

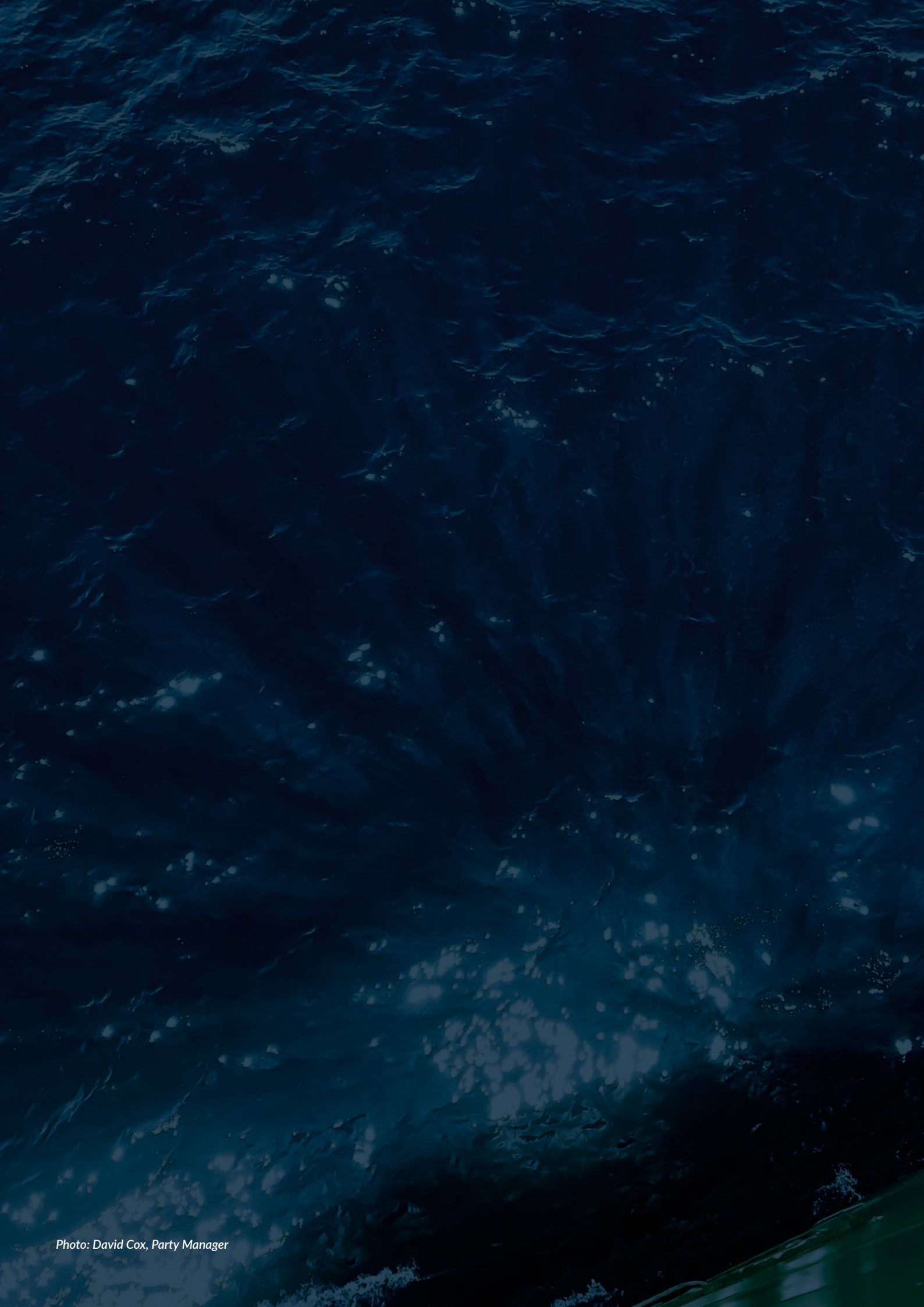


POLARCUS LIMITED

# SUSTAINABILITY REPORT

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2018



*Photo: David Cox, Party Manager*



*POLARCUS LIMITED*

## **SUSTAINABILITY REPORT 2018**

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Photo: Iván Kverme



# A Decade of Explore Green™

## MESSAGE FROM THE CEO

2018 saw a year of improvements in the marine seismic industry after an extended period of challenging market conditions. At Polarcus, we have demonstrated that our focus on operational excellence and efficiency and minimizing our environmental impact has been truly aligned with navigating the subdued market and optimizing the sustainability of our business.

2018 marked ten years since the inception of Polarcus. From the outset, Polarcus has remained committed to responsibly delivering high quality geophysical services with the interests of all our stakeholders in mind. Importantly, during 2018 we recognized the 10-year service achievements from a number of our employees who have been with us since the beginning of the Polarcus journey, all of whom have been key contributors to where the company is today.

Polarcus is known across the broader exploration and production industry as a company that is differentiated by our demonstrable commitment to the environment. We have a reputation as an environmental pioneer with a track record of measuring and striving to continually reduce our gaseous, liquid and solid emissions in our business. The impending implementation of IMO 2020 regulations, related to the sulfur content of fuel consumed in marine operations, is a great example of Polarcus leading and influencing positive change in the marine seismic industry. While many companies are dealing with reactive complexities, modifications and costs to meet the IMO 2020 regulations, Polarcus has been IMO 2020 compliant since the company was founded in 2008.

Polarcus continues to champion environmental focus through our Explore Green™ agenda. This is supported by an unwavering adherence to the Polarcus Core Values of Responsibility, Innovation and Excellence, which also hold us true to many other accountabilities towards our people, our customers and our shareholders.

An important cornerstone of our approach to sustainability is our commitment to business ethics. Polarcus operates all around the world where business practices can vary significantly. In this report you will gain further insights on how Polarcus ensures best practice in business ethics is maintained across our global operations, including our role in the World Economic Forum and the Partnering Against Corruption Initiative.

In the Polarcus 2018 Sustainability Report we share with you a number of initiatives that demonstrate our ongoing commitment to responsibly impact positive sustainable change to the benefit of all our stakeholders, and of our continued efforts to inspire our peers to follow our example. If you have any comments or feedback on this report or any related issues we would be delighted to hear from you.

  
Duncan Eley  
CEO

POLARCUS LIMITED

## THE FOCUSED GEOPHYSICAL SERVICE PROVIDER

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Polarcus is an innovative marine geophysical service company with a pioneering environmental agenda, delivering high-end towed streamer data acquisition and advanced onboard processing and imaging services globally. Polarcus operates a fleet of high-performance 3D seismic vessels, incorporating leading-edge technologies for improved safety, data quality and operational efficiency, to fully meet customer needs from large exploration to 4D surveys. The Polarcus Headquarters is based in Dubai, United Arab Emirates, and the company has three regional sales and marketing offices located in Houston, London and Singapore. Polarcus employs approximately 325 professionals worldwide and owns seven high-end marine seismic vessels.

### Vision

**“To be a pioneer in an industry where the frontiers of seismic exploration are responsibly expanded without harm to our world”.**

To achieve this vision, we are committed to being at the forefront of maritime and seismic technological innovation. From inception, we have set ourselves an ambitious environmental agenda that aims to monitor and minimize our environmental footprint through a combination of reduction, recycling and emissions indexing.

We have invested in the latest new-build vessel designs and technologically advanced seismic and navigation systems. These investments ensure that our seismic fleet remains one of the most advanced fleets in the world, enabling us to meet the current and projected future needs of the industry and capable of excelling in the broadest range of operating environments around the globe.

### Core Values

Our objective is to deliver superior operational performance and shareholder value by providing best-in-class marine geophysical services, whilst demonstrating leadership in environmental responsibility.

Our Core Values are the foundation for achieving this objective, and we seek to capitalize on this by embedding our Core Values in all elements of the business.



**Responsibility**



**Innovation**



**Excellence**

## SUSTAINABILITY FOCUS

Polarcus has reported annually on our sustainability activities and progress since 2014. We took a step further in 2017 in preparing our reporting in alignment with the Global Reporting Initiative (“GRI”) Standards. This requires us to conduct a materiality analysis to identify the key areas of focus which are most important to the Polarcus organization, and to our stakeholders:

- EMPLOYEES ■
- CUSTOMERS ■
- SOCIETY ■
- SUPPLIERS ■
- SHAREHOLDERS ■

### CARING FOR OUR PEOPLE - EMPLOYEES

- Health, safety and security
- Employee engagement

### IMPACT TO THE ENVIRONMENT - SOCIETY & CUSTOMERS

- Environmental impact
- Continuous improvement

### BEST BUSINESS PRACTICE - SUPPLIERS, SHAREHOLDERS & CUSTOMERS

- Business ethics
- Business development through innovation and partnership



## UNITED NATIONS GLOBAL COMPACT GOALS

For 2018, we have identified eight United Nations Global Compact Goals, which align to each of our areas of focus and are important to further develop during 2019 and beyond.

In our 2018 Sustainability Report, you will be able to read more about what we do to minimize the environmental impact of our operations, optimize sustainability of our business and mitigate risks in the identified areas of concern. If you have any questions, feedback or suggestions, please direct them to: [sustainability@polarcus.com](mailto:sustainability@polarcus.com).

Polarcus: the focused geophysical service provider





POLARCUS LIMITED

## LOOKING AFTER OUR PEOPLE

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Our safety performance and adherence to our Commitments and our management system demonstrate our over-riding commitment to the safety and well-being of our people, and our responsibilities to all of our stakeholders. It is imperative that all of our employees, and our partners, suppliers and sub-contractors, remain vigilant and accountable, and that, together, we maintain our efforts to continuously improve. For Polarcus, safety leadership and individual accountability is not a choice, but a requirement, and must remain our top priority.

### Safety leadership

A continuous vigilant and proactive focus on safety has once again meant that Polarcus' safety performance continues to be industry leading. However, our operations pose ongoing risks to our employees that need to be continually managed. To ensure we continuously improve our approach to safety, we take action to identify lessons learned and revitalize our mindsets to ensure the right focus. We continually refresh this focus across our operations and offices through various means of ongoing communication with our people and, more directly, our quarterly 'Focus on Safety' campaigns.

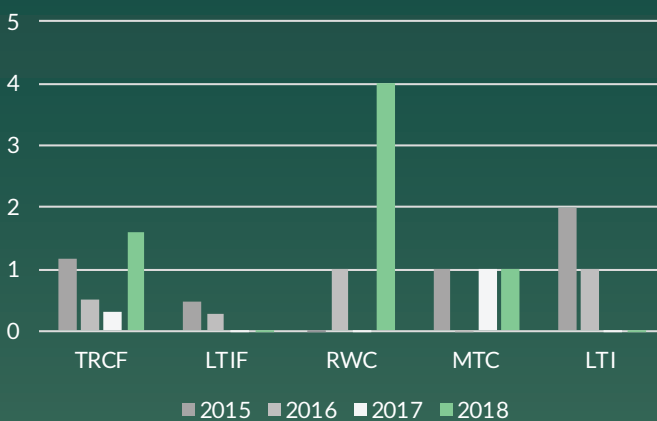
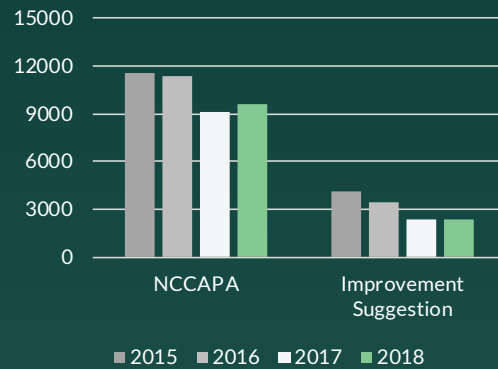
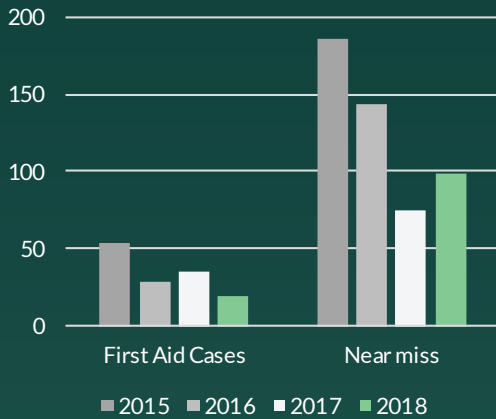
During 2018, in partnership with a number of our clients, Polarcus undertook a number of steps to educate, and make our employees and sub-contractors more aware of, some important elements behind behavioural safety. In its most simple form, behavioural safety attempts to understand the reasons 'why people do the things they do' related to health and safety. Our key areas of focus during 2018 included the topics of complacency and frustration, both of which have been identified as two important elements of behavioural safety





Photo: Anton Andreev, Chief Navigator

## 2018 SAFETY STATISTICS



NCCAPA: Non Conformance Corrective Action Preventative Action  
 TRCF: Total Recordable Case Frequency  
 LTIF: Lost Time Injury Frequency  
 RWC: Restricted Work Case  
 MTC: Medical Treatment Case  
 LTI: Lost Time Injury

## 2018 FOCUS ON SAFETY CAMPAIGNS

### Frustration Management

In Q1 we focused on discussing and identifying when a frustrated state-of-mind can contribute to unintentional risk increasing human errors, and how we can take appropriate proactive steps to avoid this.

### Manual Handling

In Q2 we focused on an ongoing priority area in our operational environment. This campaign was centered on promoting safe techniques and ergonomic intervention in manual handling to minimize the potential of injuries to our people.

### Consider Card

In Q3 we repeated focus on our 'Stop and Consider' card which is a powerful, effective and proactive behavior based safety tool. Its simplicity and ease of use is a great demonstration of our philosophy.

### Back to Basics

In Q4 our campaign was designed to refocus and re-emphasize the basics of safety: assessing the risk, stopping the job, and situational awareness.

to better understand and manage effectively. These remain key focus areas going forward.

## Active Monitoring and Team Resource Management

The Polarcus behavioural safety programme, Polarcus Team Resource Management (“PTRM”) consists of six non-technical skill areas that can contribute to incidents: leadership, decision-making, communication, teamwork, situation awareness and managing stress & fatigue. These are human factors which refer to environmental and organizational job aspects, and which can influence behaviour at work in a way which impacts health and safety. A simple way to view human factors is to think about three aspects: the job, the individual and the organization, and how they impact health and safety-related behaviour.

For the PTRM program to be successful we include all employees, from the CEO to front-line employees, and extend the program to include our contractors and sub-contractors. Achieving changes in behavioural safety offshore requires buy-in and acceptance from all crew members. We have an inclusive approach to safety leadership which is visible at our project start-up meetings which include dedicated time for safety dialogues ahead of the project commencing. This engagement and interaction between all parties (clients, Polarcus employees and third party contractors) is an important contributor to aligning safety priorities and safety culture, ensuring the team performs with full focus from day one of the project.

Through improving our awareness and understanding of human factors, as well as retaining laser focus on non-technical skill areas, we believe that all incidents are preventable and that our goal of zero harm can be achieved.

## 2018 Reporting Statistics

All incidents, injuries, near misses, non-conformances and improvement suggestions are raised and recorded within Insite, the Polarcus EHSQ reporting system. Reports are rated according to the International Association of Oil and Gas Producer’s (“IOGP”) risk matrix in order to assess actual and potential risk based on realistic expectations.

It is important that we maintain solid reporting levels across all categories in our management system. This is demonstrated through the reporting levels shown from 2015 to 2018. Despite reduced exposure hours related to a reduction in the number of Polarcus vessels in operation, very good levels of NCCAPA and Improvement Suggestion reporting have been maintained, both of which are critical to our continuous improvement philosophy.

Whilst we are very proud of maintaining zero lost time incidents through 2017 and 2018, it is important to acknowledge that Polarcus experienced four restricted work cases during 2018. It is critical that we learn from these incidents and maintain focus on further improving safety leadership across the organization. The restricted work cases involved two lower back injuries and two finger injuries. These incidents triggered the inclusion of ‘Manual Handling’ and ‘Back to Basics’ in the Focus on Safety campaigns that were rolled out across the organization during 2018.

EHSQ reporting and learnings are fully transparent across the Polarcus organization. Additional data recorded to measure performance and to ensure Polarcus meets, or exceeds, customer expectations includes:

- Production data
- Technical downtime
- Commercial performance

- Efficiency metrics
- Customer satisfaction feedback

## Workplace Security

Security of our personnel, our work sites and our operational assets are responsibilities that Polarcus takes very seriously.

Our Commitment to Security is upheld via the use of the company’s risk management processes, including security hazard identification and security risk assessments prior to, and during, the execution of all seismic projects. International Ship and Port Facility Security (“ISPS”) regulations require the company to continuously evaluate risks and implement appropriate measures to mitigate against them. The ISPS certification is maintained via annual audits carried out by DNV-GL.

The global nature of Polarcus’ operational activities means a range of potential risks can stem from piracy, terrorism, organized crime, or the threat of environmental activists attempting to disrupt our business. Polarcus maintains a strong grasp on the health, safety and security issues affecting all regions in which the company is engaged in, or has plans to pursue, business opportunities.

To best monitor the security aspects of the various operations of our vessels, along with the associated travel for our onshore and off-shore-based employees, Polarcus continuously monitors risk levels around the globe. For every project, a basic security risk assessment is carried out and, where necessary, additional information is gathered and analyzed depending on the location of proposed projects and perceived security risk.

Additional emphasis is placed on providing support and guidance to our employees who undertake business travel, with a comprehensive Polarcus’ travel monitoring program which includes a proactive journey-specific advisory function. In 2018, Polarcus’ included emergency response testing of onshore journey management as part of its’ continued efforts to raise awareness and ensure the ability to manage support of travelling employees in the event of an incident.

Addressing evolving cyber security risks during 2018 was another priority area of focus. This included the introduction of new IT tools to improve the prevention and detection of cyber security attacks, and an ongoing program of employee awareness. Despite our efforts to mitigate cyber risk we had a near miss incident late in Q4, as a result of a phishing attempt. The lessons learned from this incident demonstrate that the best means of combating cyber security threats is the continued education, training and awareness of all of our people.



POLARCUS LIMITED

## POLARCUS PEOPLE

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In 2018, Polarcus celebrated its 10-year birthday, an occasion which we proudly marked by showcasing 'A Decade of Explore Green™'. Our ability to reach this milestone, is underpinned by our Core Values, Our Commitments and, most importantly, the collective efforts, expertise and contribution of our loyal and talented employees. We refer to this as Being Polarcus and we firmly believe that our continued success will be driven by delivering 'what' we do, complemented by 'how' we do things, together.

### Being Polarcus

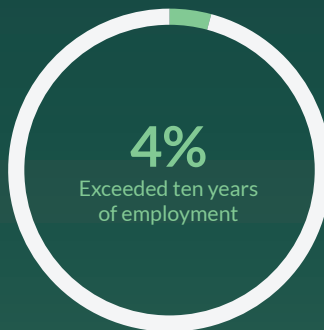
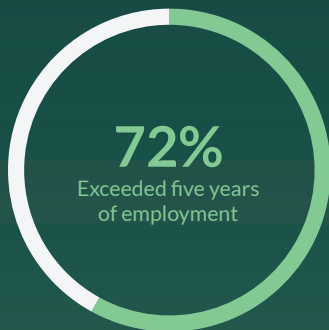
Our CEO describes Being Polarcus as the 'DNA' of who we are; it captures how we evolved to where we are today, and how we will continue to move forwards. Each and every Polarcus employee contributes to our DNA. For that reason we launched a Being Polarcus campaign in 2018 to enable our employees to share their feedback, ideas and insights about the company.

Part of this campaign involved an employee survey which, building on our communication survey in 2017, was designed to directly engage with all Polarcus employees on a number of topics. We placed particular focus on evaluating employee perception of our Core Values and our key business tools, and gathering feedback to understand what Being Polarcus means to our employees. The survey had a 70% response rate, with more than two thirds of participants coming from our offshore field crew, and the outcomes were important to identifying the things that matter most to our employees.



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## DIVERSE AND DEDICATED WORKFORCE



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## GREEN PROTECTION TEAM (“GPT”)

### VESSEL GPT

The Green Protection Teams on board our vessels work as “Safety Committee” fulfilling the requirement of the United Nations International Labour Organization and the International Maritime Organization. The team supports the vessel management in implementation and execution of EHSQ initiatives. One individual from each department on board makes up the team with a mix of seniority levels.

### OFFICE GPT

The Green Protection Teams act as the voice of all the office employees and strives to engage and motivate employees through employee generated and driven initiatives. The Team also review and promote EHSQ initiatives as well as social and charitable events.

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## COMFORT CLASS

The Comfort Class is a systematic evaluation of the comfort on board different ship types. A rating from 1 to 3 reflects “high” to “acceptable” comfort standards. Ships are assigned a class notation COMF-V for noise and vibration and COMF-C for indoor climate.

## What matters to Polarcus employees

Throughout the Being Polarcus campaign in 2018, we collated feedback and insights on topics which are important to Polarcus employees – from job satisfaction, the work environment, support and resources, to work-life balance and employee development. The input from our employees was supported by demonstrable examples throughout the normal course of business in 2018.

### Career progression

Like many organizations in our industry, we have had to navigate through difficult times as a result of the sustained market downturn over the past few years. The development of our people has remained of utmost importance and we have made targeted efforts in 2018 to prioritize internal promotion and development. We promoted 6% of our employees into new positions, the majority of which were offshore field crew, where 95% of all positions available as internal opportunities were successfully filled by the internal promotion of Polarcus employees. We were particularly pleased to appoint our first ever female Party Manager, further demonstrating our ongoing commitment to developing our own people. Talent management and succession planning initiatives will continue in 2019 as we work to develop our employees and support career progression.

### Training & development

With market conditions remaining challenging through 2018, our focus on EHSQ awareness and ongoing mandatory and compliance related training remained strong. We continued with our well-established Quarterly Focus on Safety campaigns, designed to address the human and behavioral aspects of safety. Leadership ownership and individual accountability initiatives also continued in 2018 and we again facilitated workgroups with our senior vessel-based Managers. These face-to-face sessions involved interactive discussions to review incident case studies, address resource and support issues, and ensure continued efforts and commitment toward mitigating the risks of complacency. In addition to training and developing our own people, we also worked with our suppliers and sub-contractors to ensure their compliance and adherence to Polarcus Commitments and standards. Leadership behaviors and communication will be key areas of focus for our training and development efforts in 2019.

### Work environment

Having a safe, efficient and comfortable workplace is something which has always been very important to Polarcus. Our vessels were built with this in mind, supported by a “Comfort Class” rating from DNV-GL along with modern interior and comfortable recreational facilities. Consistent with our commitment to continuous improvement, and to ensure our work environment is kept to the highest standard, overseeing ideas and improvement suggestions to our working environment remains a priority for our “Green Protection Teams” (“GPT”). Their remit includes a host of issues which range from general improvements of our work facilities, to improving morale and team building, to health and safety awareness campaigns - all of which are discussed and addressed in the regular GPT meetings held in all of our offices and on all Polarcus vessels.

## Our teams and working relationships

How we behave as individuals and how we behave together at work is a key component of Being Polarcus and an area of continued focus for us. The feedback from our employees confirmed that there is a high level of trust and transparency in the company and that our employees feel they can share honest views, give their opinions and approach senior management when they need to.

Communication featured as a core theme in the Being Polarcus survey and, as it has been for a number of years, remains an ongoing priority in Polarcus, and an area in which we aspire to achieve and maintain excellence.

## Investing in our future

Moving into 2019, and as the market continues to show signs of improvement, we will be increasing our efforts to recognize and reward the performance, efforts and loyalty of our people and to continue to attract talented new individuals to join Polarcus. We remain committed to promoting from within, and enabling the further development and growth of our employees will remain a key area of focus going forwards.

Communication, trust and a shared belief in Being Polarcus, all underpinned by our Core Values, will enable us to build on the strong foundations we have secured over our first ten years. We remain tremendously proud of our diverse, loyal and talented employees, and appreciate their continued efforts, commitments and resilience.



POLARCUS LIMITED

## IMPACT ON THE ENVIRONMENT

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For more than a decade, Polarcus has been the industry benchmark for environmental commitment due to our proactive approach to mitigating environmental impacts and for leading our peer group in sustainable exploration. Our commitment to maintaining our position, and continual improvement, as an environmental leader is embedded in all aspects of our Company and reflected in our Core Values.

### A decade of Explore Green™

Our Explore Green™ agenda that we introduced at the inception of Polarcus is becoming increasingly important as the industry observes more government and non-government organizations increasing their focus on environmental matters and enforcing more rigorous regulations on emissions. The most substantial legislation soon to be implemented is the International Maritime Organization (“IMO”) 2020 sulfur cap. On 1 January 2020, the IMO will lower the level of global sulfur content permitted in fuel from today’s 3.5% mass by mass (“m/m”) to 0.5% m/m. In uniquely sensitive sea areas an even lower level of 0.1% m/m will remain in place.

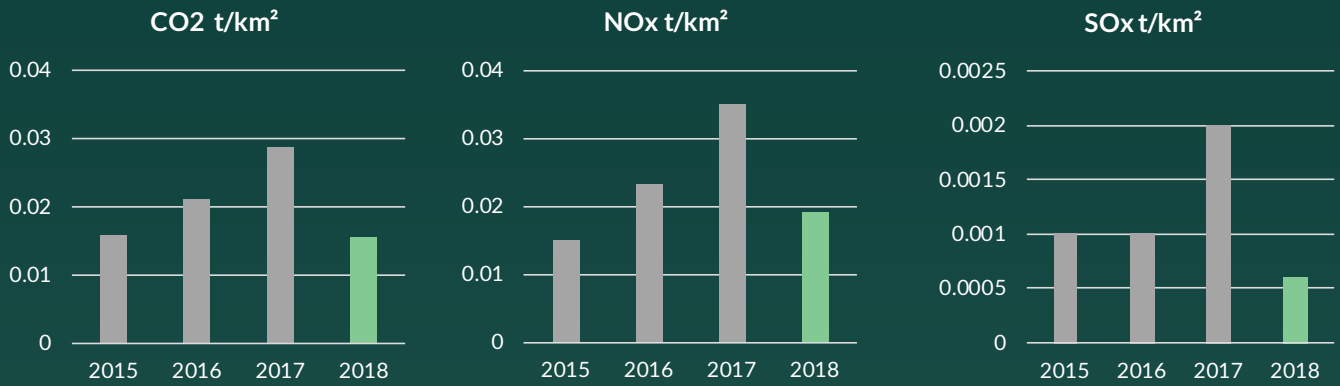
At Polarcus we are proud to responsibly lead our industry towards more environmentally sustainable seismic acquisition and our motivation goes beyond being legally compliant. Since the company was formed in 2008 we have proactively invested resources in performing significantly better than the legislative requirements, including the impending IMO 2020 requirements. We remain committed, and driven, to going beyond such requirements in order to carry out marine seismic operations in the most sustainable manner.



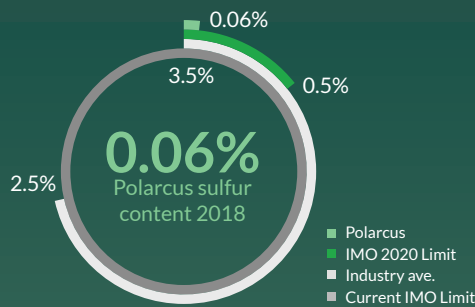


Photo: David Cox, Party Manager

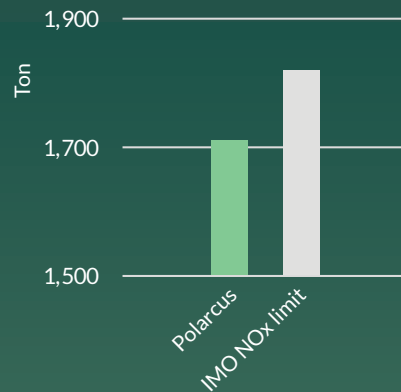
## MANAGING EMISSIONS TO AIR



## SULFUR OXIDES

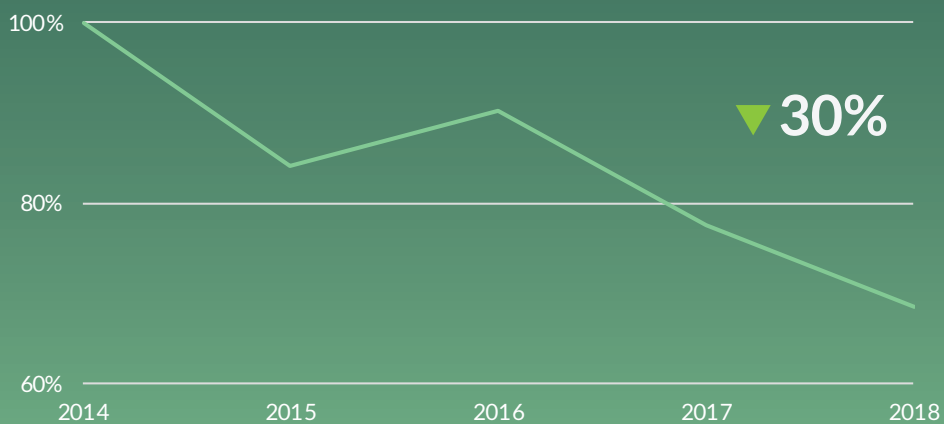


## NITROGEN OXIDES



## CARBON DIOXIDES

### FUEL CONSUMPTION PER SEISMIC DATA POINT



## Learning from ourselves

### Monitoring, measuring and reporting

To fully understand the impact our activities have on our environment, and how we can do better, we must first ensure we have rigid and reliable tools to monitor, measure and report fuel consumption and emissions onboard our vessels. We have developed our own emissions monitoring and measuring tool which has been certified by the world leading classification society, DNV-GL. The DNV-GL statement certifies the methodology and accuracy of our vessel airborne emissions measurements. This verifies our ability to model the predicted emissions footprint for any project, and then perform post-project analysis in order to report actual emissions measurements against the model. For each project, a formal emissions certificate is produced and presented to our clients upon project completion.

To further increase awareness and promote transparency of the environmental impact in our industry, we are committed to disclose our total airborne emissions. All our Greenhouse Gas ("GHG") emissions are significantly below levels required by IMO regulations and we report these quarterly in our financial reporting.

## Managing emissions to air

### A decade of sustainability

Toxic gasses, such as sulfur oxides (SOx) and nitrogen oxides (NOx), continue to have a detrimental impact on our environment. Furthermore, CO2 emissions are adding to the greenhouse effect, thereby impacting the temperature and climate of our planet. As a result, air pollution has been declared by the United Nations Environment Programme as the greatest environmental risk to human health.

When our fleet was designed and constructed, sustainability was central to our vision of becoming an innovative environmental leader in the marine seismic industry. Each vessel was equipped with a significant investment in technology that either eliminated or significantly reduced harmful emissions.

Utilizing our DNV-GL certified tool which monitors and reports emissions, in combination with our Selective Catalytic Reduction (SCR) systems, which are able to convert nitrogen oxides and substantially reduce emissions, we remain at the forefront of measuring, monitoring and mitigating emissions to air.

### Why we choose Marine Gas Oil ("MGO") over Heavy Fuel Oil ("HFO")

Classified as carcinogenic by the UN, HFO is renowned for its destructive impact on the environment. Since Polarcus' inception in 2008, we strategically avoided the use of HFO across our operations. As an environmentally sustainable alternative, Polarcus uses low sulfur MGO across the Polarcus seismic fleet, and requires the same for third party vessels supporting our operations.

## IMO 2020 Sulfur cap compliant

From 1 January 2020, the limit for sulfur in fuel oil used onboard ships operating outside designated emissions-controlled areas will be reduced from 3.5% to 0.5% m/m. This will significantly reduce the amount of sulfur oxides emanating from the maritime industry, providing major health and environmental benefits, particularly for populations living close to ports and coastlines.

Polarcus welcomes this initiative from the IMO, having committed to only using low sulfur MGO, since day one, as part of our Explore Green™ agenda.

In 2018, the average sulfur content of fuel consumed by our global fleet was 0.062% sulfur by mass. This represents some 55-times lower sulfur content than current global regulations.

### SOx emissions

Sulfur oxides ("SOx") are a group of highly reactive gasses containing sulfur and oxygen that are produced during the burning of hydrocarbon based fuels. The high toxicity of sulfur oxides contributes to the formation of acid rain and the corrosion of metal.

The content of SOx in combustion emissions is directly related to the type and quality of fuel being used. The best way to minimize SOx emissions in vessel exhausts is to use the cleanest fuel with the lowest sulfur content possible, such as low sulfur MGO.

### NOx emissions

Similar to sulfur oxides, nitrogen oxides ("NOx") are emitted during the combustion of hydrocarbons. A harmful combination of nitrogen and oxygen, NOx are the key components in ground-level smog and are precursors to the formation of acid rain.

Nitrogen dioxide ("NO2") is a major ozone depleting GHG that has ~300 times more impact per unit weight than carbon dioxide ("CO2").

The Selective Catalytic Reduction (SCR) technology installed across the entire Polarcus fleet during construction between 2008 and 2012, selectively targets and significantly reduces NOx emissions. All Polarcus vessels have the ability to operate with significantly reduced NOx emissions to air.

### CO2 emissions

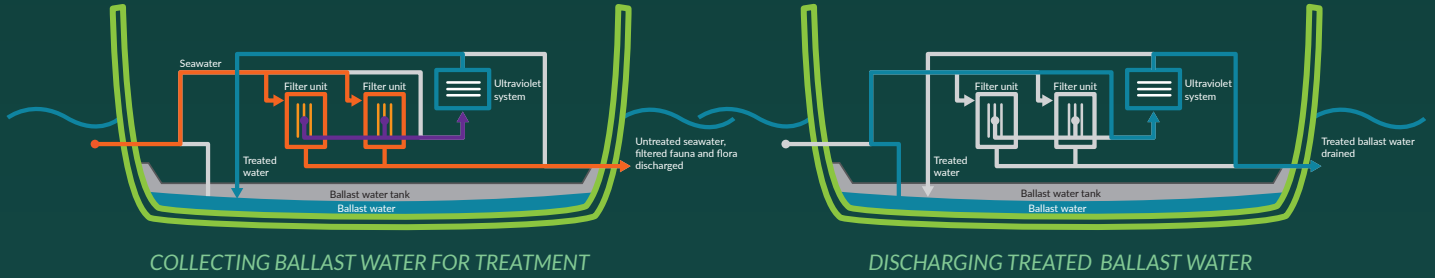
Carbon dioxide is also produced by combustion hydrocarbons including coal, peat, petroleum and natural gas. Carbon dioxide is the most significant, long-lived GHG in Earth's atmosphere. Since the Industrial Revolution, the concentration of emissions, primarily from the use of fossil fuels and deforestation, have rapidly increased in the atmosphere, contributing to climate change. Carbon dioxide also causes ocean acidification, dissolving in water to form carbonic acid.

CO2 emissions are directly correlated to fuel consumption. The most effective way for Polarcus to reduce CO2 emissions, and mitigate our impact to the environment, is to reduce fuel consumption. With our unique seismic fleet of fit-for-purpose vessels, with highly efficient combustion engines, operating with industry leading efficiency, we continue to demonstrate that our vessels consume significantly less fuel than our peers.

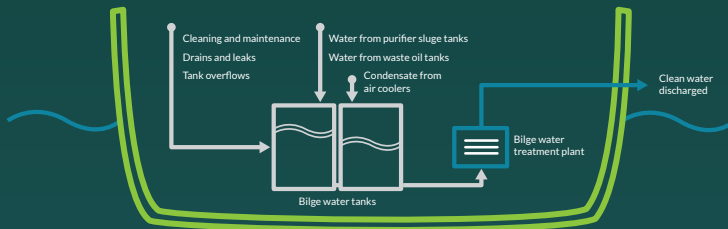
In 2015 Polarcus developed XArray™, a multi-source configuration designed to optimize operational efficiency and to enable the collection of more high-quality seismic data per sail line using additional sources, rather than additional streamers. This approach significantly reduces the in-sea drag of the seismic acquisition unit and has been a key driver for Polarcus continuing to reduce our gaseous emissions per square kilometre of seismic data acquired.

As a result of our innovations and efficiency programs, we have improved our fuel efficiency, per seismic data point acquired, by an average of 30% since 2014.

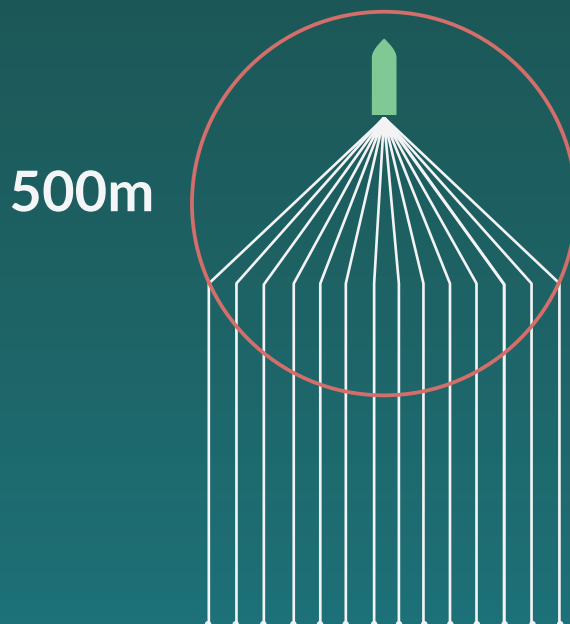
## MANAGING EMISSIONS TO SEA BALLAST WATER TREATMENT SYSTEM



## BILGE WATER TREATMENT SYSTEM



## MANAGING ACOUSTIC EMISSIONS EXCLUSION ZONE



## Managing emissions to sea

Keeping our oceans clean and free from pollution is very important to us and we have a number of procedures, systems and technical features in place to minimize and mitigate any risk of pollution or spills to the world's oceans. These include our state-of-the-art ballast and bilge water treatment systems.

Polarcus had zero recordable spills in 2018.

### Ballast water management systems

Ballast water is required to ensure the stability, trim and structural integrity of a ship. On a seismic vessel, it is used to replace the weight of consumed fuel and to offset the weight of deployed streamers in order to maintain stability and efficiency when in operation.

It is estimated that as many as 4,500 invasive species of plants and animals are transported per day in ships' ballasts around the world in the broader maritime industry. The introduction of invasive marine species into new environments by ships' ballasts was identified as one of the greatest threats to the world's oceans and to global biodiversity.

The Polarcus fleet operates ballast water management systems, which are 100% chemical free and eliminates all invasive species from the ballast water.

### Bilge water treatment systems

Bilge water is a mixture of fresh water, sea water, oil, sludge, chemicals and other ship-board fluids. By design, it collects in the lowest compartment of a ship's hull below the waterline where the two sides of the hull meet at the keel. This area is known as the bilge.

Current IMO regulations mandate that discharged bilge water shall contain no more than 15 ppm of oil residue. Polarcus' bilge water treatment plants clean the contaminated water to <5ppm, which is 300% below regulatory levels.

Further, all Polarcus vessels use environmentally friendly oils and lubricants, including all open deck hydraulic systems. This significantly reduces the impact of any potential spill to sea in the event of a system failure or operational difficulty.

### Cleaning our oceans - Ghost Net initiative

Abandoned fishing gear and marine debris has become a perilous threat to marine wildlife and the condition of the world's oceans. The Ghost Net Initiative, launched by the International Association of Geophysical Contractors ("IAGC") to combat this threat, encourages offshore seismic crews to safely remove any floating debris from the ocean and to dispose of it in an environmentally-conscious manner.

Polarcus crews continue to be an active participant of this initiative which often involves untangling wildlife from abandoned nets and re-releasing them back to the ocean.

In 2018 Polarcus crews around the world collected more than 280m<sup>3</sup> of fishing gear and plastic debris from our oceans, storing it onboard our vessels until it could be responsibly offloaded and recycled. We join IAGC in calling upon all offshore operators to support this movement.

## Managing acoustic emissions

There has been significant studies over long periods of time, evaluating the proximity of seismic operations to marine mammals and the effects that the source arrays may have on their wellbeing. While research into this subject is still ongoing, mitigation of mammal disturbance continues to be a high priority for Polarcus.

An exclusion zone of radius 500m, centered on the sources, covers an area from the front of the vessel to the outer edges of the front end of the streamer spread. This exclusion zone is closely monitored and if the presence of any marine mammals is detected, appropriate action is taken.

Soft starts are also used in order to warn marine mammals and sea turtles of pending seismic operations and to allow sufficient time for those animals to leave the immediate vicinity.

The entire Polarcus fleet is built using the Ulstein X-bow hull design which, through its innovative hull lines, creates less in-sea noise and vibration, allowing for a quieter operation.

Passive Acoustic Monitoring ("PAM")

Passive Acoustic Monitoring is a technique used to monitor marine mammal activity, which is easier to hear than to see, in the vicinity of operations. With the use of hydrophones, a PAM operator is able to determine if any marine mammals are within the exclusion zone before operations commence.

We remain the ONLY seismic operator in the industry to have Passive Acoustic Monitoring ("PAM") systems permanently installed on its vessels.

## Triple-E™

As an industry pioneer in environmental responsibility, Polarcus participates in the DNV-GL Environment, Energy and Efficiency ("Triple-E™") voluntary rating initiative. Triple-E™ is a mechanism for ships to be certified, based on quantifiable verification of their environmental performance. It also serves as a tool to help ship owners and operators benchmark and improve both efficiency and environmental performance.

Triple-E™ comprises four levels, from level 4 to level 1, with level 1 being the highest. The key elements of the Triple-E™ rating initiative are:

**Ship Energy Efficiency Management Plan ("SEEMP")** - this is a plan unique to each vessel which sets out how energy savings can be made using the Energy Efficiency Operational Indicator (EEOI) as a monitoring tool and benchmark (to save energy and reduce GHG).

**EEOI** - provides a mechanism to monitor, compare and reduce GHG emissions from ships in operation, and is an integral part of the SEEMP. EEOI = Mass (t) of CO<sub>2</sub> emitted per km<sup>2</sup> of acquired seismic data.

**Verifiable emissions tracking and reporting** - accurate measuring and monitoring of emissions is key to reducing them. Polarcus has a DNV-GL certified emissions reporting and tracking tool.

The entire active Polarcus fleet were all re-awarded the Triple-E™ Level 1 rating in 2018, valid until October 2021.

Polarcus continues to be the ONLY seismic ship owner and operator in the world to have achieved this rating across its entire fleet.



POLARCUS LIMITED

## BEST BUSINESS PRACTICE

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Polarcus operates in several countries around the world where there is elevated focus on the standard of ethical commercial behavior. Polarcus remains committed to ensuring employees possess the appropriate training and awareness so that the risk of becoming involved in any inappropriate business practice, such as facilitating payments, is comprehensively mitigated.

### Our business framework

Our core business framework based on Our Commitments and management system, provide the basis to support the way our employees conduct their day-to-day work activities and ultimately deliver value to all our stakeholders.

It is an expectation on all Polarcus employees that our behaviors and actions demonstrate and comply with Our Commitments and adhere to the Polarcus management system, at all times. This means our business framework needs to be understandable, easy to use, and readily accessible. We included specific questions on this as part of our Being Polarcus campaign in 2018, and the combined result from our employees on the factors that influence how we get things done in Polarcus was overwhelmingly positive. This response, combined with our new ISO 9001:2015 and ISO 14001:2015 accreditations, clearly demonstrates that the Polarcus business framework is truly embedded across our organization and that our people are committed to this non-negotiable element of Being Polarcus.



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## CERTIFICATION AND ACCREDITATION

Polarcus is fully certified as per ISO 9001, 14001, OHSAS 18001 and ISM Code (Bahamas & Turkey) certifications, valid until May 2020:

- Document of Compliance – ISM Code (Bahamas)
- Document of Compliance – ISM Code (Turkey)
- ISO 9001:2015 – Quality Management
- ISO 14001:2015 – Environmental Management
- OHSAS 18001:2007 – Occupational Health and Safety Management

Polarcus Adira, Polarcus Alima, Polarcus Asima and Polarcus Naila are accredited with the Triple-E™ Level 1 rating, valid until September 2021.

Polarcus is a governing member, and holds a board seat, at the International Association of Geophysical Contractors (IAGC). The IAGC is the trade association representing all segments of the geophysical industry, that is essential to discovering and delivering the world's energy resources. The IAGC works on behalf of its' member on industry-wide topics and initiatives that support the continued vitality of the geophysical industry.



Polarcus also supports a number of local and international industry associations through corporate and personal memberships as well as sponsorship programs:

- Sociedade Brasileira de Geofísica (SBGf)
- American Association of Petroleum Geologists (AAPG)
- Canadian Society of Exploration Geophysicists (CSEG)
- Houston Geological Society (HGS)
- Society of Exploration Geophysicists (SEG)
- European Association of Geoscientists and Engineers (EAGE)



## Ongoing training and awareness

We deal with over 800 global suppliers annually and some 30% of our suppliers operate in remote areas of the world. To mitigate the risk of any inappropriate business practice, we provide targeted training and support for all our field managers, shore representatives, and suppliers. Regular training is also conducted with office-based employees around the world in order to ensure awareness, understanding and compliance with best business practice is maintained.

To assess our exposure and plan ahead we ensure our local logistics agents fully understand our ethical standards in advance of a Polarcus vessel arriving in port and that they appreciate any failure to perform in accordance with those standards will lead to termination of the commercial relationship. Any new supplier to Polarcus is issued the "Polarcus Standard Anti-Corruption Terms" as part of our prequalification process. Suppliers are also screened using "IntegraWatch® | Compliance Screening", a third-party screening service designed to provide a first line of defense against potential compliance risks.

## Continuous improvement

ISO 9001 and 14001 consist of three dimensions of sustainable development - economic, social and environmental. ISO 14001 is the international standard that stipulates requirements for an effective environmental management system (EMS). ISO 9001 is a standard that sets out the requirements for a quality management system (QMS).

In 2018, Polarcus upgraded to the new environmental standard ISO 14001:2015 and quality standard ISO 9001:2015, making us one of the first seismic companies to achieve this accreditation.

The newly released ISO 45001 standard enables organizations to provide safe and healthy workplaces by preventing work-related injuries, illnesses and fatalities and by proactively improving our OH&S performance. Polarcus aims to remain at the forefront of the industry in this regard and, in 2019, will replace our current occupational health and safety (OH&S) management system standard OHSAS 18001 with the ISO 45001 standard.

## Robust business ethics

The Polarcus Commitment to Business Ethics and Avoiding Conflict of Interest specifies the Company's non-negotiable approach to best business practice. To support the Company's commitment against corruption and unlawful commercial practice, Polarcus maintains an anti-corruption procedure which sets out detailed anti-corruption guidelines, including training related to contractual arrangements, the handling of gifts and entertainment, and awareness of facilitating payments. This procedure is designed to maximise compliance with anti-corruption laws worldwide, not only by our employees, but also by all of our business partners. No incidents or non-conformances occurred related to our Commitment to Business Ethics and Avoiding Conflict of Interest during 2018.

Polarcus supports a transparent culture of open management and encourages employees to raise concerns on ethical behavior directly with supervisors, support functions or management as appropriate. Polarcus also operates a 'whistle-blower' system which enables employees, and any third party, to confidentially report concerns separately, in the event an employee feels their concerns remain unresolved and/or if they prefer not to raise their concerns directly. The Corporate Governance and Remuneration Committee of Polarcus' Board of Directors tests the whistle-blower procedure annually. There were no reports received through the whistleblower system in 2018.

## Championing change

In 2017, Polarcus joined the World Economic Forum (WEF) whose mission is to improve the state of the world. WEF established the Partnering Against Corruption Initiative (PACI) which has become a leading business voice on anti-corruption and transparency, focused on implementing a global anti-corruption agenda and providing a platform for rebuilding trust and integrity between public and private stakeholders. Polarcus has been proud to support PACI as a means to share best practices, at CEO and senior executive level, to champion efforts to eliminate global corruption. In 2018, we attended WEF sessions in London (devoted to current worldwide initiatives to combat corruption) and in Dubai where the focus centered on risk management practices of international companies working in industries including oil and gas services.



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