AIS) data from transponders on each ship that continuously transmit information about a ship's speed, heading, and location. The four tiers in the award scheme were Bronze (i.e., 10%-25% of their distance travelled at 10 knots or less), Silver (25-50%), Gold (50-75%), and Sapphire (75-100%). MSC was the only company to achieve the Sapphire level in both the San Francisco Bay Area and Santa Barbara Channel region.



MAREVIVO'S YOUTH-FOCUSED EDUCATIONAL ACTIVITIES FUNDED BY MSC

Since 2015, MSC Cruises has been involved in the work of Marevivo, an Italian marine conservation association. Marevivo's aim is to raise the profile of marine pollution and involve the public and media in protecting the seas. Marevivo's activities span biodiversity conservation, sustainable development, enhancement and promotion of marine protected areas, environmental education, and combating pollution and illegal fishing. MSC applauds the national and global advocacy work of Marevivo, which calls for enactment of laws to protect marine ecosystems.

In 2017, Marevivo successfully lobbied for bans on the use of microplastics in cosmetics and personal care products. Throughout 2018, Marevivo worked with the Italian government to approve laws that protect marine resources against exploitation and help to avoid plastic pollution.

Education is vital in improving the understanding of sustainable use and protection of the oceans. In 2018, MSC Group funded three youth-focused educational activities run by Marevivo.

Further information can be found on: www.marevivo.it

PROJECT	DESCRIPTION	2018 IMPACT
DOLPHIN GUARDIANS	Educational initiative on conservation of marine resources	<ul style="list-style-type: none"> • 700 students throughout the school year • 60 teachers • 10 Italian islands
NAUTICI IN BLU	Provides skills to those who wish to work in the maritime sector	<ul style="list-style-type: none"> • 800 students from nautical institutes during the academic year • 80 teachers
#MYBLUWAVE	Educational activities for children on board MSC Cruises	<ul style="list-style-type: none"> • 200,000 children



Common bottlenose dolphins (*Tursiops truncatus*)

MSC CRUISES: LEADING IN ENVIRONMENTAL EXCELLENCE

ENVIRONMENTAL STEWARDSHIP AT MSC CRUISES

MSC Cruises feels a deep responsibility towards the physical and human environments in which it operates. The current fleet of 15 ships (as of end 2018) is one of the most modern fleets at sea. It is being expanded by the addition of 14 new state-of-the-art cruise ships featuring the latest in environmental and maritime technology. The MSC Group believes that innovation benefits a company in multiple ways. This is especially evident in environmental protection measures. The advances of MSC Cruises in this area are supporting improvement and progress in the wider passenger and cargo divisions of MSC.

The environmental efforts of MSC Cruises attracted global recognition from the international classification society. MSC Meraviglia was awarded the '8 Golden Pearls', which is among the highest recognitions a cruise ship can attain for environmental stewardship. In addition, both MSC Seaside and MSC Seaview received the 'Green Star 3 Design' from the international classification society RINA for outstanding environmental credentials.

EMISSIONS MANAGEMENT AND RETROFITTING

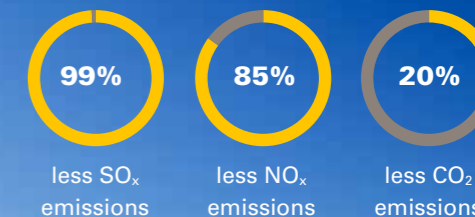
MSC Cruises is ensuring that environmental performance is a fundamental feature of ship design. All new non-LNG (liquid nitrogen gas) ships are equipped with hybrid Exhaust Gas Cleaning Systems (EGCS). In addition, MSC Cruises has put in place a robust programme to retrofit older ships to ensure their emissions performance also meets the international standards set by the IMO. By the end of 2019, 11 of 17 ships will be equipped with hybrid EGCS and 74% of total berths will be covered by this technology.

ALTERNATIVE FUELS

To further improve its environmental performance in ports and at sea, MSC Cruises is expanding its use of low-sulphur fuels. This is already standard practice in sensitive locations such as Venice Lagoon, the Norwegian Heritage Fjords, and other locations such as IMO designated Emission Control Areas. With more stringent limitations on sulphur emissions coming into force in 2020 as part of MARPOL Annex VI, MSC has invested five billion to design and build five cruise ships powered with LNG. Compared to standard marine fuels, LNG reduces SO_x emissions by more than 99% and NO_x emissions by up to 85%. The use of LNG also virtually eliminates particulate matter from the exhaust and can result in up to 20% saving in carbon emissions. These new LNG ships are due for delivery between 2022 and 2027.

ALTERNATIVE FUELS

- EUR 5 billion investment to build 5 LNG-powered ships
- 4 World Class ships
- 1 Meraviglia Class ship
- First LNG-powered ship to enter into service in 2022
- One of the cleanest fossil fuels



WASTEWATER TREATMENT

The use of Advanced Wastewater Treatment Systems (AWTS) is helping MSC Cruises go above and beyond regulatory standards. 50% of the fleet and 62% of the total berths are equipped with AWTS. AWTS treats wastewater to a very high quality by mixing different waste streams together and filtering out the larger components. The resulting water is then processed even further through very fine filtration and treatment systems, to produce effluent that is of a higher standard than most municipal waste requirements around the world. Through the on-board systems, hazardous substances and pollutants are filtered out and digested by bacteria. To avoid risking harm to marine life, the remaining purified wastewater is disinfected by UV processing (never chlorine). MSC Cruises monitors key indicators to ensure any remaining bacteria levels are favourable before discharge. The separated solid residue is removed from the cycle, and dried, compacted

and compressed into high-grade pellets. These pellets can act as a source of fuel for specific on-board energy needs. Depending on the cruise itinerary, MSC Cruises may also offload this dried biomass ashore, where it can be repurposed for energy production. Other liquid waste that may be hazardous to the environment such as cooking oil, oily water, machinery lubricants, and cleaning products are never discharged into the sea but are offloaded ashore by authorised companies.

STATE-OF-THE-ART SOLID WASTE MANAGEMENT

Throughout the years, we have taken voluntary steps to equip our ships with state-of-the-art solid waste management and recycling facilities on board. We manage our waste streams in accordance with mandatory sound environmental principles of the Cruise Lines International Association (CLIA) and must comply with all regulatory MARPOL (International Convention for the Prevention of Pollution from Ships) requirements to prevent marine pollution.

All organic waste, as well as recyclable disposable items including plastics, metals, paper and glass, are collected and separated by specially trained waste handling crew members. Waste is compacted, separated, or incinerated, and residual waste is carefully delivered to dedicated port facilities.

Training our crew, not only to handle waste, but to understand the importance of waste management, is central to what we do. Our crew members receive ongoing training to ensure they remain abreast of the highest standards. MSC Cruises has a Garbage Management Plan for the prevention of pollution by MSC vessels.

The plan goes beyond MARPOL regulations and lays out procedures for the separation, compaction, and reduction of as much garbage as possible. It is a response to the ISO 14001 standard used by MSC Cruises to manage environmental responsibilities in a clear and systematic way. Our ships are equipped with a comprehensive and coherent system to manage all waste aspects on board and ashore and every ship has a waste management plan that details how each type of waste is managed on board.

Every ship in our fleet has an Environmental Officer in charge of the on-board garbage management, who ensures that the Environmental Plan is correctly executed. The officer has the duty to instruct and train the crew about garbage management rules on board. In 2018, MSC Cruises made a commitment under its Plastic Reduction Programme to effectively phase out a large proportion of single-use plastic items from all ship operations and ashore by April 2019. These items have been replaced by environmentally friendly solutions. For example, all plastic straws were replaced by 100% compostable and biodegradable equivalents and drinks are no longer automatically served with a straw.



MSC Bellissima



Ocean Cay, Bahamas

TRANSFORMING DEGRADED LAND INTO A MARINE RESERVE AT OCEAN CAY, BAHAMAS

The programme at Ocean Cay in the Bahamas is one example of how MSC is working to protect marine flora and fauna in a way that is beneficial to communities and aligned with both local regulation and international standards. MSC is transforming an industrial wasteland into a flourishing marine reserve. The island, which was mined for aragonite for more than 50 years before being abandoned, is now subject to an intensive clean up and restoration programme led by MSC. Works to relocate coral, remove invasive species, preserve wetlands, and protect the coastline are all part of the programme. In addition, The Government of the Bahamas, in agreement with MSC management, has committed to designating 64 square miles of waters around Ocean Cay as a Marine Reserve, where human activity is restricted to conserve the natural environment.

Ocean Cay is designed to immerse guests in the natural beauty of their surroundings. To achieve this, MSC has engaged a team of local environmental consultants to ensure the island is developed in a way that is responsible, zero-impact, and respectful of Bahamian authenticity. The island will welcome its first guests in November 2019.

Sustainability performance will remain a fundamental priority for MSC Cruises as the range of routes and holiday experiences expands.

MEDWAY: ENERGY EFFICIENT RAIL SOLUTIONS

MEDWAY is a transport and logistics company based in Portugal. It is part of MEDLOG, offering technologically advanced, customer-focused multimodal logistics solutions.

In 2018, MEDWAY transported 8,661,681 tons of goods by rail. Rail transport has a significantly lower environmental impact than road, due to lower CO₂ emissions per ton per kilometre (t/km) travelled. Specifically, compared to transport by truck, rail transport emits 14.4kg CO₂ less per t/km.

MEDWAY is certified by ISO 14001: 2015, meaning its environmental performance is subject to regular monitoring, in particular the CO₂ emissions of its fleet of locomotives. As a company in an energy intensive sector, MEDWAY is also periodically audited for energy efficiency. Accordingly, energy efficiency is a core management topic at MEDWAY and the subject of company-wide commitments and emission reduction actions. Waste management, noise reduction, and pollution prevention are also part of the MEDWAY environmental programme and are subject to monitoring and national and European reporting requirements. In 2018, 88% of the total distance travelled by MEDWAY trains were with electric locomotives. MEDWAY has a

stated preference for renewable green energy instead of fossil energy sources. Some 38% of electricity used by MEDWAY electric locomotives was derived from renewable sources, namely hydro and wind. Also noteworthy in the context of emissions is the use by MEDWAY of EURO 4000 series diesel locomotives, which are the most efficient locomotives of their kind. In 2018, MEDWAY committed to a programme to replace its larger fossil fuel locomotives with more efficient shunting tractors in marshalling yards and thus to improve energy consumption ratio (goe / Ton. Km). These new shunting tractors have a 32% lower fuel consumption than older model 1400 diesel locomotives: this translates to an estimated annual emission reduction of 96,500kg of CO₂ per tractor.

MEDWAY uses a prediction tool to estimate the CO₂ emission of logistics services provided. Transparency on environmental performance and pollution prevention measures plays an important role in MEDWAY's engagement with customers, suppliers, and stakeholders.



**+ 500
STAFF**



**68
LOCOMOTIVES
34 ELECTRIC**



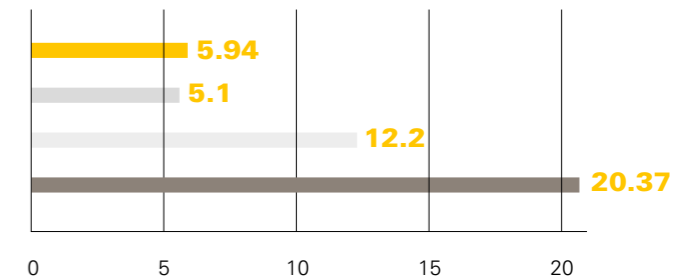
**2,393
WAGONS**



■ In 2018, 88% of the total distance travelled by MEDWAY trains was with electric locomotives

■ 38% of electricity used by MEDWAY electric locomotives was derived from renewable sources, namely hydro and wind

Carbon Emissions (Kg CO₂/Km)



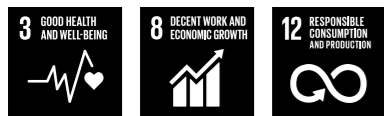
- RAIL (MEDWAY)
- ELECTRIC LOCOMOTIVE
- DIESEL LOCOMOTIVE
- ROAD



CREATING SUSTAINABLE VALUE

OCCUPATIONAL HEALTH & SAFETY

PUTTING PEOPLE FIRST



Throughout onshore and on-board operations, MSC considers that the safety and welfare of employees is paramount. To reduce risk and avoid any loss of life, MSC has developed a comprehensive suite of policies and procedures that are in alignment with the following conventions and guidelines.

Focusing on safety fully in keeping with the MSC core value, 'Care for People' and part of our company's

commitment to UN Sustainable Development Goal (SDG) 3, Good Health and Wellbeing and SDG 8, Decent Work and Economic Growth, MSC Shipmanagement offices in Sorrento and Cyprus were awarded OHSAS 18001 certification, which demonstrates MSC's success in ensuring that health and safety standards are implemented and maintained.



INTERNATIONAL CONVENTIONS, STANDARDS, CODES OR GUIDELINES OBSERVED BY MSC*

INTERNATIONAL CONVENTION, STANDARD, CODE OR GUIDELINE	GOVERNING BODY	FOCUS
INTERNATIONAL CONVENTION FOR THE SAFETY OF LIFE AT SEA (SOLAS)	International Maritime Organization (IMO) www.imo.org	Emergencies, Fire prevention, Life-saving appliances, safety of navigation, carriage of cargoes, international ship and port facilities security codes
INTERNATIONAL CONVENTION ON THE PREVENTION OF POLLUTION FROM SHIPS (MARPOL)	IMO	Prevention of pollution by ships from operational or accidental reasons covering marine environments: water, air, sewage, garbage, noxious liquid substances, and hazardous cargo in packaged form
STANDARDS OF TRAINING, CERTIFICATION, AND WATCHKEEPING (STCW)	IMO	Standards of qualification for the Master, officers and crew on seagoing merchant ships
MARITIME LABOUR CONVENTION (MLC)	International Labour Organization (ILO) https://www.ilo.org/global/standards/maritime-labour-convention/	Working conditions on ships, including conditions of employment, health protection, medical care, and social security protection
INTERNATIONAL SAFETY MANAGEMENT CODE (ISM)	IMO	The safe management and operation of ships, and pollution prevention
THE HONG KONG INTERNATIONAL CONVENTION FOR THE SAFE AND ENVIRONMENTALLY SOUND RECYCLING OF SHIPS (2009 IMO HKC)	IMO	To ensure that ships, when being recycled at the end of their operational lives, do not pose any unnecessary risks to human health, safety, and to the environment
OHSAS 18001:2007 OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT CERTIFICATION	British Standards Institute	The identification, control, and decrease of risks associated with health and safety within the workplace onshore or on board ships

* This list is not exhaustive

LIFE ON BOARD

STAYING SAFE

At MSC, staying safe involves being informed and implementing best practice. To achieve this, MSC develops and implements a full programme of safety management systems, policies, and procedures, in accordance with relevant national laws, international regulations, and applicable ISO standards. MSC management coordinates training and guidance on, for example, the handling and management of hazardous materials, dangerous goods and chemicals to which personnel may be exposed, and maintenance of records of work-related injuries and illnesses. MSC also implements risk assessment procedures and incident investigation to ensure continuous improvement of practices to provide a safe environment for employees.

In 2018, a Health and Wellness Committee has been established at MSC Shipmanagement in Cyprus to address safety themes in a structured manner. One area covered by this Committee is awareness raising on how to avoid the most common type of injuries such as falls, slips, trips, and falling objects. Designated officers on board are trained to provide medical care and to follow appropriate procedures in the event of accidents. Crew members are encouraged to share best practices and promote a culture on board that motivates all crew members to behave in a safe manner. Rank-specific computer-based training programmes are available, which crew members can follow in their own time. During 2018, staff on board completed nearly 100,000 training hours of this computer-based training.

A practical safety measure adopted in 2018 was the installation of safety loops on all vertical ladders accessed by crew in cargo holds, ballast tanks, void spaces, and masts.

Early fire detection

In compliance with international safety regulations, MSC already operates an advanced early-warning system for fire detection on board. Moreover, a significant safety development in 2018 led by MSC Shipmanagement in Sorrento, was the decision to install deck cargo firefighting systems on the 23,000+ TEU vessels due for delivery in 2019 and 2020. This is well in excess of the minimum SOLAS requirements for fire safety. In addition to the cooling effect and reduction of risk to cargo, the large volumes of water pumped by the new system will substantially reduce the fire risk to crews.

Technology supporting safety at sea

Technology is an invaluable tool in ensuring the safety of the crew, vessel, and cargo. For example, vessels are being equipped with a third radar that is over and above statutory requirement, which assists in improving navigational safety. Long rangefinders facilitate correct distance measurements of a vessel's bow and stern areas distance from the pier while berthing. Master's Cabins are fitted with Electronic Chart Display and Information Systems (ECDIS). To date, a total of 1,900 navigating officers have received training on operating the system. Further, in the interests of maintaining a high standard of crew navigational and vessel operation skills, new simulators have been installed in MSC training centres in Mumbai, Odessa, Sorrento, Montenegro, and Geneva to offer hands-on training opportunities. Across these centres, 300 navigating officers completed simulation courses in 2018, representing a 45% increase on the previous year.



Safety loops



Firefighting system



STAYING WELL

Physical and mental health are critical to safe operation at sea. This is why staff well-being is a crucial aspect of safety which necessitates management attention and a specific set of precautions and procedures. Diet, exercise, attitude, and mental health are examples of topics prioritised at MSC. Nutrition and meal planning are taken very seriously by Shipmanagement, with World Health Organization (WHO) guidelines relating to sugar, salt, and saturated fat observed as far as possible. The 2017 Crew Engagement Survey recorded increased satisfaction of the crew with diet on board, relative to satisfaction ratings recorded by the same survey in 2015. MSC also provides training and communicates around the benefits of physical activity on board and on leave. Vessels are equipped with gymnasiums or sports facilities to encourage crew to stay physically active on board, with games and tournaments adding a social dimension.

STAYING CONNECTED AT SEA

Access to social media and online services is a priority for crew seeking to maintain contact with friends and family networks during their time at sea. MSC greatly values staff morale and satisfaction and has invested heavily in the necessary hardware and software to ensure crew can remain connected to the rest of the world via the Internet during their time at sea. The Crew Engagement survey of 2017 demonstrated the benefit of this investment through a substantial improvement in the satisfaction of seafarers with their access to the Internet.

Cybersecurity is a high-priority subject in a world of increasing connectivity and improved communications technology equipment. MSC ships and onshore operations use systems that rely on digitalisation, integration, and automation, all of which call for careful and responsible cyber risk management. The Information Technology team at MSC have developed a four-part approach to protecting the Company and its employees against hackers and online threats.

MSC'S 4-PART APPROACH TO CYBERSECURITY

SECURITY MEASURE	FUNCTION/PURPOSE	DETAILS
UNIFIED THREAT MANAGEMENT SERVICE (UTMS)	To protect against security threats by combining and integrating multiple security services and features	<ul style="list-style-type: none"> Ability to monitor network traffic for malicious activity or policy violations, block malicious traffic, and report to network administrators Firewall solution routinely updates itself with and applies the latest threat definitions Monitors resource usage and typical behaviours of MSC applications Virtual Private Network (VPN) encrypts traffic and data to and from MSC network when accessing remotely Grants access to networks based on device IP or MAC Address Filters content for spam
SMART DEVICES FOR BLOCKING	To block unauthorised access and misuse	<ul style="list-style-type: none"> Enforces device PIN/password use for accessing the mobile device Remote device lock and wipe Detects configuration change Restricts user and application access to the device hardware and onshore services Separate profile for business and personal use
MONITORING	To constantly check systems for possible threat	<ul style="list-style-type: none"> Inbound and outbound traffic is monitored to identify unusual activity or trends that could indicate attacks Identifies the unauthorised or accidental misuse of systems or data and ties specific users to suspicious activity MSC Shipmanagement has a centralised capability to collect and analyse information and alerts across the organisation
AWARENESS	To inform staff about the risks and signs of cyberattacks	<ul style="list-style-type: none"> Two internal and one external cybersecurity awareness training programmes developed Response protocol prepared for all employees to follow if they believe they have been compromised Cybersecurity manual provided for all vessels

ENSURING SAFETY AWARENESS & RESPONSE READINESS

A HOLISTIC APPROACH

Shipping is a complex business. The MSC approach to health and safety is, accordingly, broad, inclusive, and fully comprehensive to ensure that all assets are protected in line with best practice and in accordance with international standards and regulations.

SAFETY FOCUS	MSC POLICIES & MEASURES*	RELEVANT INTERNATIONAL POLICY/REGULATION/ISO STANDARDS
CREW	<ul style="list-style-type: none"> Crewing policy Personal protective equipment (PPE) for all crew members on board Whistle-blower policy Safety loops fitted on vertical ladders Security guards in high risk areas Lifeboat lowering policy No alcohol policy Shore leave night restrictions Fully telecommunications-equipped citadel 	<ul style="list-style-type: none"> Maritime Labour Convention (MLC) 2006 Standards of Training Certification and Watchkeeping (STCW) International Life-Saving Appliances Code (LSA Code) International Safety Management Code (ISM Code) International Code for Fire Safety Systems (FSS Code) International Medical Guide for Ships
CARGO	<ul style="list-style-type: none"> Objective of zero cargo damage due to cargo hold flooding, non-compliance with reefer carriage policy, loss or damage due to ship's fault Enhanced on-deck cargo firefighting system Approved loading software Tank condition reports Checks of lashing equipment condition Weekly testing of cargo-hold bilge alarms Reefer repair kits for malfunctions Daily hold inspections Monthly cargo-hold bilge pumping Active membership of Cargo Incident Notification System (CINS), initiative to develop industry best practice for cargo and containers 	<ul style="list-style-type: none"> International Convention for the Safety of Life at Sea (SOLAS), 1974 International Maritime Dangerous Goods (IMDG) Code Code of Safe Practice for Cargo Stowage and Securing (CSS Code) International Maritime Solid Bulk Cargos Code (IMSBC Code) ISO 9001 :2015 International Convention on the Prevention of Pollution from Ships (MARPOL)

* This is a non-exhaustive list of MSC policies and measures.

SAFETY FOCUS	MSC POLICIES & MEASURES*	RELEVANT INTERNATIONAL POLICY/REGULATION/ISO STANDARDS
VESSEL	<ul style="list-style-type: none"> Technical Management Policy Heavy weather stop readiness Fire detection equipment checks Emergency Diesel Generator (EDG) & emergency switchboard 	<ul style="list-style-type: none"> SOLAS International Convention on Load Lines International Code on Intact Stability (2008 IS Code) International Convention on the Prevention of Pollution from Ships (MARPOL)
ENVIRONMENT	<ul style="list-style-type: none"> Objective: Zero MARPOL violations Objective: Compliance with ISO 14001 & ISO 50001 MSC Quality, Safety, Environment Protection & Energy Efficiency Policy Vessel retrofit programme for propeller renewal, propeller boss cap fins, & bow modifications for vessel fuel efficiency Inventory of Hazardous Materials surveys Sludge generated on board discharged ashore 	<ul style="list-style-type: none"> International Convention on the Prevention of Pollution from Ships (MARPOL) ISO 140001 & 50001 standards International Maritime Dangerous Goods (IMDG) Code
NAVIGATION	<ul style="list-style-type: none"> Objective: Zero navigation incidents Mandatory pre-joining training Navigational briefings Harbour Manoeuvring Plans (HMPs) for each port of call Use of range-finders Fitting of 3rd Electronic Chart Display and Information System (ECDIS) & radar Stringent promotion criteria 	<ul style="list-style-type: none"> SOLAS, Chapter V Convention on the International Regulations for Preventing Collisions at Sea (COLREGs), 1972

IMPLEMENTING BEST PRACTICE

Best-practice management of cargo brings multiple safety benefits for the crew, the vessel, and the environment. In 2018, the Cargo Incident Notification System (CINS), of which MSC is an active member, produced best-practice guidelines for managing sensitive cargoes (e.g. fragile, flammable, or hazardous). Further, MSC Geneva Headquarters, together with MSC Shipmanagement offices in Limassol and Sorrento are all now ISO 9001:2015 certified. This certification, among other things, provides formal recognition of MSC's approach to cargo risk assessment and management, and evidence of compliance with related national and international standards.

We are also strengthening our internal systems to prevent cargo-related incidents on board. For instance, in 2018, we launched a new web-based platform called the Dangerous, Sensitive Cargo Management (DSCM) system. This is strengthening our ability to identify and handle sensitive commodities safely. In 2018, MSC implemented a new tool using artificial intelligence to read and analyse dangerous goods declarations, packing declarations as well as, for example, weathering certificates and analysis reports. MSC's system is advanced, using both optical character recognition and intelligent character recognition technologies to identify and flag potential safety risks posed by cargo.

CRISIS MANAGEMENT AND DUTY OF CARE

MSC's safety culture is woven into our approach to crisis management. In this area, speed and expertise are central to our success in managing any incidents that may arise. Company-wide experts are deployed to ensure that any emergencies can be resolved swiftly even in the most difficult conditions. An exceptional feature of MSC's crisis management response is the immediate notification and involvement of senior management. MSC prides itself on responsible and efficient reaction to emergencies. Commitment to rapid and efficient response is demonstrated by Capt. Gianluigi Aponte, the Company's founder, and Mr. Diego Aponte, President and CEO, who are personally involved in all significant emergency operations.

Duty of care on safety extends to an undertaking by MSC to aid others in difficulty at sea. MSC seafarers are trained to provide assistance in such eventualities, while also maintaining the safety of crew, vessels, and cargo. Throughout 2018, MSC ships undertook 17 separate ocean rescue operations all over the world, including cases of man overboard, stricken vessels, and missing persons. While deviations may incur additional fuel costs and delays, MSC management considers that shipping schedule and cost are secondary concerns in the context of aiding fellow seafarers in distress.



CASE STUDY

EARTHQUAKE RESILIENCE

MEDLOG IN SANTIAGO AND ARICA, CHILE

Earthquake disaster reduction and sustainable development have mutually supportive goals. A structure that is built with earthquake resilience and lifecycle performance in mind also offers better, longer-term safety for its occupants. Preparedness and resilience are at the core of the MSC approach to safety which aims to ensure that employers and workers are adequately protected, have the necessary equipment, know where to go, and understand how to keep themselves safe when an emergency occurs.

Chile is a seismically active country. The country is located on the Pacific Ring of Fire, a zone that concentrates most of the seismic activity on earth. Two of the most extreme earthquakes in recorded history took place in Chile, the 1960 the 'Great Chilean Earthquake with an estimated magnitude of 9.4–9.6, and an earthquake of 8.8 on the moment magnitude scale in 2010.

MEDLOG Chile owns two depots and offices, in Santiago and in Arica, both of which have been affected by earthquakes in the past. In total, MEDLOG Chile has a staff of almost 200. Buildings have been built according to strict Chilean building standards, to support low-risk operation for employees.

In Santiago and Arica, the buildings were designed on a tubular steel frame system, with isolated footing concrete foundations, allowing flexibility and oscillation that in turn dissipate the energy in the event of a seismic movement. The buildings are earthquake-resistant meaning they can resist a high intensity seismic movement without collapsing, thus increasing the safety of staff.

MEDLOG operates within the framework provided by its General Plan of Emergency, which lays out specific recommendations in the event of an earthquake. Prepared in accordance to national legal requirements, the plan is valid for the office building as well as for the container yard, in both Arica and Santiago. It includes indications on evacuation routes, protection measures inside and outside of the building, and other safety procedures, such as how to avoid the risk of a fire resulting from an electrical failure. In Arica, the plan also includes safety recommendations in the event of a tsunami that may be triggered by the earthquake. Safety measures extend to the yard, where the container blocks in the yard are stacked to reduce the risk of a fall. MEDLOG is currently expanding in Chile, with depots planned for San Antonio, Valparaiso, and Iquique. Construction standards prioritising safety of employees will feature prominently at these locations too.

MEDLOG CHILE KEY NUMBERS

- Established in 2001
- 200 employees
- 2 offices, in Santiago and Arica
- 140,000 sqm depot facilities
- 6,000 sqm warehousing
- 200+ operated trucks
- 400,000 sqm depot facility in progress

CASE STUDY

CREATING ACCIDENT-FREE WORKPLACES ONSHORE

LOMÉ CONTAINER TERMINAL (LCT)

The Port of Lomé, in Togo, is home to the Lomé Container Terminal (LCT) operated by Terminal Investment Limited (TiL), a subsidiary of MSC. It has a capacity of 2.2 million TEU, has nine quay cranes, and occupies an area of 54 hectares. Lomé plays a key role in transshipment and cargo distribution in West Africa because it is the only natural deep-water port terminal in West Africa and is a gateway to the landlocked countries of Mali, Niger, and Burkina Faso. Container traffic handled in 2018 at LCT amounted to more than a million TEU.

LCT runs a range of programmes with benefits for the natural environment and the local community. The safety of personnel on site is also a central sustainability focus at the terminal. Management has committed to an objective of Zero Harm and is deploying a multi-layer plan to achieve this. All levels and departments in the organisation are included in the mission to instil a safety mindset. LCT management is rolling out a series

of comprehensive training programmes and is also driving excellence in safety performance through the implementation of management systems, which have been independently certified by third parties.

Fatal Hazard Standards have been developed at LCT to address the risks arising from vessel operations, working at heights, interface of mobile equipment and pedestrians, and handling of loads and related engineering activities. Once fully implemented, safety measures will include:

- Stacking profiling system at all rubber-tired gantry cranes, to ensure safe stacking of containers
- Pinning stations at the quay under quay cranes to reduce the risk of injury to pedestrians
- Rear detectors and cameras in reach-stackers and empty container handlers, also to avoid accidents involving pedestrians

LCT KEY NUMBERS

- Approx. 700 direct employees and 5,600 indirect jobs
- 2.2 million TEU capacity
- Approx. 865,000 TEU moves (2018)
- Area: 53 hectares
- Quay length: 1,050m
- Maximum vessel size: 14,000 TEUs
- No. of quay cranes (STS): 9
- 27 electrical RTG (eRTG)



LCT, Lomé, Togo

PROMOTING LEARNING AND LISTENING



SHARING VALUE THROUGH PROFESSIONAL DEVELOPMENT

Investment in knowledge building and skills development is part of MSC's commitments to Sustainable Development Goals 4 (Quality Education) and 8 (Decent Work and Economic Growth). It is widely understood by managers and human resources professionals that employees who can avail themselves of professional development opportunities feel motivated and more confident on the job. They are also better placed to progress their careers and, importantly, to execute their duties with expertise and accuracy. A skilled workforce is therefore of immediate benefit to the positive atmosphere, smooth operation and, ultimately, quality service provided by MSC.

MSC believes that everyone can benefit from leadership training; knowledge obtained can enable employees to take on new or additional responsibilities, allowing their careers to evolve. As the fleet grows, so too do career progression opportunities for skilled staff. MSC actively encourages all employees to commit to continuous learning and to grow professionally. This is the spirit of value creation and caring for people espoused by MSC, which is part of the unique strength of the Company.

THEMES ADDRESSED IN THE 2017 SEAFARERS ENGAGEMENT SURVEY

INFORMATION & COMMUNICATION

- Values
- Leadership

HUMAN CAPITAL

- On board
- On leave

ORGANISATIONAL EXCELLENCE

- Service excellence
- CSR
- Six key objectives of Shipmanagement

FOSTERING OPEN COMMUNICATION

As a global company active in multiple countries around the world, MSC has a particularly deep understanding of the importance of communication. The Company has adopted specific measures for promoting open communication, such as creating a positive work environment, providing access to front-line management, encouraging a more vocal culture, and aiming for clarity in all communications.

Safety is an area that benefits from effective communication at MSC. Examples include providing strong, timely messaging about risks and associated precautions, or registering the concerns of crew before an accident can occur. MSC also provides opportunities for the crew to express their views on areas for improvement, through the biennial MSC Shipmanagement Seafarers Engagement Survey. This has proven an invaluable tool for obtaining feedback from employees. The survey was first run in 2015. It was run again in 2017, using the same principles and approach to data collection and analysis, but with a revised, improved format. Questions were posed on 10 key areas, each with eight questions for prioritisation.

Results shared in 2018 showed a high response rate (67%) across crewing units, nationalities, rank, and duration of tenure with MSC, suggesting an interest on the part of most seafarers to express their opinions. Feedback gained through the survey provides valuable information to shore-based staff on areas for improvement and prioritisation.

In each of the ten key areas, satisfaction with MSC was well above average, with results showing an overall increase in positive opinion since the previous survey in 2015. MSC crew members have a strong feeling of belonging within MSC and are highly motivated and committed to their personal and professional growth. They are happy with the safety culture on board and reported a noticeable improvement in this area.

Feedback from staff on organisational excellence, including for example timely payment of wages, scored an almost perfect result. Specific areas that were flagged for improvement in the 2015 survey, such as food, provision of more comfortable protective equipment and

better access to the Internet, recorded markedly better scores than in the previous staff engagement survey. It was encouraging to see the survey demonstrate alignment between crew and MSC Senior Management on the environment as a key issue for all; according to the survey results, seafarers consider that protecting the environment is the utmost priority for the Company and feel that it is their responsibility as seafarers to care for the environment. Areas for management attention that emerged from the 2017 survey relate to information on assignments and also promotion criteria and arrangements for seafarers while on leave.

The survey sets another benchmark on key indicators concerning commitment, satisfaction, and well-being of staff and provides an opportunity to further increase the quality of service provided to MSC seafarers.



MANAGEMENT OF VESSELS AND CREWING

The exponential growth of the MSC fleet has necessitated the establishment of MSC Shipmanagement offices in Limassol and Sorrento to coordinate all tasks related to technical management of vessels and crewing. Specifically relating to crew, MSC Shipmanagement is responsible for the selection, recruitment, training, professional development, and management of seafarers, in accordance with international standards.

Everyday operations at MSC Shipmanagement are guided by fundamental objectives which include: Zero Fatal Accidents, Zero MARPOL Incidents, Zero Cargo Damage, and Zero Navigational Incidents. Sustaining growth and performance in these areas has required investment in and enhancement of communications, internal management processes, and coaching as well as provision of mentoring and training opportunities. Progress is evident in the receipt by MSC Shipmanagement of multiple awards and certifications in 2018, including the Samudra Manthan Award 'Shipowner/Shipmanager Manning & Training Company of the Year', the Offing Award for 'Best Employer for Dry Cargo Vessel – Large Segment', the Sea job Award for 'Best Employer of the Year' (all in India) as well as the title of 'Shipmanager of the Year' in Ukraine.

TRAINING: BUILDING AND APPLYING EXPERTISE

Many companies and organisations refer to their 'safety culture' but not all are clear on specific intention or implementation. At MSC, we have adopted the term, absorbed it into the Company mindset and embedded it deeply throughout our onshore and on-board operations and procedures. Through the comprehensive MSC programme of awareness, training, checks, and provision of appropriate tools and equipment, we empower our crew to demonstrate and apply this safety-focused professionalism in their daily activities.

Ensuring that MSC remains a high-performance organisation demands investment in skills development and professional excellence. MSC is fully committed

to providing training opportunities, both mandatory and optional, to facilitate learning at all levels in the Company. In 2018, MSC Shipmanagement Cyprus ran more than 25 specific training courses to facilitate progression of technical and soft skills of staff; 13,000 employees were trained as part of this, which represents a 15% increase on the previous year.

In addition to training on technical topics via classroom training, computer-based training, and simulator training, MSC Shipmanagement Cyprus coordinates and delivers a Leadership Development Training programme and various soft skills training initiatives. In 2018, 360 employees from management and operational levels participated in these trainings.

At MSC, coaching and mentoring are also components of the learning and development programme. MSC Shipmanagement considers that building and sustaining a coaching culture increases curiosity to learn and promotes fast learning on the job, acquisition of new skills, and employee engagement.

MENTAL HEALTH

Any comprehensive well-being programme should address both physical and mental health. MSC is working with partner Protection and Indemnity (P&I) Clubs to develop awareness as part of a strategy to provide support for employees. To overcome the loneliness on board for example, MSC Shipmanagement regularly evaluates the state of social interaction on board and provides opportunities for seafarers to connect with colleagues.

MSC Shipmanagement is increasingly devoting attention to the topic of mental health, to ensure it is integrated into the broader seafarer well-being agenda.

GROWTH AND EXPANSION

2018 was another year of growth and significant milestones for MSC Shipmanagement. For example, the number of ships managed by MSC Shipmanagement Cyprus has reached more than 200; the number of people employed both onshore and on board is 16,000; the crew retention rate is 98%. Shipmanagement Sorrento now manages 130 ships and has 25,440 seafarers under its management (5,000 with MSC Cargo and 20,440 with MSC Cruises). The increase in the size of the fleet and crew managed from these centres in recent years is a sign of a successful business. It is also a sign of a strong team working well together. MSC will continue to invest heavily in programmes that contribute to employee health, safety, career progression, and job satisfaction.





CREATING SUSTAINABLE VALUE

BUSINESS ETHICS AND PROTECTION OF HUMAN RIGHTS

PROTECTING THE HUMAN RIGHTS OF SEAFARERS

The international shipping sector is one of the most regulated industries at the global level, expected to comply with a very complex and comprehensive regulatory framework involving both public and private sector stakeholders.

Therefore, MSC, in addition to domestic legal requirements and regulations in the countries of operations, must ensure 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, including the International Maritime Organization (IMO)²² and the International Labour Organization (ILO)²³. Auditing processes and/or

Repatriation, payment of wages, and further protection related to seafarers' well-being are guaranteed by insurance certificates for each vessel required by the International Labour Organization (ILO) Maritime Labour Convention, 2006 (MLC) and issued by insurance providers such as P&I Clubs. Each Club is an independent, not-for-profit mutual insurance association, composed of ship owners and charterer members playing a leading role in coordinating the response to, and management of, maritime casualties as well as in providing coverage against third-party liabilities arising out of the use and operation of ships.²⁴

COMPLIANCE WITH THE ILO MARITIME LABOUR CONVENTION, 2006

Comprehensive human rights protection for over 1,600,000 seafarers²⁵ on board merchant ships is provided for by the provisions set forth in the International Maritime Labour Convention (MLC) which is widely known as the "Seafarers Bill of Rights" and as the fourth pillar of international maritime regulations. Adopted in 2006 and entered into force in 2013, as of today the MLC has been ratified by 93 countries representing over 91% of the world's merchant fleet.

It encompasses all relevant standards of existing ILO maritime labour conventions and recommendations, as well as fundamental principles contained in core International Labour Conventions and the ILO 1998 Declaration on Fundamental Principles and Rights at Work.



other evaluation mechanisms are carried out by relevant Flag State authorities and Port State control authorities to ensure compliance on board ships. Crewing companies based at the labour supply countries need to undergo audit and verification by local governmental authorities and/or by third parties such as recognised Classification Societies.

MLC MINIMUM STANDARDS

1. Minimum requirements for the seafarers to work on board ships
2. Conditions of employment
3. Accommodations, recreational facilities, food and catering
4. Health Protection, Medical care, Welfare and Social security protection
5. Compliance and Enforcement

The MLC includes a "no more favourable treatment clause" for ships of non-ratifying countries. This aims to ensure fair competition for shipowners and respect for human rights and labour conditions for seafarers by ensuring that ships of all countries (whose flag the ship will fly), irrespective of their ratification of the MLC, will be subject to an inspection during their call to a port in a country that has ratified the Convention. This ensures that the ship meets the minimum requirement of the MLC. It also helps to address governance and implementation gaps at the national level related to compliance monitoring mechanisms and/or enforcement of human rights obligations also under Human Rights International Treaties and International Human Rights Law.

MSC implemented a number of proactive measures to ensure proper and timely compliance with the MLC and further enhance the enforcement of the level of human rights protection for its seafarers. In 2012, MSC Shipmanagement Cyprus established a 'Crew Welfare Department' with a dedicated MLC Superintendent to ensure that all crew members working on board ships

are provided with adequate standards in line with the MLC and developed a specific policy to guarantee an excellent working atmosphere on board its vessels.

The department is responsible for monitoring the compliance with the MLC and for auditing vessels. It also assists and coordinates efforts of other concerned departments to increase awareness about complaint/reporting procedures and methods available to crew members.

In some areas, MSC exceeds the requirements set forth in the MLC. As an illustration, we have higher minimum age requirements, as only individuals of 18 years old or above can be employed on board its cargo ships, in alignment with MSC Shipmanagement's Human Rights Policy. Hours of work and rest of crew are checked against the "Rest Hours Record Book" available on board for each seafarer in electronic or paper form to ensure compliance with applicable Collective Bargaining Agreements (CBA) and regulatory requirements. MSC Shipmanagement also regularly monitors the level of satisfaction of its crew and potential areas of improvement through surveys such as the biennial "Crew Engagement Survey" conducted by a third party. It also encourages a participatory approach with crew members during crewing seminars and at the end of each employment contract.

More information on surveys and our efforts to promote crew well-being, workplace safety, open communication, welfare facilities as available on board (such as free high-speed Internet, quality and quantity of food, capacity building, and training as well as key initiatives to protect crew physical or mental health) are described in the chapter Occupational Health and Safety (pages 79-95).

²² The IMO is the United Nations specialized agency with responsibility for the safety and security of shipping and the prevention of marine and atmospheric pollution by ships. IMO's work supports the UN SDGs. Source: <http://www.imo.org/en/About/Pages/Default.aspx>

²³ The only tripartite UN Agency. The ILO brings together governments, employers, and workers of 187 member States, to set labour standards, develop policies, and devise programmes promoting decent work for all women and men. Source : <https://www.ilo.org/global/about-the-ilo/lang--en/index.htm>

²⁴ Source: <https://www.igpandi.org/about>

²⁵ Source: <http://www.ics-shipping.org/shipping-facts/shipping-and-world-trade/global-supply-and-demand-for-seafarers>

POLICIES & PROCEDURES

In recent years MSC Shipmanagement leadership has developed and implemented the following policies:

- **Human Rights Policy** which supports internationally recognised human rights and applicable labour standards as well as applicable laws, regulations, and prevailing labour relations and employment practices.
- **Child Labour Policy** which includes minimum age requirements criteria for employment.
- **Non-discrimination policy** which prohibits any discrimination based on any ground, such as sex, race, colour, religion, language, national or ethnic origin, age, disability, political or ideological affiliation, trade union membership, marital status or family responsibilities, sexual orientation or gender identity or on any basis which could have the effect of preferring one group of persons or an individual over another, other than the basis of qualification, experience, ability, and performance.
- **Anti-abuse policy** which includes sexual abuse, physical or mental harassment, verbal abuse, or any activity that may offend the dignity of any person or a group of people. The policy applies to all employees and covers relations with business partners and other stakeholders, such as stevedores and pilots. Specific training and briefings are regularly conducted.
- **Disciplinary Policy** which includes the obligation to ensure the respect of relevant provisions as set forth in the Human Rights Policy. MSC Shipmanagement may terminate contract agreements or decide not to engage in business relationships with any entity which has been proven which has been proven in a court of law to have violated human rights and labour standards.

Reporting channels mechanisms to encourage employees to report on human rights issues and potential human rights violations. The identity of the reporting persons is kept confidential and retaliation is not tolerated. Reporting channels include:

- The on-board Complaint Procedure/Form as per MLC 2006 requirements.
- An anonymous reporting system where crew can report any grievance/complaint to a dedicated email address.
- Seafarers Feedback form to be provided at the end of each contract.
- Crew Engagement Survey conducted by a third party.
- Face-to-face meetings during various crewing seminars and training sessions.

RECRUITMENT POLICY AND PROCESSES

MSC Shipmanagement Limited recognises that the employment of competent personnel is vital in ensuring that its fleet operates in a safe and efficient manner. Recruitment procedures are handled by MSC Shipmanagement in collaboration with its own crewing offices and in compliance with industry standards and/or with BIMCO CREWMAN²⁶ contracts. These hold licenses issued from national authorities or approved by recognised bodies and are audited every year for the renewal of the crew recruitment licenses, MLC compliance certification as well as relevant ISO certifications. MSC does not charge fees to seafarers at any stage of the recruitment process and our Recruitment Policy includes a rigorous crew selection and engagement procedure ensuring:

- That the requirements are clearly defined in accordance with the statutory requirements of the relevant flag States, national and international laws, and regulations.
- That those requirements are met by the employment of suitably qualified and experienced personnel for each position.
- That candidates meet the language requirements. The Master, Chief Officer, Chief Engineer, and 2nd Engineer must have a good command of the English language and all other officers must have a working knowledge of English in order to understand key commands/instructions and transfer relevant information related to our Safety Management System.
- That Masters employed have knowledge of all quality, safety, and environmental protection policies/procedures and, together with their Chief Engineer, are adequately briefed at the time of joining their respective ships.

Candidates are shortlisted based on their competence and experience and are offered a position to join the Company after successful completion of the Principal's Approval Joining Process, which is rank-specific, as well as the medical screening test and the mental health assessment.

In accordance with our internal policy, all documents and various certificates such as those required by the International Convention on the Training, Certification and Watchkeeping for Seafarers (STCW) confirming candidates' eligibility and experience, are evaluated and verified with the issuing authorities. All information is kept confidential in compliance with the European Union (EU) General Data Protection Regulation (GDPR) requirements and is not disclosed or communicated to anybody without due consent of the seafarer.

Seafarers are provided medical coverage and medical benefits during their employment on board ships and also during their leave in their home country. Contracts contain provisions certifying that salaries are paid in cash on board or sent to the seafarer's bank account in the country of origin. All seafarers payslips are audited during shore inspections and monthly by our Accounting Department. Overtime is paid as per applicable CBA agreement.

Upon completion of the employment agreement and in the eventuality of disruption of operations and/or work illness, the Company bears the costs for repatriation arrangements as applicable. In case of disembarkation due to medical reasons, crew members have access to approved medical centres to ensure they receive high quality medical care and are provided with their sickness wages, on a timely basis, as per applicable CBA terms and conditions and regulatory requirements.

²⁶ BIMCO is the largest of the international shipping associations representing shipowners; its membership controls around 65% of the world's tonnage and it has members in more than 120 countries, including managers, brokers and agents.

TRAINING

In addition to training on technical topics, MSC Shipmanagement coordinates and delivers training of crew on its Code of Conduct, Group Values, Anti-bribery, new regulations such as the GDPR, Health and Wellness, Leadership Development Training as well as on soft skills. In the past three years over 2,500 employees from management and operational levels have participated in this training.

MSC Shipmanagement recruits over 500 trainees (deck cadets, engine cadets, trainee seamen, trainee electricians etc.) each year and it has created its own pool of seafarers trained on MSC Culture and Values. As of today, over 35% of its crewing pool consists of personnel who have started their career as cadets with MSC and many of them are now working in ranks up to Master and/or Chief Engineer.

DUE DILIGENCE AND AUDITING

The MLC Superintendent and the Technical Superintendents/Internal Fleet Auditors of MSC Shipmanagement conduct regular inspections on board. Special attention is paid not only to the minimum age of crew members, hours of rest on board, food and living conditions, medicines on board, and visits to doctors, but also to fair treatment of seafarers in the event of a maritime accident, and liability and compensation regarding claims for death and personal injury, as well as training and communication tools available on board. During these inspections and audits each crew member is also interviewed to verify the level of awareness of MSC's company policies, including the Code of Business Conduct, Whistle Blower Policy, and MSC's Online Speak up channel. All findings are reported directly to Senior Management for consideration and immediate corrective action, if appropriate.

Respective Flag States and Classifications Societies conduct annual examinations to our ships to ensure proper compliance with the MLC. Port state inspectors further verify compliance during the routine and periodic

port state control examination at the ships' ports of call. The International Transport Workers' Federation (ITF) representatives also visit vessels randomly at various ports as part of their responsibility to monitor the effective implementation of the MLC requirements and standards.

COLLECTIVE BARGAINING AGREEMENTS

MSC Shipmanagement follows the labour regulations in the respective countries of registration and strictly complies with the terms and conditions of the applicable collective bargaining agreements (CBA) negotiated by the ITF and/or affiliated entities on behalf of the seafarers in compliance with the MLC, 2006. Conditions of employment on board are regulated by an applicable Seafarer's Employment Agreement (SEA) as per the applicable CBA and required by the MLC, which is always duly explained to all potential employees before signature of the contract. Seafarers have access to their respective CBAs and their personal data are protected as per the EU GDPR legislations.



Marine Operations Team, Operations Department, Geneva Headquarters

PROMOTING RESPONSIBLE BUSINESS PRACTICES



The UN SDG 16 "Peace, Justice and Strong Institutions" is embedded in our decision-making process and mainstreamed in all our Sustainability Pillars. For instance, MSC promotes the respect of the rule of law by complying at a minimum with all applicable domestic laws, internationally recognised human rights and labour standards as well as all applicable environmental regulations and relevant international rules related to freight containers, road, and rail transportation. Additionally, MSC supports the Ten Principles of the United Nations Global Compact in the areas of human rights, labour, environment, and anti-corruption. Since 2015, MSC and MSC Shipmanagement follow the guidance provided by ISO 26000 on Social Responsibility²⁷ to further improve and operationalise socially responsible processes and impacts, in line with MSC's broader sustainability efforts and its commitments to the UN Global Compact. The ISO Guidance draws upon the internationally recognised human rights framework, including the United Nations Business and Human Rights framework, supporting companies' efforts in the fields of human rights, labour practices, the environment, economic viability aspects, fair operating practices, consumer interest, community involvement, and other areas of sustainable development²⁸.

MEMBERSHIPS

We are active members of the **Business Action to Stop Counterfeiting and Piracy (BASCAP)** and the **Maritime Anti-Corruption Network (MACN)**, both global business networks composed of maritime industry leaders and representatives from both the public and private sectors. We also work with **TRACE International**, a non-profit globally recognised anti-bribery association.

MONITORING COMPLIANCE WITH THE MSC CODE OF BUSINESS CONDUCT

MSC strives to promote the highest ethical standards of business conduct as set forth in its Code of Business Conduct. To achieve this, training courses with specific modules on all standards continue to be provided to all of MSC's employees and MSC Agencies around the world on a regular basis via online platforms and/or live sessions. Introductory sessions on the Code are organised for newcomers in the context of their onboarding programme in MSC's Headquarters.

Throughout 2018, MSC continued monitoring the implementation of the Code of Business Conduct within MSC's 493 offices around the world, in collaboration with the local Code Implementers. MSC insists on focusing on cultural and linguistic adaptations to embed ethics and values into the corporate culture in the most effective way around the globe and in accordance with applicable laws. In this respect, the Code has been translated into 20 languages to facilitate its understanding. Furthermore, the MSC Global Human Resources Department has recently been established within the Agencies Department. Amongst its main objectives, the function works to ensure the Company policies are well established, communicated, and integrated inside each MSC Agency. In order to ensure the effective adoption of these policies, the Global HR Department has launched an MSC Employee Handbook. In line with the MSC values, the handbook encompasses all the MSC global policies and is then enriched and customised at a country level in accordance with relevant domestic laws and requirements, including applicable human rights and labour standards.

²⁷ For more information about the ISO 26000 on Social Responsibility: <https://www.iso.org/iso-26000-social-responsibility.html>

²⁸ Source: <https://www.iso.org/files/live/sites/isoorg/files/store/en/PUB100418.pdf>

FIGHTING AGAINST CORRUPTION AT THE HEART OF MSC'S COMPLIANCE PROGRAMME

The fight against corruption is at the core of MSC's compliance programme. In view of prompting robust anti-corruption measures, MSC has in place policies and procedures that outline responsibilities for all employees around the globe to comply with all applicable anti-corruption laws. MSC has a dedicated internal Anti-Bribery Policy that applies to all employees. Throughout 2018, MSC enhanced the monitoring of the implementation of this policy and of MSC's anti-bribery e-learning training in collaboration with the local Code Implementers within MSC's Agencies.

MSC also has in place a Procedure for Gifts and Corporate Hospitality applicable to employees working in MSC's Headquarters in Switzerland. Throughout 2018, MSC focused on assessing appropriate thresholds regarding gifts and corporate hospitality within MSC Agencies worldwide.

Additionally, MSC continued its related endeavours by imposing contractual compliance obligations on identified business partners (such as terminal operators, connecting carriers, etc). MSC also kept encouraging such business partners to operate under a common ethos and share similar principles to those set forth in the MSC Code of Business Conduct.

MSC SPEAK UP LINE

Consistent with MSC's values, the ability to speak up is a cornerstone for building an open and accountable workplace culture. In 2018, MSC launched the "MSC Speak up Line", an online platform developed by a third-party service provider, which complements MSC's existing reporting procedures.

This serves as a mechanism to promote dialogue and to encourage employees worldwide to report any misconduct or violation of laws without fear of retaliation. Through this reporting system the reporter can, according to applicable laws and requirements, remain anonymous. All reports are 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 corrective actions taken where deemed necessary.

COMPETITION LAW

In recent years, challenges due to stricter environmental regulations, volatility of fuel prices, and overcapacity pushed shipping lines to a structural transformation resulting in a proliferation of mergers, acquisitions, and alliances.

In this respect, and to further promote fair business practices and monitor compliance with relevant international regulations, MSC has established the Antitrust, Competition and Regulatory Matters Department within MSC's Corporate Legal Department. The department is responsible for ensuring compliance with, and preventing infringement of, competition law by MSC business units around the world. To that end, it deploys training courses and guidelines to its employees. The department also coordinates the filings of Vessels Sharing Agreements (VSA) when required by the laws of the countries in which MSC operates.

VSAs and Alliances often require cargo consolidation between members, offering a more direct route from one port to another. This is because VSA/alliances' partners rationalise their routes on the trade by multiplying the number of services within a trade. They also provide better service quality through higher frequency of services and better connectivity. Instead of one long string calling all the ports of the trade, through the Alliance's network the same ports will be served more directly through multiple longer strings. This has allowed the operation of larger vessels or mega-ships instead of multiple smaller vessels for the offer to match the demand on these services, resulting in economies of scale, reduced fuel consumption, and reduced bunker costs. Efficiencies are increased and the environmental impact is minimised.

MACN "SAY NO CAMPAIGN"

Since October 2017, MSC has been a member of the Maritime Anti-Corruption Network (MACN) which is composed of maritime industry leaders collaborating towards the vision of a maritime industry free of corruption. MACN members work in partnership with local authorities to develop solutions that are beneficial to all and realistic to implement.

In December 2018, MSC joined the MACN "Say No campaign" to tackle corruption practices in certain ports. The campaign has been endorsed by our MSC Group President & CEO and involved all Captains of our fleet who often face demands for bribes or facilitation payments in forms of cash payments, cigarettes, and beverages. It is widely known that at most ports denying such facilitation payments may lead to delays in operations. In this context, to further support the fight against corruption, MSC uses tools and shared principles developed by members of MACN, regularly reports incidents as well as seeks collective actions where challenges remain, with other members of MACN. Since the beginning of the campaign, demands for facilitation payments in concerned ports have been significantly reduced.

Throughout 2018, the majority of Masters and senior officers of MSC Shipmanagement have been trained in anti-bribery matters.



Contracts Team, Corporate Legal Department, Geneva Headquarters

MODERN SLAVERY



5.2 eliminate all forms of violence against all women and girls in public and private spheres, including trafficking and sexual and other types of exploitation



8.7 Take immediate and effective measures to eradicate forced labour, end modern slavery and human trafficking, and secure the prohibition and elimination of the worst forms of child labour, including recruitment and use of child soldiers, and by 2025 end child labour in all its forms

Article 4 of the United Nations Universal Declaration of Human Rights clearly states that “no one shall be held in slavery or servitude; slavery and the slave trade shall be prohibited in all their forms”.

Strongly committed to act with integrity and to promote and support fair, ethical, and responsible business practices, MSC condemns and prohibits slavery and human trafficking practices in all its business activities and endeavours.

MSC’s efforts to tackle modern slavery are fully supported and endorsed by MSC’s top management. The MSC Code of Business Conduct includes dedicated sections in this regard. Our progress made in this regard and ongoing processes aimed to identify, mitigate, and, whenever possible, prevent the risks of modern slavery, slave-like practices, and human trafficking in MSC’s operations and its value and supply chain are described in our Modern Slavery Transparency Statements. The statements are published every year, in line with Section 54 of the UK Modern Slavery Act 2015.

The responsibility to respect human rights and international labour standards includes concrete actions to ensure we are not being complicit in human rights abuses and to prevent them whenever possible. Therefore, we keep encouraging identified business partners to adhere to all applicable anti-slavery and human trafficking laws including, but not limited to, the UK Modern Slavery Act 2015 as well as to share similar standards to those set out in the MSC Code of Business Conduct. We also expect them not to have been convicted of any offence involving slavery and human trafficking.

Additionally, MSC monitors relevant developments in both the national and international regulatory frameworks, including in the areas of modern slavery and human rights, to continuously align and/or further improve its current policies and procedures.

For more information, visit:

www.msc.com/modern-slavery-statement

LABOUR INCLUSION CAMPAIGNS IN DOMINICAN REPUBLIC

MSC supports and invests in training programmes in different parts of the world to unlock the potential of young people. In line with the ILO MNE Declaration (5th Edition, 2017)²⁹, MSC believes that the prevention of child labour can also be pursued by creating opportunities for youth employment and encouraging skills formation and development through apprenticeships.

In offering such opportunities, MSC acts in compliance with applicable national laws, regulations, and requirements, ensuring the respect of the children’s rights to attend and/or complete compulsory schooling.

As an illustration, in 2014 MSC Dominican Republic launched two “Labour Inclusion campaigns” in collaboration with Nuestros Pequeños Hermanos (NPH)³⁰ a charitable organisation that has provided a home for thousands of orphans and abandoned children since 1954. Currently there are NPH homes in nine Latin American countries and the Caribbean.

- The first campaign provided three months of professional training to six young people. Two of them were hired as full-time employees.
- The second campaign involved training with the Dominican Navy on relevant IMO Conventions, including the International Convention on Standards of Training, Certification and Watchkeeping for seafarers (STCW). All four trainees were hired on board our cruise vessel MSC Preziosa.

Currently there are five more NPH graduates taking the IMO courses who will have the possibility to work for MSC Cruises.



MSC Preziosa

²⁹ The “ILO Tripartite Declaration of Principles concerning Multinational Enterprises and Social Policy” is known as “ILO MNE Declaration”.

³⁰ <https://www.nph.org/>

SHIP RECYCLING

The ship recycling industry actively supports many developing countries' economies and promotes the circular economy, as materials used to build ships, especially steel, are recycled and may be used to manufacture new products.

Yet poor working and environmental conditions still prevail in some recycling yards due to challenging domestic governance and protection gaps. Additionally, the IMO Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships (IMO HKC) "aimed at ensuring that ships, when being recycled after reaching the end of their operational lives, do not pose any unnecessary risk to human health and safety or to the environment³¹", has not yet entered into force.

At present, the IMO HKC is considered to be the only international policy instrument that can be fully implemented, when it comes to vessels' sustainable recycling processes. It covers the entire lifecycle of the ship as it provides appropriate recycling standards from the design, construction, operation to the preparation of ships to the end of their operational cycle. This facilitates safe and environmentally sound recycling of the vessel. Furthermore, it establishes appropriate enforcement mechanisms for ship recycling, including certification and reporting requirements.

Consistent with the relevant IMO implementing resolution, MSC has already integrated the applicable requirements and technical standards of the IMO HKC in its Ship Recycling Policy (available on www.msc.com/ship-recycling). MSC sales contracts impose on the buyer or yard to undertake safe and environmentally sound recycling as per IMO HKC standards. The contracts also require use of approved ship recycling facilities, as demonstrated by certifications under the standards of the International Organization for Standardization (ISO) and by recognised Classification Societies. In this respect, our policy specifies that yards

must be certified for OHSAS 18001 (Health and Safety), ISO 30000 (ship recycling management, which includes provision of safe working conditions for workers) and compliant with International Labour Organization (ILO) standards and requirements for health and safety. Further, training must be provided for workers, for example on the handling of dangerous materials, and wearing of personal protective equipment (PPE) should be mandatory.

To address risks of environmental contamination, shipyards engaged in recycling of MSC ships must be certified according to ISO 14001 standards. This requires shipyards to have, for example, concrete flooring to prevent soil and ground pollution. Effective draining systems must be in place as well as facilities for safe removal, handling, transport, and removal of hazardous waste.

As part of our due diligence efforts, we also conduct regular visits to the approved recycling yards, either with our internal auditors or with external parties to monitor compliance with environmental, health and safety, labour conditions and human rights, anti-corruption, and downstream facilities for waste management and disposal. Any breach of our compliance framework observed during our visits is reported to the recycling yard management for immediate corrective action.

MSC ensures also that a specialised company monitors and conducts surveys of its main suppliers' facilities and ship repair yards where the majority of its vessels go for repairs. All findings are communicated for immediate corrective action where required. To further improve safety and reduce any risk on board when dealing with, for example, any potential asbestos containing compound, each vessel has been supplied with a safety kit.

EU Ship Recycling Regulation (EUSRR)

Effective as of 31st December 2018, the European Union Ship Recycling Regulation (EUSRR) requires mandatory carriage of an Inventory of Hazardous Materials (IHM) by all new vessels flying European Union member flags. All existing EU flag vessels and non-EU flag vessels calling at EU ports will also be required to carry an approved IHM by 31st December 2020 at the latest. This regulation reflects main provisions as set forth by the IMO HKC and requires ships flying an EU flag to be recycled only at EU recognised ship recycling yards. To date, very few yards outside EU have been included in the list. MSC supports and complies with the EU Regulation on Ship Recycling Regulations, where applicable.

Inventory of Hazardous Materials (IHMs)

MSC is preparing fleet-wide Inventories of Hazardous Materials (IHMs) as per the EU SRR and following the requirements of IMO HKC. This aims to further minimise human risks, including occupational exposure to toxic substances and potential adverse health and safety and environmental impacts on land, workers, and local communities in the long term.

The IHMs serve to ensure correct handling of hazardous materials, and to regulate waste management to prevent exposure of crew to hazardous materials on board ships and at the recycling phase of the vessel.

In 2015, MSC developed an implementation plan to ensure that by 2020, the deadline specified by the IMO, each MSC vessel will have an IHM. This inventory will be maintained and updated throughout the operational life of the ship, with certification issued by a classification society to confirm compliance with applicable requirements.

Once compliance has been achieved, regular checks will be undertaken to ensure that IHMs are maintained, current, and accurate.

MSC VISIT TO ALANG³² SHIP RECYCLING FACILITIES

MSC has been periodically visiting the ship recycling facilities at Alang, India independently and as part of an EU delegation. Improvements implemented at various yards have been commended. This progress reflects the fact that now there are over 70 ship recycling yards with an IMO HKC compliance certificate issued by classification societies. Besides the improvements in the recycling process, advances made in the areas of health, downstream waste management, worker training, housing facilities, and health centres are expected to continue.

³¹ <http://www.imo.org/en/About/Conventions/ListOfConventions/Pages/The-Hong-Kong-International-Convention-for-the-Safe-and-Environmentally-Sound-Recycling-of-Ships.aspx>

³² Alang is a town on the west coast of India which has a large share of ship recycling business. The recycling business provides employment to over 55000 people and accounts for turnover of approx. one billion USD each year.

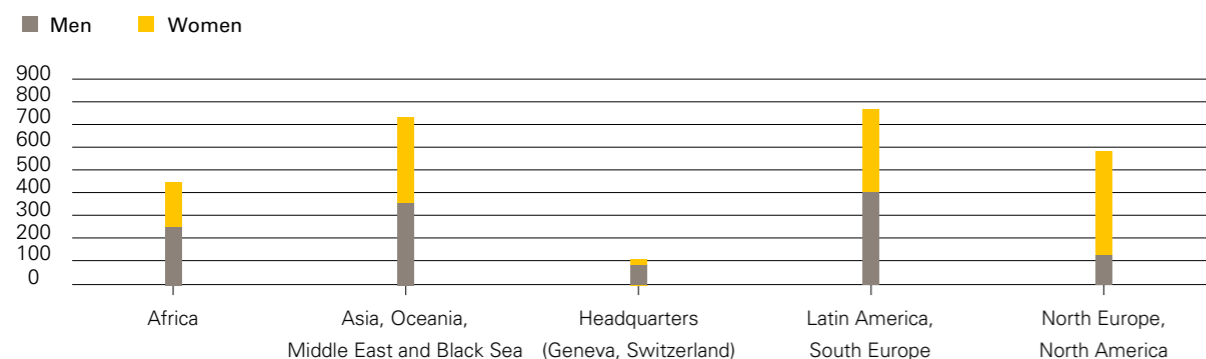
WOMEN'S EMPOWERMENT



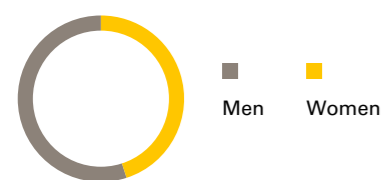
The shipping sector is a traditionally male-oriented industry. The level of women participation is an estimated 2% and patterns of job segregation as well as gender stereotyping still exist. In the maritime industry, over 76% of the female workforce operates at administrative, junior, and professional positions, with only 0.17% of women enjoying an executive leadership role. Nevertheless, an increasing number of women are entering the shipping industry in all roles, including seafaring and operations, chartering, insurance, and law.³³

MSC is actively working to promote maritime careers for women as well as female employees to senior positions. Efforts include internal mobility programmes and training to increase their interest in pursuing a career in our sector therefore retaining female talent. In 2018, 35% of the promotions in MSC were given to female employees and 29% of internal mobility roles were given to women. Furthermore, in collaboration with our SAP³⁴ team based at Headquarters and our Agencies worldwide, we promoted training to female employees working in the finance and accounting departments. Those roles are extremely important as employees supervise a sophisticated process to ensure correct reporting to authorities, as well as respecting the obligations of MSC vendors providing almost real-time monitoring of costs and cashflow worldwide.

SAP users per region



Total SAP users by gender



ROLES	MEN	WOMEN
CFO	42	19
CLERK	867	1034
KEY USER	344	322
TOTAL	1253	1375

In 2018, we also partnered with a non-profit organisation offering expert free and confidential support to our HQ employees relating to health, work, finance, family, social insurance, and personnel issues in order to ensure their continued well-being and work/life balance.

Additionally, we enhanced our investments in programmes to improve the technical skills and expertise of our employees all around the world. One of our key global developmental initiatives is the **MSC Academy**, managed and implemented by the MSC Global Human Resources Department. This opportunity is offered to a pool of selected high potential employees with the aim of supporting their growth, being exposed to new networks increasing their knowledge of the business and our culture as well as our Sustainability approach. The project includes a **People Management Training Programme** which takes place both remotely and face-to-face to strengthen soft skills as well as the **Shipping Training Programme for Africa (STPA)** targeting employees working in our Agencies in the African Continent.

Despite the enhancement of initiatives and programmes, challenges still remain, especially at the local level, where other elements such as cultural factors and social challenges, further prevent advancement in reaching gender equality. In this regard, as in the past years, we remain focussed on the following strategic areas:

- promotion of access to employment opportunities targeting local women in challenging countries
- vocational training on specific shipping-related services/operations to improve soft and technical skills required to work in our sector
- reduction of barriers to women's empowerment. Initiatives included creation of breastfeeding rooms, flexible working hours, facilities for women, training on healthy nutrition practices, and mentoring.

Specific case studies on the above were reported in our 2016 and 2017 Sustainability reports. In 2018, the Global HR Department also launched the global data collection of a number of **"Social Performance Indicators"**, which includes gender indicators and gender disaggregated data. The SPIs also have a specific focus on vulnerable categories of workers such as women and migrant workers, in line with relevant GRI standards, UN Guidance tools and key areas we promote as part of our broader sustainability strategy.



Global HR Team, Geneva Headquarters

MSC ACADEMY HIGHLIGHTS

- 26 sessions in all our Agencies worldwide since the launch of the programme
- 302 participants passed the final examinations
- 42.7% female participants

³³ Source: Review of Maritime Transport 2018, UNCTAD

³⁴ Third largest software public company after Microsoft and Oracle, with 27.4B\$ revenue [1], SAP ("Systems, Applications & Products in Data Processing") is a German-based European multinational software corporation that makes enterprise software to manage business operations and customer relations.

CASE STUDY

MSC FOR THE SCHOOL PROJECT

MSC SHIPMANAGEMENT, SORRENTO, ITALY

“MSC for the School” was launched by MSC Shipmanagement Sorrento in 2017, in collaboration with the Nautical Technical Institute “Nino Bixio” in Sorrento, Italy. This gives the opportunity every year to five of the best male and female students from the deck department and five from the engine department to get direct exposure to the merchant shipping reality. Students are shortlisted not only on the basis of their school records but also as identified potential candidates to work onboard MSC cargo ships. In 2018, students were given the opportunity to visit MSC offices in Shanghai and the Yangshan Terminal, one of the largest and busiest terminals in the world. The ten-days experience included full immersion in the world of logistics, shipbuilding, port activities, documentation, compliance with regulations and certification as well as covering life on board.

KEY NUMBERS

- 4,000 employees on cargo ships
- 121 employees onshore

In 2017, students visited MSC offices in Singapore and in 2019 the plan is to invite them to our offices in Panama. MSC Shipmanagement Sorrento’s leadership team also provides regular courses on opportunities in the maritime sector, promoting seafaring as a career. In the past, MSC Shipmanagement Sorrento has often employed women on container vessels as Radio Officers. With the advent of more sophisticated electronic equipment, as GMDSS, few women are employed as navigational officers whereas more women are employed on MSC Cruises, always as navigational officers and as Chief Officers. Ashore, in the crewing and technical department several women are employed. Approximately 12% of employees in this division are women, some of them with a naval architecture background have become managers and are responsible for new important projects.



Students visiting the Terminal of Shanghai

SUPPORTING HUMANITARIAN EFFORTS

According to the United Nations Office for the Coordination of Humanitarian Affairs (OCHA) “the growing scale, complexity and impact of humanitarian crises around the world threaten decades of peace-building and development efforts.”³⁵ Today, major humanitarian crises are exacerbated by geopolitical challenges, conflicts, and other factors such as climate change, requiring enhanced collaboration and concerted efforts from different actors to ensure timely delivery

of emergency relief to affected populations. The private sector’s expertise and financial contributions as well as innovative technologies are further helping to build a more inclusive and diverse humanitarian relief system, contributing to address related humanitarian needs and risk management issues on the ground in collaboration with key local and international humanitarian stakeholders.



MSC’S ENGAGEMENT IN HUMANITARIAN ACTION

“Effective logistics systems are central to deliver emergency relief (...), to “deliver the right supplies, in good condition and the quantities requested, in the right places at the time they are needed.”³⁶ In this respect, in recent years, MSC has further increased its support to humanitarian assistance by providing not only in-kind contributions, but also assets, services, and business expertise providing effective and efficient disaster response in partnership with local authorities as well as the broad UN system. Our efforts helped to leverage existing networks and fill crucial logistics gaps in a number of countries.

Additionally, MSC supports intergovernmental organisations and international aid groups by providing containers, as well as space on ships for food imports, as part of the overall relief efforts. As an illustration, in

2017, in cooperation with the New York State Governor and the United Nations Children’s Emergency Fund (UNICEF), MSC and MSC Cruises joined efforts to provide logistics support to Puerto Rico, the US Virgin Islands, Dominica, St Maarten and Tortola, which were severely impacted by the Hurricane Maria, a Category 5 hurricane. Furthermore, hundreds of containers were donated to various charity organisations across the USA. At the time we are writing this report, MSC is also actively participating in the humanitarian relief and recovery efforts in Grand Bahama and the Abaco Islands, which have been affected by the Hurricane Dorian. Our contribution includes supporting any kind of service providers to deliver the needed supplies and goods to the Islands even in absence of an operating terminal. This is helping local stakeholders and local communities to effectively address shortage of basic necessities, including the high demand for emergency shelters and housing that can only be transported via containers.

Some examples of other actions taken by MSC Agencies in 2018 are summarised in the below table.

2018 CARGO DIVISION CONTRIBUTION TO EMERGENCY AND RELIEF*

COUNTRY	ACTION
INDIA	In September 2018, during the heavy flood in Kerala MSC Kochi staff volunteered to assist local communities and also provided supplies of drinking water bottles and food items in affected areas. The office also supported efforts in relation to first aid and training of emergency medical technicians for young people in partnership with local stakeholders.
GREECE	Support to combatting wildfires in Attiki Area in July 2018.
SOUTH AFRICA	Financial support for the water crisis in Durban.
AUSTRALIA	In 2018, MSC Australia provided financial support to Drought Angels, a local NGO supporting farmers affected by drought in Australia.

* The table is not exhaustive. It is intended to provide a general overview of our commitment to affected populations.

³⁵ <https://www.unocha.org/sites/unocha/files/OCHA%202018-21%20Strategic%20Plan.pdf>

³⁶ <https://www.careemergencytoolkit.org/programme-support/15-logistics/1-introduction/1-1-role-of-logistics-in-humanitarian-operations/>

SUPPORTING MERCY SHIPS IN ADDRESSING GAPS IN HEALTHCARE SERVICES AND SURGERY SKILLS IN AFRICA



Throughout 2018, MSC continued to support Mercy Ships, a global charity, which deploys hospital ships to some of the poorest countries in the world, delivering free, vital healthcare to people in desperate need. MSC's contributions include logistics services and free transportation of medical equipment in support of the activities carried out in Douala, Cameroon, and Conakry, Guinea.

According to the Lancet Commission's 2015 report entitled "2015 Global Surgery 2030: evidence and solutions for achieving health, welfare, and economic development"³⁷ more than 18 million people die every year due to lack of timely surgical care, especially

in developing countries and more specifically in Sub-Saharan Africa. The report also states that quality, accessible, affordable, and universal essential surgical services are essential to decrease mortality and morbidity ratios across the world. Reducing healthcare gaps and health inequality promote gender equality and non-discrimination practices, increase economic growth, and support infrastructure development.

In line with the above, Mercy Ships does not only significantly contribute to the progressive realisation of the Sustainable Development Goal 3 (Good Health and Well-Being), but also helps realise a number of interrelated Global Goals. Indeed, their volunteers ensure quality surgical care to marginalised and the most vulnerable people, and in some cases, mitigate the impact of mass casualties by maintaining delivery of health services in fragile environments or in areas affected by conflicts. In addition to completing thousands of urgent operations on board its 'state-of-the-art' floating hospital, the Africa Mercy; Mercy Ships doubles its impact in the long term by working closely with host nations to improve the way healthcare is delivered across the country. In this respect, volunteers also train and mentor local medical staff and healthcare professionals as well as provide support in renovating hospital and clinics, in partnerships with local authorities.



© Mercy Ships

VOLUNTEER CREW

In 2018, over 1,200 volunteer crew, from 56 different nations served on board the Africa Mercy with up to 400 individual volunteers at work on the ship at any one time. Volunteers serving with Mercy Ships contribute monthly crew fees and raise their own finances to live and work on board. This means that funding received is complemented by contributed services and gifts-in-kind, enabling Mercy Ships to deliver medical and development services at a fraction of the traditional cost. In 2018, 500 African nationals served onboard as "DayCrew".



© Mercy Ships

IMPACTS OVERVIEW

- 22,146 potential patients screened for surgery
- 2,522 life-changing surgical procedures provided
- 32,017 dental procedures provided
- 8,998 unique dental patients
- 1,369 healthcare professionals trained through courses
- 1,299 unique volunteer crew
- 431/17% general surgeries
- 102/4% women's health surgeries

For more information: www.mercyships.org

LOOKING FORWARD

A new ship, Global Mercy, is currently being built by Mercy Ships in China. This will more than double the ability of the organisation to deliver direct medical care, expand their services in Africa as well as to increase the potential of medical capacity-building projects. MSC

remains committed to continuing to support Mercy Ships including as it expands its capacity to provide life-changing health assistance to communities.

³⁷ A world renowned medical publication: <https://www.thelancet.com/>;
The full report and related articles on this topic can be found here: <https://www.lancetglobalsurgery.org/>

PARTNERING WITH ANDREA BOCELLI FOUNDATION (ABF) FOR HAITI



THE MOBILE CLINIC PROGRAMME: KEY IMPACTS

MSC provides financial contributions to the ABF Mobile Clinic programme, which aims to deliver healthcare assistance and prevention services to students, families and the communities in the five poorest and most remote areas of Haiti. The project covers the following five schools:

- Jeremy (St. Augustin School)
- Kenscoff (St. Philomene school)
- Croix-des-Bouquets (notre Dame du Rosaire)
- Dame Marie (Manitane School)
- De Varenne Grand Riviere, Fondwa – Jacme (St. Raphael school)

Key services provided include patient registration and recording, general counselling, overall screening of general health conditions and indication of relevant pathologies, early screening and detection of disabilities and diseases, abuse screening, medicine provision, vaccinations, transportation to the hospital, seminar for healthcare prevention and care for the students and their families, hygiene and nutrition, sexual and reproductive health education programmes.

In 2018, the initiative benefitted **8,850 direct beneficiaries (2,850 children and 6,000 other people) and 16,075 indirect beneficiaries**, impacting overall the health of a total **24,925 people**.

ABOUT THE COLLABORATION WITH THE ABF

MSC and the Andrea Bocelli Foundation officially launched their partnership in December 2017, during the christening of MSC SEASIDE in Miami. Believing that music can have a powerful and universal sense of communication, Maestro Bocelli and MSC Cruises invited thirty children from Haiti on board, to join the choir “The Voices of Haiti” during the ceremony. This aimed to further promote and raise awareness of the critical challenges affecting Haiti.

Founded in 2011 by Italian vocal maestro Andrea Bocelli, the Foundation aims to empower people and communities experiencing poverty and exclusion by helping reduce the barriers that prevent them enjoying their basic human rights and expressing their full potential.

HAITI: COUNTRY PROFILE³⁸

Haiti is one of the least developed countries in the world, with high mortality and poverty rates:

- 80% of the population lives with less than 1 dollar per day
- Average life expectancy does not exceed 55 years
- 56% of the population suffers from malnutrition
- 1 out of 3 children dies of hunger or preventable diseases before the age of 5
- 1 out of 2 children lacks education
- Only 67% of children aged between 6 and 12 years attend school
- Only 30% of children attending primary school complete the 5 years education cycle envisaged
- 70% of the population does not have an occupation
- Infrastructures, sewage systems, water distribution, and electrical systems are either absent or severely lagging behind.

In January 2010, a 7.0 magnitude earthquake left 260,000 dead, 300,000 injured and one million homeless. The country is still in an emergency phase and trying to recover from the disaster, which was also exacerbated by cholera chikungunya and two hurricanes.



Andrea Bocelli in Haiti



Andrea Bocelli's performance at MSC Seaside Christening

³⁸ Source: ABF Mobile Clinic Project – 2018, Activity & Financial Year Report



ABOUT THIS REPORT

EXTERNAL ASSURANCE

This report has not been assured externally. However, it takes into consideration relevant guidance tools, stakeholders' expectations, recommendations received by external auditors as well as the GRI Standards.

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