



**2021  
ENVIRONMENTAL  
SOCIAL AND GOVERNANCE  
REPORT**



## A message from our CEO



As 2021 began there was hope that the world economy would grow as COVID-19 receded. Global trade reached historical highs and a strong dry bulk market led to record results at Star Bulk.

Our vision remains to be a leader in sustainable dry bulk shipping. This report, our 4th annual ESG disclosure, provides a transparent account of our ESG performance, targets and strategy. It follows rigorous global standards to ensure that it is comprehensive and comparable to other such reports.

We continue to strengthen our decarbonization strategy. We are upgrading our ships and applying advanced technology to our operations to increase our energy efficiency and reduce our GHG emissions. We joined the Call to Action for Shipping Decarbonization to ask governments around the world to support more ambitious targets. Our efforts on transparency and accountability are reflected in our participation in the Carbon Disclosure Project, the Poseidon Principles, and the Sea Cargo Charter. Looking at the longer-term, we contribute to the R&D and the feasibility analysis related to green fuels, including the development of Green Corridors.

The wellbeing of our people is a top priority. We adopted extensive measures to protect our employees and seafarers against the COVID-19 pandemic and during the ongoing crisis in Ukraine. Our Rightship Safety Score remains among the highest in our industry. We build our human capital through sophisticated training programs, internal promotion, comprehensive reviews, and good remuneration and benefits.

We consistently achieve high employee and seamen retention rates. We actively contribute to the broader community through donations and sponsorships.

We take pride in our strong and transparent corporate governance, our ethics and our risk management practices. During 2021 we recorded zero incidents of corrupt practices and we also joined the Maritime Anti-Corruption Network. We continue to upgrade our cyber-security controls and systems. Using data and analytics, we are setting targets and measuring our performance diligently, both for the company and the individual employees. More than 40% of our shore employees and two of our Directors are female, demonstrating our commitment to inclusiveness and diversity.

As I write these words, the war in Ukraine has forced many to prioritize short-term survival over long-term sustainability, while our planet is suffering from record heat waves. We do not lose hope but remain true to our values and work hard towards our objectives, for the sake of the world, our well-being and that of our children and grandchildren.

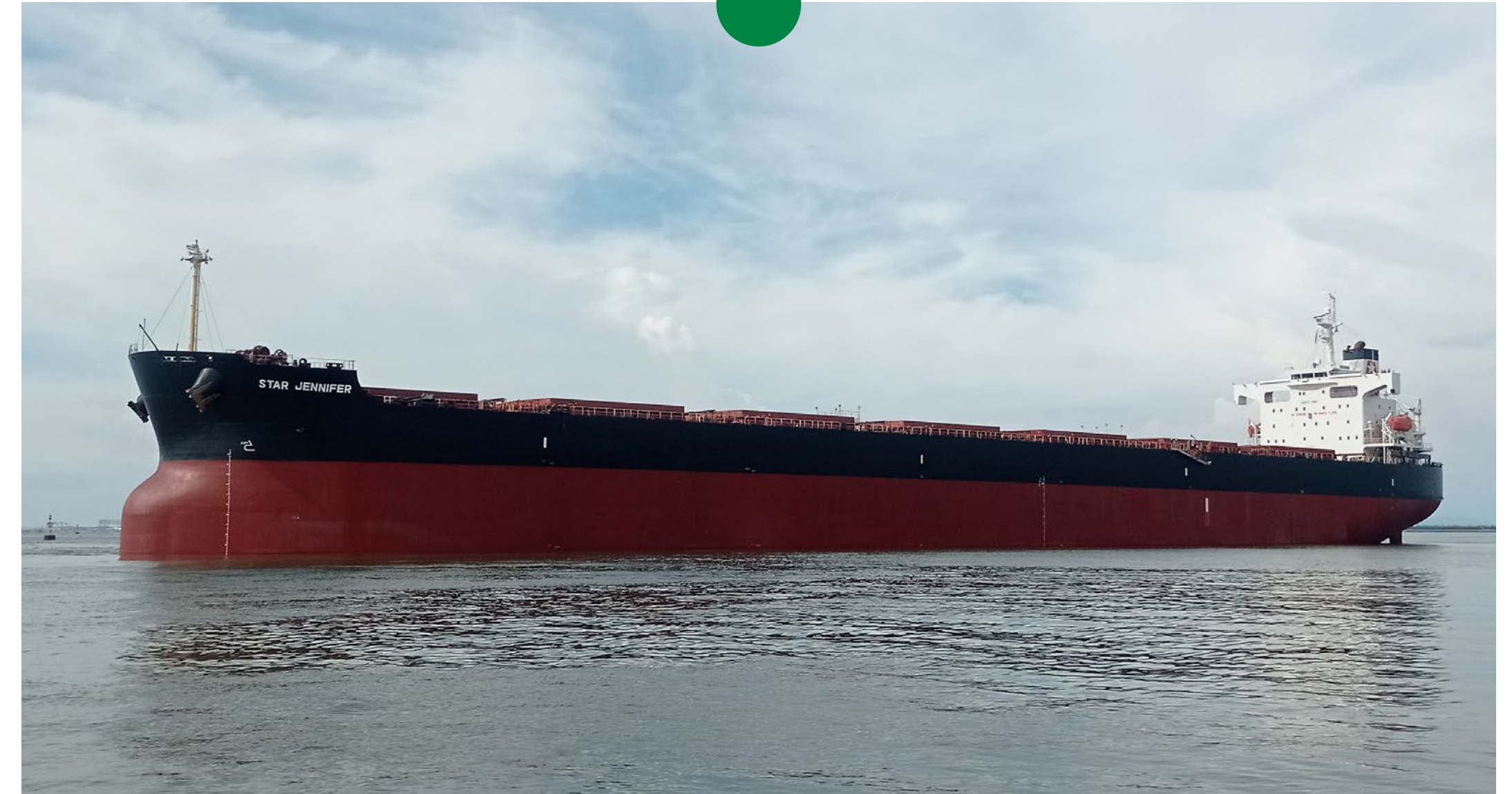


**Petros Pappas, CEO, Star Bulk**

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***“Give me a Ship  
and I shall move  
the Earth”***

Inspired by Archimedes’ original quote



# About the 2021 Environment, Social, Governance (ESG) Report



Star Bulk reports on a wide range of ESG issues since 2018. Our reports are focused on the ESG issues that are the most material to our operations and to our stakeholders.

The purpose of our fourth ESG Report is to provide our stakeholders with information and data on material ESG issues and allow them to compare our current performance to that of previous years.

This report has been prepared in accordance with the **GRI Standards “Core option”**, taking into consideration recognized sustainability standards and guidelines, including the **Sustainability Accounting Standards Board (SASB) for Marine transportation**, the **NASDAQ ESG Reporting guidelines 2.0**, and the **United Nations Global Compact (UNGC) principles**. This report outlines our commitment towards the **United Nations’ Sustainable Development Goals (SDGs)** and is **part of our Communication on Progress (CoP) to the United Nations Global Compact**.

## SCOPE AND BOUNDARY

In this report, we present data and information on our total owned fleet for the period **1<sup>st</sup> January 2021 to 31<sup>st</sup> December 2021**, including the performance of the vessels managed by third parties, (unless otherwise specified) using 2020 for comparison purposes.

## EXTERNAL ASSURANCE

We received limited external assurance from Ernst & Young (Hellas) Certified Auditors Accountants S.A. on specific GRI disclosures and SASB indicators, for the 2<sup>nd</sup> consecutive year. Please see pages 63-64 of the Appendices for the independent assurance statement.



Our ESG Report is published annually and outlines the Company’s non-financial performance on Environmental, Social and Governance (ESG) issues.





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**ABOUT STAR BULK  
CARRIERS CORP.**



# We are a global dry bulk shipping company which integrates sustainability in its core strategy

## OUR VISION

To be the global leader in sustainable dry bulk shipping.

## OUR MISSION

Star Bulk owns and manages efficiently a diverse and modern fleet of high specification bulk carriers. We protect human health, the environment and the vessels in operation, meeting or exceeding the safety and quality standards of our industry and customers.

## OUR COMPANY

## OUR GOALS



Zero incidents



Maximum value for our shareholders



Superior service to our charterers



Wellbeing of our people



Environmental protection



Transparency and accountability



**#1** largest US listed dry bulk carrier company listed on the Nasdaq Global Select Market (“SBLK”)

**RIGHTSHIP**

One of the best performing companies in the RightShip Rating score globally

**>4,000** pool of active seafarers

**16** years of presence in the shipping market

**\$1,427** mil revenues in 2021

**>330** employees work ashore for the management of Star Bulk vessels

**4** offices around the world (Athens, Limassol, Singapore and New York)

**~72** mil tonnes of cargo carried in 2021

## We own and manage a modern and diverse dry bulk fleet

Our fleet includes modern, fuel-efficient and high-quality vessels, that cover the transportation of major bulks, such as iron ore, minerals and grain, and minor bulks such as bauxite, fertilizers and steel products.



### OUR FLEET\*

**128** vessels with carrying capacity between 52,000 to 210,000 DWT

**>14 m** deadweight tonnage      **~10** average age of our fleet

#### FLEET BREAKDOWN



### TECHNICAL MANAGEMENT OF OUR OWN FLEET

As of today, our in-house team technically manages 79% of our fleet (i.e., 101 vessels) and is responsible for the vessels' day-to-day operations, including technical maintenance, manning, operational performance, health, safety and environmental performance. For the technical management of the remaining 27 vessels, we cooperate closely with experienced third-party managers.

### COMMERCIAL MANAGEMENT OF OUR OWN FLEET

The chartering function for all our vessels is undertaken in-house.

### FLEET DEVELOPMENT

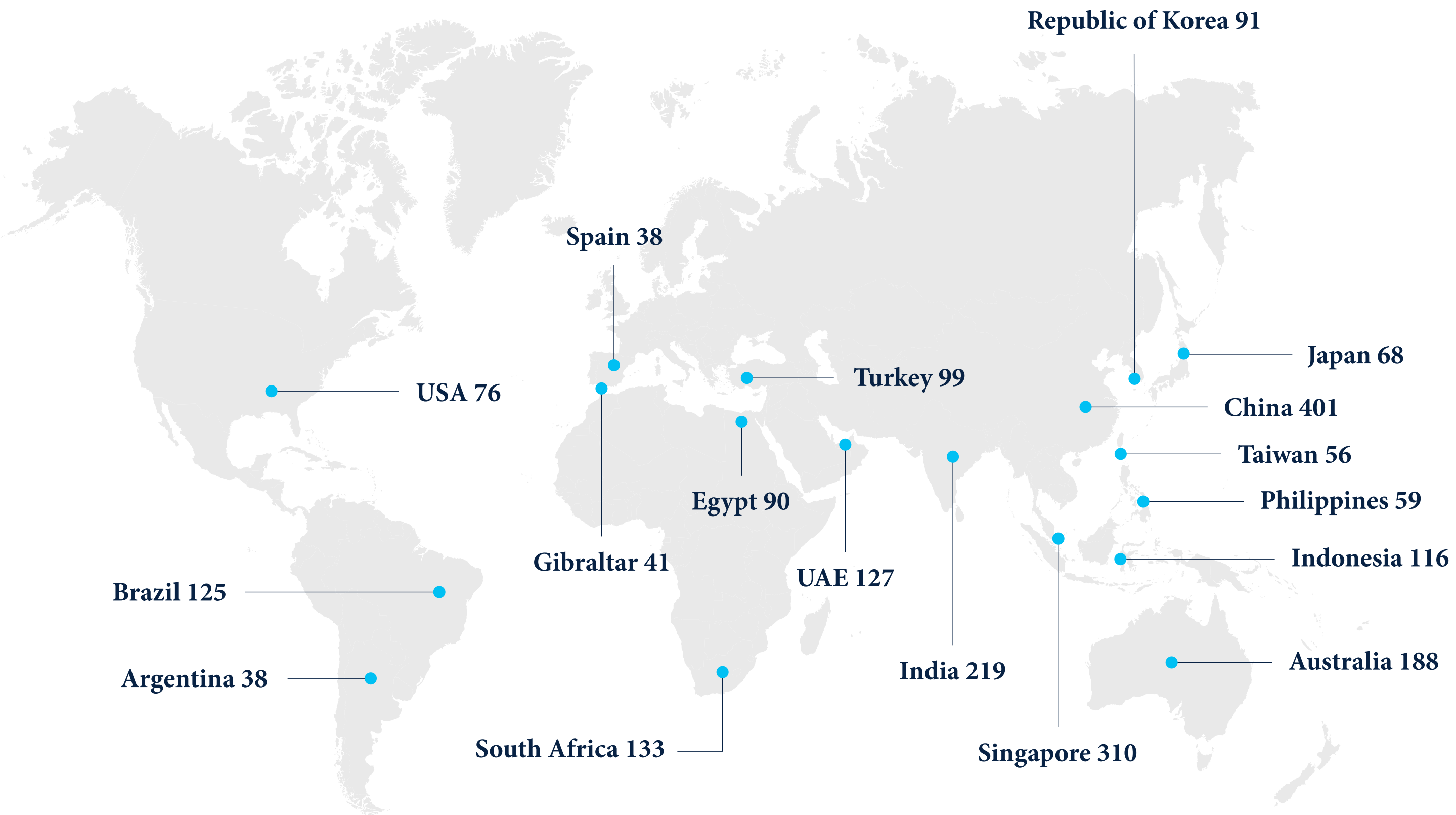


\*As of the release date of this report



# Our vessels trade in every corner of the world, carrying more than 72m tonnes of cargo

Most visited countries from our fleet with more than 35 port calls in 2021



During the reporting period, we recorded:

- 7.2 mil** nautical miles travelled
- ~72 mil** tonnes of cargo carried
- 2,863** port calls
- 86** countries visited
- 96%** fleet utilization
- 45,759** ownership days



# In 2021 we achieved strong growth in the economic value which was generated and distributed

## DURING THE REPORTING PERIOD:

- Our **revenues nearly doubled** to \$1,427.42 million for the year ending December 31<sup>st</sup>, 2021, from \$693.24 million for the year ending December 31<sup>st</sup>, 2020. Voyage revenues increased primarily because of the strong market conditions in 2021, charter rates and the increase in the number of vessels in our operating fleet.
- The **available days increased** by approximately 9% in comparison with 2020, despite the disruptions in connection with crew changes from COVID-19.
- The **TCE rate increased** to \$26,978, compared to \$11,789 in the previous year.
- The **shareholders' equity increased** to \$2.08 billion for the year ending December 31<sup>st</sup>, 2021, from \$1.55 billion for the year ending December 31<sup>st</sup>, 2020.
- Declared \$435 million in cash dividend to the shareholders, out of which \$230.5 million were paid during 2021.

## TRADE OF LARGE SIZE VESSELS THROUGH CCL POOL

- 35 of our Newcastlemax and Capesize dry bulk vessels participate in the **Capesize Chartering Ltd (CCL) pool**, together with Bocimar and C Transport Maritime. All vessels

of the Pool are traded on the spot market and earnings are distributed to each Member according to the Pool Points of each vessel.

## TRADE OF SMALL AND MEDIUM SIZE VESSELS

- Our in-house team manages the employment of our small and medium size vessels that are mostly employed on a time charter basis. Rates vary according to prevailing market conditions, the length of the charter period, the position of the vessel and its specific characteristics such as age, length/beam and fuel consumption.

## OPERATING EXPENSES

- Our **daily OPEX are consistently below industry average**, despite the increase in our average vessel size.
- During 2021, our average daily OPEX increased by 8%, as a result of the incurred additional crew expenses required for COVID-19 related crew changes.
- During 2021, we achieved a **96% utilization rate**, a similar level to 2020.

### Economic value generated and distributed

\$ '000s	2020*	2021
<b>Economic value generated</b>	<b>693,241</b>	<b>1,427,423</b>
Revenue	693,241	1,427,423
<b>Economic value distributed</b>	<b>446,976</b>	<b>697,793</b>
OPEX	176,440	206,027
Employee wages and benefits	15,295	16,757
Payments to providers of capital	252,772	472,238
Payments to governments	2,255	2,650**
Community investments	214	121
<b>Economic value retained</b>	<b>246,265</b>	<b>729,630</b>

### CAPEX on green infrastructure

\$ '000s	2020	2021
<b>Total CAPEX on green infrastructure</b>	<b>71,790</b>	<b>32,213</b>
EGCS CAPEX	65,682	10,745
Ballast Water Treatment CAPEX	6,108	21,468
<b>Solvency (debt/total capitalization)</b>	<b>50%</b>	<b>43%</b>

**18%** below average industry daily OPEX

**↑ 34%** in shareholder's equity

**\$435 mil** in cash dividend declared to the shareholders in 2021

\*2020 figures restated to account for the inclusion of community investments as per GRI 201-1 requirements and minor adjustments in Opex.

\*\*Payments to governments by country: \$ 2,511,325 in Greece, \$123,032 in Cyprus, \$16,332 in Malta and \$(130) in Switzerland.





**ESG  
AT STAR BULK**



# Our sustainability highlights in 2021 cover all three areas of ESG



## REDUCING OUR IMPACT TO THE ENVIRONMENT

- **Timely preparation** for GHG emissions reduction regulations
- **Transparent reporting** of fleet and offices emissions
- **Advanced vessel performing systems**
- **Technical and operational measures** to improve fleet energy efficiency
- **ISO 50001 and ISO 14001 certified**
- **Active waste and water management** on board and ashore
- **Participation in Research and Development** on green energy and technology
- **Contribution to environmental alliances**



## PROMOTING A SAFE, DIVERSE AND EQUITABLE WORKPLACE

- **Zero tolerance on human rights violations**
- **A diverse and inclusive working environment**
- **High retention rates** on board and ashore
- **Enhanced programs on our people's well-being**
- **Strong performance** in RightShip Safety Score and Port State Controls
- **Company wide performance management processes**
- **Continuous professional development** of our people
- **Active contributions to the Community**

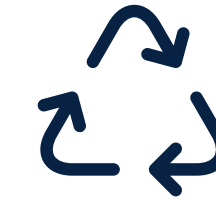


## OPERATING EFFICIENTLY WITH INTEGRITY AND TRANSPARENCY

- **Strong and independent** Board of Directors
- Experienced management team with **solid track record**
- **ESG Committee** at a Board Level
- Fourth consecutive year to issue an **ESG Report**
- **Climate Related Risk Assessment**
- **High end digital technology and advanced cyber security systems**
- **Robust internal controls** to manage risks
- **Continuous monitoring and transparent reporting** on ESG Key Performance Indicators (KPI's)



# Integrating sustainability across all functions of our business



## ESG PRIORITIES



### People

Foster a diverse and inclusive workplace that creates equal opportunities for everyone while ensuring human rights protection.



### Environment

Reduce the impact of our operations to the environment and implement a robust decarbonization strategy.



### Health and Safety

Comply with highest safety standards and regulations to eliminate risk of hazards.



### Governance

Commit from the top and integrate ESG into the Company's decision-making process.

## ESG COMMITMENTS

### Environmental commitments:

- Implement the decarbonization strategy in place and develop a climate transition plan in the following years, to meet industry aspirations for decarbonization of international shipping.
- Upgrade energy efficiency technologies on board and apply operational improvement measures.
- Calculate and report Scope 3 emission categories, starting from 2022.
- Follow the process and assess emissions reduction targets in accordance with the Science Based Targets initiative (SBTi).
- Invest in new R&D programs for climate technologies and alternative fuels.

### Social and governance commitments:

- Minimize the risk of hazards and eliminate workplace accidents.
- Promote inclusion and diversity.
- Enhance employees' well-being and continuous development.
- Commit to a zero-tolerance approach when it comes to bribery, corruption and any form of harassment or discrimination.
- Maintain and enhance transparency through annual ESG reporting and participation in ESG rating indexes.

## ESG GOVERNANCE

Our newly established ESG Committee is responsible to provide guidance and to support the development of the Company's ESG strategy, to evaluate and recommend ESG initiatives and practices and to ensure that the Company promotes and integrates environmental, social and governance matters into its strategy and core business operations and stays abreast of risks and opportunities for ESG and climate change related matters.

Leadership of ESG issues starts with our Senior Management and flows across all employees and operations. Our Senior Management has the overall responsibility to oversee ESG matters, and monitor the Company's performance against its commitments.



# Every year we engage with our stakeholders to identify ESG issues material to our business

We conducted a materiality assessment to identify environmental, social and governance matters, and to ensure that our operations and overall business strategy aligns with the issues that matter most to our stakeholders.

## OUR PROCESS

### 1. Issue identification

- Review issues raised by the leading sustainability standards and initiatives as well as industry - SDGs, GRI, SASB, etc.
- Explore business and industry landscape on sustainability.
- Introduce our Company specific issues.
- Group the pool of potentially material sustainability issues into focus areas.

### 2. Assessment and prioritization

- Assess and rank the issues based on their impact to the business, their associated risks and opportunities and the degree of influence over them.
- Evaluate and rank the issue from the perspective of different stakeholders. Obtain input from key stakeholder groups on what they perceive to be the most important issues in relation to our performance.
- Use the input to evaluate and inform our prioritization.

### 3. Validation and alignment

- Review the assessment results and validate that they are aligned with objectives reflecting Star Bulk’s sustainability viewpoint.
- Produce the “Materiality matrix”, focus efforts and allocate resources accordingly.

In the 2021 Stakeholder Questionnaire we introduced 3 new topics (Respecting human rights, Sustainable procurement practices, Corporate and employee performance management). In addition:

- GHG emission reduction and energy efficiency was added to replace Fuel and energy efficiency and Air pollution reduction & compliance with respective regulations.
- Occupational health, safety and security (including related to the Covid-19 pandemic) replaced Occupational health and safety and Health and safety during COVID-19 outbreak.
- Research and innovation in green technologies and alternative fuels was added to replace Research and innovation and Investments Research & Innovation in green technologies and alternative fuels.
- Resource conservation and vessel lifecycle was renamed to Vessels’ recycling.
- Support of local communities replaced Support of local communities in all countries with established operations and Community investments.

## MATERIAL ESG ISSUES

Material topics refer to the topics that are of high importance to the business and high importance to stakeholders. The results showed that the most important ESG-related topics to us and our stakeholders are:

ESG material topics for Star Bulk and its stakeholders	
<ul style="list-style-type: none"> <li>• GHG emission reduction and energy efficiency</li> <li>• Water pollution prevention, control and compliance with respective regulations</li> <li>• Impact of environmental regulations on fleet profile</li> <li>• Corporate governance, ethics and transparency</li> <li>• Regulatory compliance and application</li> <li>• Occupational health, safety and security (including related to the COVID-19 pandemic)</li> <li>• Economic performance</li> <li>• Security of operations both physical and cyber security</li> <li>• Research and innovation in green technologies and alternative fuels</li> <li>• Commercial strategy and commercial performance</li> </ul>	<ul style="list-style-type: none"> <li>• Employee well-being</li> <li>• Relationship with business partners</li> <li>• Respecting human rights</li> <li>• Risk mitigation and control</li> <li>• Waste management and recycling</li> <li>• Labor practices depicting the relationship between Management and office employees / crew personnel</li> <li>• Sustainable procurement practices</li> <li>• Partnerships for advancing sustainability</li> <li>• Corporate and employee performance management</li> <li>• Employee training / competency development</li> </ul>

The 2021 Stakeholder Questionnaire included 28 topics. Based on the results of the analysis, 20 material topics were identified as material, 5 as important and 2 as relevant to us and to our stakeholders, while the 2020 Stakeholder Questionnaire included also 28 topics and the results showed 16 material, 4 important and 3 relevant topics.

- The following topics in the 2021 Shareholder Questionnaire were identified as material: (1) Employee well-being, (2) Respecting human rights, (3) Sustainable procurement practices and (4) Corporate and employee performance management.
- In addition, the following topics were not identified as material in 2021, while they were identified material in 2020: (1) Talent attraction and retention including internship programs, (2) Diversity and inclusion, (3) Career opportunities and advancement.



# Our stakeholders represent a diverse range of organizations and individuals

We prioritize stakeholder engagement. Their insight informs our decision-making process and ensures the relevance of our overall business strategy to their expectations and concerns.



## Customers

- Vessel owners
- Charterers
- Cargo owners



## Shareholders / Investors

- Natural persons
- Institutional shareholders
- Funds / Private Equities



## Authorities

- Governments
- International Maritime Organization (IMO)
- Flag administration
- Port authorities / coast guards



## Community and Society

- Academic institutions
- Local communities
- NGOs
- Media



## Seafarers and office employees

- Crew on board
- Office employees
- Manning agent



## Financial Institutions

- Banks
- Leasing financial institutions
- Underwriters
- Insurance companies



## Suppliers

- Manufacturers
- Shipyard
- Brokers
- General suppliers
- Port agents



## Industry organizations

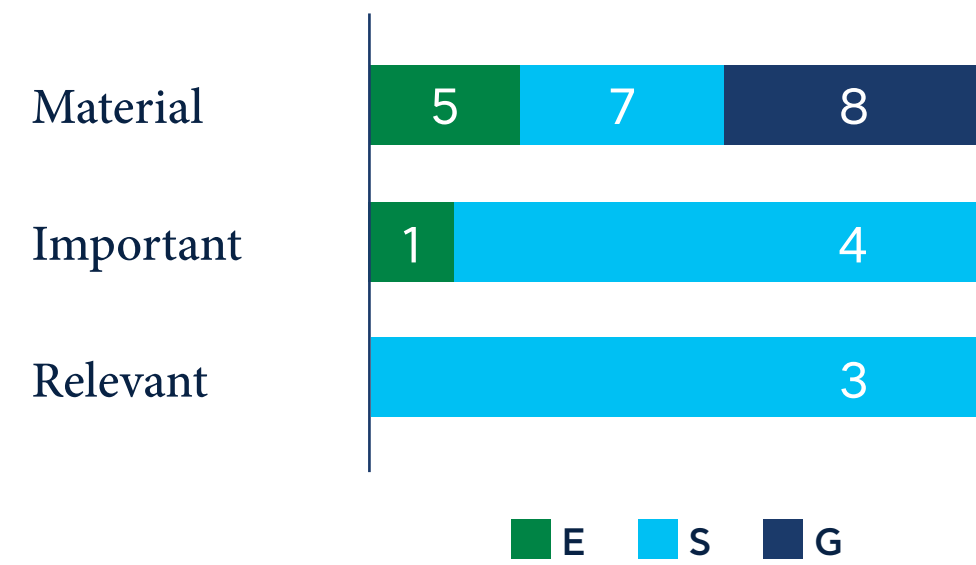
- Classification societies
- Recognized organizations
- P&I clubs
- Insurers
- Vetting companies

For more details regarding the engagement process followed for each stakeholder group, please refer to “Appendix A - Stakeholders’ engagement process”.



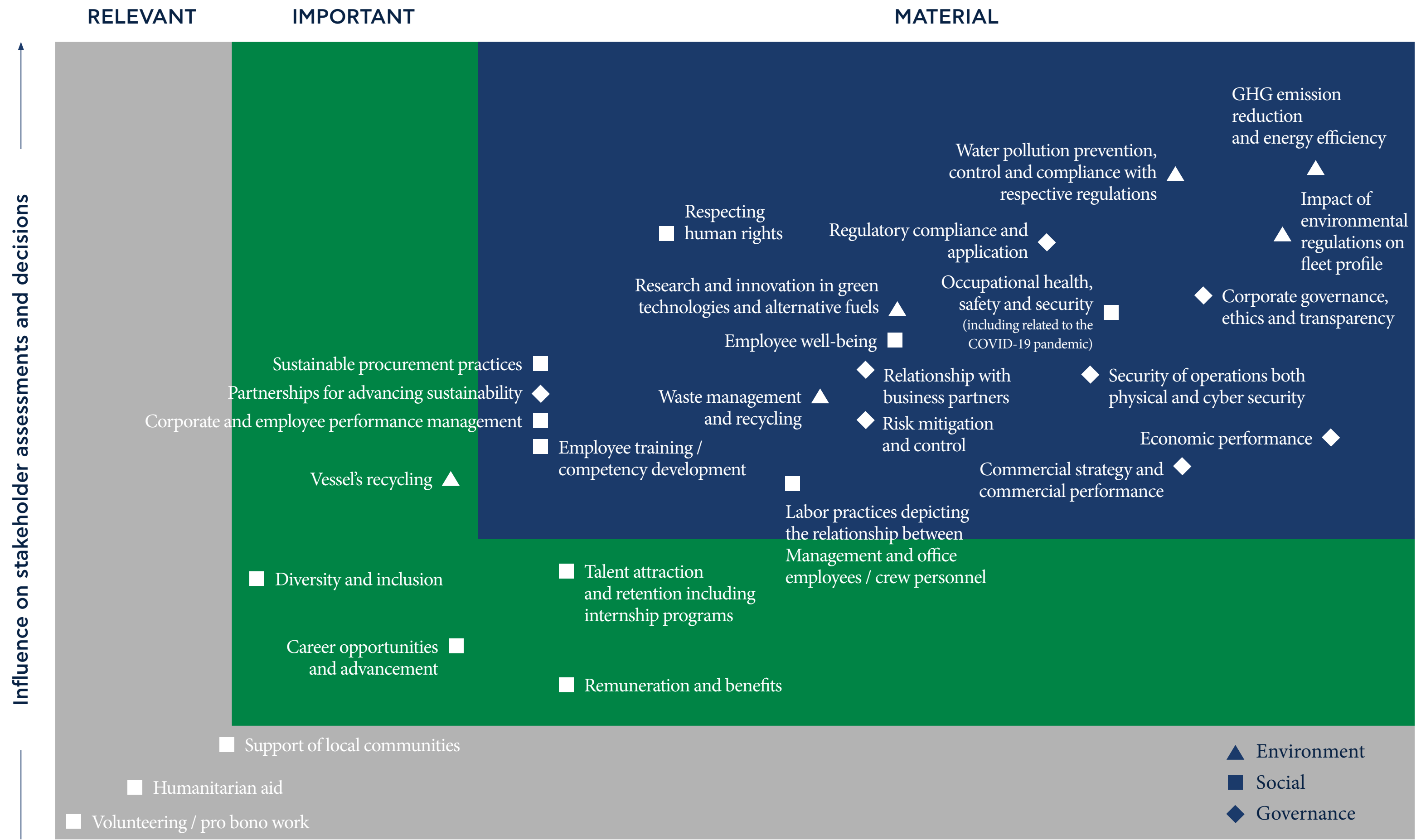
# Our 2021 materiality matrix highlights the Company's core strategic issues

## Number of issues per materiality level



## Key stakeholder groups:

- External stakeholders**
  - Charterers / Brokers
  - Financial institutions
  - Suppliers / Business Partners
- Internal stakeholders**
  - Managers and Directors
  - Top Management
  - Board of Directors



Star Bulk's Significant economic, environmental, and social impacts

The axis "Influence on stakeholder assessments and decisions" refers to the degree of influence of Company's external stakeholders and the axis "Significance of economic, environmental and social impacts" reflects the impacts created on the broader economy, society and environment, according to the internal stakeholders.



## ESG Key Performance Indicators are being monitored continuously and reported every year

ENVIRONMENT	KPI	2021	2020	2019
	Average fleet Energy Efficiency Operation Index (EEOI) (gr CO <sub>2</sub> / Tonne-mile)*	6.64	6.22	5.89
	Average fleet Annual Efficiency Ratio (AER) (gr CO <sub>2</sub> / DWT-mile)	3.43	3.25	3.24
	Scope 1 GHG emissions (tn CO <sub>2</sub> e)	2,878,190	2,611,955	2,364,950
	Scope 2 GHG emissions (tn CO <sub>2</sub> e)	511	601	2,238**
	Fuel consumption (tn)	910,071	823,676	746,929
	SOx emissions (tn)	8,146	7,346	34,737
	NOx emissions (tn)	63,311	60,732	54,270
	Total fleet and office Energy Consumption (GJ)	36,880,563	33,383,000	30,159,000
	Number and volume of spills and releases to the environment	0	0	0
Percentage of fleet equipped with EGCSs	94%	98%	90%	
Percentage of fleet equipped with BWTS	73%	55%	52%	

SOCIAL	KPI	2021	2020	2019
	Number of seafarers	3,999	3,944	2,600
	Seafarers' retention rate (%)	94,1	95	93
	Employees ashore	>330	>315	>320
	Women employees (%)	42	41	40
	% of employees with seagoing experience	26	27	29
	Number of serious marine incidents	0	0	3
	Number of port state control (1) deficiencies and (2) detentions	155 / 3	111 / 2	318 / 5
	Average Port State Control deficiency ratio	0.9	0.8	1.04
	Lost time injury (LTIF) rate per 1.000.000 manhours	0.62	0.67	1.21
Total Recordable Cases Frequencies (TRCF) per 1.000.000 manhours	1.49	1.16	2.49	
GOVERNANCE	Port calls in countries that have the 20 lowest rankings in the Transparency International CPI (%)	12	12	8
	Amount of legal and regulatory fines associated with bribery or corruption	0	0	0
	Number of material weaknesses or deficiencies	0	0	0

\*Excluding the vessels managed by our third party managers

\*\* Scope 2 GHG emissions (tn CO<sub>2</sub>e) for 2019 were significantly high due to the increased number of days and electrical power purchased during the D/Ds and EGCS installations that took place.





RELATED SDGS

<p>9 INDUSTRY, INNOVATION AND INFRASTRUCTURE</p> 	<p>12 RESPONSIBLE CONSUMPTION AND PRODUCTION</p> 	<p>13 CLIMATE ACTION</p> 	<p>14 LIFE BELOW WATER</p> 
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# ENVIRONMENTAL PROTECTION



# We are implementing a rigorous strategy to reduce our GHG emissions



## OUR VISION

We aspire to lead by example and to contribute actively to the industry's efforts to reduce GHG emissions.

## THE PILLARS OF OUR DECARBONIZATION STRATEGY

### Monitoring and transparent reporting

We monitor our emissions through an advanced mechanism that ensures validity and reliability of data and assists us in reporting our carbon footprint with accuracy and transparency.

### Improving the efficiency of our fleet

We always stay on top of emerging technology trends, and we test and implement tools regularly (including route and speed optimization, hull cleaning and anti-fouling paints), to improve the operational and technical efficiency of our vessels.

### Identifying and assessing climate-related risks and opportunities

Using climate related scenarios, we look ahead and prioritize potential climate related physical and transitional risks and opportunities and assess potential impacts to our business and stakeholders.

### Participating in R&D for new technologies and alternative fuels

We are active participants in several R&D projects for the development of new technologies and alternative fuels, using our own funding or EU and other outside funding.

### Developing partnerships and participating in alliances

We establish partnerships with leading companies and stakeholders across the world, and we participate in multiple initiatives (e.g., UN Global Compact, Getting to Zero Coalition), to jointly tackle decarbonization in the industry.

## COMPLIANCE

## OUR TARGETS

**Reduction of carbon intensity** Lead in the reduction of GHG emissions and carbon intensity, by 2050.



Reduce the fleet's carbon intensity ratio, **by 12% by 2026**, using 2019 as a baseline year.



Upgrade the Company's ships to become more fuel efficient and contribute to emissions reduction.

- We are committed to preparing a climate transition plan consistent with the International Maritime Organization (IMO) greenhouse gas emission reduction targets set for the industry.
- We apply advanced technologies (low friction paints, installation of energy saving devices, etc.) and operational improvement measures (voyage optimization) to improve the energy efficiency of our fleet and we actively research the feasibility and application of zero emission fuels.



# We support the industry's aspirations for decarbonization of international shipping by 2050...



**by 2030** Reduction of carbon intensity by at least 40%

**by 2050** Reduction of carbon intensity by 70%  
Reduction of GHG emissions by 50%



**by 2030** Reduction in carbon emissions 55%

**by 2050** Europe to become the world's first climate-neutral continent

## ... and the Poseidon Principles and the Sea Cargo Charter initiatives.



Launched on 18 June 2019

Poseidon Principles establish a framework for assessing and disclosing the climate alignment of ship finance portfolios.

Represent **\$200 billion** in shipping finance

Signed by **30 leading international banks**

### Our contribution

For 2021, we provided data to various financial institutions that we cooperate with, as part of their alignment process with the Poseidon Principles.



Launched on 7 October 2020

The Sea Cargo Charter provides a framework for aligning chartering activities with responsible environmental behavior to promote international shipping's decarbonization.

Applicable to bulk ship charterers

Signed by **34 charterers**

### Our contribution

We provide data to our charterers upon their request as part of their alignment process with the Sea Cargo Charter.

During 2021, we participated in the drafting of the Poseidon Principles for Marine Insurance, an initiative by the Global Maritime Forum which serves as a framework to better align Hull & Machinery portfolios with responsible environmental impacts. The Poseidon Principles for Financial Institutions, the Sea Cargo Charter and the Poseidon Principles for Marine Insurance complement one another to establish a common global framework for aligning the marine industry with society's goals.

During 2021, Star Bulk agreed with three separate European financial institutions, three sustainability linked facilities totaling ~\$245 million. The facilities have an annual sustainability margin adjustment mechanism linked to Star Bulk's commitment to continuously improve the carbon intensity of its fleet in line with the IMO 2030 and 2050 decarbonization targets.



## We use advanced environmental and energy management and monitoring systems

### ENERGY MANAGEMENT SYSTEM REVIEW REPORT

Our Energy Management System Report, is certified with **ISO 50001**, is reviewed annually by our Company, following the ISO requirements, and covers a wide range of energy efficiency and conservation management topics.

Our energy management policies are available on the Star Bulk website.



### ENVIRONMENTAL MANAGEMENT SYSTEM REVIEW REPORT

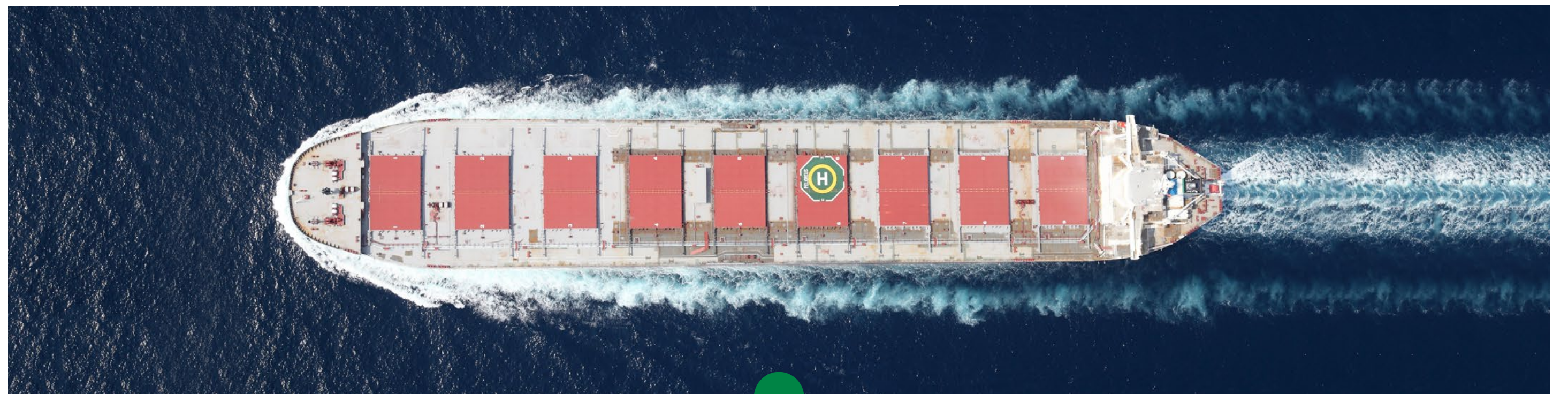
The Environmental Management System Report is an environmental review, designed and performed by Star Bulk, on an annual basis. The system is certified with **ISO 14001** and includes various topics.

Our environmental management policies are available on the Star Bulk website.

We have developed an in-house energy efficiency team to tackle the needs that emerge from the upcoming regulations.

### USE OF TELEMETRY AND ADVANCED MONITORING SYSTEMS

Our **dedicated in-house team** collects and analyzes data, through **business intelligence reports** which illustrate dynamic real-time information. We have developed and implemented a **sophisticated Vessel Performance Reporting (VPR) Software**, which is customized to our vessels' specifications and enables the collection of accurate vessel performance data. We have **deployed telemetry on most of our vessels** through our in-house built automated equipment which collects vessel data in real time.





# We continuously strive to improve the energy efficiency of our fleet



## ENERGY EFFICIENCY OPERATIONAL INDICATOR

At Star Bulk, we monitor our vessel's transport energy efficiency through the **Energy Efficiency Operational Indicator (EEOI)**, which is the annual total CO<sub>2</sub> emissions per transport work, as defined by the International Maritime Organization (IMO).

We use weather routing systems and speed optimization practices and have planned technical upgrades to our fleet, such as the use of **Energy Saving Devices (ESD)** and low friction hull paints to achieve fuel consumption and emissions reduction.

We plan to use underwater **Remotely Operated Vehicles (ROV)** for inspecting and cleaning the underwater hulls of our vessels.

In 2021, the average EEOI of our managed fleet increased by approximately 6.8% compared to 2020 due to the increase in the operating speed as per charterers' instructions.

**6.64** weighted average fleet EEOI

**3.43** average AER of our fleet

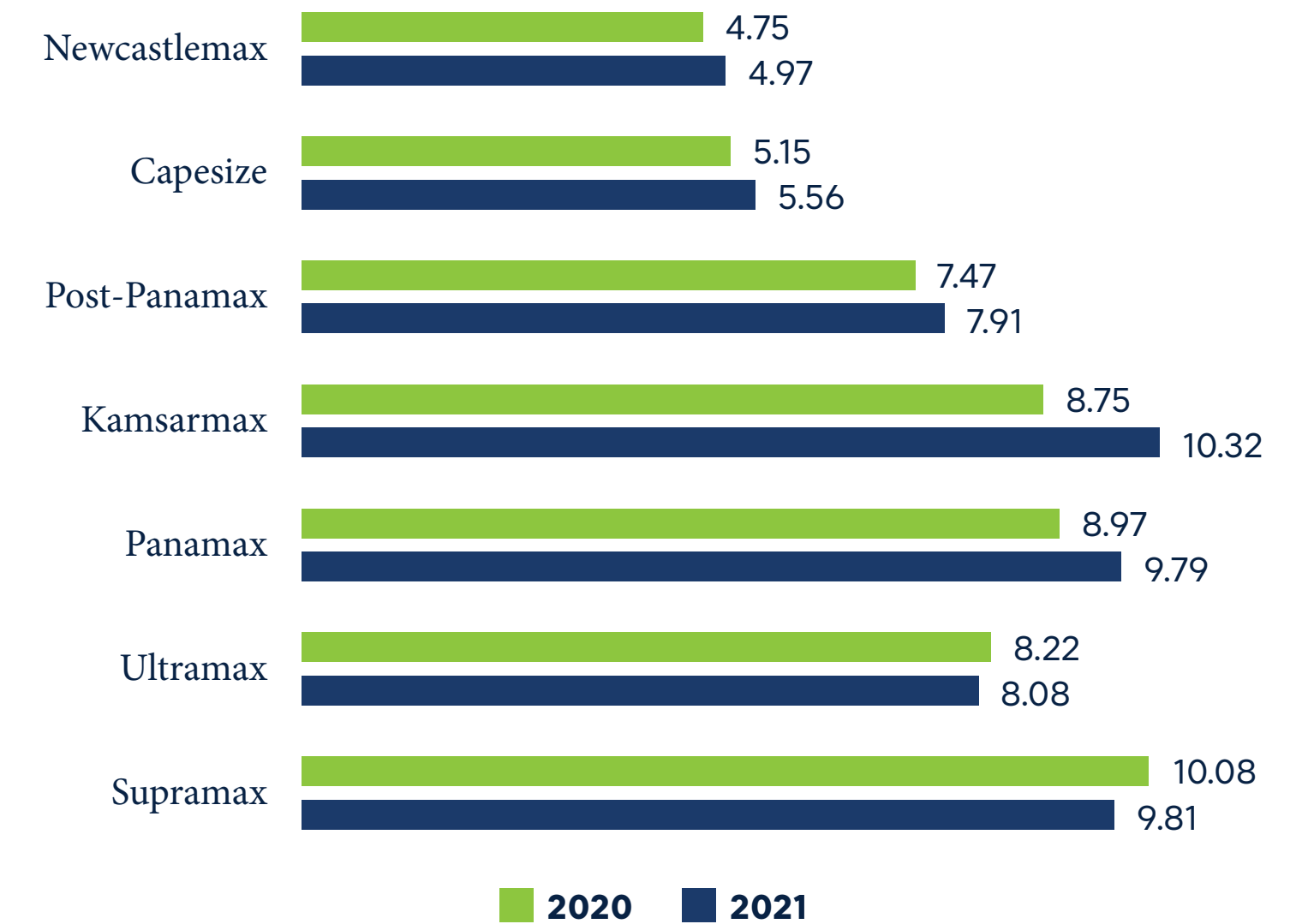
**2.78** average EEDI of new vessels

## ANNUAL EFFICIENCY RATIO (AER)

We use the Annual Efficiency Ratio (AER) for the assessment of the energy performance of our ships, which has been adopted by the Poseidon Principles framework for financial institutions and is defined as the ratio of the annual CO<sub>2</sub> emissions of a ship divided by the product of the distance sailed, and the deadweight of the ship, expressed in grams of CO<sub>2</sub> / DWT-mile.

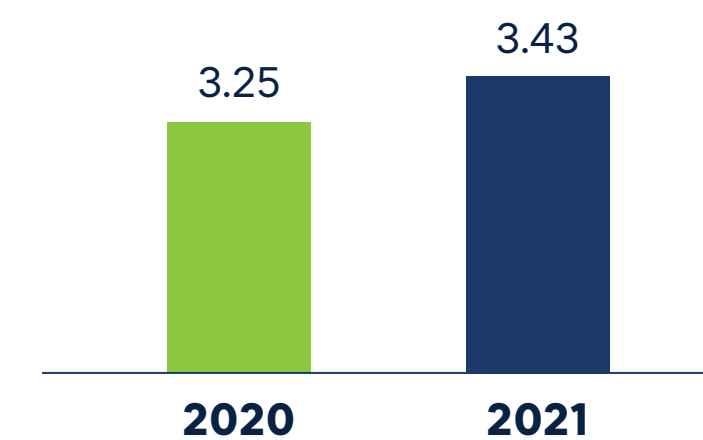
In 2021, the average AER of our fleet increased by approximately 5.4% compared to 2020 due to the increase in the operating speed as per charterers' instructions.

Average EEOI per vessel size (gr CO<sub>2</sub> / tonne-mile)\*



\*Excluding the vessels managed by our third-party managers

Average AER (gr CO<sub>2</sub> / DWT-mile) of our fleet



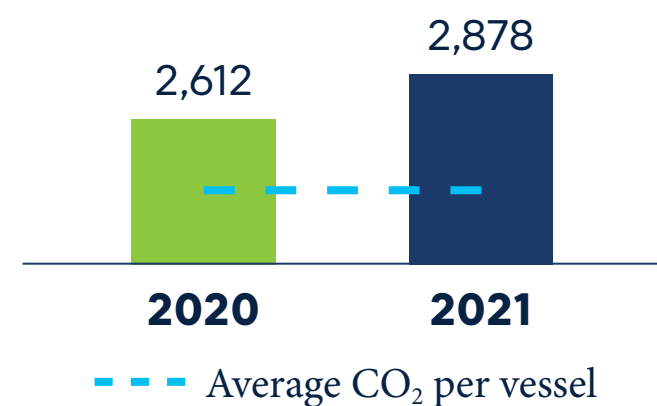


## Continuous monitoring and transparent reporting of our fleet's emissions

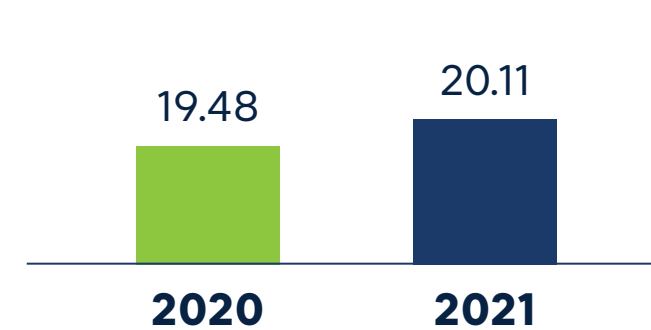
We are focused on improving our carbon footprint. We monitor our CO<sub>2</sub> emissions carefully.

- During 2021, our vessels travelled **7,205,745 nautical miles**, emitted **2,836,917 metric tonnes of CO<sub>2</sub> (Scope 1)\***, and consumed **910,071 metric tonnes of fuel**.
- The total fleet CO<sub>2</sub> emissions increased by 10.2% in 2021 following the increase in the fleet size, from 116 vessels in 2020 to 128 in 2021.
- The average fuel consumption per day per vessel totaled 20.11 mt. In our managed fleet there was a **3.2% increase** compared to the 2020 levels (from 19.48 mt in 2020, to 20.11 mt in 2021), due to the increase of the average sailing speed.
- The total fleet's fuel consumption by fuel type breaks down to **777,572 mt of HFO, 36,625 mt of LFO, and 95,873 mt of MGO**.
- The total energy consumption of our fleet was 36,879,474 GJ in 2021, increased by approximately 10.5% compared to the 2020 levels, due to the increase in the number of vessels in our fleet and of the average sailing speed. (The total energy consumption is from non-renewable sources).

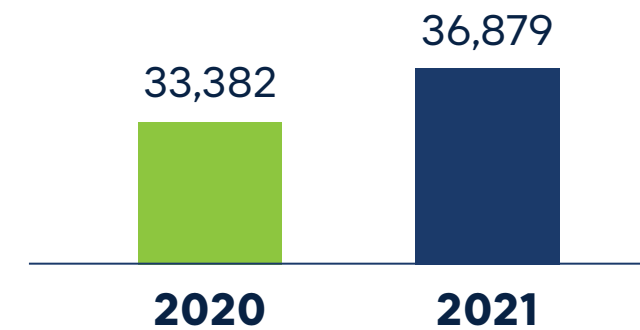
**Scope 1 GHG emissions ('000 tonnes CO<sub>2</sub>e)\*\* - Our fleet**



**Average fuel consumption per day per vessel (tonnes) - Our fleet**



**Total energy consumption ('000 GJ) - Our fleet**



\*The CF conversion factor used between fuel consumption and CO<sub>2</sub> emission is based on IMO Resolution MEPC.245(66) and MEPC 75-7-15 - Fourth IMO GHG Study 2020 - Final report (Secretariat) HFO (3.1144) / LFO (3.151) / MGO (3.206). / The consolidation approach used for emissions calculations was operational control. / 2020 is used for comparison purposes with the 2021 data.

\*\*The GWPs used in the calculation of CO<sub>2</sub>e are based on the Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment Report (AR4) over a 100-year period. Our calculation include HFO/LFO (CO<sub>2</sub>, CH<sub>4</sub>: 1.27kg/ton fuel, N<sub>2</sub>O: 44.24kg/ton fuel) and MGO (CO<sub>2</sub>, CH<sub>4</sub>: 0.81kg/ton fuel, N<sub>2</sub>O: 43.19kg/ton fuel), consumed in our vessel's main engines and diesel generators, source: <https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2021>.

**2,836,917 tonnes**

total Scope 1 direct emissions (CO<sub>2</sub>) of our fleet in 2021

**511.36 tonnes**

total Scope 2 indirect emissions (CO<sub>2</sub>e) in 2021

**36,879,474 GJ**

in total energy consumption of our fleet in 2021

**910,071 tonnes**

total fuel consumption of our fleet in 2021

We applied additional initiatives in 2021, including enhanced biofouling management, assessment of the underwater fouling increase and frequent UW cleaning.

Additionally, through our VPM support, we introduced a web-based platform to monitor and assess fouling of the vessel and UW cleaning performance.

Our Scope 2 CO<sub>2</sub>e indirect emission for 2021 were 511.36 tonnes, including the electricity consumption of our offices in Greece, Cyprus, and Singapore and the electricity purchased by our ships during dry dock. CO<sub>2</sub>e per kWh is not specific to supplier, thus, we are using location-based emission factors in our calculations.

The CO<sub>2</sub>e due to electrical power purchased during ships' repairs and retrofitting in 2021, were 374.98 tonnes, while the CO<sub>2</sub>e due to electrical power purchased for office use were 136.38 tonnes.



# We reduced our vessel average NOx emissions by 5.5% compared to 2020

At Star Bulk we aim to minimise the negative environmental impacts related to our operations. This commitment includes a reduction of SOx and NOx to the atmosphere which represent our fleet’s primary pollutants.

During 2021, the total fleet SOx and NOx emissions were slightly higher compared to 2020, due to the increased number of vessels in our fleet, while the average SOx emissions per vessel slightly increased and the average NOx emissions per vessel were reduced.\*

## SULFUR OXIDES (SOx)

The amount of sulfur oxides in the engine exhaust is virtually equal to the amount of sulfur in the fuel burnt.

- Approximately 94% of our vessels are fitted with Exhaust Gas Cleaning Systems (EGCS) or “scrubbers” and use heavy fuel oil fuel (3.5% sulfur) but eliminate the sulfur before it is released to the atmosphere.
- In 2021, the total SOx emissions of our fleet after any EGCS were 8,146 tonnes, increased by approximately 10.9%, due to the increase of the number of vessels in our fleet.
- **The average SOx per vessel in 2021, was 63.64 mt, which increased by approximately 0.5% in comparison with 2020 (63.33 mt).**

## NITROGEN OXIDES (NOx)

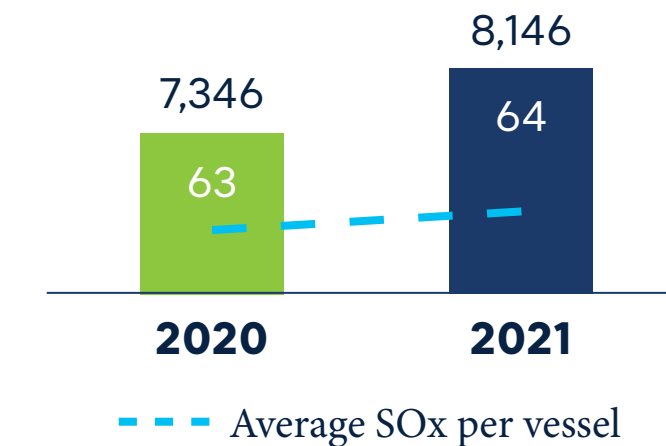
We have in place controls on equipment replacement, calibration and sailing phases to reduce NOx emissions from our vessels. NOx is created by the reaction of nitrogen and oxygen gases during the fuel combustion at high temperatures in our vessels’ engines.

- In 2021, our total fleet emitted 63,311 tonnes of NOx, increased by approximately 4.3%, in comparison to 2020 (60,732 mt), due to the increase in the number of vessels in our fleet.
- **The average NOx per vessel in 2021, is 494.61 mt, decreased by approximately 5.5% in comparison with 2020 (523.55 mt),** due to the addition of the 12 vessels to our fleet, having Tier II engines that emit significantly less NOx emissions per vessel.

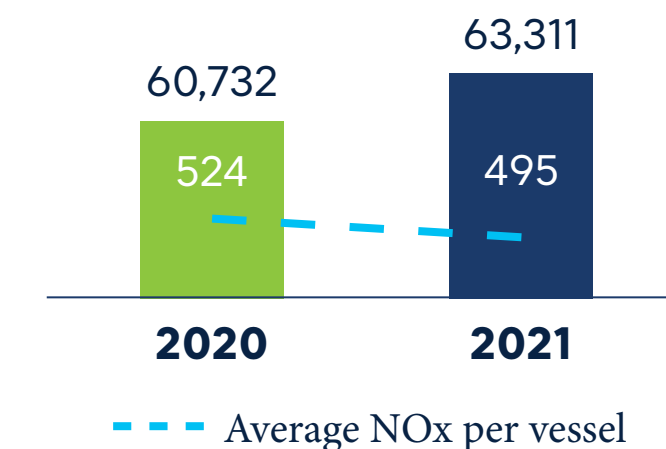
The SOx and NOx emissions for 2021 and 2020 reflect the total emissions of our entire fleet.



### SOx emissions (Tonnes) - Our fleet



### NOx emissions (Tonnes) - Our fleet



↑ 0.5%

Average SOx emissions per vessel in 2021

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↓ 5.5%

Average NOx emissions per vessel in 2021

\*We closely monitor only CO<sub>2</sub>, SOx and NOx emissions. PM2.5 and PM10 emissions are considered immaterial to us, while other type of emissions (VOC, POP, HAP, etc.) are not related to the nature of our operations.



## We closely monitor and manage the waste produced both on board and ashore



We place great emphasis on managing our waste, either from our offices or from our vessels and we apply various measures to improve our environmental footprint. All our vessels comply with MARPOL Annex V, which strives to lower the amount of waste being discharged in the sea.

At our offices, we actively promote the recycling of materials. In 2021, we recycled 1,435 kg of paper, 46 kg of aluminum cans, 16 kg of light bulbs and 967 kg that include electronic devices, UPS, toners, and cartridges.

When it comes to our vessels, our kamsarmax vessels are responsible for the biggest amount of produced garbage, followed by the Ultramax vessels. Sludges are mainly disposed ashore, a part of which is incinerated. Regarding bilges, 7,486 m<sup>3</sup> were disposed through Oily Water Separators (OWS) from our vessels, while only 163 m<sup>3</sup> were disposed ashore.

For the period 2018 to 2021, we recorded a **reduction of 2,382 kg of plastic waste from the printers onboard our vessels**. More specifically, 2,058 kg of ink cartridges and 324 kg of plastic waste were avoided by repairing the printers instead of disposing/replacing them. The average number of ink cartridges saved equates to 388 cartridges per ship/year and the number saved over a four-year period in total is more than 156,000 cartridges.

**2,464 kg**  
were recycled in our offices

**zero**  
spills or releases to the environment

During the reporting period, our managed vessels produced\*:



\*Excluding the vessels managed by our third-party managers



# We continuously improve our on board practices, to reduce our environmental impact



## WATER MANAGEMENT

We use fresh water which is either produced on board by generators (through sea water) or supplied from the shore.

In 2021, we joined the “**Getting to Zero Project**” of @IMPA SAVE with the aim to heavily reduce the use of plastic drinking water bottles on board our vessels **by 2025**. To reach our objective we have started the installation of reverse osmosis Water Filtration Systems on 55 of our vessels.

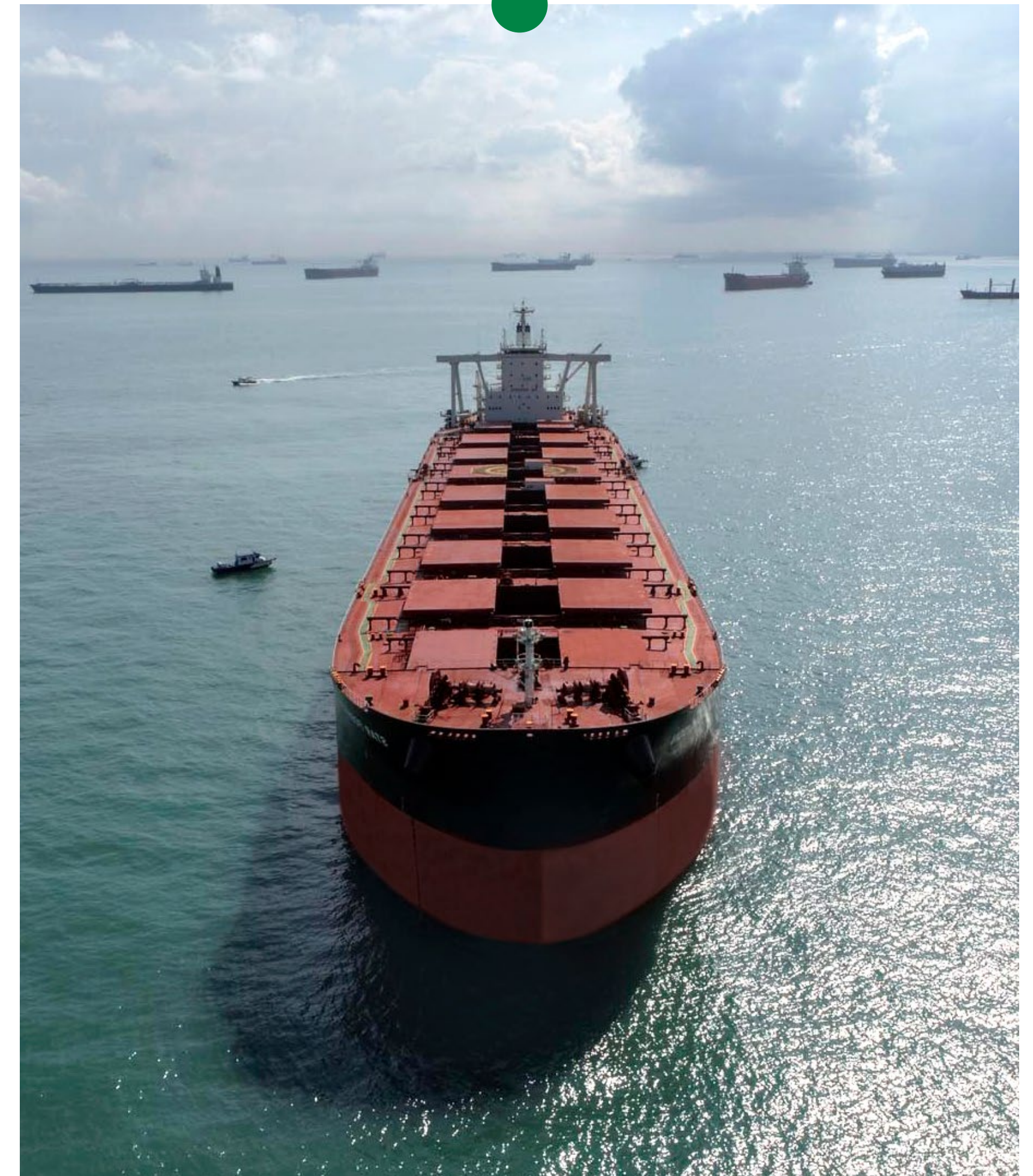
We have started using Drinking Water Filtration Systems since the beginning of 2019 on board a few of our vessels, to help us reduce the plastic bottle consumption. In 2021, the average fresh water consumption for 3 of our vessels was **11,840 bottles**, instead of 15,000 bottles in 2020, marking a noticeable **21% decrease**.

At the release date of the report the water filtration systems installations have been completed on **46 vessels**, corresponding to 84% of our targeted vessels. **Installations on 55 vessels will be completed by the end of 2022.**

## LED-LAMP RETROFIT PROJECT

We are currently in the process of replacing conventional lights on board our ships with LED lights to reduce energy consumption, and we aim to complete the LED-Lamp Retrofit Project **on 55 of our vessels, by the end of 2022.**

At the release date of the report, LED lamps have been installed on **20 vessels**, corresponding to 36% of our goal of 55 ships.





# We reduced our energy consumption ashore by 13% in comparison with 2020

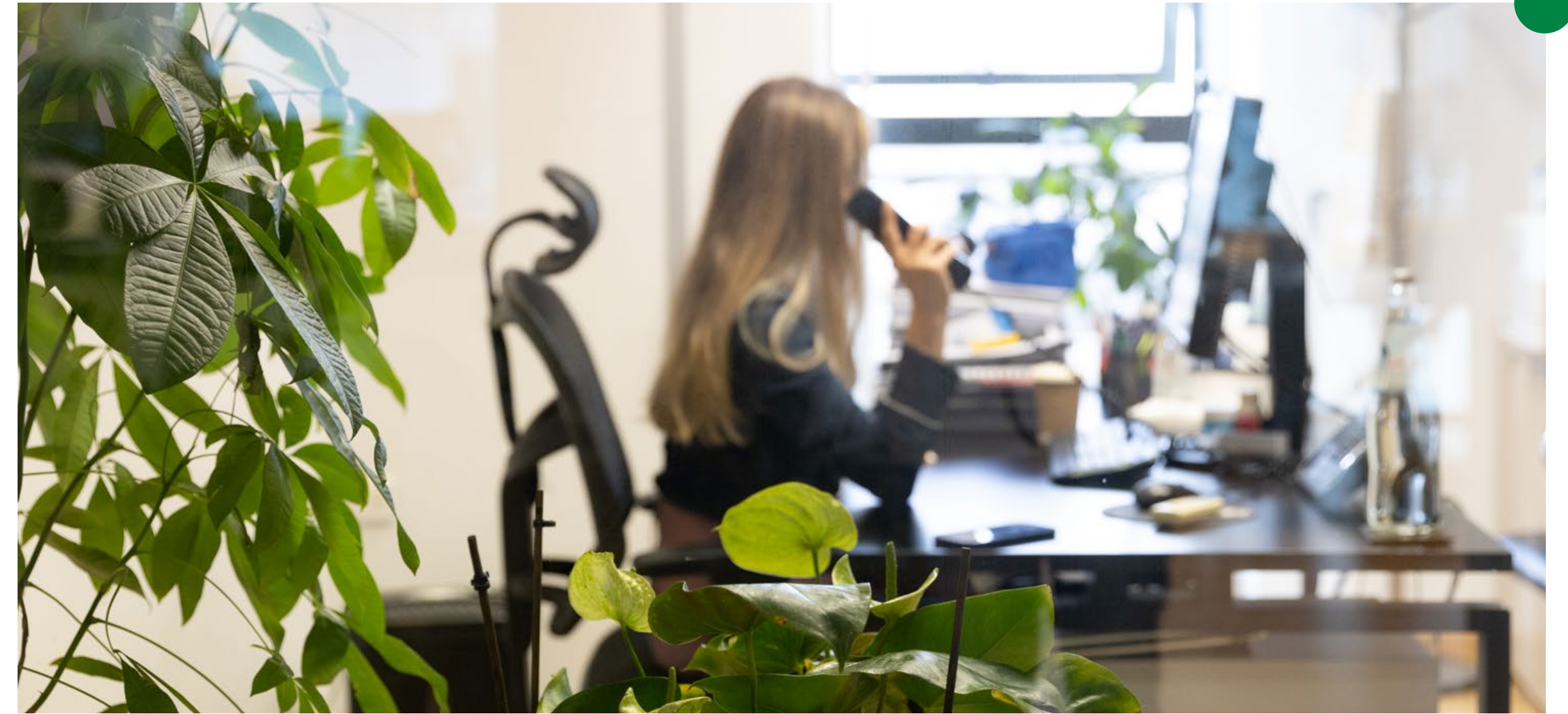


We place great emphasis on monitoring our offices' environmental footprint. We have initiated Environmental Management Programs to monitor and minimize the energy, paper, water and battery consumption. We apply measures to improve our environmental footprint and take further actions to enhance our employees' awareness.

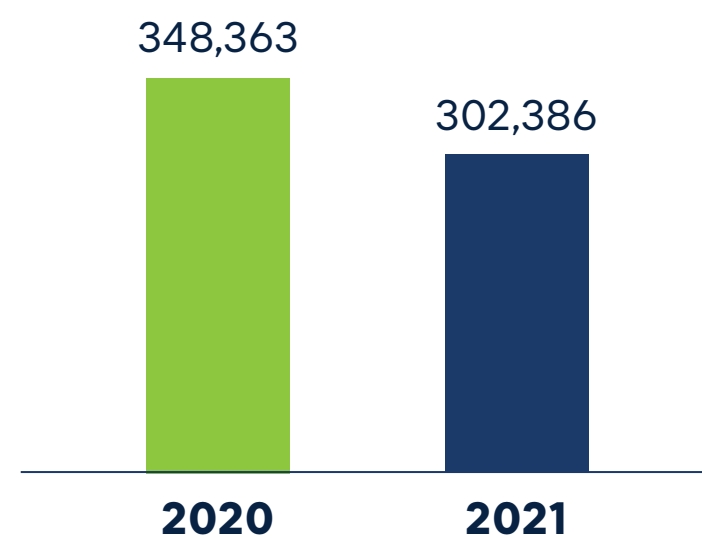
We have initiated Environmental Management Programs to monitor and minimize the electric energy, paper and battery consumption in the office and further actions have been taken to enhance our employees' awareness on sustainability.

The energy consumption from our offices in Greece, Cyprus and Singapore, as well as from purchased electricity by ships in dry dock, noted a significant 13.2% decrease from the 2020 levels, and accounts for 302,386 kWh.

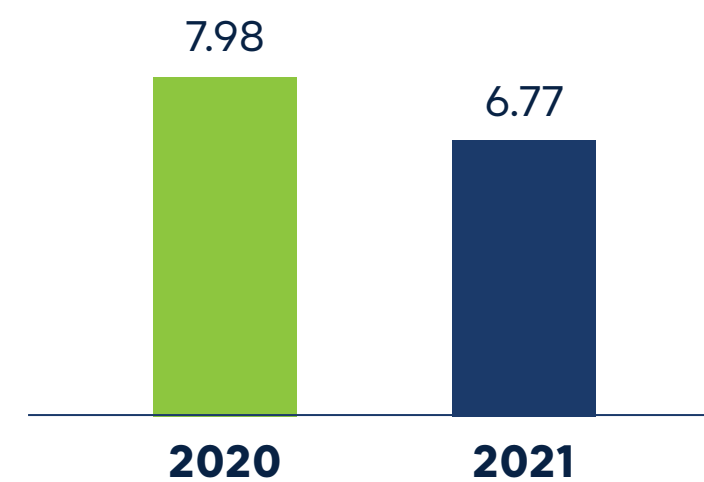
In 2021, the total paper consumption in our offices was 2,252.5 kg, while the total water consumption in our offices was 243 m<sup>3</sup>.



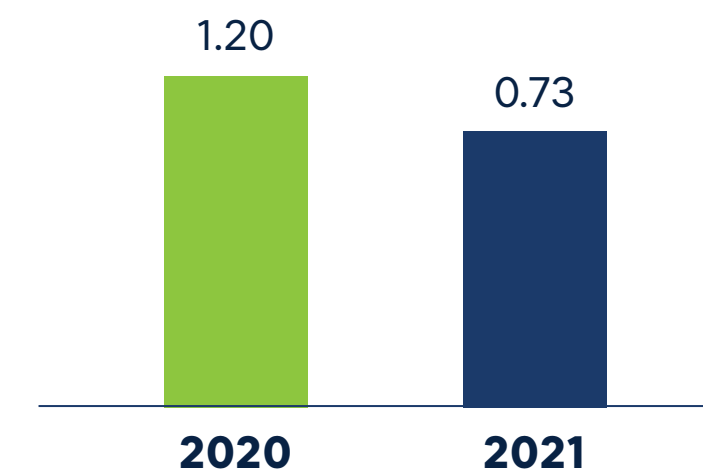
**Energy consumption (kWh) - Our offices**



**Paper consumption (kg) - Per employee**



**Water consumption (m<sup>3</sup>) - Per employee**





# We act proactively to ensure timely and efficient compliance with all applicable regulations

## EGCS Fitted Fleet

In response to IMO’s sulfur cap regulation introduced on January 1st, 2020, we successfully completed our retrofit plan based on our installation schedule, by completing the installation of 114 out of 116 vessels by 2020, as initially planned. 8 vessels that were added to our fleet as secondhand acquisitions in 2021, are not scrubber fitted.

## Ballast Water Treatment

Following the requirement of the IMO Ballast Water Management Convention, that entered into force on September 8th, 2017, we have fitted 73% of our fleet with Ballast Water Treatment Systems (BWTS) as of December 31st, 2021. 125 out of the 128 will be BWTS fitted by the end of 2022 and we have scheduled to have 100% of the fleet fitted by 2023. All our vessels are equipped with a ballast water exchange system.

## Ballast Water Treatment Installation Schedule\*



\*The information presented reflects our fleet as of the release date of this report

## Safe Ship Recycling

We are fully compliant with the EU regulation (1257/2013 on Ship Recycling) that came into force on December 31st, 2020 and refers to vessel recycling activities and the identification and monitoring of hazardous materials. All of our vessels hold a verified IHM certificate.

## Energy Efficiency Existing Ship Index (EEXI) and Carbon Intensity Indicator (CII)

We have proactively calculated the EEXI and CII values of our vessels, based on the guidelines set by the IMO, and initiated the cooperation with a classification society for the verification of the EEXI value per vessel. We plan to proceed with Engine Power Limitation (EPL) to meet the IMO requirements.

## Refrigerants and Biodegradable Lubricants

We strictly prohibit the use of any refrigerants that significantly affect the ozone layer (such as R22) to reduce the impact on the ozone layer and global warming. During our maintenance activities both ashore and on board, eco-friendly refrigerants are used (such as R407 and R404). We used biodegradable lubricants and eco-friendly stern tube systems (air, seal) in 46% and 54% of our vessels, respectively, in 2021.

## Cyber Security

We monitor and assess cyber risks and implement measures across all our operations to eliminate all significant threats. We implement an appropriate scheme of cyber security governance and controls to protect our information assets.

## EU MRV and IMO DCS

We comply with the EU MRV and IMO DCS regulations. We collect, calculate and analyze the Company’s data, with the help of our in-house Vessel Performance Monitoring (VPM) system.

**46%**  
of our fleet  
use biodegradable lubricants

**54%**  
of our fleet  
use eco-friendly stern tube systems

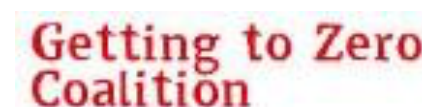
We have not identified any non-compliance with applicable environmental laws and/or regulations



## We actively participate in the industry's environmental initiatives



The Global Maritime Forum is an international not-for-profit organization committed to shape the future of global seaborne trade, increase sustainable long-term economic development and human wellbeing. **Star Bulk supports the Global Maritime Forum as a Partner.**



Star Bulk is a **member** and actively participates in the “Getting to Zero Coalition”, an alliance of companies across the maritime, energy, infrastructure and finance sectors. It is supported by key governments and IGOs which are committed to bringing commercially viable, deep-sea, zero-emission vessels into operation by 2030.



Star Bulk **signed the Call to Action for Shipping Decarbonisation in 2021**, which is a call on governments to work together with the industry to deliver the policies to support the transition and make zero-emission shipping viable by 2030.



In May 2022, we joined the “**Green Corridor**” Project, helping **establish a consortium to assess the development of an iron ore Green Corridor between Australia and East Asia**. Led by the Global Maritime Forum, other members include BHP, Rio Tinto, and Oldendorff Carriers GmbH & Co. KG. The consortium will explore the appropriate conditions to create demand and to feasibly scale zero or near-zero-GHG emission shipping on the corridor.



The International Bunker Industry Association (IBIA) represents the global bunker industry, providing an international forum for bunker industry issues. It represents the industry in discussions and negotiations with national and international policy makers, legislators and regulatory bodies. IBIA has consultative status in the IMO as a non-governmental organization and is actively engaged in the assessment of low and zero carbon fuels. **Star Bulk is an active member of IBIA** and actively participates in **IBIA’s working groups** for ammonia, methanol, LNG and other alternative fuels.



We participated in the 2021 Carbon Disclosure Project (CDP), a carbon rating that measures the climate resilience and mitigation effort of a company and **we received a B- for 2020 under Climate Change for our voluntary disclosures**. We also participated in the 2022 disclosure.



We **joined the “Getting to Zero Project” of @IMPA SAVE**, to reduce the use of plastic drinking water bottles on board by 2025, along with a group of individuals representing global ship owners and maritime suppliers who are responding to the United Nations’ universal call for action to promote prosperity, while protecting the environment. The aim is to research alternatives to plastic drinking water bottles on board, seeking several solutions to reduce the amount of plastic consumed in the industry.



**Star Bulk is an active member of the Hellenic Marine Protection Association (HELMEPA), and one member of our management team serves as Board member.** HELMEPA, is an organization of Greek seafarers and ship owners dedicated to safeguard the seas by spreading a pollution prevention and safety spirit throughout the industry.



The Clean Shipping Alliance 2020 (CSA 2020) represents a group of 38 leading global companies from the commercial shipping and cruise industries. Members of CSA 2020 have been leaders in emission control efforts and have conducted thorough research and made significant investments to comply with the 2020 fuel requirements through the installation of Exhaust Gas Cleaning Systems (EGCS) on their fleets. Star Bulk is **an active member of the Alliance**.



## We invest in R&D programs, in new technologies and alternative fuels initiatives

### AIRCOAT

Air Induced friction Reducing ship COATING: The Air Induced friction Reducing ship COATING (AIRCOAT) project aims to develop a passive air lubrication technology inspired by the Salvinia effect. Applying the AIRCOAT technology to ship-hull surfaces will produce a thin permanent air layer when submerged in the water. This will reduce the overall frictional resistance while acting as a physical barrier between water and the hull surface. In addition, to reducing energy consumption, the air barrier will inhibit the attachment of maritime organisms (biofouling).

### GATERS

GATE Rudder System as a Retrofit for the Next Generation Propulsion and Steering of Ships: GATERS proposes the first retrofit application of a novel propulsion and maneuvering device for ships, called “Gate Rudder System”. It addresses the need to develop and demonstrate to TRL6 and higher an innovative, cost-effective retrofit solution for marine shipping to provide substantial improvements regarding environmental impacts and life cycle cost. By taking advantage of the remarkable fuel saving (a max of 14% in trials and 30% in-service) and excellent maneuverability of the gate rudder system, GATERS will demonstrate significantly reduced emissions from ships particularly within coastal and port areas to meet and even exceed the current and future legislative requirements of the IMO for emissions.

### ShipFC

Piloting Multi MW Ammonia Ship Fuel Cells: ShipFC’s main mission is to prove and show the case for large-scale zero-emission shipping. We do this through developing, piloting and replicating a modular 2MW fuel cell technology using ammonia as fuel. The project will first adapt and scale-up existing fuel cell solutions to a 2MW system, develop ship and land fuel systems for ammonia and integrate the full system on board a large offshore construction vessel. Then the solution will be validated through commercial operation for at least 3000 hours during a one-year period. Moreover, socio-technical models and analysis will be performed and a full feasibility study on a series of additional vessels will be conducted.

### i-MARINE (National Program)

Intelligent adaptive-controllable alignment in marine propulsion systems for performance optimization and failure prevention. The program aims to develop and apply computational and experimental tools for the introduction of smart components in the propulsion system of commercial vessels. The project vision is thus the transformation of a conventional propulsion shaft arrangement into an intelligent, controllable and adaptive system, capable of sensing component status, controlling system performance and reacting in the case of critical behavior.

### WindMaster

Participated in submitting a proposal to EU on how to implement wind assisted Energy Saving Devices on existing and future vessels. The title of this EU call is «Exploiting renewable energy for shipping, focusing on the potential of wind energy (ZEWT Partnership)», ref. CL5-2022-D5-01-03 part of the Horizon Europe Work Program 2021 - 2022 part 8: Climate, Energy and Mobility. The proposal is named “WindMaster: Drastically Reducing CO<sub>2</sub> emissions of cargo vessels through the combination of traction kites, wing sails and new propulsors”. Targets: 1) Study the wind assisted vessel of the future which includes 2 rows of collapsible wing sails, 2 kites (forecastle and accommodation) and “hydro generator” (for propulsion and generation of electricity). 2) Demonstrate the performance of the system by installing a collapsible wing sail and a kite on the forecastle of a kamsarmax.



## We invest in R&D programs, in new technologies and alternative fuels initiatives (cont'd)

### BugWright2

Autonomous Robotic Inspection and Maintenance on Ship Hulls and Storage Tanks: The objective of BUGWRIGHT2 is to bridge the gap between the current and desired capabilities of ship inspection and service robots by developing and demonstrating an adaptable autonomous robotic solution for servicing ship outer hulls. By combining the survey capabilities of autonomous Micro Air Vehicles (MAV) and small Autonomous Underwater Vehicles (AUV), with teams of magnetic-wheeled crawlers operating directly on the surface of the structure, the project inspection and cleaning system will be able to seamlessly merge the acquisition of a global overview of the structure with performing a detailed multi-robot visual and acoustic inspection of the structure, detecting corrosion patches or cleaning the surface as necessary – all of this with minimal user intervention. The detailed information provided will be integrated into a real-time visualization and decision-support user-interface taking advantage of virtual reality technologies. Although, ships are the targeted application, BUGWRIGHT2 technology may be easily adapted to different structures assembled out of metal plates, and in particular to storage tanks, our secondary application domain.

### DT4GS

DT4GS is aimed to delivering an “Open Digital Twin Framework” for both shipping companies and the broader industry actors to tap into new opportunities made available using Digital Twins(DTs). The project will enable shipping stakeholders to embrace the full spectrum of DT innovations to support smart green shipping in the upgrade of existing ships and new vessels. DT4GS will cover the full ship lifecycle by embracing federation of DT applications as well as utilizing DTLF (Digital Transform and Logistics Forum) policies and related shared-dataspace developments for the sector. DT4GS applications will focus on shipping companies but will also provide decarbonization decision-support system for shipyards, equipment manufacturers, port authorities and operators, river commissions, classification societies, energy companies and transport/corridor infrastructure companies. DT4GS’s objectives are to:

- 1) Support shipping companies in achieving up to 20% reduction in CO<sub>2</sub>e with a 2026 horizon, by developing and deploying real-time configurable DTs for ship and fleet operational performance optimization in 4 Living Labs involving shipping companies, with different vessel types, and establishing fully validated industry services for Green Shipping Operational Optimization DTs expected to be adopted by 1000+ ships by 2030.
- 2) Establish a comprehensive zero-emission shipping methodology and support Virtual Testbed and Decision Support Systems that address both new builds and retrofits comprising:
  - a. A DT4GS (Green Shipping) Dataspace for the broader shipping sector contributing to GAIA-X by establishing a core European industry resource that accelerates the green and digital transition of waterborne shipping and transport value chains.
  - b. Simulation based solutions to retrofit ships, targeting 55% CO<sub>2</sub>e reduction by 2030.
  - c. A smart green “new-build” reference design per vessel type.
  - d. Virtual Testbed services for reducing the cost of physical testing of GS solutions by 20%.

### Alternative Fuel

Star Bulk is currently exploring the use of several alternative fuels including hydrogen and ammonia. In this vein, Star Bulk has participated in a Joint Development Project and HAZID workshop (HAZard identification) with different partners including Engine Builders, Shipbuilders, Classification Societies, Shipping companies, Vendors to work together on Ammonia as an alternative fuel for the marine industry. The deliverable of the workshop relates to the introduction of Rule / Regulations, Safety aspects, Design requirement and operational procedures.





RELATED SDGS

-  3 GOOD HEALTH AND WELL-BEING
-  4 QUALITY EDUCATION
-  5 GENDER EQUALITY
-  10 REDUCED INEQUALITIES
-  11 SUSTAINABLE CITIES AND COMMUNITIES
-  16 PEACE, JUSTICE AND STRONG INSTITUTIONS

# PEOPLE AND CULTURE



# Our Crew





# We maintain high retention rates among our seafarers and support their professional development

## SEAFARERS AND CREW CHARACTERISTICS

In 2021, a total of **2,560 male seafarers** (full time on contractual basis) were assigned to sea duties from four different countries, selected from a pool of more than 4,000 active seafarers.

At the same time, we continued our long-term, exclusive cooperation with a manning agency in Philippines that provides us with a highly experienced crew and management service.

**The Philippines agency recruited 95.2% of our seafarers.**

Through the agency, the seafarers undergo a series of recruitment, selection, training and development programs.

During 2021, we entered into negotiations with an international bona fide union representing seafarers for including our ships under a collective bargaining agreement.

**The average crew age in 2021 was 38.6 years old**, with the highest share of seafarers being between 31 and 40 years old.

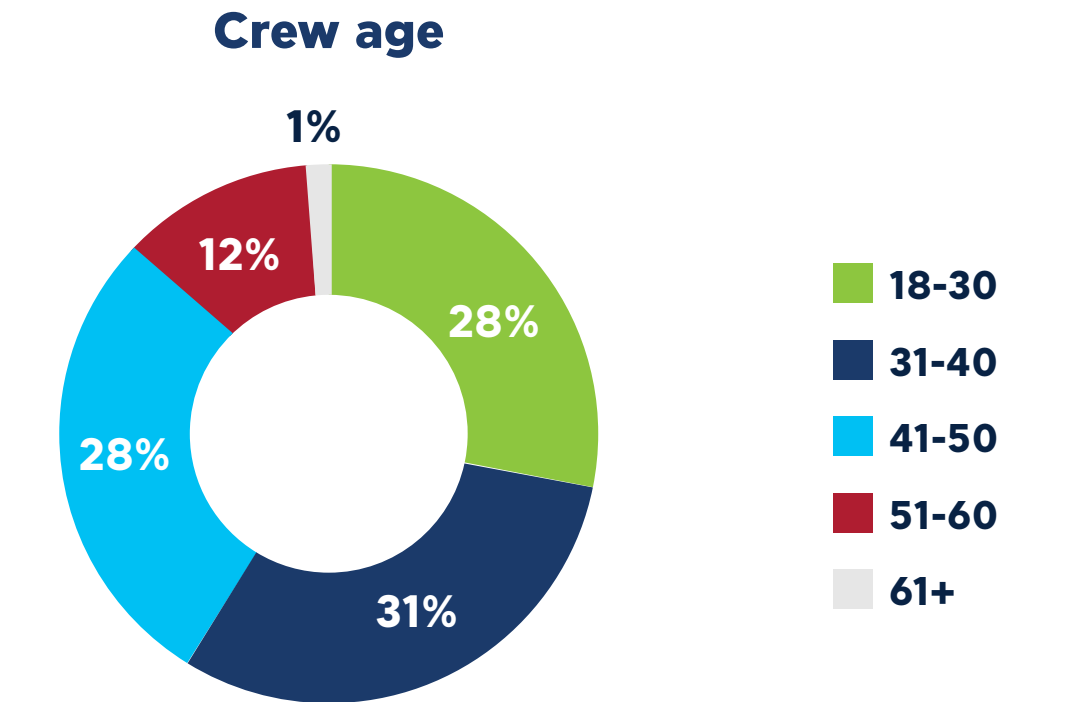
## RETENTION AND CAREER DEVELOPMENT

We promote a rewarding work environment for all our seafarers, and we are committed to developing our crew capabilities and skills.

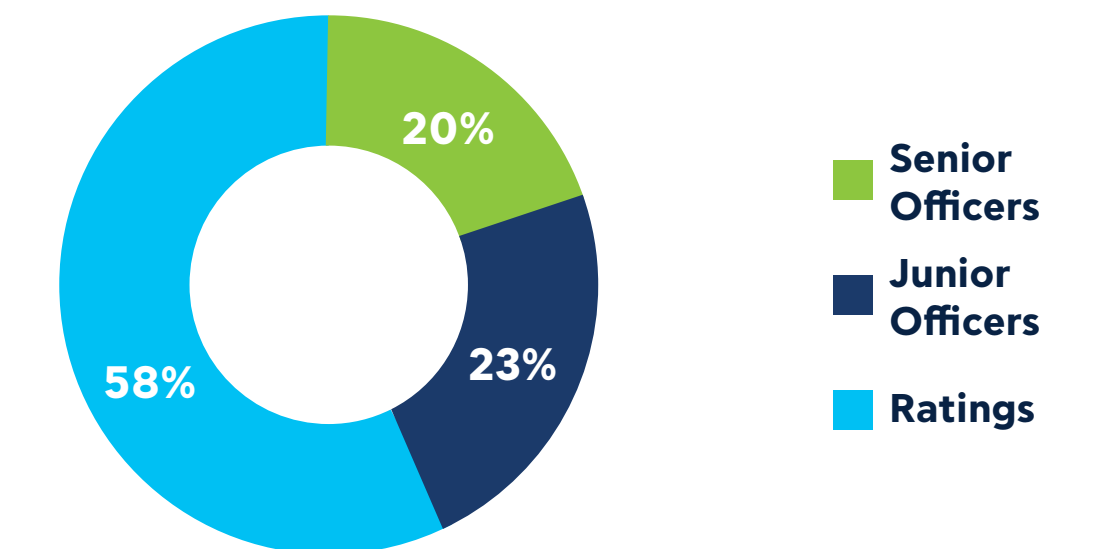
Our goal is to provide to our seafarers the opportunity to develop their career in the long term, within our Company.

In 2021:

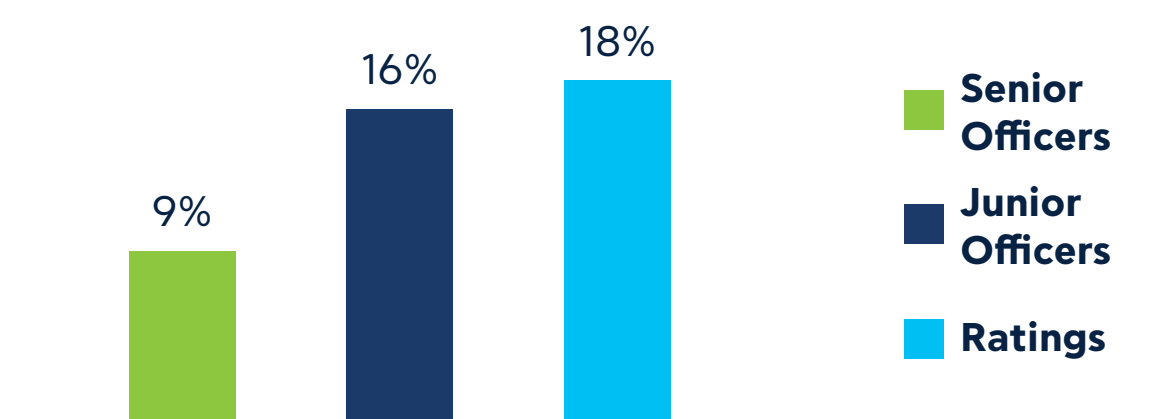
- We further enhanced our internal promotion programs to cover any position demands internally by our crew members.
- **100% of seafarers** (Senior Officers, Junior Officers and Ratings) received a performance and career development review.
- We managed to maintain high retention rates across all crew rankings, with an average of 94.1%, approximately at the same level in comparison with 2020 (when the average retention rate was ~ 94.6%).



## Seafarers per level



## Crew promotions per level



### Crew country of origin

Philippines 95.2%	Ukraine 3.2%
Bulgaria 0.7%	Romania 0.9%

### Number of seafarers per level as of December 31, 2021

Senior officers: 512 (20%)	Junior officers: 576 (23%)
Ratings: 1,472 (58%)	

Star Bulk has zero tolerance to all forms of forced and compulsory labour, as apparent by its Code of Ethics, its Modern Slavery Policy (internal document), and its whistleblowing procedure.



# Seafarers' well-being is one of the Company's top priorities

## SEAFARERS' REMUNERATION IS ESSENTIAL TO THE WELFARE OF OUR CREW

Our crew's remuneration and benefits are provided fairly, based on the competency requirements of each position.

**In 2021, we paid our seafarers more than \$98.8 million in wages, remittances, bonuses, social security payments and cash advances.**

The average salary of our crew is approximately 8.5 times higher than the local GDP per capita (considering the Philippines where most of our crew is coming from).

## CREW TRAININGS

At Star Bulk, we invest in continuous training as a vital part of our business strategy. By enhancing our crew's skills, we maintain our high performance.

We operate a sophisticated training and development program, through long-standing collaboration with qualified and accredited external training centers, and our own Technical and MSQ teams. We implement various training programs to refine our seafarers' skills. We developed on board and ashore training plans related to cargo operations, vessel handling, Exhaust Gas Cleaning System (EGCS) Simulation, and engineering courses.

During 2021, we maintained a series of trainings for our crew. **The amount spent on crew trainings and development accounted to more than \$420,000.**

## WE AIM TO ENSURE AND ENHANCE THE MENTAL AND PHYSICAL HEALTH OF OUR CREW

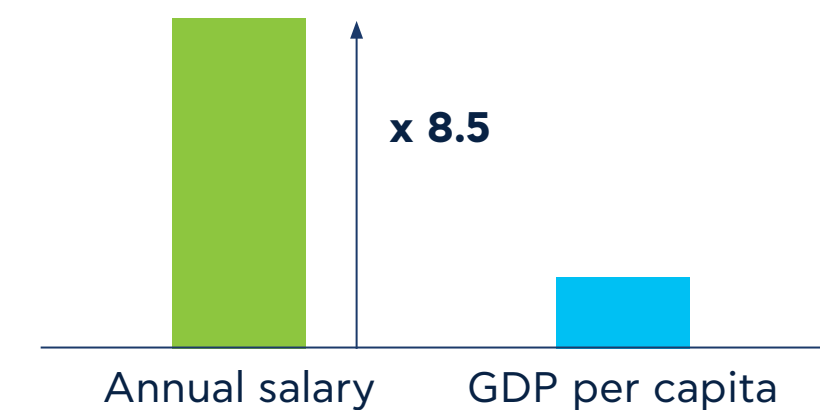
During the humanitarian crisis that occurred in 2022, due to the Ukraine-Russia war, we took immediate measures to actively help our crew. Specifically, a direct communication line -via emails and phone calls- was initiated between the Ukrainian seafarers and their families. In addition, we supported the evacuation of 72 people from the war zone and their repatriation to other countries.

The physical and mental health of our people is of utmost importance to us. A psychological support line and medical consultancy are available for all our crew members in English and Filipino.

We provide equipment for physical activities and entertainment on board, for example gym equipment (e.g., treadmills, free weights), karaoke equipment, etc. **In 2021, we spent more than \$250,000 on crew wellbeing initiatives.**



## Proportion of seafarer salary in relation to local (Philippines) GDP per capita





## We contribute to international fora, which promote the Health, Security and Safety of our people



The United Nations Global Compact and the United Nations Global Compact Network Hellas are voluntary initiatives, that encourage businesses worldwide to adopt sustainable and socially responsible policies, to align their strategies with universal principles on human rights, labour, environment and anti-corruption and take actions that advance societal goals. Since 2020, we are **signatories to the UN Global Compact and United Nations Global Compact Network Hellas**, and we are committed to their principles.



The International Association of Dry Cargo Shipowners (INTERCARGO) represents the interests of quality dry cargo shipowners, and works with Members, Regulators and other Shipping Associations to ensure that shipping operates safely. **Star Bulk is an active member of the association** and actively participates in **Intercargo's EEXI Working Group** - IMO's Correspondence Group on the development of carbon intensity reduction issues.



Star bulk has established a long-standing relationship with RightShip, the world's leading maritime risk management and environmental assessment organization, receiving vetting and inspections services for the purpose of verifying the standards of excellence and high-level performance that Star Bulk always adheres to.



Star Bulk is a **member to the Maritime Anti-Corruption Network (MACN)**. MACN work towards the elimination of all forms of maritime corruption.



We are a **signatory to the Neptune Declaration on Seafarer Wellbeing and Crew Change**, which targets the promotion and protection of the welfare of seafarers. The initiative was launched during the crew change crisis associated with COVID-19.



In 2021, we **signed the Gulf of Guinea Declaration on Suppression of Piracy**, aiming to reduce the number of piracy and kidnapping attacks through active anti-piracy operations, including law enforcement by non-regional naval forces.



## Our Onshore Employees





## We foster a diverse, equitable and inclusive environment ashore

At Star Bulk, our people are the driving force behind our success. We are committed to promote an inclusive and safe work environment, where our people can meet and exceed their expectations. Diversity and inclusion are a vital part of how we operate; thus, during the recruitment process, we take several measures to ensure workforce diversity without any form of discrimination based on gender identity, ethnicity, national origin, age or disability. The Company's employment procedures are governed by fair and transparent practices which are directed by the National Labor Laws and the Industry's Collective Bargaining Agreements.

An onshore team of **333 full time employees** for the management of our vessels from which 324 under a permanent and 9 under a temporary contract. Our employees are of 19 nationalities while 12% of our operational workforce has considerable seagoing experience. From the 333 employees, 311 are based in Athens, 19 in Cyprus and 3 in Singapore, contributing to a diverse and

multi-cultural perspective.

**26% of our operational workforce**, who are employees from Operations and MSQ Departments are involved in the technical management of the vessels managed by Star Bulk, **has significant seagoing experience**.

**141 (42%) of these employees are women**, while 6 (22%) of our management and senior management positions are held by women. When it comes to age composition, 19% of our people are below 30, 63% between 31 and 50 years old, 11% between 51 and 60, and 7% above 61 years old demonstrating a workforce of varied experience without age discrimination.

We focus on our employees' satisfaction every year and in 2021 we maintained a **significantly high retention rate of 94.08%** and had a low turnover rate of 5.92%.

**42%** women

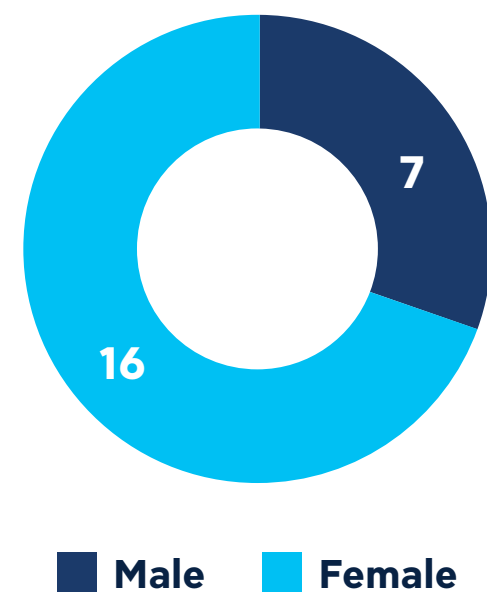
**19** nationalities comprise our workforce

### Supporting the empowerment of women in shipping

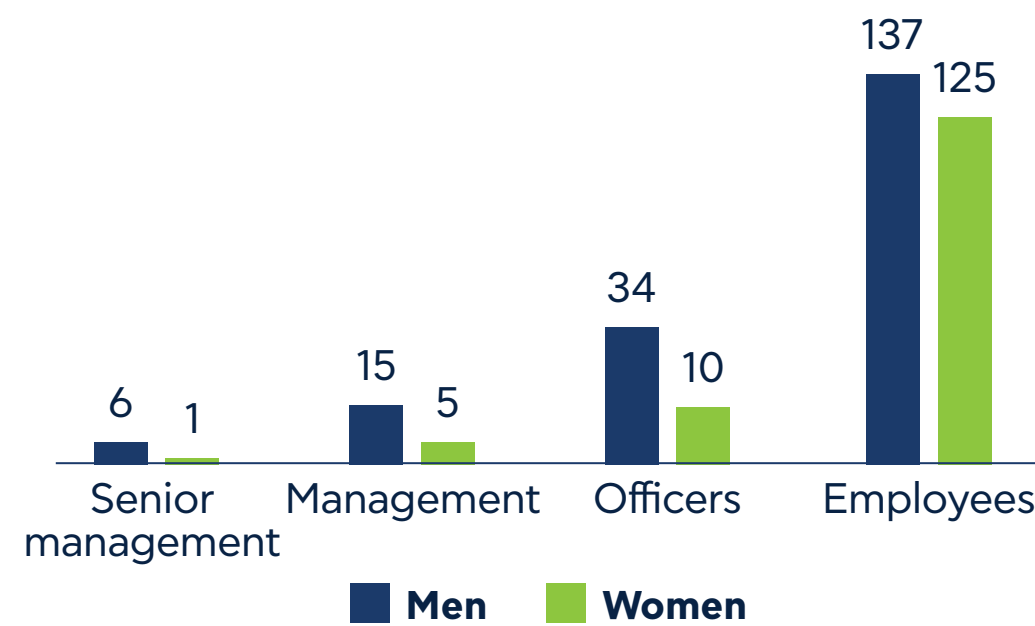
Active membership of the Association among our female employees, while a member of our management team, served as President of WISTA Hellas from 2014 till 2020.



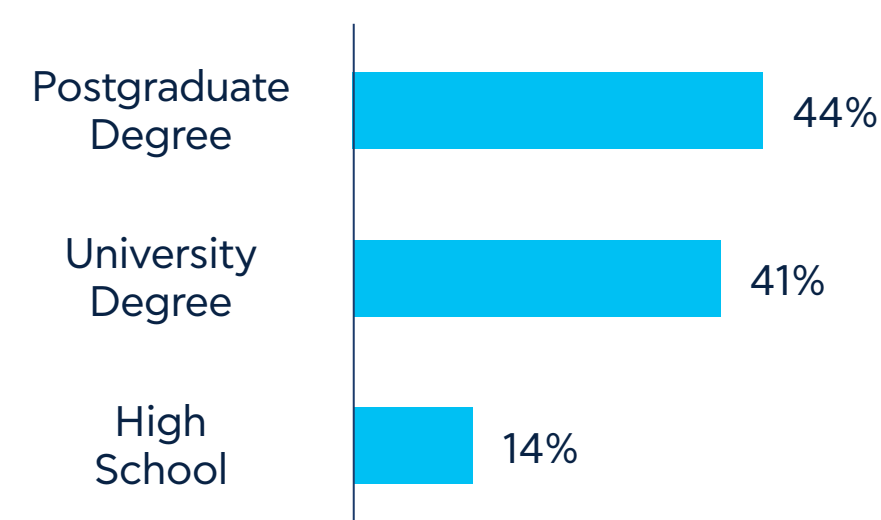
Average hours of training per gender



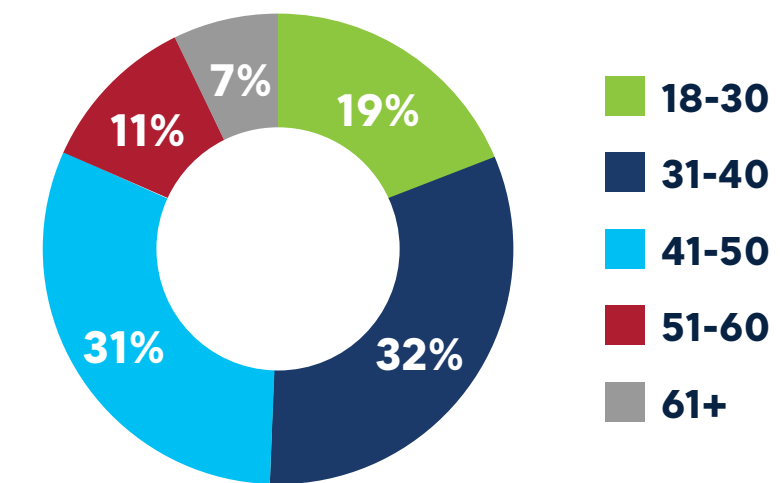
Employees Gender Composition per hierarchical level



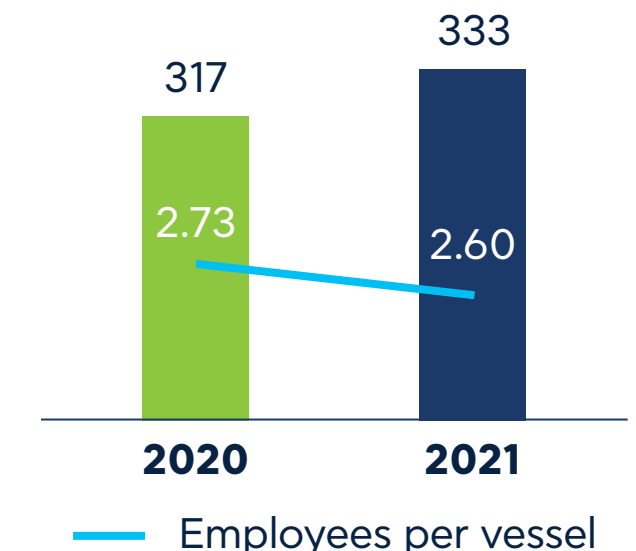
Educational Background



Age Composition



Total Headcount





# It is our people who drive the performance of our Company



## WE PROTECT HUMAN RIGHTS

We show **zero tolerance** towards any form of **harassment or discrimination** based on gender identity, ethnicity, national origin, age or disability, and we provide equal opportunities between men and women. We maintain a **motivating and rewarding workplace** for our people, offering multiple career advancement opportunities, tangible benefits and bonus schemes in recompense for employees' high performance.

## WE ENHANCE OUR PEOPLE WELLBEING

The overall health and wellbeing of our employees has always been our number one priority. We are focused on providing support for physical, emotional, and mental health.

In this regard we are introducing in early 2022 a mental health and psychological support hotline, a counseling service offered by "Ergonomia", accessible 24/7 to all employees and their family members.

## WE CARE FOR OUR PEOPLE'S CONTINUOUS DEVELOPMENT

We maintain a high-performing workforce and focus on our employees' continuous development, **encouraging our employees to enhance their knowledge with finance training programs, certifications or degrees provided by external training centers and universities.**

In addition, we have established a **robust performance review process**, executed annually. The annual performance review process commences at the beginning of each year with the employees' setting objectives, in consultation with their managers; mid-year and end-year review follow, where **each employee is evaluated against a horizontal competency model and the performance objectives set at the beginning of the year.** The annual evaluations first start with a self-assessment process and then discussed, agreed and finalized with the line manager. The final scores are linked to the Company's compensation and benefits scheme.

In 2021, all entitled employees participated in the annual performance evaluation process, i.e., 7 female and 29 male Managers (Officers), 106 female and 121 male employees.



**98%**

participation in annual performance review process

### Employee well-being initiatives:

- Constant medical and health advice and guidance by the Company's occupational physician.
- Orthopedic office equipment for employees who need it.
- Introduction of a mental health and psychological support hotline, a counseling service offered by "Ergonomia" (in early 2022), accessible 24/7 to all employees and their family members.

### Parental Leave

When it comes to parental leave, 65 men and 34 women were entitled to parental leave in 2021, 5 women utilized it, with a 100% retention rate.



# Attracting and retaining talent contributes to our strong performance



In 2021, we recruited **50 new employees**, which is a **150% increase compared to 2020**.

23 were women and 27 men, as well as 43 Greeks, 1 Bulgarian, 4 Cypriots, 1 Dutch and 1 Spanish-Greek.

Moreover, there were **32 promotions throughout the Company**: 12 women and 20 men. 11 of them are between 18-30 years old, 10 between 31-40, 7 between 41-50, 3 between 51-60 and 1 is above 61 years old. 29 of them are Greek, while 3 of them are Cypriots.

In 2021, **4 internal job transfers took place**: all of them were Greek men, 2 of them between 51-60 years old, 1 between 31-40 and 1 between 41-50 years old.

**Attracting young people keeps us in touch with an ever-changing world, and thus our early investment in talent lies at the heart of our corporate regeneration.**

We provide internships to students, and we have established long-lasting collaborations with academic institutions.

In 2021, the number of internships was reduced compared to the previous year due to the remote work policy applied because of the COVID-19 pandemic.

**16 internships took place**, from which **5 led to temporary or permanent hire** within the Company. All our interns were Greek: 6 women and 10 men, between 18-30 years old.

Moving forward, we will continue to invest in young people and their development within our Company and equip them with hands-on experience and the necessary skillset to thrive in today's highly competitive job market.

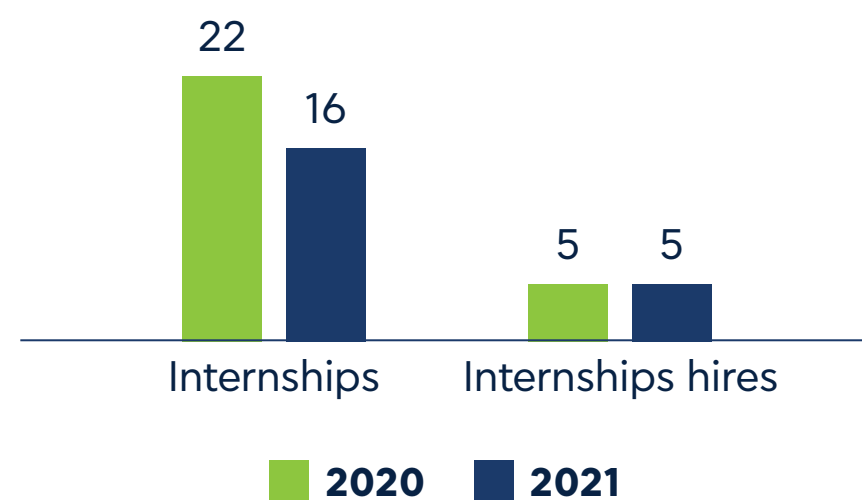
**94.1%** retention rate

**5** interns were temporarily or permanently hired

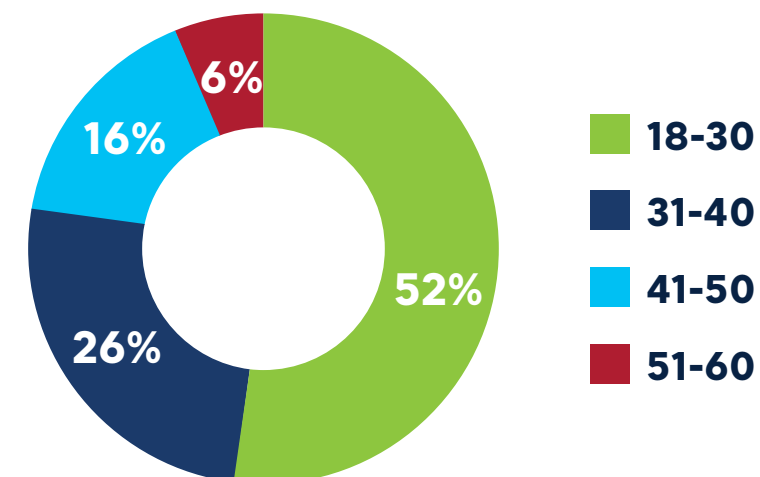
**5.9%** turnover rate

**16** internships completed

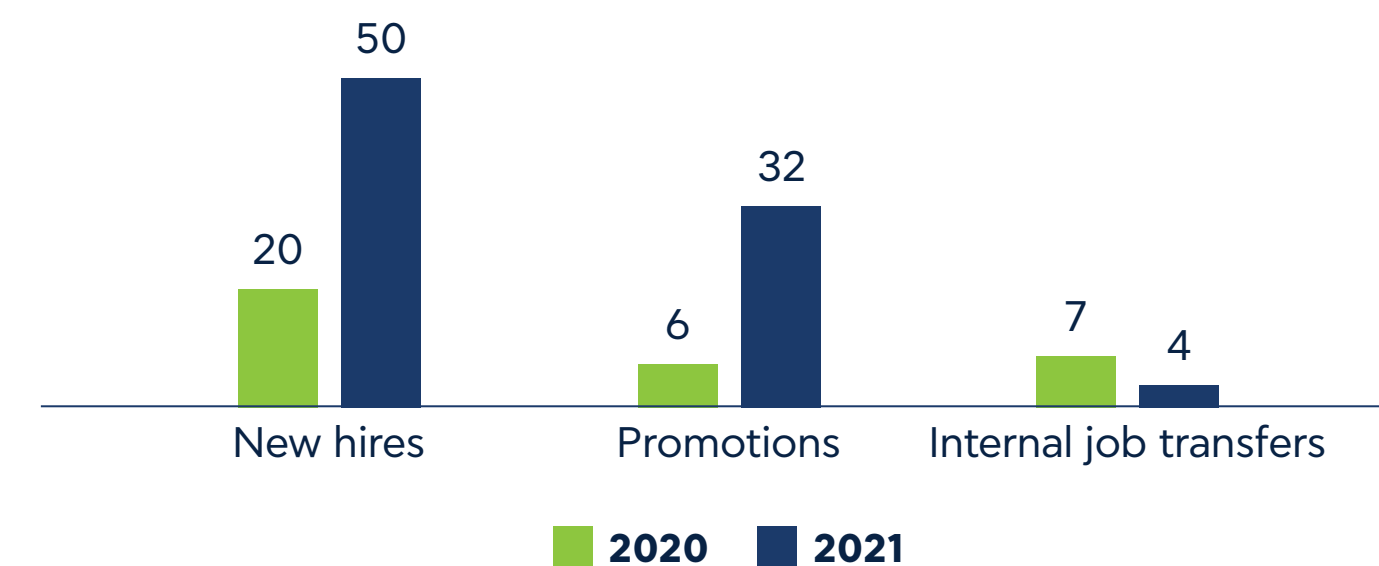
**Internships and internship hires**



**New hires**



**New hires, promotions and internal job transfers**







**STAR BULK**  
MARINE SAFETY & QUALITY

**PROMOTING HEALTH  
AND SAFETY**



## Robust safety measures against COVID-19 implemented during the pandemic



We aligned our daily operations with the national health guidelines, and we took proactive safety measures to ensure the safety of our people. During the reporting period:

### HEALTH AND SAFETY GUIDELINES ASHORE

The HR department circulated updates regularly through emails to all staff, remote plan policy, preventive office measures and work guidelines to be followed, maintaining safety and hygiene in the workplace. Posters with Covid-related instructions were also placed across all offices, including meeting rooms, kitchens, toilets, entrance areas. Furthermore, sanitizers, masks, and gloves were distributed to all staff and placed in all Reception desks and common areas.

The Company implemented remote work policies with office attendance percentages lower than the government's instructions.

During the pandemic, one additional day of general cleaning and sanitizing was added to each week, extra cleaning staff was hired, and deep cleaning and disinfections were performed by an external specialized company.

### HEALTH AND SAFETY INITIATIVES ON BOARD

We maintained all safety measures against COVID-19 to perform the necessary crew changes and constantly updated our crew with all new prevention protocols and instructions.

All our vessels are supplied with COVID-19 kits (masks, sanitizers, goggles, gloves, test kits and more), and with all the required provisions, stores and spares, as per MLC and ILO requirements, to safeguard crew's wellbeing.

The Company assigns local inspectors to carry out internal physical inspection on managers' behalf, and takes all necessary precautionary measures, to ensure crew members' safety.

### COVID-19 TESTING POLICY

All staff were required to conduct PCR tests upon a suspected or verified contact with a COVID-19 positive confirmed case. Employees who were found positive to COVID-19, were required to present a negative PCR test before returning to the office. The Company's personnel or external staff were required to perform a PCR test for COVID-19 prior to attendance on the vessel. The HR department in partnership with a diagnostic center (that has a network of 13 centers across Attica) is responsible for the arrangement of employee's PCR tests. During 2021, **1,500 PCR tests** were conducted for the Star Bulk personnel.



# Star Bulk is amongst the best performers in Safety in the dry bulk sector

We are committed to improving our overall health and safety performance. Our operational health and safety risks are monitored and managed carefully by an experienced team, utilizing sophisticated tools and systems, and incorporating additional measures when necessary.

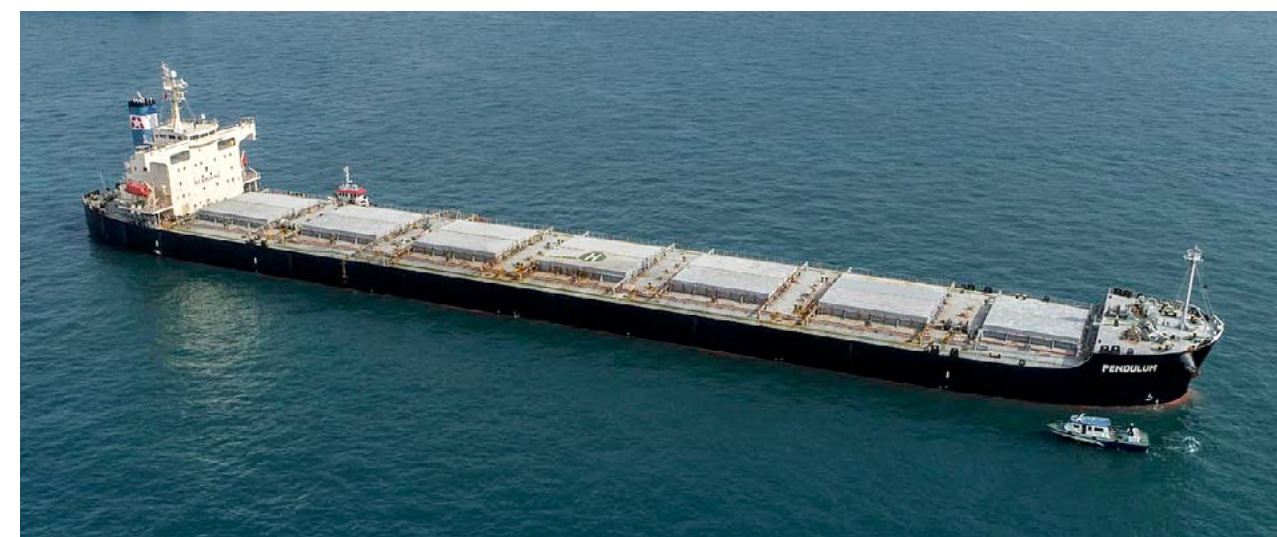
We maintain a high level of safety standards while consistently improving our safety culture. It is of utmost importance to ensure that all employees are aware of the hazards and potential risks, and always comply with safety standards and regulations. Thus, we provide various trainings to enhance awareness, such as: Crane and Rigging Safety, Dockside Signals and Safety, Electrical Safety, Exhaust Gas Scrubbers and Caustic Soda Safety, Galley Safety, Health and Hazards, Job Safety Analysis, Basic Safety Awareness, Personal Injury Prevention, etc.

As per our management approach on health and safety we have been certified with the **ISO 45001:2018 Health and Safety Management**

We follow the Oil Companies International Marine Forum (OCIMF) categorization for the recording of seafarer accidents.

In 2021, we recorded 14 Lost Time Injuries (LTI), 20 Medical Treatment Cases (MTC), and zero fatalities on board, as a result of work-related injury and work-related ill health in 22,762,999 hours of exposure. The number of recordable cases of work-related ill health was 166.

In 2021, we recorded zero accidents and fatalities ashore, in a total of 651,015 hours of work.

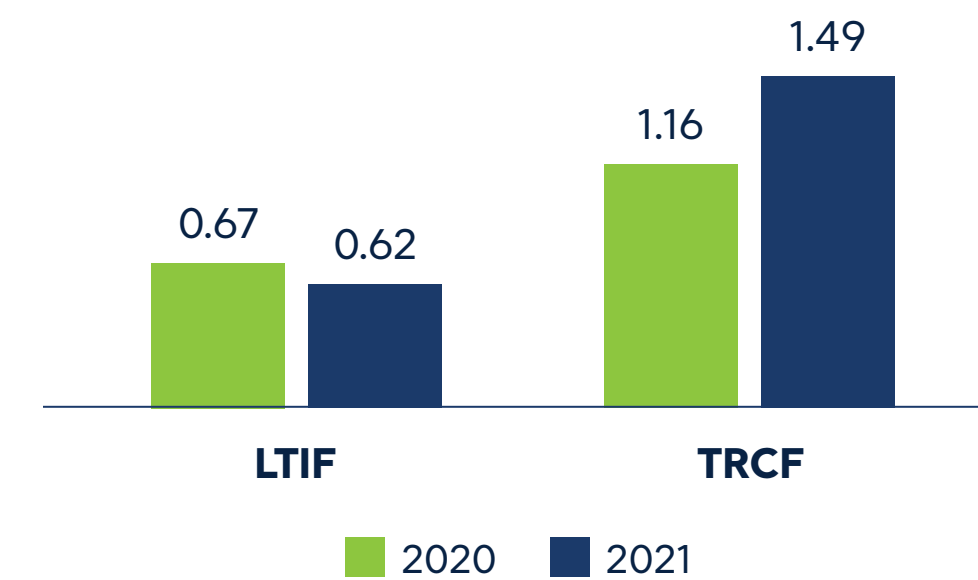


**We aim to maintain zero workplace accidents through a plethora of measures, carrying out continuous risk assessment on our facilities, vessels and equipment.**

During the reporting period:



**LTIF and TRCF\***



\*The reported data refer to our managed vessels as of December 31, 2021.

\*\*The rates were calculated based on 1,000,000 hours worked.



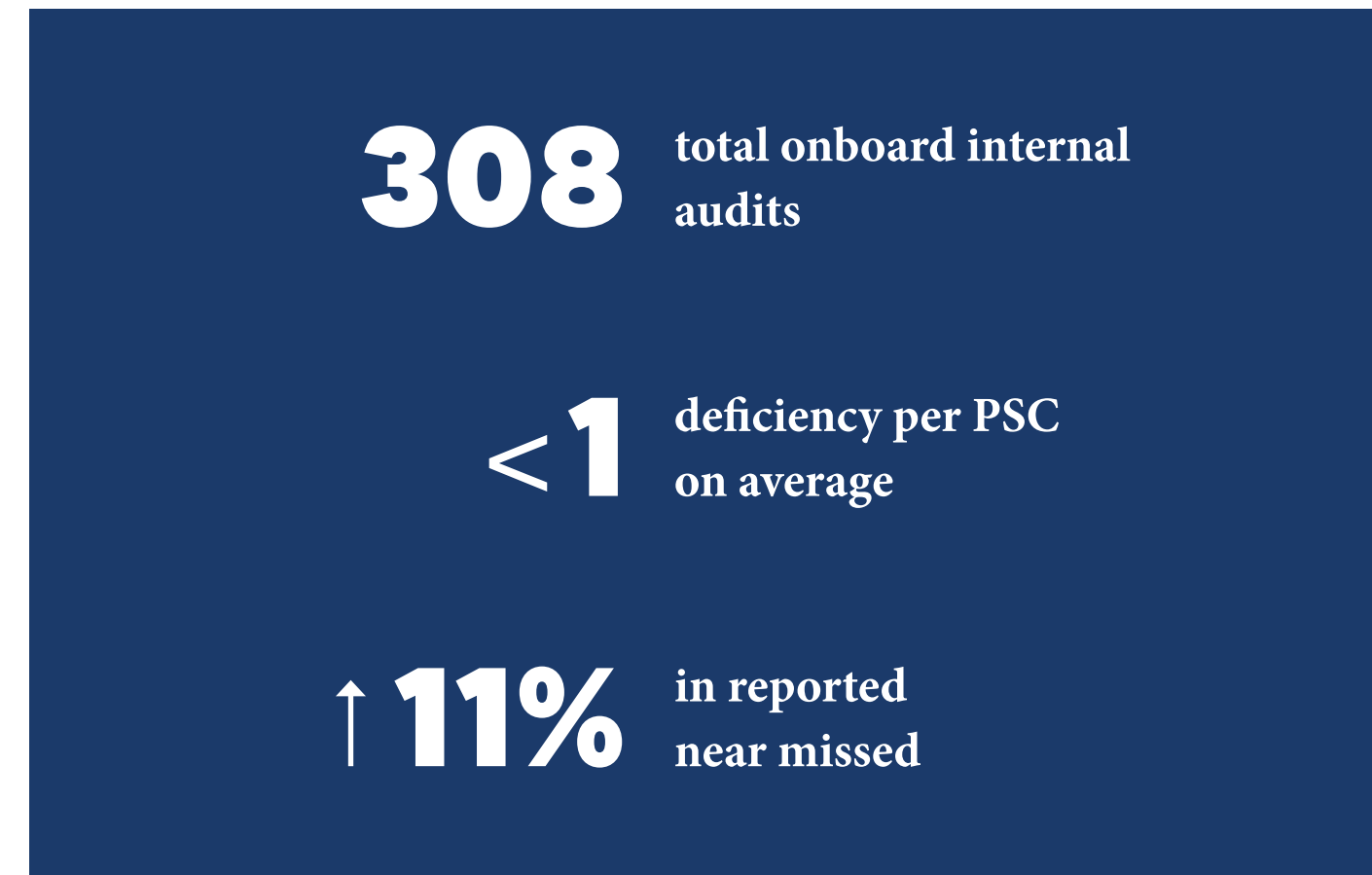
# We consistently achieve a strong Port State Control performance



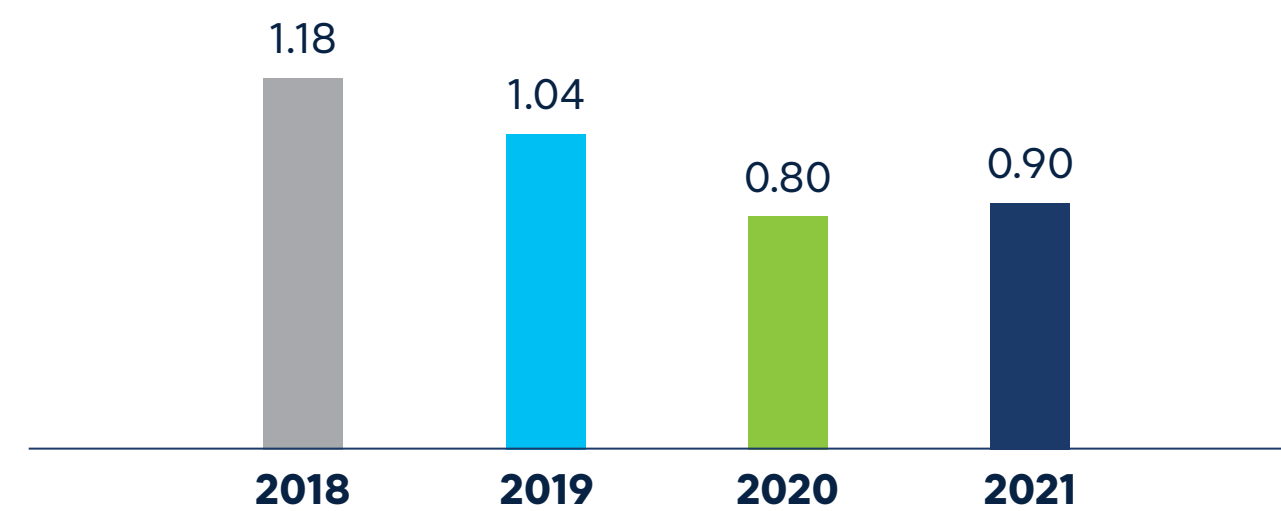
## ON BOARD INSPECTIONS, AUDITS AND PORT STATE CONTROLS

- Internal and external audits take place to ensure that we comply with all regulatory requirements related to the safety and integrity of our operations.
- Star Bulk targets 4 inspections of each vessel per year - two inspections by a Technical superintendent and two more by a Marine Safety and Quality superintendent.
- During 2021, our Port State Controls (PSC) deficiency ratio remained approximately at the same levels in comparison with 2020, while the reported near misses increased by approximately 11% due to the increase to the number of vessels in our fleet.
- A total of 40 RightShip inspections were performed on board our vessels and all were successful with no outstanding items.
- We carry out external vessel audits and rolled-out processes and systems internal audits remotely.
- Using the Marine Safety Quality Control Boarding (MSQCB) we appoint local inspectors in China and Australia to perform physical inspections instead of physical attendances of our marine superintendents due to COVID-19 restrictions.

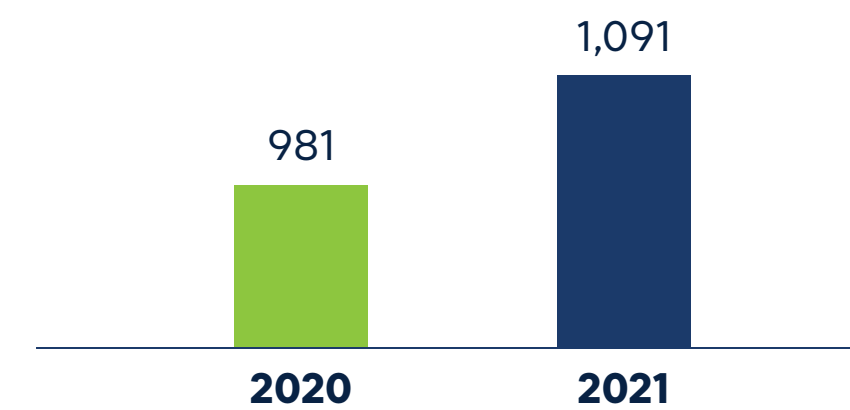
During the reporting period:



Average Port State Control deficiency ratio\*



Near Misses\*



\*Excluding the vessels managed by our third-party managers



## We follow solid procurement practices while ensuring high quality and ethical standards

At Star Bulk, we optimize our supply chain by establishing and maintaining sincere and valuable relationships with our suppliers, domestic or international, to strengthen our competitive position. We focus on transparency and on the promotion of a responsible and sustainable supply chain.

We have instituted an evaluation process for our suppliers, as a means of comparing their business ethics to our exemplary environmental and quality standards.

On board employees rate all supplier services and responsible employees ashore further review the assessment and if needed take relevant action.

In 2021, our vessels evaluated **1,117 suppliers** of stores and provisions, with an average supplier rating of 80%. In addition, 47 suppliers were screened based on environmental criteria in 2021.

Our internal policies and processes ensure that our suppliers conduct their activities in a socially responsible manner.

Moreover, we have made it mandatory for our suppliers to complete the Inventory of Hazardous Material (IHM) form, which includes product and material information (e.g., hazardous materials) and ensures that the supplied materials comply with existing regulations, such as Regulation 4 of the IMO Hong Kong Convention, the UN recommendation “Globally Harmonized System of Classification and Labelling of Chemicals (GHS)” and more.

**In 2021, the total number of purchase orders for stores, provisions and spares was 17,124, and the vast majority was placed in Asia.** There was an average of 4.2 purchase orders per shipment - irrespective of vessel (approximately at the same level as in 2020).

- 100%** of our suppliers passed our quality evaluation benchmark during 2021
- 269** suppliers evaluated in 2021
- ~4.2** purchase orders / shipment consolidation rate
- 17,124** purchase orders within 2021







RELATED SDGS

- 1** NO POVERTY
- 3** GOOD HEALTH AND WELL BEING
- 4** QUALITY EDUCATION
- 5** GENDER EQUALITY
- 8** DECENT WORK AND ECONOMIC GROWTH
- 10** REDUCED INEQUALITIES
- 17** PARTNERSHIPS FOR THE GOALS

**GIVING BACK  
TO THE COMMUNITY**



## We offer tangible and sustainable benefits to the community



In 2016, members of the Union of Greek Shipowners established the Greek Shipowners' social welfare initiative **SYN-ENOSIS**. The mission of which is to support the Greek society via social welfare programs and activities for vulnerable social groups through the provision of humanitarian and charitable aid. Star Bulk has been providing annual financial contributions to SYN-ENOSIS for the past years.



The **Stavros Niarchos Foundation Endowed Scholarship Fund** represents a fund at Anatolia College supporting the Center for Talented Youth ("CTY"). At Star Bulk, we are committed to supporting the CTY scholarships for a 5-year period (2018-2022).



The **Friends Of Liberty Association's** purpose is the maintenance and management of a floating boat exhibit named HELLAS LIBERTY, which is one of the three remaining ships in its category and was offered to the Greek Republic by the United States Government. Star Bulk has provided funds to support the Association's efforts to maintain the exhibit.



Project Connect is a Non-Profit Organization of professionals from the Shipping and HR industries who are offering practical solutions to the problem of youth employability. Star Bulk is a sponsor to the "**Adopt a Ship**" program, which connects primary and junior high school pupils with seafarers, aiming to educate youngsters about the seafaring profession and the maritime sector.



In 2021, Star Bulk contributed more than 1.2 tons of raw food material, to non-profit organizations, which among other activities offer food aid to vulnerable groups in Greece: Prolepsis Institute, Krikos Zois and Filoi ton Anapiron.



Our Company sponsored the **AMVER Awards ceremony**. The Awards are granted to the three companies with the highest number of vessels participating in the AMVER Program. AMVER is the Automated Mutual Assistance Vessel Rescue, an international computer-based and voluntary ship reporting system, applied across the world by search and rescue authorities, using commercial ships to rescue people at sea.



The **Greek Shipping Miracle** is the first online maritime museum. The organization's purpose is to increase awareness about the Greek shipping sector and its long-lasting contribution to both the Greek and the international economy.

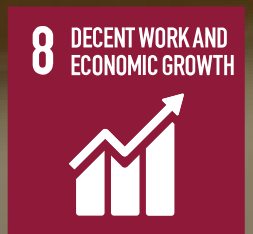


We actively support the **Athens College Scholarship program**, which provides scholarships to school students to attend the College. Star Bulk fully supported the studies of a student for the academic year 2021-2022.





RELATED SDGS



**OPERATING WITH INTEGRITY  
AND ACCOUNTABILITY**



# A strong independent Board of Directors and a skilled and experienced management team

## Board of Directors

The BoD sets a solid corporate code which is implemented by the Senior Management. Several committees appointed with specific responsibilities to support the BoD.

### Nomination and Corporate Governance Committee

Consists of three autonomous directors and is primarily responsible for: (i) recommending to the BoD nominees for Director and Directors for appointment to Committees of the BoD and (ii) recommending Corporate Governance practices to the BoD.

### Audit Committee

Consists of two independent directors and (i) reviews the Company's controls on financial reports (ii) recommends to the BoD regarding the engagement of the Company's outside auditor and (iii) examines all the transactions with the relative parties for probable conflicts of interest.

### Compensation Committee

Consists of two independent directors and is mainly responsible for recommending to the BoD, the Company's senior executive officers' compensation and benefits.

### ESG Committee

Consists of three independent directors and its central purpose is to assist the Board in providing guidance to the Company's environmental (including climate), social and governance matters.

**18%** Women in the BoD

**5.5** Years average tenure of Directors at the release date of this report

Our Board of Directors and executive officers, as at the release date of this report, are the following:

BoD composition	Role	Nomination & Corporate Governance Committee	Audit Committee	Compensation Committee	ESG Committee
Spyros Capralos	Chairman of the BoD	√		√	
Petros Pappas	CEO, Director				
Mahesh Balakrishnan	Director			√	√
Koert Erhardt	Director	√	√		
Nikolaos Karellis	Director		√		√
Arne Blystad	Director				
Rafaelle Zagari	Director				
Brian Laibow	Director	√			
Katherine Ralph	Director				
Eleni Vrettou	Director				√
Sherman Lau*	Director				

Executive officers	Capacity
Petros Pappas	CEO
Hamish Norton	President
Nicos Rescos	Chief Operating Officer
Christos Begleris	Co-Chief Financial Officer
Simos Spyrou	Co-Chief Financial Officer
Charis Plakantonaki	Chief Strategy Officer

\*Ms. Dawna Men term expired at the 2021 AGM on 13 May 2021, Mr. Sherman Lau was appointed on the BoD on 13 May 2021.




# Ethics and integrity are at the heart of our business

## OUR CODE OF ETHICS

All of our onshore and offshore employees, as well as all employees of our subsidiaries are informed of the Code of Ethics.

Our Code of Ethics underlies our business actions and must be followed by all of us. The Senior Management handles the day-to-day operations of the company and is also responsible for the application of the Code and policies by all Company staff.

Any non-compliance with the Code's principles is considered a serious infringement and may lead to termination of contracts or even legal sanctions.

 In 2021, we became members to the Maritime Anti-Corruption Network (MACN)

## REPORTING VIOLATIONS OF THE CODE

Our personnel should take all necessary steps to prohibit any form of misconduct by other employees or other Company personnel that violate the Code. Employees shall report any known or suspected misconduct to the Chairman of the Audit Committee or the Company's General Counsel. At Star Bulk, we encourage all our employees and third parties, to raise any issues regarding among others suspicious accounting matters, audit practices, internal controls, conflicts of interest, fraud, or insider trading within the Company. The Company's

employees and external parties are requested to communicate their complaints on a confidential and/or anonymous basis to the Company's Audit Committee through the Company's "P.O. Box 61323 15104 Maroussi" and through the whistleblower hotline on +306976862707. The Company will not retaliate or allow retaliation for good faith reports.

- 0** violations of our Ethical principles
- 0** whistleblowing incidents
- 0** incidents of corruption related to employees, business partners and public legal cases
- 0** bribery and fraud incidents

## TRANSPARENCY INTERNATIONAL'S CORRUPTION PERCEPTION INDEX

Our vessels operate globally and thus, we closely try to monitor the degree of corruption in the countries and territories we operate in. In 2021, the calls at ports in countries that have the 20 lowest rankings in the Transparency International's Corruption Perception Index (CPI) for our entire fleet were 337.

**12%** port calls of the total port calls in countries with the 20 lowest rankings in CPI

## OUR ANTI-CORRUPTION POLICY

Our Anti-Corruption Policy consists of guidelines that are in line with the requirements of the U.S. Foreign Corrupt Practices Act (FCPA) and UK Bribery Act – which aims to ensure that all employees are not allowed to give promises, to pay, to provide or to authorize the promising, to pay or provide any amount of money or anything of value to a Public Official or Private Sector Counterparty Representative for the purpose of improperly obtaining, directing or retaining business or securing an improper advantage for the Company.





# A robust internal control system monitors and evaluates the risks material to our business

Star Bulk’s Internal Audit Department reviews the Company’s internal controls design and accuracy, as well as its processes. It provides recommendations to the Management and reports directly to the Audit Committee.

The Department also plays a significant role in assisting in the compliance process with the Sarbanes - Oxley requirements (SOX), when it comes to material business cycles related to the financial statements.

In 2021, no material weaknesses or significant deficiencies were identified during the internal audits (including SOX related audits) performed by our Internal Audit team.

Moreover, the Company has also instituted an in-house Control Department which oversees the processes related to the operating expenses and ensures efficient and lean operations among the Company’s departments.



We are accredited with ISO 9001: 2015 Quality management systems.

**0** material weaknesses or significant deficiencies identified during the internal audits

## RISK MANAGEMENT

Based on the Company’s Risk Management framework, we monitor, assess and evaluate any risks that could affect our operations. The framework enables us to adopt all necessary measures to continue our day-to-day activities and follows the requirements of ISO 31000: 2018 for Risk Management.

The key risks that we identify that can affect our business, belong in the following risk areas:

- 

Health and safety of our people on board and ashore due to the COVID-19 pandemic
- 

The availability of financing and refinancing
- 

General dry bulk shipping market conditions (Supply and Demand)
- 

Counterparty risk
- 

Bunker prices and availability
- 

Weather related events
- 

Changes in governmental rules and regulations or actions taken by regulatory authorities
- 

Cyber crime
- 

Climate related risks
- 

Disruption in exports of materials due to physical accidents
- 

General domestic and international political conditions



# We continuously evaluate our exposure to climate-related risks and opportunities

The climate related risks which are identified through our participation in the Carbon Disclosure Project (CDP) rating process and incorporated in our risk matrix, are:



## Baseline calculation

We closely keep track of our fleet's performance and collect data to calculate a baseline against which future climate related risks and opportunities can be recognized and assessed.



## Research and partnerships

We examine past records, climate science policies and regulations, and developments in technology. We actively engage with policy makers, partners, academics, and stakeholders.



## Scenario Analysis

We have initiated a climate change scenario analysis, based on the scenarios of the International Maritime Organization (IMO) to help us prioritize potential risks and opportunities on the intermediate and long-term horizon and assess the appropriate form and timing of implementing alternative actions.



## Risk Assessment

We assess the climate-related physical and transition risks' impact on our operations (e.g., increase in energy prices, rising prices of commodities, higher demand to produce renewables and low carbon products, heat waves and sea level rise).



## Impact evaluation

We pay attention to overall changes in climate risk, and we evaluate the impact to our business prospects and competitive position (i.e., business materiality) as well as the impact on our main stakeholders.

Our horizons for identifying, assessing and responding to climate-related risks and opportunities:

### Short-term risks

(year 0 to 2)

Risk management based on environmental compliance with current rules and regulations.

### Medium-term risks

(year 2 to 5)

Risk management based on future announcements of potential changes to the regulatory framework.

### Long-term risks

(year 5 to 30)

Risk management based on the search of alternative fuels and concomitant new build designs, to achieve the industry's goals.



Carbon Disclosure Project (CDP) 2020

Received B- under Climate Change for our voluntary disclosures



# We use high-end digital technology and advanced cyber security systems



The International Maritime Organization (IMO) adopted a resolution on Maritime Cyber Risk Management, that requires ship owners and managers to assess cyber risk and implement relevant measures across all functions of their safety management system, until the first Document of Compliance, effective as of 1 January 2021.

We implement an appropriate scheme of cyber security governance and controls, to protect our information assets. Our method is to ensure that we apply the right architecture, technology and policies to inhibit, identify, prepare for and recover from any cyber-attacks promptly.

## 0 Cyber security incidents

Our **endpoint protection system** includes:

- Monitoring capabilities (process, network, registry, memory, files)
- Detection capabilities (different types of malware)
- Response capabilities (blocking, host isolation, remote investigation)
- Coverage of all systems within IT environment
- Interoperability with other security solutions in-place
- Bandwidth requirements and potential impact on endpoints (CPU, RAM, hard disk)
- Security controls of the EDR solution itself
- Compatibility with existing or future SIEM solution

Our **Firewall upgrade** includes advanced features regarding inspection, prevention, monitoring and reporting, while our **Hardware upgrade** on board include the installation of a server to comply with the Cyber Security regulation (user access management, security policies, Control Changes etc.)

**> 140,000 €** invested in cyber security in 2021

**> 205,700 €** invested during 2022

**In today's rapidly evolving and highly competitive marketplace, digitization and data analytics is one of the key focus areas in maritime industry and a key to long-term success.**

Star Bulk's operations are supported by a Microsoft based ERP system and a cloud-based commercial ERP system, which enables a fully automated process across all Company's functions.

We use a high-end business intelligence tool that allows us to monitor our activities, as well as the fleet performance, via real-time data capturing and reporting. This tool communicates with a data analytics and Business Intelligence platform, giving access to a variety of reporting options (including vessels' historical data), through visual data tools and dashboards, and enhances the decision-making process with complete, accurate and real-time data.

**Through the digitized processes, we ensure the accuracy of our data and information, to achieve optimal commercial decisions, to follow any new regulations and to comply with the existing ones.**

- Microsoft based ERP system
- Cloud based commercial ERP system
- End-to-end system integration
- Advanced Business Intelligence tool

We have established a highly advanced IT infrastructure that supports our operations and ensures high levels of security and data protection for our Company's information.

### Our systems supports us in:

- Enhancing the data collection process from multiple sources
- Improving Efficiency
- Benchmarking and increasing transparency
- Optimizing operations and predicting potential risks
- Meeting environmental regulations and goals
- Enhancing information flow
- Accessing historical records for reference

**We are accredited with ISO/IEC 27000 - Stage 1 Information security management.**





## APPENDICES



Appendix A

# Stakeholders' engagement process

Stakeholder group	Basis for engagement	Engagement methods	Frequency	Key areas of interest / concern	Our response
<p><b>Clients</b></p> <ul style="list-style-type: none"> <li>• Vessel owners</li> <li>• Charterers</li> <li>• Cargo Owners</li> </ul>	<p>Customers, including charterers, cargo owners etc. are vital to the organisation's success and have a direct interest in our market impact and sustainability performance.</p>	<ul style="list-style-type: none"> <li>• Charter Parties</li> <li>• Service feedbacks</li> </ul>	<ul style="list-style-type: none"> <li>• Ad hoc</li> <li>• Strategic</li> </ul>	<ul style="list-style-type: none"> <li>• Service quality</li> <li>• Business ethics</li> <li>• Financial performance</li> <li>• Vessel condition</li> </ul>	<p>We constantly strive to increase our service quality in order to deliver sustainable and value adding services to all our clients.</p>
<p><b>Seafarers &amp; office employees</b></p> <ul style="list-style-type: none"> <li>• Crew on board</li> <li>• Employees ashore</li> <li>• (Affiliated) Manning agents</li> </ul>	<p>Our people are critical to our business, strategy and decision making. We therefore aim to maintain a safe and rewarding work environment whilst engaging and collaborating with them to achieve our goals.</p>	<ul style="list-style-type: none"> <li>• Performance feedback</li> <li>• Open communication channels</li> </ul>	<ul style="list-style-type: none"> <li>• Daily</li> <li>• Annually</li> </ul>	<ul style="list-style-type: none"> <li>• Financial performance</li> <li>• Work conditions</li> <li>• Health and safety</li> <li>• Remuneration and benefits</li> <li>• Career development</li> </ul>	<p>We put health and safety first and foster an open and inclusive work environment both on board and ashore. We fairly reward and offer career advancement opportunities to our people.</p>
<p><b>Shareholders / Investors</b></p> <ul style="list-style-type: none"> <li>• Natural persons</li> <li>• Institutional investors</li> <li>• Funds/ Private Equities</li> </ul>	<p>Shareholders are elemental to the Company's operations and growth and have a direct interest in the company's performance.</p>	<ul style="list-style-type: none"> <li>• Annual General Meetings</li> <li>• Quarterly / Annual financial results</li> <li>• Investor briefings and roadshows</li> <li>• Web site / Press releases</li> </ul>	<ul style="list-style-type: none"> <li>• Annually</li> <li>• Quarterly</li> <li>• Ad hoc</li> </ul>	<ul style="list-style-type: none"> <li>• Financial performance</li> <li>• Business strategy</li> <li>• Governance</li> <li>• Regulatory compliance</li> </ul>	<p>We regularly inform our shareholders on the Company's development and strategy. We conduct our business and take actions with the goal of increasing the Company's value.</p>
<p><b>Financial institutions</b></p> <ul style="list-style-type: none"> <li>• Banks</li> <li>• Leasing financial institutions</li> <li>• Underwriting agents</li> <li>• Insurance companies</li> </ul>	<p>Financial institutions require information on the Company's performance with a rising interest in sustainability.</p>	<ul style="list-style-type: none"> <li>• Quarterly / Annual financial results</li> </ul>	<ul style="list-style-type: none"> <li>• Annually</li> <li>• Quarterly</li> <li>• Ad hoc</li> </ul>	<ul style="list-style-type: none"> <li>• Financial performance</li> <li>• Business strategy</li> <li>• Governance</li> <li>• Regulatory compliance</li> </ul>	<p>We provide transparent information about the performance, strategy and outlook of the Company.</p>



Appendix A

# Stakeholders' engagement process (cont'd)

Stakeholder group	Basis for engagement	Engagement methods	Frequency	Key areas of interest / concern	Our response
<b>Bunker traders and physical suppliers</b> <ul style="list-style-type: none"> <li>• Brokers</li> <li>• Port Agents</li> </ul>	We aim to understand our suppliers' concerns and develop channels of mutual support that enhance the quality of our supply chain and foster long term collaboration and opportunities.	<ul style="list-style-type: none"> <li>• Supplier evaluations</li> <li>• Contracts</li> </ul>	<ul style="list-style-type: none"> <li>• Ad hoc</li> </ul>	<ul style="list-style-type: none"> <li>• Financial performance</li> <li>• Business ethics</li> <li>• Evaluation criteria</li> <li>• Environmental performance</li> </ul>	We evaluate the performance of our suppliers and integrate sustainability related issues within the evaluation process.
<b>Industry organizations</b> <ul style="list-style-type: none"> <li>• Classification societies</li> <li>• Recognized organizations</li> <li>• P&amp;I clubs</li> <li>• Insurers</li> <li>• Vetting companies</li> </ul>	Industry standards and regulations set by maritime organizations play a major role in the manner we conduct our business.	<ul style="list-style-type: none"> <li>• Partnerships</li> <li>• Formal meetings</li> </ul>	<ul style="list-style-type: none"> <li>• Ad hoc</li> </ul>	<ul style="list-style-type: none"> <li>• Business ethics</li> <li>• Environmental performance</li> <li>• Health and safety</li> </ul>	We participate and engage with all industry organizations regarding the various business issues that may arise.
<b>Community and society</b> <ul style="list-style-type: none"> <li>• Academic institutions</li> <li>• Local communities</li> <li>• Media</li> <li>• NGOs</li> </ul>	We aim to have a positive impact on society by creating strong partnerships with the communities in which we operate.	<ul style="list-style-type: none"> <li>• Conferences</li> <li>• Community engagement initiatives</li> </ul>	<ul style="list-style-type: none"> <li>• Ad hoc</li> </ul>	<ul style="list-style-type: none"> <li>• Support of People</li> <li>• Community support</li> <li>• Responsible business practices</li> <li>• Environmental Performance</li> </ul>	We support the local society with community-focused initiatives and take their needs into consideration to maximize shared value.
<b>Authorities</b> <ul style="list-style-type: none"> <li>• Governments / Local / Port authorities</li> <li>• IMO</li> <li>• Flag administration</li> </ul>	Active engagement with state and regulatory authorities ensures compliance with all applicable standards and regulation.	<ul style="list-style-type: none"> <li>• Audits</li> <li>• Public forums</li> </ul>	<ul style="list-style-type: none"> <li>• Ad hoc</li> </ul>	<ul style="list-style-type: none"> <li>• Regulatory compliance</li> <li>• Business ethics</li> <li>• Environmental performance</li> <li>• Health and safety</li> </ul>	We follow and comply with State and regulatory authority rules and regulations. We follow and implement all instructions and we aim for zero non-conformities.



Appendix B

# Management and impact of topics

The following table presents all topics identified (material as blue, non-material as grey) and the main stakeholder groups concerned with / affected by the topics, presented according to their importance to the stakeholders.

ENVIRONMENT		SOCIAL		GOVERNANCE	
Topic	Boundaries / Stakeholders affected	Topic	Boundaries / Stakeholders affected	Topic	Boundaries / Stakeholders affected
<b>GHG emission reduction and energy efficiency</b>	Seafarers and office employees, Customers, Shareholders / Investors, Authorities, Financial institutions, Industry organizations, Community and society	<b>Occupational health, safety and security (including related to the COVID-19 pandemic)</b>	Seafarers and office employees, Customers, Suppliers, Shareholders / Investors, Authorities, Industry organizations, Community and society	<b>Corporate governance, ethics and transparency</b>	Seafarers and office employees, Customers, Suppliers, Shareholders / Investors, Authorities, Financial institutions, Industry organizations, Community and society
<b>Water pollution prevention, control and compliance with respective regulations</b>	Seafarers and office employees, Customers, Shareholders / Investors, Authorities, Financial institutions, Industry organizations, Community and society	<b>Employee well-being</b>	Seafarers and office employees, Customers, Community and society	<b>Regulatory Compliance and application</b>	Seafarers and office employees, Customers, Suppliers, Shareholders / Investors, Authorities, Financial institutions, Industry organizations
<b>Impact of environmental regulations on fleet profile</b>	Seafarers and office employees, Customers, Suppliers, Shareholders / Investors, Authorities, Financial institutions, Industry organizations, Community and society	<b>Respecting human rights</b>	Seafarers and office employees, Customers, Community and society	<b>Economic performance</b>	Seafarers and office employees, Customers, Suppliers, Shareholders / Investors, Authorities, Financial institutions
<b>Research and innovation in green technologies and alternative fuels</b>	Seafarers and office employees, Customers, Suppliers, Shareholders / Investors, Financial institutions, Industry organizations	<b>Labor practices depicting the relationship between Management and employees</b>	Seafarers and office employees, Customers, Shareholders / Investors, Authorities, Industry organizations, Community and society	<b>Security of transportations both physical and cyber security</b>	Seafarers and office employees, Customers, Suppliers, Shareholders / Investors, Authorities, Financial institutions, Industry organizations, Community and society
<b>Waste management and recycling</b>	Seafarers and office employees, Customers, Suppliers, Shareholders / Investors, Authorities, Industry organizations, Community and society	<b>Sustainable procurement practices</b>	Seafarers and office employees, Customers, Suppliers	<b>Commercial strategy and commercial performance</b>	Seafarers and office employees, Customers, Suppliers, Shareholders / Investors, Authorities, Financial institutions
<b>Vessel's recycling</b>	Seafarers and office employees, Customers, Shareholders / Investors, Authorities, Financial institutions, Industry organizations	<b>Corporate and employee performance management</b>	Seafarers and office employees, Customers, Shareholders / Investors	<b>Relationship with business partners</b>	Seafarers and office employees, Customers, Suppliers, Shareholders / Investors
		<b>Employee training / competency development</b>	Seafarers and office employees, Customers, Shareholders / Investors, Community and society	<b>Risk mitigation and control</b>	Seafarers and office employees, Customers, Suppliers, Shareholders / Investors, Authorities, Financial institutions
		<b>Talent attraction and retention including internship programs</b>	Seafarers and office employees, Shareholders / Investors, Community and society	<b>Partnerships for advancing Sustainability</b>	Seafarers and office employees, Customers, Shareholders / Investors, Industry organizations
		<b>Remuneration and benefits</b>	Seafarers and office employees, Shareholders / Investors, Community and society		
		<b>Career opportunities and advancement</b>	Seafarers and office employees, Customers, Community and society		
		<b>Diversity and inclusion</b>	Seafarers and office employees, Shareholders / Investors, Community and society		
		<b>Support of local communities</b>	Seafarers and office employees, Shareholders / Investors, Community and society		
		<b>Humanitarian aid</b>	Seafarers and office employees, Shareholders / Investors, Community and society		
		<b>Volunteering / pro bono work</b>	Seafarers and office employees, Shareholders / Investors, Community and society		



## Appendix C

**UN Global Compact**

The table below shows the 10 principles of the United Nations Global Compact with the corresponding contents of the report.

	<b>UNGC Principles</b>	<b>Section</b>	<b>Page number(s)</b>
<b>Human Rights</b>	Principle 1: Businesses should support and respect the protection of internationally proclaimed human rights	People and culture Governance	38 49
	Principle 2: Businesses should make sure that they are not complicit in human rights abuses	People and culture Governance	38 49
<b>Labour</b>	Principle 3: Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining	People and culture	33, 37
	Principle 4: Businesses should uphold the elimination of all forms of forced and compulsory labour	People and culture	33
	Principle 5: Businesses should uphold the effective abolition of child labour	People and culture	33
	Principle 6: Businesses should uphold the elimination of discrimination in respect of employment and occupation	People and culture Operating with integrity and accountability	38 49
<b>Environment</b>	Principle 7: Businesses should support a precautionary approach to environmental challenges	Environmental protection	24-30
	Principle 8: Businesses should undertake initiatives to promote greater environmental responsibility	Environmental protection	28
	Principle 9: Businesses should encourage the development and diffusion of environmentally friendly technologies	Environmental protection	29-30
<b>Anti-Corruption</b>	Principle 10: Businesses should work against corruption in all its forms, including extortion and bribery	Operating with integrity and accountability	49



## Appendix D

## GRI content index

The 2016 version of the below GRI Standards have been used for this report with the exception of GRI 306: Waste which is based on the 2020 version of the standard and the GRI 403: Occupational health and safety which is based on the 2018 version of the standard:

	Disclosure	Page number(s)	Omissions	External Assurance
<b>GRI 102 General disclosures 2016</b>	102-1 Name of the organization	6	-	
	102-2 Activities, brands, products, and services	6-8	-	
	102-3 Location of headquarters	6	-	
	102-4 Location of operations	6	-	
	102-5 Ownership and legal form	6	-	
	102-6 Markets served	6	-	
	102-7 Scale of the organisation	6	-	
	102-8 Information on employees and other workers	6, 33, 37	-	√
	102-9 Supply chain	6-8	-	
	102-10 Significant changes to the organization and its Supply Chain	<i>No Significant changes to the organization's size, structure, ownership, or supply chain occurred in 2021.</i>	-	√
	102-11 Precautionary Principle or approach	24-30	-	
	102-12 External initiatives	29-30	-	
	102-13 Membership of associations	28, 35	-	
	102-14 Statement from senior decision-maker	2	-	
	102-16 Values, Principles, standards, and norms of behavior	49	-	
	102-17 Mechanisms for advice and concerns about ethics	49	-	
	102-18 Governance structure	48	-	

	Disclosure	Page number(s)	Omissions	External Assurance
<b>GRI 102 General disclosures 2016</b>	102-40 List of stakeholder groups	13, 54-55	-	√
	102-41 Collective bargaining agreements	33, 37	-	
	102-42 The basis for identifying and selecting stakeholders with whom to engage	54-55	-	√
	102-43 Approach to stakeholder engagement	13	-	
	102-44 Key topics and concerns raised	13, 15	-	
	102-45 Entities included in the consolidated financial statements	6	-	
	102-46 Defining report content and topic Boundaries	56	-	√
	102-47 List of material topics	13, 15	-	√
	102-48 Restatements of information	9	-	√
	102-49 Changes in reporting	13	-	√
	102-50 Reporting Period	4	-	
	102-51 Date of most recent report	<i>2020 Environmental, Social, Governance (ESG) Report, that was published in November 2021</i>	-	
	102-52 Reporting cycle	4	-	
	102-53 Contact point for questions regarding the report	65	-	
	102-54 Claims of reporting in accordance with the GRI Standards	4	-	√
	102-55 GRI content index	58-60	-	√
	102-56 External assurance	63-64	-	



Appendix D

# GRI content index

GRI Standard	Disclosure	Page number(s)	Omissions	External Assurance
<b>Economic performance</b>				
GRI 103 Management approach	103-1 Explanation of the material topic and its Boundary	9	-	√
	103-2 The management approach and its components			
	103-3 Evaluation of the management approach			
GRI 201 Economic performance 2016	201-1 Direct economic value generated and distributed			
<b>Anti-corruption</b>				
GRI 103 Management approach	103-1 Explanation of the material topic and its Boundary	49	-	√
	103-2 The management approach and its components			
	103-3 Evaluation of the management approach			
GRI 205 Anti-corruption 2016	205-3 Confirmed incidents of corruption and actions taken			
<b>Energy</b>				
GRI 103 Management approach	103-1 Explanation of the material topic and its Boundary	16, 22, 26	-	√
	103-2 The management approach and its components			
	103-3 Evaluation of the management approach			
GRI 302 Energy 2016	302-1 Energy consumption within the organisation			

GRI Standard	Disclosure	Page number(s)	Omissions	External Assurance
<b>Emissions</b>				
GRI 103 Management approach	103-1 Explanation of the material topic and its Boundary	22, 23	-	√
	103-2 The management approach and its components			
	103-3 Evaluation of the management approach			
GRI 305 Emissions 2016	305-1 Direct (Scope 1) GHG emissions			
	305-7 Nitrogen oxides (NOX), sulfur oxides (SOX), and other significant air emissions			
<b>Effluents and waste</b>				
GRI 103 Management approach	103-1 Explanation of the material topic and its Boundary	24	-	
	103-2 The management approach and its components			
	103-3 Evaluation of the management approach			
GRI 306 Waste 2020	306-1 Waste generation and significant waste-related impacts			
	306-2 Management of significant waste-related impacts			
	306-3 Waste generated			
<b>Environmental compliance</b>				
GRI 103 Management approach	103-1 Explanation of the material topic and its Boundary		-	√
	103-2 The management approach and its components			
	103-3 Evaluation of the management approach			
GRI 307 Environmental compliance 2016	307-1 Non-compliance with environmental laws and regulations			



Appendix D

# GRI content index

GRI Standard	Disclosure	Page number(s)	Omissions	External Assurance
<b>Employment</b>				
GRI 103 Management approach	103-1 Explanation of the material topic and its Boundary	39	-	
	103-2 The management approach and its components			
	103-3 Evaluation of the management approach			
GRI 401 Employment 2016	401-1 New employee hires and employee turnover			
<b>Occupational health and safety</b>				
GRI 103 Management approach	103-1 Explanation of the material topic and its Boundary	41-42	-	
	103-2 The management approach and its components			
	103-3 Evaluation of the management approach			
GRI 403 Occupational health and safety 2018	403-1 Occupational health and safety management system			
	403-2 Hazard identification, risk assessment, and incident investigation			
	403-3 Occupational health services			
	403-4 Worker participation, consultation, and communication on occupational health and safety			
	403-5 Worker training on occupational health and safety			
	403-6 Promotion of worker health			
403-7 Prevention and mitigation of occupational health and safety impacts directly linked by business relationships				
403-9 Work-related injuries				

GRI Standard	Disclosure	Page number(s)	Omissions	External Assurance
<b>Training and Education</b>				
GRI 103 Management approach	103-1 Explanation of the material topic and its Boundary	38	-	√
	103-2 The management approach and its components			
	103-3 Evaluation of the management approach			
GRI 404 Training and education 2016	404-3 Percentage of employees receiving regular performance and career development reviews			
<b>Diversity and equal opportunities</b>				
GRI 103 Management approach	103-1 Explanation of the material topic and its Boundary	33, 37, 48	-	
	103-2 The management approach and its components			
	103-3 Evaluation of the management approach			
GRI 405 Diversity and equal opportunities 2016	405-1 Diversity of governance bodies and employees			
<b>Non-discrimination</b>				
GRI 103 Management approach	103-1 Explanation of the material topic and its Boundary	We had no incidents of discrimination in 2021.	-	
	103-2 The management approach and its components			
	103-3 Evaluation of the management approach			
GRI 406 Non-discrimination 2016	406-1 Incidents of discrimination and corrective actions taken			



## Appendix E

**SASB marine transportation material issues**

Category	Disclosure topic	Code	Page number(s)	External Assurance
<b>Greenhouse Gas Emissions</b>	Gross global Scope 1 emissions	TR-MT-110a.1	22	
	Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	TR-MT-110a.2	18	
	(1) Total energy consumed, (2) percentage heavy fuel oil, (3) percentage renewable	TR-MT-110a.3	22	
	Average Energy Efficiency Design Index (EEDI) for new ships	TR-MT-110a.4	-	
<b>Air Quality</b>	Air emissions of the following pollutants: (1) NOx (excluding N2O), (2) SOx, and (3) particulate matter (PM10)	TR-MT-120a.1	23	
<b>Ecological impacts</b>	Shipping duration in marine protected areas and areas of protected conservation status	TR-MT-160a.1	-	
	Percentage of fleet implementing (1) ballast water exchange and (2) ballast water treatment	TR-MT-160a.2	27	√
	(1) Number and (2) aggregate volume of spills and releases to the environment	TR-MT-160a.3	16	√
<b>Employee health &amp; safety</b>	Lost time injury rate (LTIR)	TR-MT-320a.1	42	
<b>Business ethics</b>	Number of calls at ports in countries that have the 20 lowest rankings in Transparency International's Corruption Perception Index	TR-MT-510a.1	49	√
	Total amount of monetary losses as a result of legal proceedings associated with bribery or corruption	TR-MT-510a.2	16	
<b>Accident &amp; safety management</b>	Number of marine casualties, percentage classified as very serious	TR-MT-540a.1	16, 42	
	Number of Conditions of Class or Recommendations	TR-MT-540a.2	-	
	Number of port state control (1) deficiencies and (2) detentions	TR-MT-540a.3	43	



Appendix F

# NASDAQ ESG Reporting Guide 2.0

	Disclosure	Section	Page number(s)
ENVIRONMENTAL (E)	E1. GHG Emissions	Environmental protection	22
	E2. Emissions Intensity	Environmental protection	22
	E3. Energy Usage	Environmental protection	22, 32
	E4. Energy Intensity	-	
	E5. Energy Mix	-	
	E6. Water Usage	Environmental protection	25-26
	E7. Environmental Operations	Environmental protection	20
	E8. Climate Oversight / Board	Operating with integrity and accountability	48
	E9. Climate Oversight / Management	Operating with integrity and accountability	50-51
	E10. Climate Risk Mitigation	Operating with integrity and accountability	50-51
SOCIAL (S)	S1. CEO Pay Ratio	-	
	S2. Gender Pay Ratio	-	
	S3. Employee Turnover	People and culture	39
	S4. Gender Diversity	People and culture	37-48
	S5. Temporary Worker Ratio	-	
	S6. Non-Discrimination	People and culture	38
	S7. Injury Rate	People and culture	42
	S8. Global Health & Safety	People and culture	41-42
	S9. Child & Forced Labor	People and culture	33
	S10. Human Rights	People and culture	38

	Disclosure	Section	Page number(s)
CORPORATE GOVERNANCE (G)	G1. Board Diversity	Operating with integrity and accountability	48
	G2. Board Independence	Operating with integrity and accountability	48
	G3. Incentivized Pay	-	
	G4. Collective Bargaining	People and culture	33, 37
	G5. Supplier Code of Conduct	-	
	G6. Ethics & Anti-Corruption	Operating with integrity and accountability	49
	G7. Data Privacy	Operating with integrity and accountability	52
	G8. ESG Reporting	<i>Our 2020 Environmental, Social, Governance (ESG) Report was published in November 2021</i>	
	G9. Disclosure Practices	About 2021 ESG Report	4
		Environmental protection	28
G10. External Assurance	Independent Verification Statement	63-64	





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## Independent accountant's assurance report

### To the management of Star Bulk Carriers Corp.:

#### Scope

We have been engaged by Star Bulk Carriers Corp. (hereafter “Star Bulk”) to perform a ‘limited assurance engagement,’ as defined by International Standards on Assurance Engagements, hereafter referred to as the engagement, to report on the following in relation to the English version of the 2021 Star Bulk ESG Report (hereafter the “Subject Matter”):

1. General Disclosures of the GRI 102 Standard “General Disclosures: Reporting Practice”. The Assurance scope includes ten (10) General Disclosures agreed between EY and Star Bulk Carriers Corp. (indicated in the assurance column of the GRI Content Index, pp. 58 of the Report)
2. Seven (7) GRI topic specific Disclosures for the year 2021 (indicated in the assurance column of the GRI Content Index, pp. 59-60 of the Report).
3. The Management Approach (GRI Standard 103) related to the material topics with which the above-mentioned GRI topic specific Disclosures are associated, as those resulted from the Star Bulk materiality analysis.
4. Three (3) SASB industry standard metrics for the year 2021 (indicated in the assurance column of the SASB Content Index, pp. 61 of the Report).

2021 Star Bulk ESG Report covers the financial year 2021 (1 January 2021 – 31 December 2021).

Other than as described in the preceding paragraph, which sets out the scope of our engagement, we did not perform assurance procedures on the remaining information included in the 2021 Star Bulk ESG Report, and accordingly, we do not express a conclusion on this information.

#### Criteria applied by Star Bulk

In preparing the Subject Matter, Star Bulk applied the GRI Standards (2016) including the GRI reporting principles for report quality; accuracy, balance, clarity, comparability, reliability, and timeliness, the criteria set in the GRI standard 101 for “in accordance: Core option” and the SASB Marine Transportation standard (2018).

#### Star Bulk responsibilities

Star Bulk management is responsible for selecting the Criteria, and for presenting the Subject Matter in accordance with that Criteria, in all material respects. This responsibility includes establishing and maintaining internal controls, maintaining adequate records and making estimates that are relevant to the preparation of the subject matter, such that it is free from material misstatement, whether due to fraud or error.

#### EY's responsibilities

Our responsibility is to express a conclusion on the presentation of the Subject Matter based on the evidence we have obtained.

We conducted our engagement in accordance with the *International Standard for Assurance Engagements Other Than Audits or Reviews of*

*Historical Financial Information* ('ISAE 3000' (revised)). Those standards require that we plan and perform our engagement to obtain limited assurance about whether, in all material respects, the Subject Matter is presented in accordance with the Criteria, and to issue a report. The nature, timing, and extent of the procedures selected depend on our judgment, including an assessment of the risk of material misstatement, whether due to fraud or error.

We believe that the evidence obtained is sufficient and appropriate to provide a basis for our limited assurance conclusions.

#### Our Independence and Quality Control

We have maintained our independence and confirm that we have met the requirements of the Code of Ethics for Professional Accountants issued by the International Ethics Standards Board for Accountants and have the required competencies and experience to conduct this assurance engagement.

EY also applies International Standard on Quality Control 1, *Quality Control for Firms that Perform Audits and Reviews of Financial Statements, and Other Assurance and Related Services Engagements*, and accordingly maintains a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.



**Description of procedures performed**

Procedures performed in a limited assurance engagement vary in nature and timing from, and are less in extent than for, a reasonable assurance engagement. Consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed. Our procedures were designed to obtain a limited level of assurance on which to base our conclusion and do not provide all the evidence that would be required to provide a reasonable level of assurance.

Although we considered the effectiveness of management's internal controls when determining the nature and extent of our procedures, our assurance engagement was not designed to provide assurance on internal controls. Our procedures did not include testing controls or performing procedures relating to checking aggregation or calculation of data within IT systems.

A limited assurance engagement consists of making enquiries, primarily of persons responsible for preparing the Subject Matter and related information and applying analytical and other appropriate procedures.

Our procedures included:

1. Reviewed information in order to substantiate data and statements regarding Star Bulk sustainable development performance -within our scope of work- as these are presented in the Report.
2. Interviewed executives responsible for managing, collecting and processing data related to -within our scope of work- the GRI General and Specific Disclosures, as well as the SASB industry standard metrics (as indicated in the column External Assurance of the GRI Content Index and SASB content index found on pages 58-61 of the Report) for purposes of both internal information and for reference purposes to third parties.
3. Reviewed relevant documentation, systems and report procedures, including, among others, data collection tools, standards and work instructions.
4. Reviewed the Report for the appropriate transposition and presentation of the -under the scope of our assurance engagement-

sustainability data linked to the GRI General and Specific Disclosures, as well as the SASB industry standard metrics (as indicated in the column External Assurance of the GRI Content Index and SASB content index found on pages 58-61 of the Report), including limitations and assumptions relating to how these data are presented within the Report.

We also performed such other procedures as we considered necessary in the circumstances.

**Limitation of our Review**

- Our review was limited to the English version of the Report for the year 2021. In the event on any inconsistency in translation between the English and other (if any) versions, as far as our conclusions are concerned, the English version of the Report prevails.
- Our work did not cover activities performed by third parties or the performance of any third parties, not our involvement in stakeholder engagement activities. In addition, it did not include any review of the accuracy of survey results assigned to third parties, nor Information Technology systems used by third parties, but was instead limited to the proper transposition of the final results -within the scope of our engagement- to the Report.
- Our review did not include financial data and the corresponding narrative text in the Report, nor the Information Technology systems used or upon which the collection and aggregation of data was based by the Company.
- We do not provide any assurance relating to future information such as estimates, expectations or targets, or their achievability.

**Conclusion**

Based on our procedures and the evidence obtained, we are not aware of any material modifications that should be made to Subject Matter in order for it to be in accordance with the Criteria.

**Restricted use**

This report is intended solely for the information and use of Star Bulk in accordance with the terms of reference agreed between us and is not

intended to be and should not be used by anyone other than Star Bulk.

Athens, 3 November 2022

For and on behalf of

ERNST & YOUNG (HELLAS)  
Certified Auditors Accountants S.A.

Yannis Pierros



## Contact



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Matters discussed in this report may constitute forward looking statements. The Private Securities Litigation Reform Act of 1995 provides safe harbor protections for forward-looking statements in order to encourage companies to provide prospective information about their business. Forward-looking statements include statements concerning plans, objectives, goals, strategies, future events or performance, and underlying assumptions and other statements, which are other than statements of historical facts.

The Company desires to take advantage of the safe harbor provisions of the Private Securities Litigation Reform Act of 1995 and is including this cautionary statement in connection with this safe harbor legislation. The words “believe,” “anticipate,” “intends,” “estimate,” “forecast,” “project,” “plan,” “potential,” “may,” “should,” “expect,” “pending” and similar expressions identify forward-looking statements.

The forward-looking statements in this report are based upon various assumptions, many of which are based, in turn, upon further assumptions, including without limitation, examination by the Company’s management of historical operating trends, data contained in its records and other data available from third parties. Although the Company believes that these assumptions were reasonable when made, because these assumptions are inherently subject to significant uncertainties and contingencies which are difficult or impossible to predict and are beyond the Company’s control, the Company cannot assure you that it will achieve or accomplish these expectations, beliefs or projections.

In addition to these important factors, other important factors that, in the Company’s view, could cause actual results to differ materially from those discussed in the forward-looking statements include general dry bulk shipping market conditions, including fluctuations in charter rates and vessel values; the strength of world economies; the stability of Europe and the Euro; fluctuations in interest rates and foreign exchange rates; changes in demand in the dry bulk shipping industry, including the market for our vessels; changes in our operating expenses, including bunker prices, dry docking and insurance costs; changes in governmental rules and regulations or actions taken by regulatory authorities; potential liability from pending or future litigation; general domestic and international political conditions; potential disruption of shipping routes due to accidents or political events; the availability of financing and refinancing; our ability to meet requirements for additional capital and financing to complete our newbuilding program and grow our business; the impact of the level of our indebtedness and the restrictions in our debt agreements; vessel breakdowns and instances of off hire; risks associated with vessel construction; potential exposure or loss from investment in derivative instruments; potential conflicts of interest involving our Chief Executive Officer, his family and other members of our senior management and our ability to complete acquisition transactions as planned. Please see our filings with the Securities and Exchange Commission for a more complete discussion of these and other risks and uncertainties. The information set forth herein speaks only as of the date hereof, and the Company disclaims any intention or obligation to update any forward looking statements as a result of developments occurring after the date of this communication.



