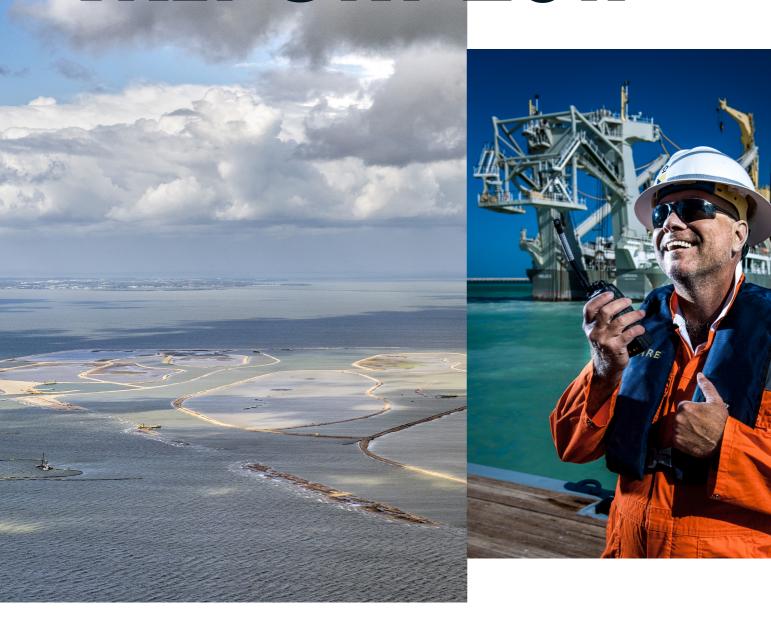


# CSR REPORT 2017

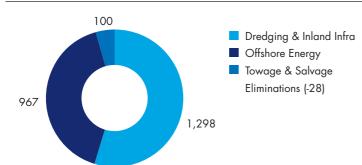


## **KEY FIGURES**

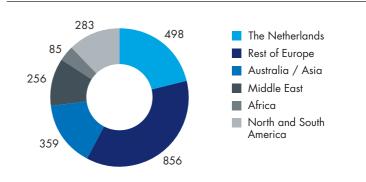
(in EUR million, unless stated otherwise)	2017	2016
	0.007	0.50/
Revenue	2,337	2,596
Order book	3,495	2,924
EBITDA	436.6	660.5
Net result from joint ventures and associates	31.0	11.3
Depreciation and amortization	251.6	277.2
Operating result	185.0	384.6
Impairments	0.0	842.6
EBIT	185.0	-458.1
Net profit adjusted for impairments	150.5	276.4
Net profit (loss)	150.5	-563.7
Net group profit (loss)	150.4	-561.8
Cash flow	402.0	464.0
Shareholders' equity	3,023	3,121
RATIOS (IN PERCENTAGES)		
EBIT as % of revenue	7.9	14.8
Return on capital employed	4.8	9.1
Return on equity	4.9	8.1
Solvency	62.9	56.1
FIGURES PER SHARE (IN EUR)		
Profit	1.15	2.16
Dividend	1.15	1.00
Cash flow	3.07	3.62
Casil llow	3.07	3.02
NON-FINANCIAL INDICATORS		
Employees including associated companies	10,732	11,733
Employees in Boskalis majority owned entities	5,772	6,153
Ratio women/men within Boskalis' majority owned entities	10/90	11/89
Number of nationalities within Boskalis' majority owned entities	64	63
1 . T 1 //TD	•	1.5
Lost Time Injuries (LTI)	9	15
Lost Time Injury Frequency (LTIF)	0.06	0.08
Total Recordable Injury Rate (TRIR)	0.55	0.66
Percentage of strategic suppliers having signed the		
Supplier Code of Conduct	81	76
CO	1 000	1.040
CO <sub>2</sub> emissions scope 1+2 (MT ('000))	1,223	1,249

Please refer to the glossary for definitions of the terms used

## REVENUE BY SEGMENT (in EUR million)



## REVENUE BY GEOGRAPHICAL AREA (in EUR million)



## CSR REPORT 2017

This report was drafted in accordance with the Global Reporting Initiative (GRI) Standards, application level core.

Printed copies of this CSR Report can be requested via csr@boskalis.com.

The CSR Report can be found on www.boskalis.com/csrreport.





4	CHAIRMAN'S STATEMENT
6	BOSKALIS AT A GLANCE
16	IMPACT ON LOCAL COMMUNITIES
28	IMPACT ON THE ENVIRONMENT
44	CARE FOR HUMAN CAPITAL
54	BUSINESS CONDUCT
66	APPENDIX

## **CHAIRMAN'S STATEMENT**



Our approach to corporate social responsibility has once again shown significant progress both in management and execution. This year, we reviewed our materiality analysis. We did so to stay informed on the expectations and the impact of our activities on our stakeholders, as well as the impact of developments in the social and environmental topics related to our business.

## **MATERIALITY**

The review of the analysis provides us with an updated and more refined set of priorities for the coming years. These priorities form the basis of our CSR strategy and relate to the Sustainable Development Goals that are relevant for our business. They help us focus on what really matters to both our stakeholders and to our operations. In 2017, we also took a significant step forward in our Social Impact Program by applying it as a pilot on several sizable projects and integrating the lessons learnt into the next version of the approach. On the environmental side, we were able to commercially apply our Building with Nature philosophy to projects in the Netherlands, thereby demonstrating the shared value potential of sustainable innovation.

### **SAFETY AND QUALITY**

Safety is paramount within Boskalis. Since the launch of our No Injuries No Accidents (NINA) safety program in 2010, our Lost Time Injury Frequency (LTIF) has fallen significantly from 0.67 in 2010 to 0.06 in 2017. In our seventh NINA year, we once again made important progress with the successful implementation in our cable laying and offshore wind business units. A Boskalis-wide NINA portal was furthermore launched to enhance internal knowledge and information sharing.

In 2017, we also took an important step with the introduction of our new integrated quality management system: the Boskalis Way of Working (WoW). The system allows for an integrated business process and uniform customer approach, complementing existing processes, tools and certifications. It has a clear focus on providing safe and sustainable solutions, and is designed to give Boskalis employees the best possible support in achieving operational excellence.

## **IMPACT ON LOCAL COMMUNITIES**

We aim to promote positive contributions to economic, environmental and social progress, where possible. In 2017, the engineering, design and construction of a bulk liquid berth terminal in the Port of Duqm in Oman was used as a pilot for testing and implementing our Social Impact Program. The program proved to be a successful approach to social risks and spurred collaboration with our client, subcontractors and suppliers. Awareness of the benefits of collaboration on CSR matters, within both our organization as well as ultimately the client, turned out to be key to the success booked: not simply mitigating impacts, but actually creating positive outcomes. In addition, by employing and procuring locally we stimulate local development both in the short and long term.

## IMPACT ON THE ENVIRONMENT

At Boskalis, consideration for the environment is deeply rooted in everything we do. Right from the initial design of a project we identify environmental impacts of our operations and commit to deliver sustainable solutions and innovations, on which we can also create a business case. One successful, sustainable and innovative approach is the Building with Nature philosophy as applied in the Marker Wadden and Houtrib Dike projects in the Netherlands, the mangrove restoration project in Central Java and the placement of self-designed and self-printed 3D reef units in Monaco.

As the effects of climate change become ever-more evident, the need for adaptive, sustainable solutions is growing. The know-how acquired on the Building with Nature projects will help us offer infrastructural solutions that are flexible and can be adapted as required in response to a changing natural world. In 2017, we contributed to the development of the renewable energy market through the execution of offshore wind energy

projects. In this way, we help build towards a society that is less dependent on fossil fuels. Our offshore cable-laying business had a very successful year, both in terms of order wins and project execution. Acquired contracts included East Anglia ONE, Hohe See and Borssele Beta, and we were nominated as preferred supplier on Triton Knoll and Moray Offshore Windfarm East. As for project execution activities, we carried out cabling work for the Galloper, Dudgeon, Rampion and Horns Rev 3 wind parks.

## **ONE BOSKALIS**

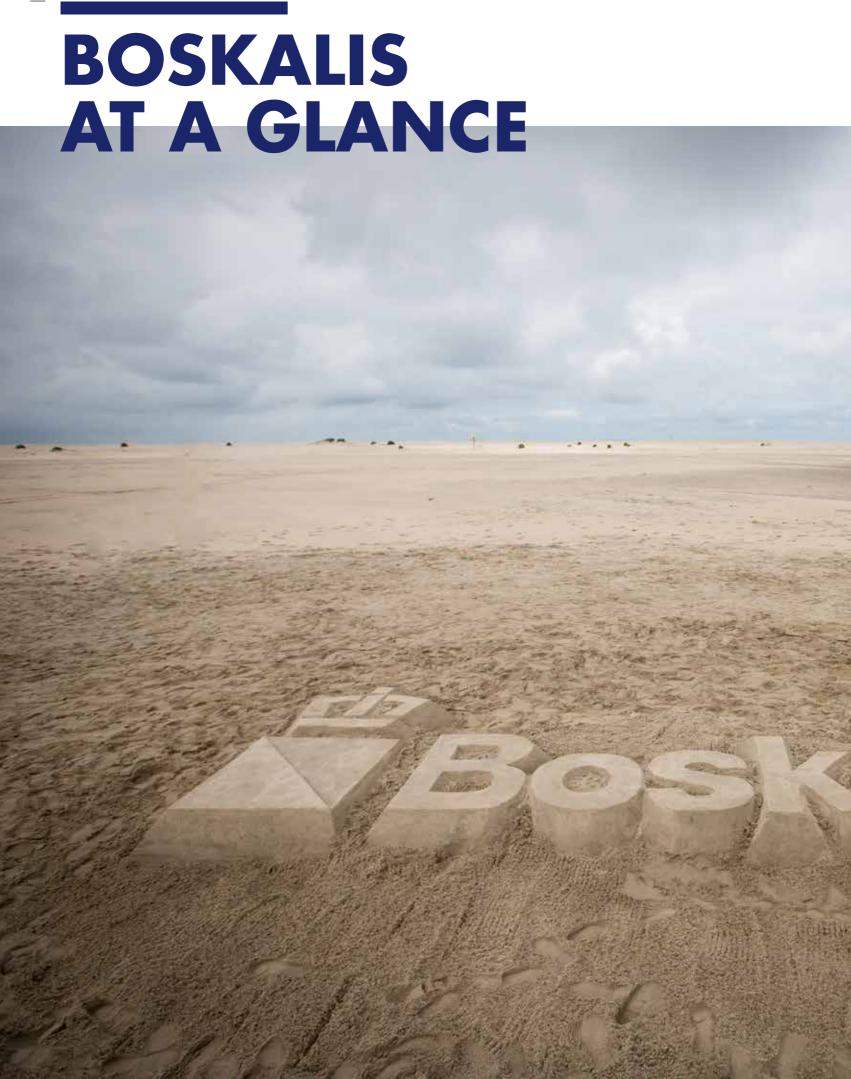
2017 was a challenging year. We went through a difficult period with the head office reorganization, but we are convinced that we have a bright future ahead of us. With the acquisition of Gardline and the two diving support vessels, we added a number of important building blocks and more additions are set to follow. With WoW we have taken a major step towards bringing together the various business units, each with their unique background. Nevertheless, we believe further steps need to be taken to create a unified Boskalis in which we make optimum use of our combined capabilities and innovative power. Such unity is also needed to present ourselves to the market as a single company, offering a unique combination of people, vessels and activities. In the course of 2018, we will therefore transition to a single brand name for our activities: Boskalis.

## **OPPORTUNITIES**

At the beginning of the reporting year, we presented our new Corporate Business Plan for 2017-2019. This plan is based on three pillars: Focus, Optimize and Expand. An important part of this plan is aimed at capturing opportunities that present themselves in the current challenging operating environment. After all, depressed maritime markets create opportunities for our selective reinforcement, also as a foundation for the medium term when markets are expected to recover. We are well-disciplined in targeting the opportunities that arise in the market, by being selective, customer-oriented, creative and persistent. With this focus, we are convinced that our unique offering, together with our financial discipline and our effective CSR approach, will help us come out of the current downturn as a winner.

On behalf of the Board of Management, I want to thank all colleagues for their contribution during the past year, as well as thank our clients, partners and shareholders for the trust and confidence they place in us.

Peter Berdowski





8 COMPANY PROFILE
9 ACTIVITIES
10 CSR STRATEGY
14 BUSINESS MODEL

# CSR 2017 - BOSKALIS

## **COMPANY PROFILE**

Boskalis is a leading dredging & marine expert creating new horizons for all its stakeholders.



In addition to our traditional dredging activities we offer a broad range of maritime services for the offshore energy sector. Furthermore, we provide towage services as well as emergency response and salvage-related services.

As a partner we are able to realize complex infrastructural works for our clients within the chain of design, project management and execution on time, safely and within budget, even at vulnerable or remote locations around the world. We strive for sustainable design and realization of our solutions.

Demand for our services is driven by growth in global trade, growing energy consumption, growth in world population and climate change. Boskalis operates worldwide but concentrates on those regions that have the highest growth expectations. This spread gives us both a solid foundation and the flexibility to be able to secure a wide range of projects, as well as providing

good prospects for balanced and sustained growth. Our main clients are governments, port and terminal operators, oil, gas and wind energy companies, mining companies and related EPC contractors and subcontractors, shipping companies, insurance companies and international project developers.

Royal Boskalis Westminster N.V. (Boskalis) has 10,700 employees, including associated companies. The safety of our employees and those of our subcontractors is paramount. Boskalis operates its progressive global safety program No Injuries No Accidents (NINA), which is held in high regard in the industry and by our clients. We operate on behalf of our clients in 90 countries across six continents. Our versatile fleet consists of more than 900 vessels and floating equipment, including associated companies. Our head office is based in the Dutch city of Papendrecht. Royal Boskalis Westminster N.V. shares have been listed on Euronext Amsterdam since 1971 and are included in the AEX-Index.

## **ACTIVITIES**

Boskalis is renowned for its innovative approach and specialist knowledge of environmentally friendly techniques. With our great expertise, multidisciplinary approach, versatile state-of-the-art fleet and extensive experience in engineering and project management we have proven time and again that we are able to realize complex projects on time, safely and within budget, anywhere in the world.

## **DREDGING & INLAND INFRA**

Traditionally, the core activity of Boskalis is dredging. This involves all activities required to remove silt, sand, clay and other layers from the sea- or riverbed and reusing it elsewhere where possible, for example for coastal protection or land reclamation. The services we provide also include the construction and maintenance of ports and waterways, and coastal defense and riverbank protection. In addition, Boskalis is active in the extraction of raw materials using dredging techniques and dry earthmoving.

In the Netherlands, Boskalis also operates as a contractor of dry infrastructure projects. This involves the design, preparation and execution of large-scale civil infra works, such as the construction of roads and railroads, bridges, aqueducts, viaducts and tunnels in addition to dike and riverbank related projects. In doing so, we also perform specialist works such as soil improvement and remediation.

## **OFFSHORE ENERGY**

With its offshore contracting capabilities and services Boskalis supports the activities of the international energy sector, including oil and gas companies and providers of renewable energy such as wind power. We are involved in the engineering, construction, maintenance and decommissioning of oil and LNG import/export facilities, offshore platforms, pipelines and cables and offshore wind farms. In performing these activities Boskalis applies its expertise in the areas of heavy transport, lift and installation work, as well as diving and ROV services complemented with dredging, offshore pipeline, cable and rock installation. Our subsidiary VBMS is a leading player in the European market for offshore cable installation.

## **TOWAGE**

We provide assistance to incoming and outgoing oceangoing vessels in ports around the world through joint ventures with regional partners: Keppel Smit Towage in Asia, Saam Smit Towage in the Americas and Kotug Smit Towage in Northwest Europe. In addition we offer a full range of services for the operation and management of onshore and offshore terminals through Smit Lamnalco. These services include assistance with the berthing and unberthing of tankers at oil and LNG terminals as well as additional

support services such as pilotage, subsea inspection and maintenance, firefighting, and the coupling and uncoupling of terminal connections. With a versatile fleet of over 400 vessels we assist vessels in around 100 ports and terminal locations in 35 countries, including oil and chemical tankers, container ships, reefers, ro-ro vessels and mixed cargo ships.

### **SALVAGE**

Boskalis provides services relating to marine salvage and wreck removal. We assist vessels in distress and are able to spring into action at any time and anywhere in the world. We are able to do so by operating out of four locations which are strategically situated along the main international shipping routes: Houston, Cape Town, Rotterdam and Singapore. The removal of shipwrecks or damaged offshore platforms almost always takes place at locations where the wreck forms an obstruction to traffic or presents an environmental hazard. We have the advanced technology and expertise needed to remove hazardous substances such as heavy fuel oil from wrecks and boast a successful track record in salvaging vessels and platforms under challenging circumstances.



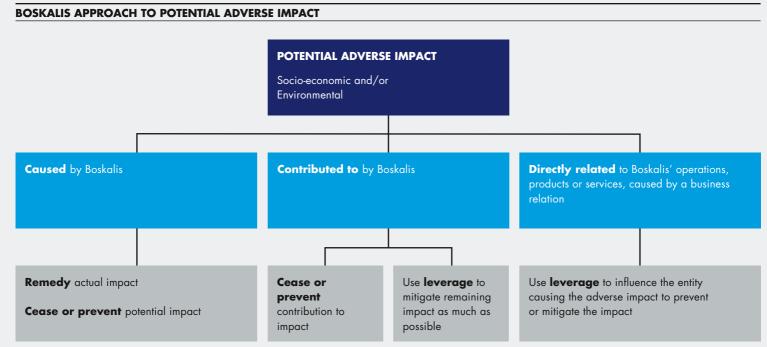
## **CSR STRATEGY**

The principal strategic objective of Boskalis is the creation of long-term sustainable value. Systematic execution of the corporate strategy, that is reviewed regularly in light of relevant market developments, is key to our success. Our CSR strategy is derived from the corporate business strategy, and ongoing interaction and dialogue with our stakeholders. We aim to create new horizons for our clients and stakeholders, based on sustainable profitability.

Boskalis' three strategic pillars: Focus, Optimize and Expand, are also the basis of our CSR strategy. CSR is the way in which we, as a business operating worldwide, approach our impact on the environment and communities. Our CSR strategy supports the realization of our corporate strategy. It mitigates environmental and social risks related to our operations and increasingly creates profitable opportunities for sustainable and innovative solutions. Our material themes address what is relevant for our business and for our stakeholders. They help us focus on what is most important to be successful in the long term, on optimizing our risk management approach and on expanding our business based on innovative solutions.

The four macro trends that are the key drivers of our long-term growth – growing world trade, growing energy consumption, population growth and climate change – also drive the execution of our CSR strategy. The expansion of our business offers both challenges and opportunities: to minimize negative impacts and maximize positive ones.

Each project taken on by Boskalis is unique and requires tailor-made solutions. In most cases, our approach to social and environmental aspects of the project is prescribed by an Environmental and Social Impact Assessment (ESIA). ESIAs are a widely used method to analyze, assess and measure the social and environmental effects of a project on the community and the natural surroundings. ESIAs are often prepared on behalf of our client, in order for the client to comply with local legislation and obtain the necessary licenses. They can also be part of the requirements imposed by project financiers, such as the World Bank and, increasingly, commercial banks. The latter financial parties have adopted the Equator Principles: a global sustainability framework supporting responsible risk decision-making, agreed to by over 90 of the largest global financial institutions.



In cases where an ESIA is used, we are required to comply with the ESIA conditions related to our part of the work. In other cases, we ensure environmental and social risks are identified, assessed and managed. We do so by developing and applying our own, project-specific environmental and social monitoring processes.

Our activities vary widely in their potential impact. The impact of our projects is mostly positive at macro level, enhancing the safety and prosperity of the surrounding area. However, at micro level – at the site of the actual intervention – specific social and environmental impacts can be negative, if no measures are taken. We seek to avoid or minimize the potential adverse impacts resulting from our activities, and otherwise to mitigate or remedy these. We exercise our leverage to bring change if we are in a position to influence the entity responsible for the impact. Where we can, we aim to promote positive contributions.

## **ENGAGING WITH OUR STAKEHOLDERS**

Our stakeholders are described as groups and/or individuals that have a concern in Boskalis, are influenced by our activities or have an influence on Boskalis. We believe that involving our stakeholders adds considerable benefits to our business. It helps us understand their interests and expectations, and to increase the acceptance of our activities in sensitive areas.

Our most important stakeholder groups are:

## **EMPLOYEES**

Our employees are the key to our success. Although our activities are largely project-based, the majority of our staff has permanent contracts. We also use employees drawn from a flexible shell, hired locally where possible, and on temporary contracts. Talented, enterprising and highly skilled employees play a crucial role in the way we operate our business. The Works Council is regularly consulted regarding major topics affecting Boskalis employees. The Council was also consulted for the review of our materiality matrix.

## **CLIENTS**

Our principal clients operate in market segments related to ports, the offshore energy sector and infrastructure. In order to align processes and bring projects to a successful conclusion, we foster a climate of mutual awareness and understanding. The newly launched Boskalis Way of Working system ensures there is a clear understanding of client expectations throughout all phases of a project. It also enables us to, where possible, take project leadership and align sustainable design and execution. Clients are kept informed on our company and business by way of conferences and exhibitions, our Creating New HORIZONS magazine, press releases, our website and personal contact.

## **SUPPLIERS AND SUBCONTRACTORS**

Boskalis maintains relationships with around 1,400 suppliers – of which 81% are strategic suppliers – for the central procurement of services, subcontractors, machinery and hydraulics, electronics and survey equipment, wearing and construction parts and facility goods and consumables. Our suppliers are bound by the Boskalis Supplier Code of Conduct. Annual implementation scans monitor compliance. The new BlueScan implementation tool – co-created by Boskalis and leading Dutch maritime players – was launched in 2017. This tool creates unity and clarity for all parties regarding sustainability expectations and process implementation. It enables information sharing in the supply chain, and suppliers only need to adhere to one standard and receive only one audit request. The tool offers clients access to a well-founded sustainability approach and is a concrete incentive for maritime suppliers worldwide to make sustainable choices in products and services.

## NGOS AND CIVIL SOCIETY ORGANIZATIONS

Our activities vary widely in their potential impact. We aim to create value for Boskalis and society at the same time. To be able to do so, it is important that we are embedded in society: we are involved in a large number of cross-sector partnerships with NGOs, sector organizations, educational institutions and knowledge centers. In this way, we are in a position to leverage our experience and know-how to bring about change. Our partnerships have resulted in:

- The adoption of the Building with Nature program in major Boskalis projects such as in Indonesia and the Marker Wadden in the Netherlands.
- Recognition of Boskalis as industry leader in the sustainable dismantling of vessels.
- The opportunity to tackle the plastic garbage patch in the Pacific Ocean through our support of The Ocean Cleanup, and rid beaches of waste by way of the Boskalis Cleanup Tour.

## **INVESTORS AND SHAREHOLDERS**

The following shareholders are known, based on the public register of the AFM, to have been holders of at least 3% in Boskalis share capital as at 31 December 2017:

HAL Investments B.V.: 35.71%

Sprucegrove Investment Management Limited: 5.16%

Blackrock Inc.: 4.87%

Marathon Asset Management: 3.57% Oppenheimer Funds, Inc.: 3.07% State Street Corporation: 3.01%

Besides these large shareholders, an estimated 15% of the shares are held by shareholders in the US, 7% in the UK, 4% in Canada and the remainder in mainly the Netherlands, Norway, Spain, Germany and France.

Our financial stakeholders are informed on our business and general market developments through the General Meeting of Shareholders, project visits, meetings, conferences, press releases, the Boskalis website and personal emails and phone calls. We strive to inform our financial stakeholders as completely and transparently as possible regarding our strategy and our financial performance.

## **MATERIALITY ANALYSIS**

For a focused strategic approach, aimed at a healthy balance between stakeholder expectations and business aspirations, we identify and assess which material topics are most relevant in relation to our activities. To this end, we use a materiality analysis to gain insight into the relevance and importance of topics for Boskalis on the one hand, and for our various stakeholder groups on the other. Although material topics remain the same over time, their relevance for both internal and external stakeholders is subject to change.

In 2015 we defined our main material themes. These were updated in 2016. In 2017, we once again engaged with our stakeholders to re-assess the most important material CSR themes. By actively engaging with relevant stakeholders at all levels within and outside of our company, we can interact and align our strategy to guide both our business and CSR objectives.

More than 70 stakeholders were consulted for our materiality analysis. A list of relevant topics was drawn up by an independent third party, making use of a longlist of CSR topics based on CSR benchmarks and reporting frameworks, combined with a media

and a peer analysis. This resulted in a new shortlist of 20 relevant topics, including updated and Boskalis-specific definitions. Topics were divided into the four thematic areas: Care for Human Capital, Impact on Local Communities, Impact on the Environment and Business Conduct. These topics were presented to our stakeholders through an online survey and desk research. Stakeholders were asked to rank and score the topics that mattered to them most. Boskalis management was asked to do the same.

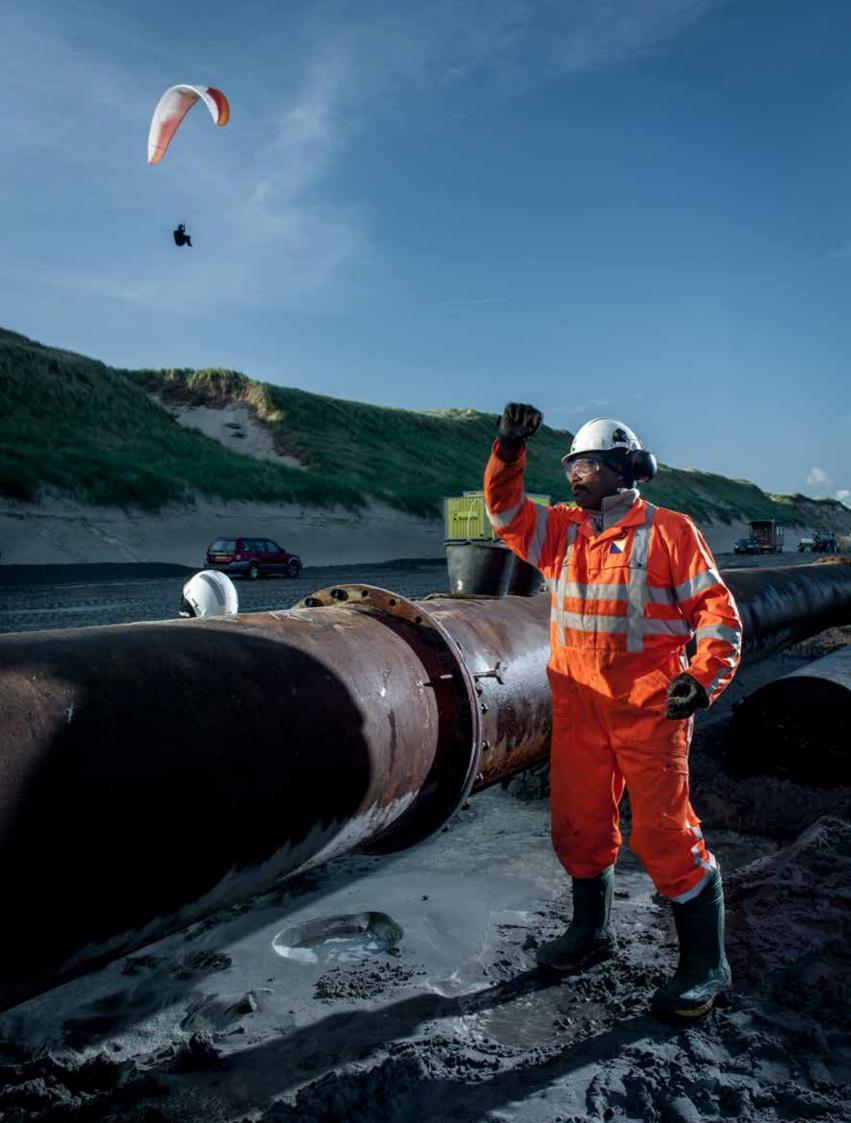
## **MATERIALITY MATRIX**

The resulting materiality matrix is, by definition, a snapshot and opinions amongst stakeholder groups may vary. All themes in the matrix are relevant to Boskalis. The topics that have been prioritized by Boskalis and our stakeholders – based on their relative importance – are featured in the top right of the matrix. These topics are the key elements of our CSR strategy and this report has been drawn up based on them.

Generally speaking, the most important material topics have remained the same as in 2016. One exception is Health and Safety, which has gained considerably in importance. Impact on Biodiversity and Ecosystems remains one of the most important topics. To gain more insight into the main themes Business Conduct and Impact on Local Communities, a more granular approach was followed by defining new topics. The topic Local Development was ranked as one of the most important topics, underlining the importance of our Social Impact Program launched in 2016 (see page 19).

## **MATERIALITY MATRIX**

## **IMPACT ON LOCAL COMMUNITIES** Local development Stakeholder engagement Community investments IMPACT ON THE ENVIRONMENT Impact on biodiversity and ecosystems 5 Emissions 6 Climate change adaptation Energy transition Waste management and effluents Turbidity io Ship dismantling and recycling Ballast water **CARE FOR HUMAN CAPITAL** 12 Health and safety **MPORTANCE FOR STAKEHOLDERS** Sustainable employability Fair labor practices 15 Talent management **16** Diversity **BUSINESS CONDUCT** Economic performance Responsible business conduct Responsible sourcing 20 Taxes **BUSINESS IMPACT**



**MACRO DRIVERS** 

**GROWTH IN TRADE** 

## **BUSINESS MODEL**

Our business model is aimed at creating long-term value and new horizons. Based on our engineering, environmental and technical expertise, we provide leading maritime services to our clients in close collaboration with our supply chain and our stakeholders. Thanks to our global presence, we implement innovative and competitive solutions for our clients worldwide. We do so at the highest standards of safety and integrity.

**GROWING DEMAND** 

**FOR ENERGY** 

### **BOSKALIS BUSINESS INPUT OUTCOME** MISSION IMPACT ON LOCAL COMMUNITIES IMPACT ON LOCAL COMMUNITIES Leading dredging and Stakeholder engagement Local development marine experts Community investments Long-term relationships Social Impact Program Partnerships Operating in 90 countries DREDGING & INLAND INAR IMPACT ON THE ENVIRONMENT **IMPACT ON THE ENVIRONMENT** PROFESSIONALISA Natural resources Biodiversity and ecosystems Energy Emissions Climate change adaptation Environmental expertise ENTREPRENEURSHIP **CREATING** CARE FOR HUMAN CAPITAL **CARE FOR HUMAN CAPITAL NEW HORIZONS** - NINA Health & Safety Talent management Sustainable employability • 10,700 employees Fair labor practices Engineering expertise **BUSINESS CONDUCT BUSINESS CONDUCT** Codes of Conduct • Responsible business conduct Business principles Responsible sourcing **STRATEGY** Boskalis Way of Working Focus Optimize FINANCIAL CAPITAL FINANCIAL CAPITAL Expand • 900 vessels Dividend Strong balance sheet Taxes Funding (shareholder equity & debt) Market capitalization

**GROWING GLOBAL** 

**POPULATION** 

**CLIMATE CHANGE** 

Our strategy is driven by the structural growth and rising prosperity of the global population, which in turn drives growth in global trade and demand for raw materials and energy. Climate change is a risk, but also continues to create business opportunities for Boskalis with a growing need for flood protection measures, land reclamation and the facilitation of the energy transition. Our strength lies in deploying our own maritime assets, combined with the expertise of our employees, to add value for our clients in creating sustainable solutions.

The new, uniform Boskalis Way of Working quality management system was launched company-wide in 2017. The system enables an integrated business process and uniform customer approach, complementing existing processes, tools and certifications. The Way of Working enables us to strengthen the way we work together, focus effectively on client needs and execute our projects professionally and efficiently. CSR is embedded in WoW as this system enables us to, where possible, take project leadership, integrate stakeholder interests and align sustainable design and

**IMPACT** 

Services that contribute to a safer, healthier and more prosperous local community

A positive contribution to economic growth and job creation

Contributing to clean energy through our renewable energy projects

Limiting the consequences of climate change through our coastal defense and riverbank protection projects

A safe and inspiring work environment with skilled and engaged employees

Satisfied clients

Long-term sustainable profit

**SDGs** 













execution. This is crucial in view of the fact that the Boskalis range of operations is wider than ever before, the complexity of our operating processes has increased and our clients and other stakeholders are becoming ever more demanding.

Boskalis has a General Code of Business Conduct (the "Code"), which is based on international guidelines, including the Universal Declaration of Human Rights. We endorse the principles of the International Labour Organization, the UN Global Compact and the OECD Guidelines for Multinational Enterprises. Certification shows our compliance with internationally recognized management, environmental and safety standards. All key Boskalis units are certified ISM, ISO 9001, ISO 14001 and OHSAS 18001, or VCA for Dutch operations. A list of all certifications can be found in the appendix.

## THE BOSKALIS VALUE CREATION MODEL

The Boskalis value creation model gives a schematic overview of the value Boskalis creates over time, based on our four material themes and financial capital. These **inputs** are used in the execution of our strategy and the fulfillment of our mission to create new horizons for our stakeholders: now and in the future. The four material themes form the backbone of our CSR report and serve as the departure point for our stakeholder engagement.

The **Boskalis business** comprises three market-facing divisions: Dredging & Inland Infra, Offshore Energy and Towage & Salvage. Within these divisions, the execution of our strategy is guided by our company culture and its core values: professionalism, entrepreneurship and teamwork. Boskalis' unique offering of specialist knowledge, a multi-disciplinary approach and a versatile state-of-the-art fleet, enables us to minimize and mitigate risks. It also allows us to take advantage of the opportunities provided by the macro drivers.

For a healthy balance between stakeholder expectations and business aspirations, we have identified and assessed per input theme which material topics are most relevant in relation to our activities through a materiality analysis. Those topics that are considered to be most relevant by Boskalis and its stakeholders – as also reflected in the outcome of the materiality analysis – correspond with the **outcome** of our business model. Details on how the material themes are embedded in our operations are further described in the subsequent chapters. The Boskalis Annual Report 2017 reports on our financial capital.

## **SUSTAINABLE DEVELOPMENT GOALS**

In 2015, the United Nations adopted a plan for achieving a better future for all, based on 17 Sustainable Development Goals (SDGs). We endorse all these SDGs, but due to the nature of our business our impact per goal varies. A number of SDGs is closely related to our material themes, giving us the means to monitor and communicate our progress and achievements on them. These are: Good Health & Well-being (SDG3), Affordable & Clean Energy (SDG7), Decent Work & Economic Growth (SDG8), Industry, Innovation & Infrastructure (SDG9), Climate Action (SDG13) and Life Below Water (SDG14).





Our activities can have a major impact on the social environment we operate in. This impact is mostly positive: our interventions generally enhance the safety and prosperity of the local communities. Where possible, we procure services and goods locally as well as hire local workers. We engage with local communities through support of local organizations and initiatives, community development projects and donations to worthy causes, both directly and indirectly through our clients. We also support education and research programs.

## **KPIs**

- Diverse employee base
- Safety training for local hires
- Community investment programs
- Support of education and research

## **RESULTS**

- Number of nationalities: 64 (page 52)
- Safety training on projects (page 18)
- EUR 500,000 in sponsorship and donations in the Netherlands (page 22)
- 193 interns, graduates and PhD students (page 23)

## 3 GOOD HEALTH AND WELL-BEING





### **RISKS & DILEMMAS**

- Our leverage towards our client or government bodies may be limited
- Availability of qualified local employees and suppliers
- We have no or very limited influence on infrastructure investment decisions
- We seldom have leverage with regard to the further development of the infrastructure we build

### **OPPORTUNITIES & GOALS**

- Provide employment to local employees with fair wages, good labor practices and respect for human rights
- Purchase goods and services from local suppliers
- Build infrastructure facilitating further economic growth and employment opportunities

## 18 LOCAL DEVELOPMENT

19 SOCIAL IMPACT PROGRAM

22 COMMUNITY INVESTMENTS

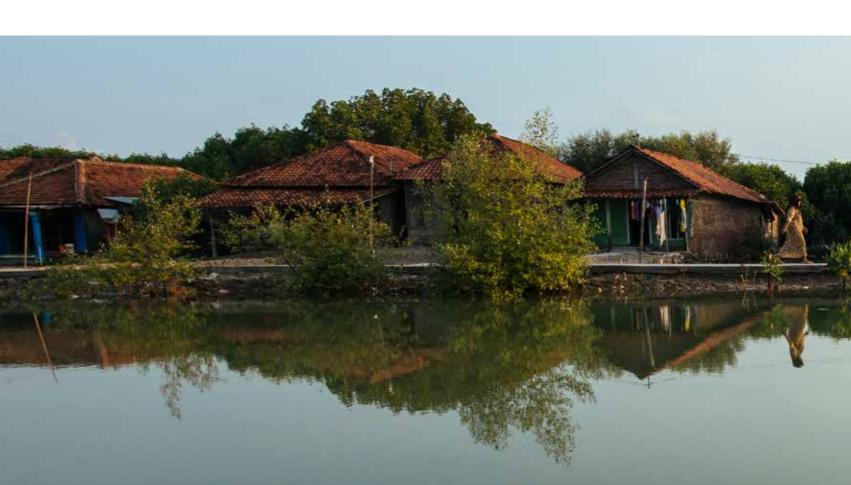
## LOCAL DEVELOPMENT

On projects where our presence is temporary, we aim to hire local workers. We offer fair wages and decent working conditions. On these projects, the share of temporary employment contracts may be up to 90%. Depending on the nature, size and duration of a project, we can offer jobs in areas including logistics (such as the transport of people, goods and equipment and arranging visas), support (such as HR, SHE-Q, financial administration, procurement, PR, catering, security and accommodation) and operations (such as engineers, welders, deck hands and workshop staff). NINA safety training is provided to ensure that local workers are able to carry out their work, according to our high work and safety standards. If necessary, specific additional training is given. In 2017, safety training was given to workers on a large number of projects, including the New Mexico City International Airport and Veracruz port expansion projects in Mexico and the Duqm project in Oman.

We take care to provide decent accommodation, recreational facilities and means of keeping in touch with the home front. The local medical facilities are assessed at every project site and where necessary we set up a temporary clinic and hire medical staff. In a number of countries, including Germany, Finland, Sweden, the United Kingdom, Mexico and Singapore, we have a permanent presence and make targeted investments in the training of local, mostly permanent, staff.

We purchase goods and services from local suppliers whenever possible. Such goods may include fuel, food, facility consumables, wearing and construction parts for our equipment, safety products and equipment such as cars, trucks, bulldozers, cranes and small floating equipment. Office space is mostly rented and where possible we use local shipyards. Our Supplier Code of Conduct is applicable to our local suppliers. For more information on our Supplier Code of Conduct, please see page 60.

By employing and procuring locally, we not only stimulate the local economy, but also make the project beneficial for the people themselves. In this way, we help increase buy-in from local communities for our projects. Our approach and our projects are often recognized as stimulating local development and prosperity both in the short and long term.



## SOCIAL IMPACT PROGRAM

Consideration for the environment is a feature deeply embedded in our organization and something that we take into account right from the initial design of a project. As macro trends – such as an increase in global trade, population growth and climate change – are driving growth in all our divisions, our dredging and inland infrastructural activities in particular can have a social impact. A practical and effective social impact approach is increasingly becoming a license to operate.

We aim to promote positive contributions to economic, environmental and social progress wherever we operate. The impact of our projects is mostly positive at macro level, enhancing the safety and prosperity of the surrounding area. However, at micro level – at the site of the actual intervention – specific social impacts may be negative, if no measures are taken. We seek to avoid potential adverse impacts resulting from our activities, and otherwise to mitigate or remedy these. We exercise our leverage to bring change if we are in a position to influence the entity responsible for the impact. However, our influence can be limited depending on the business relationship. For example, we have more influence over suppliers than over clients. In view of the fact that each of our projects is unique, a tailor-made approach is required to address environmental and social risks, while also taking into account international CSR frameworks and guidelines.

The Social Impact Program that was launched in 2016, aims to set out a social impact approach that gives this aspect of our activities a firm foothold within our organization. The program has three objectives:

- To increase in-company awareness of our social impact and of the international frameworks that define social impact standards.
- To develop a standard evaluation mechanism in the tender phase to identify projects that have a potential higher risk profile.
- Consistent application of our social impact principles and procedures on projects.

The program is based on the OECD Guidelines for Multinational Enterprises, the IFC Performance Standards, the Boskalis General Code of Business Conduct and the Boskalis Supplier Code of Conduct.

By creating social impact awareness throughout Boskalis, this topic is embedded in tendering processes and project execution. As social impact differs for each project, we must define our role and the corresponding level of responsibility we have. For this reason, our methodology must be applicable for a wide range of project profiles, our company specific approach, local requirements and client interests and not just be based on a generic regulatory framework.



## DUQM PROJECT IN OMAN: VALUABLE LESSONS LEARNT



In 2017 the engineering, design and construction of a bulk liquid berth terminal in the Port of Duqm in Oman, was used as pilot for testing and implementing our Social Impact Program. 'Awareness' turned out to be key to the success booked: not simply mitigating impacts, but actually creating positive outcomes.

Lara Muller, director of Public Affairs at Boskalis and responsible for the Social Impact Program explains: "At a very early stage already – and thanks to the close collaboration with our client – we were able to identify the potential social risks and opportunities and place these within the local cultural, economic and social context. Due to our awareness of the 'as is' situation, we were able to collaborate effectively with the client and other relevant stakeholders. This resulted in a practical plan of approach to identify, analyze and mitigate potential adverse impacts."

"Our project is part of the much larger Port of Duqm Master Plan, in which each party carries its own responsibilities. Nevertheless, because our collaborative approach turned out to be so successful, other parties were quickly interested to learn and share. The round table talks that we



"BECAUSE OUR COLLABORATIVE APPROACH TURNED OUT TO BE SO SUCCESSFUL, OTHER PARTIES WERE QUICKLY INTERESTED TO LEARN AND SHARE"

subsequently initiated, enabled us to use our leverage to get other parties to address environmental and social challenges. In this way, we managed to convince the client to put a far more effective approach in place on masterplan level. However, willingness of the client to engage with us on these matters is conditional to the success of our approach."

The following lessons were learnt in the start-up of the project:

- Awareness and knowledge of the local context is the basis of finding shared interests with the client and other relevant stakeholders. These shared interests can prove to be extremely useful in drafting a project approach and execution plan that not only addresses potential social risks in a far more efficient way, but also uncovers opportunities for joint value creation.
- Creating support reduces risk and failure costs. Addressing social aspects of the project in collaboration with the client at an early stage has substantial benefits, provided there is clarity in roles and responsibilities right from the start.
- A stakeholder management approach on project level is a valuable method to
  effectively embed social risks and opportunities in the implementation phase of the
  project. Such a stakeholder management plan must be based on an assessment of
  stakeholder interests, stakeholder relevance and the socio-economic local situation.

"In order to further develop our Social Impact Program, we must identify and address both the positive and potential negative impacts that occur, resulting from our activities throughout the project. The international frameworks that we use, such as the IFC Performance Standards and the OECD Guidelines, tend to focus on the risks and the potentially adverse impacts. However, this gives a one-sided view of our activities. Our projects ultimately have a positive impact on local communities, their local economy and welfare of the people. The infrastructure that we design and build creates jobs and stimulates the (local) economy. In fact, by also focusing on the opportunities-side, CSR can be a catalyst for a mutually beneficial collaboration with our clients and partners. Importantly, our client in Duqm labelled our Social Impact Program as best practice, in which partners were eager to participate."





Many community initiatives were carried out at project level and by our local offices in 2017. This included sponsor runs for cancer research and the Dutch Burns Center, as well as cultural and sporting events.

## **BOSKALIS BEACH CLEANUP TOUR**

Protecting the Dutch coastline has been one of the core Boskalis activities since our inception. We see clean seas and beaches as a social responsibility. That is why we are the main sponsor of the Beach Cleanup Tour organized by the North Sea Foundation for the fifth year running. Early August, a record number of 2,748 volunteers collected 14,929 kilograms of waste in a fortnight along the full length of the Dutch North Sea coast. It is very encouraging to see that colleagues across the organization and far away from the Netherlands have spontaneously taken to organizing their own, local version of the Boskalis Beach Cleanup Tour. Colleagues from VBMS working on a landfall on the French coast held a spontaneous beach cleanup. Similarly, in the United Kingdom, Boskalis Westminster colleagues organized a beach cleanup after Boskalis had executed a beach nourishment operation to strengthen the coastline and improve the

quality of the beach. And during the execution of a landfall project in Abu Dhabi, the Boskalis project team decided to clean up a number of local beaches. They were joined by enthusiastic employees from our client and subcontractor. Their efforts were rewarded with a Certificate of Appreciation from the client.

## THE OCEAN CLEANUP

We continue to sponsor and support The Ocean Cleanup: an initiative of Boyan Slat, a young Dutch entrepreneur, who aims to develop an installation to clean up the Great Pacific Garbage Patch between Hawaii and California. His models indicate that a full-scale system rollout could clean up to 50% of the patch in 5 years. Based on the results of the North Sea prototype test in 2016, the focus in 2017 was on a new and improved system design in close collaboration with experts from Boskalis. In August, a new North Sea prototype was deployed to verify elements of the updated design. Expectations are that the first working system will be floated in 2018.





## **HURRICANE IRMA**

After the Windward Islands of Saint Martin, Sint Eustatius and Saba had been hit by Hurricane Irma, Boskalis mobilized a transport vessel to provide aid at the request of the Dutch Ministry of Infrastructure and the Environment. Forty pallets of drinking water were loaded onto our ship, the Fairmount Alpine, in Curação and Aruba, and delivered to the hurricane-stricken island of Saint Martin. In addition to its own cargo, Boskalis also loaded a substantial amount of cargo from third parties, including a large disaster relief container from the Red Cross, containing dry food and forty pallets of food and water from the Royal Netherlands Navy.

## HISTORICAL FISHING BOAT FOR ZIERIKZEE PORT MUSEUM

Zierikzee Port Museum in the Dutch coastal province of Zeeland collects and preserves historical sailing- and motor boats. This year, Boskalis sold a superbly preserved 'hoogaars' historical wooden fishing vessel to the museum. Built in Vlissingen in 1932 and used by Boskalis since 1976 for official occasions, the Geertrui is a valuable addition to the museum's collection. The boat will be accessible for public viewing along the quay of the Port Museum.

## **SUPPORTING SCIENTIFIC RESEARCH & EDUCATION**

We have a tradition of supporting scientific research that is of relevance to our sector. We support fundamental research and knowledge sharing through lectures and presentations. We facilitate a dual lectureship between Delft University of Technology and Wageningen University. Boskalis supervises interns, graduates and PhD students: a total of 193 in 2017.

Boskalis participates in Port XL, an initiative aimed at accelerating start-ups in the maritime sector. Other partners are the Port of Rotterdam, various internationally operating companies and the Erasmus University Centre for Entrepreneurship. Our participation is focused on being in contact with young, dynamic start-ups and to support them in bringing their ideas to market.

One of such start-ups is MedAssist.online. They were successful in developing a digital solution that helps us improve medical care on board our ships. The online app was designed to also work with a limited bandwidth, an operational constraint frequently encountered on board when working in remote locations.

## **BOSKALIS AND THE OCEAN CLEANUP: CONTRIBUTING TO** A CLEANER HORIZON



sponsorship-in-kind of The Ocean Cleanup's North Sea prototype test. Now, in 2017, The Ocean Cleanup has taken some major steps forward in the development of its technology to rid the oceans of plastic waste.

Ridding the world's oceans from plastic soup is a daunting challenge that has been taken up by The Ocean Cleanup. Using advanced technologies, its aim is to clear the world's oceans of plastic. Boskalis is actively involved in helping develop the innovative solutions required to fulfill this goal.

## FROM BRAINWAVE TO PROMISING SOLUTION

The Ocean Cleanup is the brainwave of the young inventor and entrepreneur Boyan Slat. He is the youngest ever recipient of the UN's Champion of the Earth Award and has received numerous other awards, including the Thor Heyerdahl Award in 2017.



"THANKS TO SUCH PIONEERING
INNOVATIONS AS THE OCEAN CLEANUP,
WE HOPE TO BETTER PROTECT OUR OCEANS
FOR FUTURE GENERATIONS"

"Slat's design involves massive booms that collect marine litter using the ocean's currents. The booms passively catch and concentrate debris in the center, which will be picked up by boats. The initial idea was to develop one large boom spanning no less than 100 kilometers. The boom was to be fixed to the 4,000 meter deep seabed by anchors," explains Gertjan Grundlehner, Head R&D Boskalis Offshore Technology, and actively involved in The Ocean Cleanup pilots. "Boskalis helped to install a prototype in the North Sea in 2016. This live test provided valuable insights leading to the conclusion that the system needed considerable design revisions."

"Basically, it was back to the drawing board for The Ocean Cleanup. It was then that the idea emerged for smaller, free-floating booms that would be driven by the wind, waves and current. This solution was quickly recognized as a promising enabler for the passive collection of waste. During this past year, Boskalis helped The Ocean Cleanup, providing know-how and insights to further develop this concept. At Boskalis, we have a wealth of experience in supporting innovation processes and tons of practical expertise with the deployment of floating systems in a marine environment. We also know that every innovation has its own particular challenge to overcome. But, by asking the right questions, and based on our expertise, we often succeed in finding fitting solutions. Together with the engineers of The Ocean Cleanup, we managed to design the free-floating booms in such a way that they continuously collect floating debris, without drifting out of the ocean's garbage patches. The tolerance of the smaller booms to variations in wind, waves and currents is a major benefit. What's more, propulsion or seabed anchoring aren't required. Importantly, the small booms have an excellent alignment with the driving forces, thus enabling maximum waste capture. The great thing about this solution is that the whole concept is powered by freely available forces of nature!"

## OCEAN GARBAGE PATCHES - OVER 5 TRILLION PIECES OF PLASTIC LITTER

Ocean currents concentrate plastic litter in five areas in the world: in the subtropical gyres, also known as the world's 'ocean garbage patches'. There are five of such ocean garbage patches, the largest one being the Great Pacific Garbage Patch, located between Hawaii and California. If left to circulate, the plastic will impact our ecosystems, health and economies. Solving the problem of this plastic soup requires a combination of closing the source, and cleaning up what has already accumulated in the ocean.

### **SCALABILITY**

Grundlehner points out that independent, smaller, free-floating systems also have advantages in relation to cost and time: "For one, there's no need to make expensive foundations deep in the ocean. Secondly, it allows The Ocean Cleanup to scale up their 'network' of booms when more funding becomes available once the first booms have provided proof of concept. The first boom will be floated in 2018. In the slightly longer term, The Ocean Cleanup hopes to place up to 60 booms of up to 1,000 meters each. A major benefit of such a constellation is that the failure costs are also substantially less: if one boom breaks down, the others still remain in operation."

"We're now helping The Ocean Cleanup to find cost-effective and marine-life friendly retention and extraction solutions. Another issue that is currently being tackled is the choice of material for the boom. The material used in the North Sea pilot proved to be too weak to weather the forces of nature. Choosing a material fit-for-purpose is all about finding the right balance between material properties, performance, technical requirements and expectations as to life expectancy and more. Here also, our long-standing experience in this field stands to benefit The Ocean Cleanup in finding the best solution."

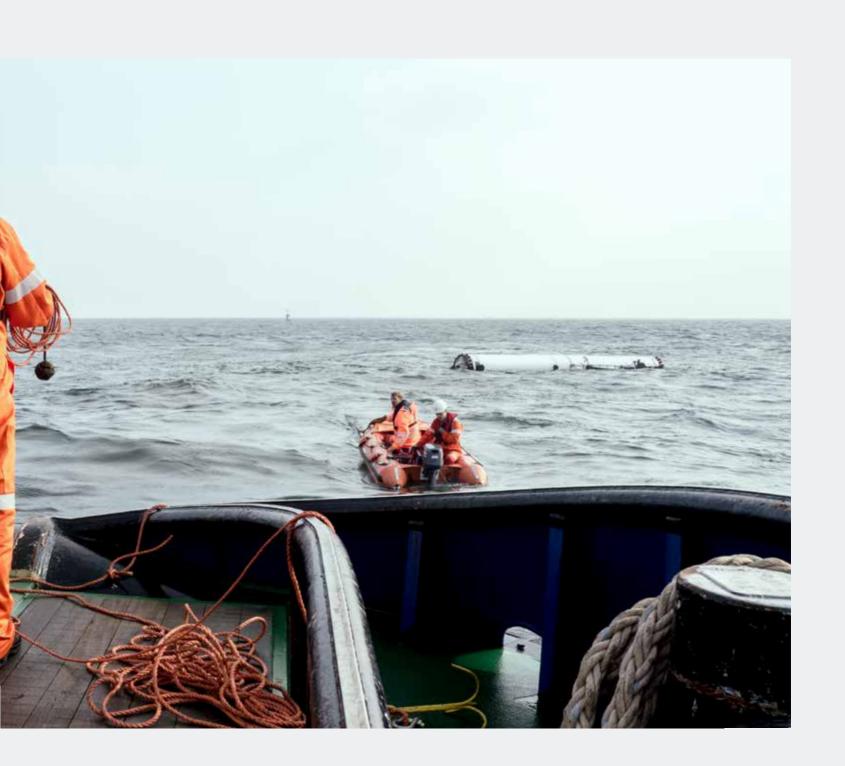
CEO Peter Berdowski on the battle against plastic soup: "We live on a beautiful planet. Global prosperity is on the rise, and the world's population continues to grow. But, as we consume more, we also produce more waste. The increasing use of plastic will generate global waste flows that represent an ever-increasing threat. Thanks to such pioneering innovations as The Ocean Cleanup, we hope to better protect our oceans for future generations. As a maritime service provider, we stand for sustainable practices, teamwork and the search for new opportunities in challenging conditions. The pragmatic approach of The Ocean Cleanup is a perfect match for our own working approach. The installation of this innovative system calls for our expertise. That is why we are happy to contribute to the creation of a new, clean horizon."

### **CLEANING UP TO 50% OF THE GARBAGE PATCH**

The Ocean Cleanup expects that a full-scale roll out of the system could clean up to 50% of the Great Pacific Garbage Patch in 5 years. The floating systems are designed to capture small plastic particles down to one centimeter, up to massive discarded fishing nets of tens of meters in size. By removing the plastic while most of it is still large, it is prevented from breaking down into dangerous micro-plastics. Combining the cleanup with source reduction paves the way to a plastic free ocean.



"THE IDEA EMERGED FOR SMALLER, FREE-FLOATING BOOMS THAT WOULD BE DRIVEN BY THE WIND, WAVES AND CURRENT"



## IMPACT ON THE ENVIRONMENT





Consideration for the environment is a feature that is deeply embedded in our organization and something that Boskalis takes into account right from the initial design of a project. We report on the environmental impacts of our operations and commit to delivering solutions and innovations, based on which we can also create a business case around sustainability and climate change. If the business objectives, including technical compliance, economic viability and scalability, can be aligned with sustainability, such initiatives are likely to be broadly adopted. This way, the adverse impacts of our operations are reduced and positive ones boosted. The successful Building with Nature philosophy underlines and elaborates on this approach.

### **KPIs**

- Support of Building with Nature program
- Number of Building with Nature projects

We have no or very limited influence on

Absence of an industry standard prevents

• In the absence of regulations, voluntary use

fuels creates a competitive disadvantage,

of costly alternative environmentally friendly

unless clients are prepared to pay a premium

infrastructure investment decisions

the formulation of an industry-wide

Certain clients focus on price as sole

- Wind farm-related activities
- Energy-saving measures and pilots
- Reporting on CO<sub>2</sub> emissions

**RISKS & DILEMMAS** 

selection criterium

CO<sub>a</sub> reduction target

- Coastal defense related activities
- Assistance to vessels in distress

## **RESULTS**

- Building with Nature program EUR 500,000
- Building with Nature projects (page 31)
- 587 km cables laid for wind farms (page 40)
- Biofuel contract with GoodFuels and energy reduction plan in the Netherlands (page 42)
- Scope 1 CO<sub>2</sub> 1,220 MT('000), scope 2 CO<sub>2</sub> 3 MT('000) (page 43)
- Flood protection projects (page 36)
- Various salvage activities (page 31)

## **OPPORTUNITIES & GOALS**

- Protect ecosystems through Building with Nature approach
- Facilitate renewable energy through wind farm-related activities
- Apply environmentally friendly fuels and energy-saving schemes
- Provide flood defense through coastal and riverbank protection activities
- Contribute to cleaner environment through salvage and wreck removal operations

## SDGs









- 30 BIODIVERSITY AND ECOSYSTEMS

  34 FLEET RELATED ACTIVITIES
- 36 CLIMATE CHANGE ADAPTATION
- **40 ENERGY TRANSITION**
- 41 EMISSIONS

# CSR 2017 - BOSKALIS

## BIODIVERSITY AND ECOSYSTEMS

The urgent need to protect the world's water resources and marine habitats means that sustainability is essential to our business and our license to operate. Whereas regulators are setting increasingly stringent requirements as regards our project footprint, clients are pushing the boundaries in terms of exploiting natural resources and operating in highly sensitive areas.

Our ability to bridge this gap and offer leading edge sustainable solutions in vulnerable river, delta and coastal areas is essential to our business and can create both environmental as well as economic value.

## **BUILDING WITH NATURE**

A large proportion of the world's population lives and works near coasts or along rivers. Often, hydraulic infrastructure makes this possible. The Building with Nature program was launched in 2008 as a design philosophy for the development of marine infrastructure solutions that utilize and, at the same time, enhance the natural system in such a way that ecological and economic interests strengthen each other. The program, of which Boskalis was an initiator, is executed by EcoShape. Partners in the Building with Nature program represent academia, research institutes, consultancies, NGOs and public authorities.

Building with Nature offers independent know-how and effective solutions to clients, public authorities and other stakeholders. It empowers these parties to make informed decisions upfront about integrating marine infrastructures with nature and society, thereby creating sustainable maritime solutions.

We share the wealth of knowledge and experience that we have acquired with our sector, including universities and higher vocational colleges. In this way, we also ensure that this know-how is available to the engineers of the future. Knowledge is shared through various guest lecturer positions, and post-academic and other courses. In 2017, for the second year running, Delft University of Technology (with contributions from Wageningen University & Research) offered a Building with Nature Massive Open Online Course (MOOC).

## **TASKFORCE ECO-ENGINEERING**

We aim to realize at least one Building with Nature project a year. To this end, the Taskforce promotes internal awareness of the Building with Nature program within the divisions. This includes active support for Boskalis regional managers in adopting the Building with Nature philosophy, or parts thereof, in tenders and early project opportunities. This year, the mangrove restoration



project in Indonesia, the Marker Wadden project and part of the Houtrib Dike project were carried out based on the Building with Nature approach.

Successful implementation of the concept also requires that our clients fully embrace Building with Nature. To date, such clients have been mainly from the high-end segment. Therefore, in close collaboration with regional managers, the Boskalis Taskforce Eco-Engineering actively promotes the concept to specific clients and stakeholders. In this context, in 2017, amongst others, we visited the World Bank and the Inter-American Development Bank and the European Ministry for Maritime Affairs and Fisheries. Chaired by a member of the Board of Management, the Taskforce includes representatives of both our in-house engineering department Hydronamic and senior managers.

## **BUILDING WITH NATURE IN 2017**

## CENTRAL JAVA, INDONESIA

The mangrove restoration project in Central Java aims to build a stable, sustainable mangrove coastline that can adapt to rises in sea level and enables inclusive economic growth. Mangrove restoration is accomplished by placing small wooden barriers that dampen the waves and capture sediment. Sustainable forms of aquaculture have been introduced in the project area to revitalize the local economy and help make these communities more self-sufficient. In 2017, much effort was put into creating acceptance within the local communities for the anticipated land use in the restored mangrove greenbelt and the longer-term benefits thereof for the local economy.

## THE MARKER WADDEN, THE NETHERLANDS

The presence of large volumes of fine sediment can disturb an ecosystem. In the Marker Wadden project, this ecosystem is to be improved by using fine clay from the lake and using it for the construction of a marsh archipelago nature reserve for birds and sediment 'catcher'. This archipelago will be protected by a man-made sandy shore and dune landscape. The Marker Wadden project shows that fine clay can be reused as environmentally and economically valuable building material. In 2017, four of the islands to be constructed were filled with clay material. In the coming years, as the project is completed and nature takes over, the Marker Wadden will develop into a unique ecosystem in which biodiversity is enhanced, water quality is improved and more opportunities for recreation are created.

## HOUTRIB DIKE, THE NETHERLANDS

In 2017, Boskalis started work on the reinforcement of the Houtrib dike over a length of 25 kilometers. This reinforcement is partly

realized by applying a sandy foreshore that attenuates the waves and thereby eliminates the wave loads on the dike, avoiding the need to heighten it. The required knowledge for this solution was developed in a pre-competitive stage by Ecoshape, in close collaboration with the Dutch Flood Protection Program.

## 3D REEFS, MONACO

Coral reefs are a vital source of life for a range of ecosystems. However, global warming is seriously threatening the coral, and therefore countless plant and animal species. Like many European coastal resorts, Monaco has to deal with the impact of coastal development, tourism and seawater pollution on marine life. Based on an idea submitted for the Boskalis Innovation Challenge, Boskalis has succeeded in producing 3D printed artificial reefs. In collaboration with The Prince Albert II Foundation and the Monaco Association for Nature Protection, Boskalis successfully installed six artificial reefs in the Larvotto Reserve in 2017.

## **SEA SPRING CITIES CONCEPT**

The availability of fresh water is a growing problem worldwide. Boskalis has developed a concept that exploits submarine springs and prevents fresh water spilling out into the ocean. The concept is based on a ring dike built in the sea. It is particularly suitable for use in coastal areas with relatively shallow seas. This sea spring cities method costs less energy and causes less pollution than conventional water win methods, such as desalination or pumping up groundwater. Boskalis worked on this concept as co-developer and in close collaboration with the water sector, public authorities and investors. In 2017, Sea Spring Cities generated much interest during the international Making Waves event in the Netherlands.

## **SALVAGE AND WRECK REMOVAL**

Wreck removal operations always take place where a wreck obstructs safe navigation or presents an environmental hazard. Boskalis provides salvage and wreck removal services to ship owners with vessels in distress. In doing so, we seek to avert potential environmental disasters. Our solutions are focused on limiting damage to natural surroundings. We have a successful track record in salvaging vessels and platforms under challenging circumstances. Using advanced technologies and based on our expertise, we remove potentially hazardous substances such as bunker fuel and cargo from wrecks.

In 2017, we attended to more than 70 marine casualties. Complex and challenging projects included the recovery of the Harita Berlian with the use of our own sheerleg SMIT Cyclone in Singapore, the refloating of the Isla Bartelome in Ecuador and the refloating of the Hordafor in Poland. More information is available on our website.

# HELPING RESTORE MARINE ECOLOGY WITH 3D-PRINTED REEFS



actively involved in this innovative project.

As with most truly innovative ideas, the road to success has been full of challenges and also with rewarding outcomes.

Coral reefs are a vital source of life for a range of ecosystems. However, global warming is seriously threatening the coral and, with it, countless plants and other animal species. In recent decades, about half of the planet's coral reefs have died, and that process continues unabated.

## **CREATING NEW REEFS**

The idea of executing coastal construction projects, while at the same time contributing to reef restoration through application of new techniques and ecological processes, is what triggered environmental engineer Astrid Kramer to submit the winning plan for the Boskalis Innovation Challenge in 2014. Her plan was to manufacture artificial reefs based on a site-specific design, made from locally dredged material. At the time, she had just finished a large-scale Boskalis coral relocation project in Jamaica that included the installation of artificial reefs. Reading an article about the Italian inventor Enrico Dini, she was inspired by his idea to use sand as raw material to produce artificial reefs using a large 3D printer. "I felt that this was an essential piece of the puzzle for imitating the complex and random shapes of coral reefs. The next step was to go back to the 'drawing board' and identify the scientifically and ecologically important parameters and study ways of producing location-specific reefs with a 3D printer," she recalls.

"I FELT THAT THIS WAS AN ESSENTIAL PIECE OF THE PUZZLE FOR IMITATING THE COMPLEX AND RANDOM SHAPES OF CORAL REEFS"

## **PILOT PROJECT IN MONACO**

By chance, Kramer was presented the opportunity to carry out an artificial reef pilot project in Monaco. After a meeting with members of the Prince Albert II Foundation and the Monaco Association for Nature Protection (AMPN), Boskalis decided to support this pilot project in the Larvotto reserve. "Like many European coastal resorts, Monaco's marine life is struggling with the impact of climate change, coastal development, tourism and seawater pollution, but they are one of the frontrunners in the area of marine management," says pilot project manager Jamie Lescinski.

## FINDING THE RIGHT RECIPE

Working with a number of colleagues from across Boskalis, Niels Scheffer of Boskalis R&D led the team in finding the right material composition for the reefs. "In consultation with material and 3D printing experts, as well as specialists from the universities of Delft and Eindhoven, we managed to develop a binder that is expected to cope with virtually all possible reef environment conditions," Lescinski explains about the challenging process of finding the right recipe.

"Next, we set up a collaboration with D-Shape to figure out how to print artificial reefs using their printing technology. Boskalis has experience in the deployment of artificial reefs (typically made using concrete or steel), habitat restoration, coral relocation and the application of the Building with Nature design approach. A huge 3D printer was installed in Papendrecht," Kramer adds.

## **PRECISION WORK - INSTALLING THE REEFS**

Each Monaco reef module takes 13 hours to print and is approximately 2 meters in diameter and 1 meter high, weighing 2.5 tons when dry. These are the largest 3D printed reefs modules to date produced for marine installation. Boskalis was closely involved in the design and production processes and was also

responsible for the transportation and installation of the reefs off the coast of Monaco in the fall of 2017. Lescinski explains: "Prior to installation, the location was inspected by experts to determine the installation coordinates. It was essential that the modules were placed with extreme precision, to enable the scientific measurements and monitoring to be conducted correctly."

"A dedicated team of scientists will monitor the ecological development of the reefs and compare it with other artificial and natural reefs in the reserve. We will be looking at the behavior of the fish and crustaceans. If the seven targeted, local species return and use the reefs, we really will be able to call the project a success."

"Of course, we hope that the results will match our expectations, so that we can apply this concept in other locations worldwide. Our approach won't solve the global problem of coral degradation, but it at least provides Boskalis with expertise to contribute to the improvement of local marine life where possible: one reef at a time," Kramer adds about the project's potential positive impact.



## FLEET RELATED ACTIVITIES

### SHIP DISMANTLING POLICY

Boskalis is committed to the safe and sustainable dismantling of the vessels it decommissions and is ahead of existing international legislation and regulations in this area. Prerequisites in our dismantling policy include additional stricter safety requirements, a hard surface on which to dismantle the vessel and responsible disposal of waste. For each vessel, the possibilities for responsible dismantling locally are assessed and weighed against the environmental and other costs of transporting it over a long distance, for example to a certified ship dismantling yard in Europe. Where relevant, agreements are made with local yards in close consultation with the NGO Shipbreaking Platform to adapt business processes in such a way that they meet Boskalis' stringent requirements. During the ship dismantling process, knowledge is shared with the local yards. We have been repeatedly recognized as industry leader in this field by the NGO Shipbreaking Platform.

## **DISMANTLING IN 2017**

Vessels of 500 GT+ are dismantled at certified shipyards in accordance with the Hong Kong Convention and Boskalis' own stricter standards. For older, 500 GT+ vessels that are offered for sale, we draw up an Inventory of Hazardous Materials (IHM) as part of the sales contract. The sales contract also stipulates that, in the event of future dismantling, the new owner must dismantle the vessel on a hard surface and comply with the Hong Kong Convention.

In 2017, two dredging vessels of 500 GT+ were dismantled at certified shipyards in the Netherlands. Two vessels of 500 GT+ were sold in 2017, as well as various smaller pieces of floating equipment. Furthermore, an offshore support vessel, a floating sheerleg crane and a heavy transport vessel were dismantled in Turkey. Based on the fleet rationalization program announced in July 2016, 10 dredging and 14 offshore vessels will be taken out of service over the period 2016-2018. The vessels taken out of service will be dismantled, laid-up or sold.

## SUSTAINABLE FLEET MANAGEMENT

Our new equipment complies with the most stringent energy consumption standards. Where possible, we increase equipment sustainability by way of:

- Energy-saving measures By making the installations we use on board our vessels, such as cooling, ventilation, air-conditioning and lighting, as efficient as possible.
- The Ship Energy Efficiency Management Plan Applicable on board all our vessels, this plan stimulates crew awareness regarding efficient energy consumption and environmental impacts.
- Raising environmental awareness among our crew In 2017, we once again organized Marine Environmental Awareness

courses for our fleet personnel in collaboration with the ProSea Marine Education Foundation. The course provides basic knowledge on relevant environmental legislation, the rationale behind the legislation, technical requirements, ecological principles and environmental challenges. The course specifically focuses on the contribution of the human element in preventing pollution and is intended to educate, encourage and empower officers on board vessels and project/office personnel to contribute to environmentally sound shipping and to ensure compliance with pollution prevention measures. Four two-day courses were organized, in which more than 100 colleagues participated.

- Separate collection and processing of waste We comply with the IMO MARPOL regulations, which prohibit waste being discharged overboard. All our vessels over 400 GT have a waste management plan.
- Mitigation of turbidity Green valves are used on our trailing suction hopper dredgers. Boskalis has developed a monitoring system that enables us to analyze turbidity caused by a dredging project, at any given time. This way, we can adapt the performance of the work accordingly and in doing so limit or prevent any ecological impact. Also, a new innovative 'Plumigator' has been installed on one of our trailing suction hopper dredgers, strongly reducing turbidity during the dredging process.
- Preventative measures against oil spills.
- Preventative measures against the pollution by ship generated sewage.
- Prevention of the use of organotin compounds in ships' antifouling systems.

## **BALLAST WATER**

The spread of invasive species through ballast water is now recognized as a great threat to the ecological and the economic wellbeing of the planet. Boskalis aims to be an early follower in complying to regulations regarding the release and treatment of ballast water. In 2017, we implemented a Ballast Water Management Plan across our fleet. As a result, all Boskalis vessels now comply with the BWM D1 standard (mid-ocean exchange) of the Ballast Water and Sediments Convention (BWM Convention). This convention was adopted by the International Marine Organization (IMO) and came into force as per 8 September 2017.

At this point in time, it is not yet clear which technology will meet the BWM D2 standard, as well as being economically viable. This standard requires all organisms in ballast water to be destroyed prior to release. This year, in view of the diversity of our fleet, we drew up an exhaustive inventory of requirements for each of our vessels. Each type of vessel will require its own, specific treatment equipment, fitting to its operational profile and characteristics.

We support the development and facilitate the testing of new treatment systems. This year, pilots were conducted with an in-tank treatment system for our heavy transport fleet and an in-tank / in-line combined system on our trailer suction hopper dredger Medway. For the latter, the goal is US Coastguard type approval, as well as the IMO Ballast Water Management Convention D-2 Standard. For the first, we are awaiting final Class approval.

Within Boskalis, there is a Ballast Water Work Group that aims to develop and share knowledge on this subject. This work group also collaborates with the European Dredging Association (EuDA) and the Dutch Vereniging van Waterbouwers branch organization.

### **EQUIPMENT PORTAL - EFFICIENT AND SUSTAINABLE USE OF EQUIPMENT**

In recent years, in part as a result of the acquisition of SMIT, Dockwise, Stemat, VBMS and STRABAG Wasserbau, much equipment has been added to our organization. Worldwide, we now have several storage locations, each with its own registration systems. In 2017, an initiative of Boskalis employees led to the creation and launch of the Boskalis Equipment Portal. This portal enables all Boskalis colleagues to check whether we have a particular item of equipment. The value of the portal has already been proven with projects such as Makassar and Duqm where smaller equipment and consumables – which otherwise would have been procured externally – were sourced through the portal. It not only represents considerable cost savings, but is a significant contribution to a more sustainable way of working. The portal has been linked to the Boskalis Way of Working.



# CSR 2017 - BOSKALIS

## CLIMATE CHANGE ADAPTATION

Climate change and its consequences, such as rising sea levels, are increasingly important topics for society and our sector. In this context, the centuries' experience of the Dutch to fend off the ravages of the sea, and the thus acquired expertise and skills in the field of delta technology and hydraulic engineering, are highly rated throughout the world. Boskalis' core business – including coastal defense and riverbank protection activities – enables it to provide innovative, adaptive and mitigating solutions to combat the impact of climate change.

Boskalis is specialized in designing, realizing and maintaining sea defenses and beach replenishments. We widen rivers and channels and create floodplains to contain the water or facilitate drainage. In view of the fact that potential impacts from climate change are, as yet, hard to predict, Boskalis has been researching and looking into infrastructural solutions that are flexible and can be adapted as required in answer to a changing natural world. Our Building with Nature approach facilitates the design of these adaptive and flexible solutions. Already used in the realization of several projects, this approach enables us to use natural resources and ecosystems to build sustainable and adaptable hydraulic infrastructures. In addition, Building with Nature applies the basic principles of the circular economy by substituting materials such as concrete, basalt and rock with natural, renewable materials including sand and mangroves. Importantly, natural materials are adaptive - sand to wave impacts and mangroves capture sediment - thereby offering natural barriers to rising sea levels. Read more about Building with Nature on page 31.

#### **FLOOD PROTECTION**

In 2017, we executed a large number of flood protection related projects.

- In the Netherlands, numerous projects were carried out, including: reinforcement of the Wadden Sea dike on the island of Texel over a distance of fourteen kilometers, raising and widening the Wadden Sea dike between Eemshaven and Delfzijl over a distance of twelve kilometers, execution of various Room for the River projects, continued work on the reinforcement of the 33-kilometer long Markermeer dike and work commenced on the reinforcement of the 26-kilometer long Houtrib dike located between Enkhuizen and Lelystad.
- Outside of the Netherlands, we were active with the mangrove restoration project in Central Java, Indonesia (see CSR report 2016, page 40).



# BUILDING WITH NATURE – THE MARKER WADDEN ISLANDS

With the completion of the 26-kilometer-long Houtrib dike between the Dutch lakeside cities of Enkhuizen and Lelystad in 1976,

Markermeer lake was formed as sibling to the IJsselmeer. Since then, the Houtrib dike has had a substantial impact on the underwater environment of the lake. Fine sediment, that had previously been carried away by the wind-driven currents to the IJsselmeer, settled on the bottom of Markermeer, forming a silt blanket that stifles soil life. The resulting high levels of turbidity have resulted in a dramatic decline in the fish and bird populations in and around the Markermeer. In addition, natural banks and shallows have disappeared and with them the nesting grounds for many bird species.

#### **RESTORING THE ECOLOGICAL BALANCE**

Looking to restore the ecological balance, whilst maintaining the natural beauty of the Markermeer lake area, the Dutch Society for the Preservation of Nature found a sustainable solution in the Building with Nature approach as used by Boskalis.

Although a number of Building with Nature projects have already been executed by Boskalis, the Marker Wadden project is the first, both in the field of nature restoration and hydraulic engineering, to be carried out based wholly on this approach. The main challenge in this project was building with the soft cohesive clay taken from the bottom of Markermeer. In close collaboration with the client, Boskalis found the solution in an innovative idea based on the Building with Nature approach: using the soft clay from the lake to create natural islands on which marine, animal and plant life would be able to flourish.



#### "FROM THE OUTSET, KNOWLEDGE WAS SHARED BETWEEN PARTIES TO CREATE THE BEST SUSTAINABLE SOLUTIONS"

#### **CREATING INNOVATIVE, SUSTAINABLE SOLUTIONS**

Hendrik Postma, Director of Boskalis Nederland, explains why the Marker Wadden is a Building with Nature project 'par excellence': "The project is ground-breaking in several respects: a nature area will be created in a densely populated region, and landscape and ecology have been given top priority from the very start. The central part of the islands is for goose steps only: the area has to be strong enough to support the weight of birds, not people. The interesting thing here is that we are dealing with entirely novel design criteria."

"As hydraulic engineers, we are always thinking about how strong a design should be. The question here was: how soft can the design be? Together with the client, we developed a project approach, that was based on the question of what provisions were needed to create a healthy habitat for plants, wildlife and marine life."

Roel Posthoorn, Marker Wadden Project Director for the Dutch Society for the Preservation of Nature, adds: "Marker Wadden has turned out to be a unique project in its kind, most importantly because of the innovative technology used, and also in the way in which parties have collaborated throughout all project phases. Right from the outset, knowledge was shared between parties to create the best sustainable solutions: islands that would become a new food source and nesting ground."

The know-how acquired within the Marker Wadden and other Building with Nature projects, enables Boskalis to build with fine sediment in both freshwater and saltwater environments the world over. Postma elaborates: "With creative thinking and by looking at reality differently, it has been possible to use fine clay as a building material. Marker Wadden allows us to learn more about this approach. I am convinced that this knowledge will help us to use similar techniques on other projects."

The first stage of the project is nearing completion. In 2017 the go-ahead was given for the building of three more islands. The first island measures 250 hectares and the total surface area of the four other islands will be approximately 750 hectares. After final work has been completed in 2020, nature will be left to take its own course and shape the islands.

# ENERGY TRANSITION

Building a society that demands less energy and is less dependent on fossil fuels: these are the ambitious goals of the energy transition. Boskalis encourages investments in low-carbon or carbon-free technologies, and activities that contribute towards greater availability of renewable energy.

#### SUPPORTING RENEWABLE ENERGY

Our offshore wind farm activities contribute towards greater availability of renewable energy. Boskalis offers cost-effective balance-of-plant solutions – with fewer interfaces for our clients – thereby contributing to lowest LCOE (Levelized Cost of Electricity). As one of the leading players in this market, we aim to keep expanding our role by providing a broader range of services for increasingly complex projects. Combining this with our cable-laying capabilities, enables us to offer turnkey solutions for the development of offshore wind farms, that comply with strict European and international industry standards.

With the conversion of one of our semi-submersible heavy transport vessels into a 3,000-ton crane vessel – the Bokalift 1 – we now have the industry's largest self-propelled crane vessel that is able to carry out cost-effective and flexible heavy lift and installation work offshore.

In partnership with High Voltage engineering specialist EDS, we launched Cable Integrity Solutions. The growing number of offshore wind farms, which are also being built further offshore, means that the risk of damage to inter-array and export cables is also increasing. Such repairs are time consuming and involve major losses of production for clients. The Prepare to Repair model promotes critical preparations to be carried out upfront, ensuring that if a cable fails, arrangements are in place and the repair process can be started immediately. This minimizes downtime by up to 70%.

In 2017 we laid 587 kilometers of cables, including:

- Installation of two 45-kilometer-long export cables and 56 inter-array cables for the Galloper offshore wind farm. The wind farm, which will consist of 56 wind turbines, is located about 27 kilometers off the coast of Suffolk, United Kingdom.
- Commencement of work on the Offshore Balance of Plant contract by Vattenfall, for the construction of Aberdeen Offshore Wind Farm, also known as the European Offshore Wind Deployment Centre. The project consists of eleven wind turbines with a capacity of 92.4 MW. The scope of the activities for Boskalis includes the design, procurement, fabrication, supply, transportation and installation of eleven suction bucket jacket foundations and scour protection, the procurement, supply, transportation and installation of 66kV inter-array and export cables and the provision of the wind turbine transportation and installation vessel. The use of suction bucket jacket foundations

- in conjunction with the large wind turbines and the use of high capacity 66kV power cables make this project unique.
- The repair of two inter-array cables and one export cable in UK waters. The cable-laying barge's 8-point mooring system and 2.3 depth made it highly suitable for repairing two inter-array cables in the shallow waters of the outer Thames Estuary.
   The export cable repair was carried out 20 kilometers offshore, in the Irish Sea.

#### **DECOMMISSIONING**

The safe and environmentally friendly decommissioning of offshore platforms is a complex challenge. There are hundreds of platforms waiting to be decommissioned on the North Sea alone. Based on our expertise in the field of engineering, logistics, surveys and ecology, Boskalis has a leading edge in this growth market and is committed to ensuring the safe and sustainable decommissioning of such platforms.

In 2017, Boskalis was involved in a number of decommissioning projects including Lehman BH, Viking Bravo, Vulcan & Viking and Thames complex.

## **EMISSIONS**

We measure, monitor and aim to reduce the  $\mathrm{CO}_2$  emissions of our company, by managing the emissions from fleet, equipment and buildings. Boskalis can create value by operating more efficiently, thereby consuming less fuel and causing less emissions. We are keen to look for alternative forms of fuel. Our energy usage and  $\mathrm{CO}_2$  emissions level are also relevant because of the risks resulting from stricter regulations and – especially in Northwestern Europe – the opportunities arising from client demand for low-emission, sustainable solutions.

#### **TASKFORCE ENERGY MANAGEMENT**

Our Taskforce Energy Management keeps a close eye on developments in national and international legislation and regulations on emissions. Chaired by a member of the Board of Management, the Taskforce includes specialists and professionals from the key divisions. The Taskforce has a steering role, pools knowledge and best practices, and promotes awareness within the organization.

#### **EMISSIONS LEGISLATION**

As part of the Paris Climate Accord, most countries have committed to reduce  $CO_2$  emissions drastically by 2050. As yet, it is not clear what the requirements and goals will be for the international shipping industry worldwide. The International Maritime Organization (IMO) has indicated that a proposal and roadmap for  $CO_2$  reduction from shipping will be made available in 2018. At the end of 2016, the Environment Committee of the

European Parliament determined that emissions from vessels should be included in the EU Emissions Trading System (ETS) as of 2023, unless the IMO succeeds in implementing measures to cut back CO<sub>2</sub> emissions by 2021 at the latest. If not, shipping will be obliged to participate in the ETS system, whereby emission allowances for CO<sub>2</sub> have to be purchased.

With a large global fleet, Boskalis is constantly looking to innovate and cut back CO<sub>2</sub> emissions. For the Dutch market, we are making good progress and have set ourselves an ambitious reduction objective.

#### LNG AND SUSTAINABLE MARINE BIOFUELS

We continue to follow technological advancements in the application of LNG for fleet. Where possible and economically viable, we will consider using LNG-fueled vessels. In the Port of Singapore, Boskalis uses two LNG dual-fuel harbor tugs in joint ventures with Keppel Smit Towage and Maju Maritime. Because of numerous drawbacks – including insufficient bunker capacity, major impacts on ship design and higher costs – we do not yet consider LNG as offering a large-scale, economically viable solution to meet sustainability goals for working vessels.

Sustainable biofuels, on the other hand, have a number of major advantages for shipping: high energy density, easy storage and transportation, and ease-of-use in conventional diesel motors. Moreover, it is possible to mix them with fossil fuels. Because the existing infrastructure can be used for biofuels, the introduction of



such fuels is relatively easy to carry out. As they become available in large volumes at a lower price, biofuels will offer an economically viable, sustainable alternative to fossil fuels. The International Energy Agency predicts that in 2050 about 27% of the fuels for all transportation forms will come from biological sources.

Boskalis is currently frontrunner in the area of sustainable marine biofuels, thanks to the pilots carried out in cross-sectoral collaboration with GoodFuels. The pilots, held between 2015 and 2017, using Marine Gas Oil (MGO) type biofuels that meet the most stringent sustainability standards, were positively assessed. In view of the positive results with marine biofuels, their use could reduce emissions in our fleet, to an extent that no other fuel can currently achieve without requiring costly fleet renewal or retrofitting. In addition, the possibility to use lower-cost blend biofuels, will enable us to create economically viable solutions.

However, as long as regulations and legislation are lacking, the success of our sustainable solutions depends largely on the willingness of our clients to invest in low-emission alternatives. It is for this reason, that Boskalis has – where possible – made MGO biofuel the fuel of choice in its tenders in the Dutch market. In this way, we actively encourage clients to choose for this sustainable, be it more expensive, option.

Where possible also, we make our fleet more sustainable by means of energy-saving measures: by making the installations we use on board our vessels, such as cooling, ventilation, air-conditioning and lighting more efficient. In addition, our Ship Energy Efficiency Management Plan on board our vessels, serves to promote awareness of efficient energy consumption amongst our crews.

#### **ENERGY-EFFICIENT OFFICES**

We aim to further reduce our CO<sub>2</sub> footprint through energy-efficient offices and warehouses. We also want to ensure healthy workspaces for our employees. To achieve these goals, we continue to take measures to structure and optimize the energy management systems of our Dutch offices and warehouses.

In line with the targets of EU Energy Efficiency Directive, Boskalis aims to have energy-neutral offices and warehouses in Europe by 2050. In order to achieve this target, a minimal 2% energy reduction per year must be achieved for all our offices and warehouses in the Netherlands.

The Energy Management System (EMS) was implemented in 2016 for our Dutch offices and warehouses and continues to keep us focused on energy consumption and cutting back  $\mathrm{CO}_2$  emissions. The implementation of the EMS is a significant step towards the goal of energy-neutral offices.

Since 2016, we use electricity generated from Dutch wind energy – with zero  $CO_2$  emissions – for all our offices in the Netherlands. The  $CO_2$  Performance Ladder (level 5) and the BREEAM

#### AMBITIOUS CO, REDUCTION PLAN

In 2017, we once again received the highest-level certification on the  $\mathrm{CO}_2$  Performance Ladder for all Boskalis business units in the Netherlands. The  $\mathrm{CO}_2$  Performance Ladder is a tool used by Dutch government agencies and businesses to recognize performance in the areas of energy saving, efficient use of materials and renewable energy. Performance Ladder certification is asked in many tender evaluation procedures.

In its activities on the Dutch market, Boskalis has the ambition to reduce its  $\mathrm{CO}_2$  footprint for its own equipment by 35% on local projects by 2022, compared to 2017. This will be achieved through improving energy efficiency based on technical developments, raising employee awareness and the use of biofuels in our equipment.

The use of biofuel has been made possible, based on the successes of pilot projects. Boskalis used a drop-in marine bio/fossil blend fuel for its cutter suction dredger Edax during operations at the Marker Wadden project in 2016. The biofuel used was a biofuel/fossil fuel blend of up to 50%. The biofuel was made out of lignocellulosic waste streams from a Finnish pulp and paper company. CO<sub>2</sub> reductions were in line with expectations. Another successful pilot was the use of bio/fossil blend fuel in trailing suction hopper dredger Willem van Oranje in 2015.

Early 2018, Boskalis signed a five-year contract of intent with GoodFuels for the purchase of drop-in quality biofuel. The first commercial delivery by GoodFuels in 2018 was a 30% biofuel/fossil fuel blend made out of used cooking oil. This blend was used by our trailing suction hopper dredger Causeway, during operations at the Hartel Tank Terminal project in the Port of Rotterdam.

Based on our extensive knowledge acquired from the pilots, we expect that significant cuts in  $\mathrm{CO}_2$  emissions will also stimulate adoption of biofuel on other Boskalis projects in Northwestern Europe. In this way, biofuel prices are likely to drop as a result of scalability. In turn, this will stimulate even more widespread use of this environmentally friendly fuel. To achieve the ambitious  $\mathrm{CO}_2$  reduction, commitment from clients is essential.

Further CO<sub>2</sub> reduction can be achieved through improving the efficiency of our processes and increasing energy consumption awareness amongst employees and stakeholders. Launched in 2016, the 'Keep Fuel in Mind' initiative aims at bringing about a change in behavior amongst our operators. This is done by recording and monitoring equipment fuel consumption levels and discussing ways of saving fuel while on the job.

certification that was achieved in 2015 and successfully upgraded in 2016 form an integral part of the EMS. These systems further support us in reaching our target of reducing our energy use. EMS remains an ongoing progress, the results of which are reported to the relevant authorities and the Boskalis Taskforce Energy Management.

#### CO, EMISSIONS IN 2017

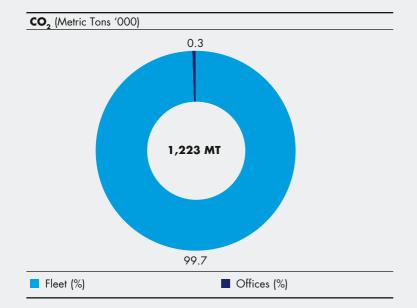
Boskalis measures and reports on the fleet's total  $CO_2$  emissions based on fuel consumption. In 2017 total emissions of the group amounted to 1.22 million tons of  $CO_2$  (2016: 1.25 million tons).

#### **DREDGING & INLAND INFRA**

 ${\rm CO}_2$  emissions at Dredging & Inland Infra amounted to 551,000 tons (2016: 440,000 tons), approximately 95% of which was attributable to the traditional trailing suction hopper dredgers and cutter suction dredgers. The 25% increase is the result of the following factors: utilization of the trailing suction hopper dredgers increased to 35 weeks (2016: 27 weeks). This is mainly caused by the increase of the Dredging activities resulting in higher utilization levels for the large trailing suction hopper dredgers in particular. Utilization of the cutter suction dredgers increased to 14 weeks (2016: 9 weeks) and is primarily caused by the Helios, taken into service in the second half of 2017.

#### **OFFSHORE ENERGY**

The  ${\rm CO}_2$  emissions produced by the Offshore Energy fleet in 2017 totalled 669,000 tons (2016: 790,000 tons). The reduction in emissions is wholly accounted for by the heavy transport vessel (HTV) fleet which accounted for 56% of the total emissions (2016: 63%). Despite a nearly flat vessel utilization rate in 2017 (69% versus 71% in 2016), a reduction in the number of operational vessels resulted in a decline of the HTV emissions. In 2017, two HTVs were taken out of service and two type II vessels were laid up for the majority of the year. Furthermore, the HTV Finesse was taken out of service in the first quarter of 2017 for conversion into a DP2 crane vessel, Bokalift 1. The Bokalift 1 came back into service early 2018. There were no other noteworthy developments within the Offshore fleet impacting fuel consumption and the associated emissions.



	FLEET		OFFICES		CO <sub>2</sub> 2017*	CO <sub>2</sub> 2016*
	FUEL HFO MT ('000)	FUEL MGO MT ('000)	ELECTRICITY KWh (million)	GAS Mj (million)	MT ('000)	MT ('000)
Dredging & Inland Infra	114	61			551	440
Offshore Energy	134	78			669	790
Towage & Salvage					-	16
Offices			5	10	3	3
Total	248	140	_	_		
CO <sub>2</sub> MT ('000)	772	448	3	-	1,223	1,249

 $<sup>^{\</sup>star}$  For the method used to convert fuel to  $\mathrm{CO}_{2}$ , see page 69 of this report.

# CARE FOR HUMAN CAPITAL



Boskalis aims to attract and retain talented professionals by providing a safe and inspiring work environment, as well as enhancing employability throughout a career. We offer a varied and international work environment and excellent personal and career development opportunities. Our health and safety program No Injuries No Accidents (NINA) is a top priority.

#### **KPIs**

- Number of work-related safety incidents
- Employee training
- Staff turnover

#### **RESULTS**

- LTIF: 0.06; TRIR 0.55 (page 46)
- Training hours: 77,799
- Percentage staff turnover (page 50)

# 

#### **RISKS & DILEMMAS**

- Finding qualified, skilled professionals
- Safety playing a central role in our operations

#### **OPPORTUNITIES & GOALS**

- Offer an inspiring and challenging work environment
- Provide a safe and healthy environment for our employees and subcontractors





# HEALTH AND SAFETY

Safety is one of our organization's core values and a top priority in everything we undertake. Our No Injuries No Accidents (NINA) safety program reflects our objective of ensuring that our employees return from work safely each day. NINA aims to embed the desired safety culture in our organization and makes safety a fully integrated part of working behavior. The five values and five rules of NINA have been specifically developed to provide guidance to all employees, including those of subcontractors, both with regard to expected behavior and operational risk management.

NINA makes employees aware of their own responsibility towards their safety and stimulates a working environment in which safety, responsibilities and potentially hazardous situations are openly discussed and reported. The NINA values and rules are not only about procedures, but mostly promote ownership and a safety-driven mindset.

Since the implementation of NINA in 2010, the Lost Time Injury Frequency has shown a major improvement, with a further decline in 2017. NINA has not only become an inextricable part of our culture, it has stimulated the way in which we work with each other: in open dialogue and collaboration to achieve operational excellence. Our clients too are increasingly embracing NINA as best practice and are enthusiastic to participate in our interactive NINA training.



#### **NINA VALUES**

- · I am responsible for my own safety
- · I approach others about working safely
- I take action in case of unsafe operations
   If necessary, I will stop the work
- I accept feedback about my safety behavior regardless of rank and position
- I report all incidents, including near misses, to inform others and build on lessons learned.

#### **NINA RULES**

- Prepare a risk assessment for each project, vessel or location
- · Obtain a permit to work for defined high-risk activities
- Make a job hazard analysis for hazardous non-routine activities
- · Be informed about risk and control measures
- Be fit for duty and wear the Personal Protective Equipment required

Safety and accident prevention improves significantly if people are fully aware of the potential risks of the task at hand. In order to improve safety, NINA encourages employees to report dangerous situations using Safety Hazard Observation Cards (SHOCs).

The list of most common incidents in our industry is headed by falling, slipping and tripping incidents. To increase employee awareness and prevent these incidents from happening, we have practical training tools such as the Workbox Hands and the Workbox Mooring. Next to good practices and storytelling, these tools include the module Safe Mind. This special module not only increases safety awareness, but is aimed at breaking through routine and subconscious behavior.

#### **SAFETY PERFORMANCE IN 2017**

In 2017, the number of incidents per 200,000 hours worked resulting in absence from work (Lost Time Injury Frequency) decreased to 0.06 (2016: 0.08). As from 2015 we also report on Medical Treatment Cases and Restricted Work Cases to further improve our safety performance. By aiming for a reduction in all three categories (together known as TRIR – Total Recordable Injury Rate) we expect to achieve a further decline in the number of incidents resulting in injury. The TRIR declined from 0.66 in 2016 to 0.55 in 2017.

The NINA program was successfully introduced in 2017 at VBMS and our Offshore Wind business unit. In addition, a Boskalis-wide NINA plaza was launched: a portal environment in which activities, experiences, training material and suggestions for improvement are shared.

We encourage employees to report dangerous situations and near misses, as part of the proactive safety culture within the organization. In 2017, 11,445 Safety Hazard Observation Cards were filled in and 466 near misses were also reported.

Boskalis frequently works with subcontractors, suppliers and freelance contractors who each have their own approach to safety. To ensure that safety is guaranteed on such projects, special NINA training and induction sessions were held for subcontractors and other suppliers. In addition, toolbox sessions were organized during operations.

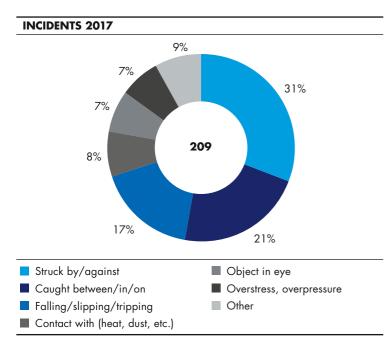
In 2017, we conducted 13 external and 21 internal safety audits on our projects. On our dredging and offshore vessels, 47 external and 92 internal audits were carried out. Office and project audits were also conducted by clients. A list of certifications including OHSAS 18001 can be found in the appendix.

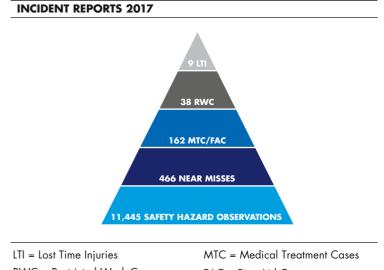
#### PREVENTION OF OCCUPATIONAL AND OTHER DISEASES

It is our policy to ensure and safeguard healthy working conditions for our employees on projects, vessels and in our offices.

In some of the regions where we operate there is a risk of mosquito-related diseases such as malaria and Zika. To mitigate the risk for our employees, we have a long-standing policy of

providing vaccinations and medical checkups in addition to tailored prevention programs. In the event of a health crisis, we have an Emergency Response Team (ERT) to be able to respond rapidly. The team comprises employees form our Corporate SHE-Q and HR departments and medical specialists from the Travel Clinic in Rotterdam, the Netherlands.





RWC = Restricted Work Cases

FAC = First Aid Cases

# TALENT MANAGEMENT AND ENGAGEMENT

Talented, enterprising and skilled employees remain the key to our success. Talent management encompasses all activities in the areas of recruitment, performance management, training and development, and compensation and benefits.

Our efforts are focused on supporting and stimulating employees' talents so that they remain the experts in their field: able to offer innovative solutions that excel those of our competitors. Next to providing mandatory trainings, we aim to create a culture in which informal and on-the-job-training, and the sharing of innovative ideas are stimulated. The role of leadership – at all management levels in Boskalis – is key to creating a strong learning landscape that stimulates innovation.

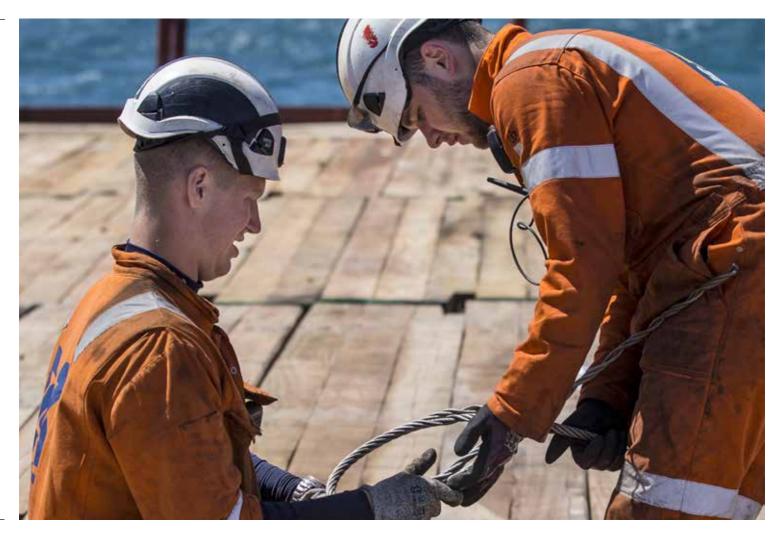
#### TRAINING AND DEVELOPMENT

#### **BLENDED LEARNING**

Two so-called blended learning programs on Effective Communication and Personal Effectiveness were launched as pilot programs in 2017. Blended learning combines traditional with online learning and on-the-job training. Participants are continuously triggered to reflect on their learning goals in work situations. The results of the pilots have been very positive. By bringing learning to the work floor and using smart applications, we can offer new learning opportunities to employees wherever they are located worldwide.

#### TRAINEE PROGRAM FOR YOUNG TALENT

As a leading international company that carries out high-profile projects, we hold a great attraction for young people. Ensuring we continue to attract young, high-potentials is essential for the future of our company. We offer a trainee program for graduates and professionals with up to two years' work experience, with a technical or finance background. Under supervision of a mentor, trainees learn all about our business activities, discovering the diversity of our projects and the versatility of the required roles. A group of 23 trainees embarked on the program this year. Trainees rotate between the three divisions over a period of 18 months, assigned to multiple projects. Knowledge sharing and skills development are paramount.



#### YOUNG PROFESSIONAL PROGRAMS

In order to develop the skills and knowledge of our young professionals, we offer competency development programs in the areas of planning, calculation, risk management and contract management. We also take on young professionals with up to five years' work experience from outside Boskalis. In 2017, a group of seven young professionals, with a background in cost engineering, embarked on a one-and-half-year post-bachelor Cost Engineer Program developed by Boskalis in collaboration with the Dutch Association of Cost Engineers, and approved by the International Cost Engineering Council. The course combines learning with working practices in various Boskalis divisions. A four-week Boskalis Surveyor Graduate Program was attended by ten young survey professionals. The program is geared towards introducing participants to the diversity of Boskalis projects and work scope, and preparing them to be able to operate independently and safely on-site at projects worldwide.

#### MANAGEMENT DEVELOPMENT PROGRAMS

Leadership and personal development are ongoing points of attention within our organization. Developing personal leadership, building an internal network and encouraging innovation and entrepreneurship are important core values in our management development programs. Middle management should prioritize the learning and development of employees, creating a culture that stimulates open idea sharing. The new, one-year Boskalis Operational Development Program kicked off in March. A group of twenty project managers from the Dredging & Inland Infra, Offshore Energy, and Towage & Salvage divisions worked on improving hard and soft leadership skills, safety, professional development and on stimulating company-wide knowledge sharing.

#### PERFORMANCE MANAGEMENT

Recording and supporting the personal development of our employees is key to following each employee's development needs and translating these into inspiring learning solutions. With the talent management module of our HR information system Workday, performance management is now implemented throughout the organization. The entire performance management cycle is therefore conducted in a uniform and interactive way. The aim is to review each employee's performance on an annual or semi-annual basis.

#### EMPLOYEE ENGAGEMENT AND ENHANCED EMPLOYABILITY

An engaged workforce is key to achieving our ambitions. In a labor market where it is becoming more difficult to attract certain specialists and where a proper work/life balance is increasingly valued as important, engagement is paramount.

Clients demand flawless execution of ever more complex projects. This requires employees to have an even broader skills set. In order to be ready for the future, a number of processes have been initiated to optimize the quality, quantity and diversity of the international operations pool. By way of increased mobility between staff and project organizations, we aim to stimulate personal and knowledge development and improve employee career perspectives, thereby enhancing their employability. Conversely, such mobility will stimulate knowledge sharing within Boskalis and boost our innovative power.

The Dredging division initiated the establishment of an international pool for vital project positions, such as superintendent, site engineer, planner and document controller. The program gives employees the opportunity to develop wider skills, thereby allowing us to increase our capacity and to deploy the right competencies when and where we need them.

In order to remain successful in an increasingly competitive market, a four-day Contractual Awareness course has been developed in collaboration with TSM Business School. This course is focused on our project-driven business for people operating at the very frontline. The participants are coached to overcome challenges faced by them in the increasingly competitive and innovation driven marketplace. The course was given twice in 2017, with a total of 30 people from throughout Boskalis attending.

In addition, both the Dredging as well as the Offshore Energy divisions launched a Commercial Awareness program to improve competencies in this area. It is planned to have 80 people follow the commercial awareness training in 2018.

Boskalis engages in close and structural consultation with the employee representation bodies regarding subjects relevant to our employees, in accordance with the laws of the countries where we are based. Our operations in the Netherlands account for 54% of our workforce. The dialogue with the Dutch Works Council was once again open and constructive in 2017. Topics discussed included the rationalization plan for the Boskalis Papendrecht offices and the harmonization of working conditions of recently acquired companies. For all subjects, the Dutch Works Council rendered a positive advice or consent.

## **LABOR PRACTICES**

Boskalis offers decent working conditions and is committed to freedom of association and the right to collective bargaining. We endorse the guidelines of the International Labor Organization, the UN Global Compact and the OECD Guidelines for Multinational Companies in this respect.

We report on employees employed by majority owned entities. In 2017, this was a total of 5,772 employees (reporting scope can be found on page 69). Of these, 33% are covered by a Collective Labor Agreement. They include most of our crews and project staff. Corporate and operational staff is covered by separate agreements, reached in consultation with the employee representation bodies.

## ADAPTING TO THE NEW REALITY – READY FOR THE FUTURE

In the wake of deteriorated market conditions and the fleet rationalization program that was implemented in 2016, the head office cost base was reviewed in 2017. The focus was on creating a more cost-effective organization.

Following a careful process and in close consultation with the Dutch Works Council, a reorganization plan was drawn up. In the interest of all employees, we managed to limit the period of uncertainty by creating clarity as to which positions were affected by mid-2017. The initial plan assumed a loss of 230 FTEs at the Papendrecht head office. However, as a result of internal mobility, voluntary turnover and retirement, the total number of redundancies was limited to 130.

The second half of the year was spent moving forward and focusing on engaging with our workforce and strengthening the organization in anticipation of selective growth.

Retaining and attracting talented professionals has become challenging over the last twelve months. On the one hand, we have been adapting the organization in line with the challenging business environment in our end markets. As a consequence of the fleet rationalization program (2016) and the head office restructuring (2017), we have reduced our overall headcount. On the other hand, the labor market has noticeably tightened due to the general recovery of the economy in Northwest Europe.

To align our current workforce with our ambitions, including the addition of new types of vessels – such as the Bokalift 1 crane vessel and 2 high-end DSVs – and expansion into subsea contracting, additional competencies are required. Plans were finalized to establish so-called Talent Labs in the first half of 2018. These Talent Labs are expected to provide us insights into what expertise is needed now and in the future in the new markets that Boskalis is entering. They will allow us to establish which

competencies we already have in house and which new ones will be required in order to fulfill our ambitions. Based on the insights acquired through the Talent Labs, we will be setting up a strategic workforce planning – translated recruitment policy, talent development and working conditions – to make sure Boskalis is ready for the future. This strategic workforce planning will be implemented in 2018 and will enable us to focus our talent management there where it is most needed.

#### **PENSION SCHEMES**

The Boskalis pension plan is managed by the PGB pension fund. Detailed information can be found in our 2017 Annual Report, in 'Defined benefit pension schemes'.

#### **CONTRACT TYPE AND STAFF TURNOVER**

The majority of our employees (77%) are on a permanent appointment (2016: 76%) and of this core staff many have a long tenure with the company. Staff turnover under employees with a permanent contract, was 16.9% (2016: 12.3%). Turnover within the Dutch organization was slightly lower at 12.5% (2016: 7.8%). The increase in turnover in 2017 is mainly caused by a higher (voluntary) resignation rate. Adjusted for the head office reorganization, the employee turnover in the Netherlands was 7.9%.

For projects, we supplement our core staff with employees drawn from a flexible shell. Depending on the project requirements these employees are hired locally where possible or appointed on a temporary contract. In most cases such contracts are discontinued on project completion.

In 2017, we welcomed 1,464 new employees (2016: 1,903), whereas 1,847 employees left Boskalis. Of these, 787 left due to (voluntary) termination and retirement, of which 146 were related to the reorganization. In relation to divestments 106 employees left, and 954 jobs were discontinued due to projects or contracts coming to an end.

## SUSTAINABLE EMPLOYABILITY

At Boskalis we aim to support the continued employability of our employees by enabling talent and skills development and looking at ways to keep employees healthy, safe and motivated through to their retirement.

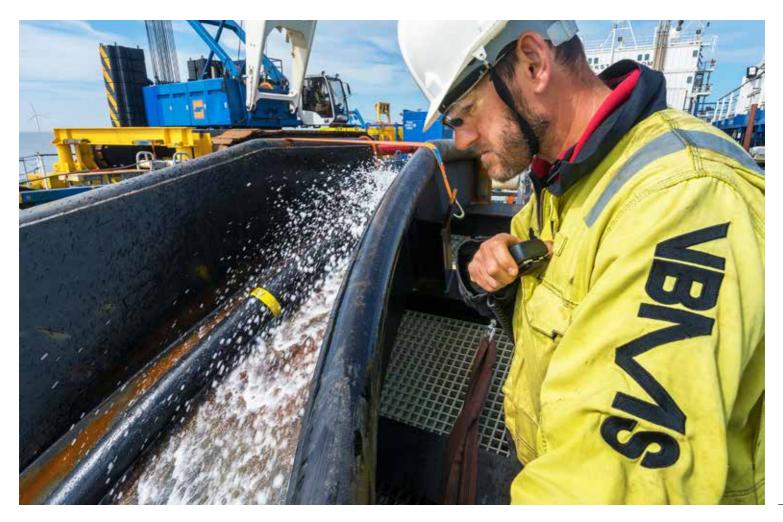
We enable talent and skills development through our training and development programs. Shaping one's own career is a fixed item in performance reviews. Employees can say whether they would like to retrain, for example for a different, less physically demanding job. We are open to this approach and try to accommodate the various life stages as much as possible. For example, by enabling Dutch staff to work on projects in the Netherlands for a number of years, if that is more fitting in their phase of life.

In 2018, the pensionable age in the Netherlands will be raised to 68 years. This will inevitably have consequences for pension schemes and sustainable employment. Especially amongst employees with physically demanding jobs, sustainable employment will increasingly become a challenge. In anticipation thereof, and in order to improve the work/life balance of our operational staff, Boskalis introduced a 3:2 (six weeks on/four

weeks off) rotation schedule on international projects in 2017, replacing the previous 2:1 (eight weeks on/four weeks off) schedule.

We continue to collaborate with the Dutch Works Council and the Dutch trade unions to further explore how to keep employees healthy, safe and motivated. In 2017, a program was introduced that aims to encourage employees to work on their own health. Next to this, we offer various training programs to our fleet staff, including the module Fit for Duty, which aims to provide employees with tips for a healthy lifestyle and stimulates them to put these into practice. Because lifestyle involves more than just physical fitness, attention is also given to mental health in a course on effectiveness and mindfulness at work.

At Boskalis Nederland, the SamenFIT (FIT Together) program was launched in 2017. Two hundred employees were invited to undergo a health check to measure their health, lifestyle and sustainable employability and were given the opportunity to improve their score with the help of a lifestyle coach. It is the intention to offer this health scan to all Boskalis Nederland employees.



# SR 2017 - BOSKALIS

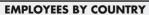
## **DIVERSITY**

In an international project environment such as ours, which requires a flexible and innovative approach, we take a broad view on diversity. Boskalis operates a strict equal opportunities policy for all employees, regardless of race, nationality, ethnic background, age, religion, gender, sexual orientation or disability, whereby the principle of the best person for the job is leading. The Diversity Policy is available on www.boskalis.com.

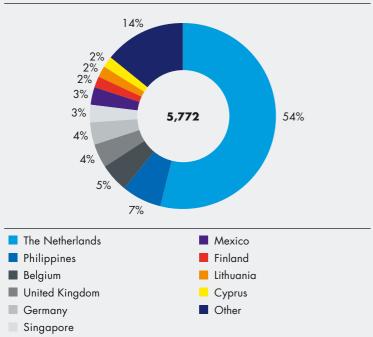
Boskalis' employees represent 64 different nationalities with a balanced age profile. Almost 73% of our employees are under 50, with over half (61%) being in the 30-50 age category. This age distribution provides a good level of staffing for positions at junior, medior and senior levels, as well as resulting in a manageable outflow of staff due to retirement.

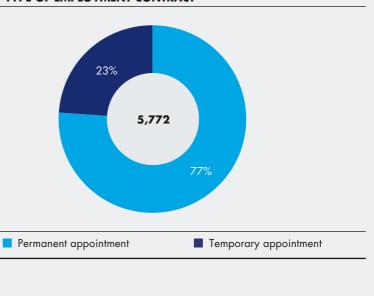
We employ a relatively large number of men and relatively few part-time staff. The ratio of men to women in 2017 was comparable to 2016: 90%-10%. The participation rate for women is higher for activities that are fixed, office-based and of a structural nature. In 2017, the ratio of men to women was 75%-25% for management and office staff working at the Boskalis head office, identical to 2016. The percentage of part-time workers in 2017 was 11% (2016: 7%). The ratio of men to women and of full-time to part-time staff at Boskalis is consistent with the nature of our work. We are to a large extent a project organization that sends out trained technical, financial and maritime staff all over the world for longer periods, often in remote locations. Deployment to projects has proven to be a less attractive option for women and a less obvious choice for part-time workers.

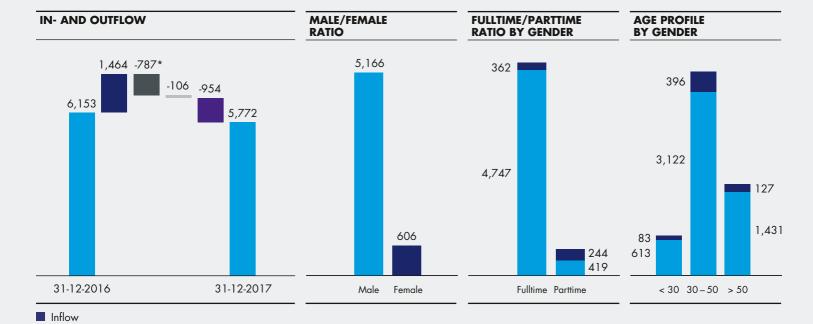
The ratio of operational staff (fleet, yards and projects) to management and office support staff is 70%-30%. This ratio is consistent with the profile of the company and the nature of the activities and the equipment deployed. Proportionately the most managers and support staff work at the head office in the Netherlands.



#### TYPE OF EMPLOYMENT CONTRACT





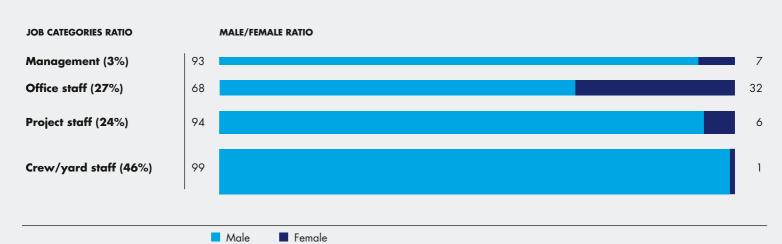




(Voluntary) termination and retirement\*

\*of which 146 related to reorganization

DivestmentsEnd of project/contract



■ Male ■ Female





Business conduct describes how we fulfill our commitment to be a business partner that acts with integrity, reliability and responsibility towards stakeholders. We do so by applying our General Code of Business Conduct. We endorse the principles of the International Labour Organization, OECD Guidelines for Multinational Enterprises and the UN Global Compact. We use our leverage wherever we can in creating value within the supply chain.

#### **KPIs**

- Percentage of strategic suppliers with signed Supplier Code of Conduct
- Number of suppliers scanned

#### **RESULTS**

- 81% of strategic suppliers have signed Supplier Code of Conduct
- 9 suppliers revisited, 11 new suppliers scanned (page 61)

#### **RISKS & DILEMMAS**

- Our leverage in the value chain can be limited
- Large number and global spread of diverse suppliers due to project organization

#### **OPPORTUNITIES & GOALS**

- Being a responsible and integer business partner
- Effectiveness in managing supply chain risks
- Further evolve our supply chain management

#### 56 BUSINESS PRINCIPLES

60 RESPONSIBLE SOURCING

64 CORPORATE GOVERNANCE

# BUSINESS PRINCIPLES

Integrity, reliability and responsibility are key elements for building trust between Boskalis and its stakeholders. These intrinsic values are reinforced by establishing guidelines and principles for responsible business conduct, and ensuring these are maintained.

Boskalis has a General Code of Business Conduct, which is based on international guidelines, including the Universal Declaration of Human Rights. We endorse the principles of the International Labour Organization, the UN Global Compact and the OECD Guidelines for Multinational Enterprises. Boskalis accepts responsibility for matters which lie within its sphere of influence. In the countries where Boskalis operates, we are subject to national legislation and regulations. Boskalis refrains from cultural judgments and conducts itself as a good citizen or guest. We adhere to relevant international and national sanctions. Boskalis reviews its Code at least once every two years, most recently at the beginning of 2018.

The full text of our General Code of Business Conduct is available on our corporate website.

#### **ANTI-BRIBERY AND ANTI-CORRUPTION POLICY**

The Boskalis anti-bribery and anti-corruption policy is enshrined in the General Code of Business Conduct. The General Code of Business Conduct states that Boskalis shall not offer, pay, request or accept bribes or other favors for the purpose of acquiring or bestowing any improper business, financial or personal advantage. The General Code of Business Conduct forms part of the employment contracts of Boskalis staff, having been incorporated in the accompanying employee manual. Boskalis employees are provided with targeted information and are monitored with regard to regulations and legislation concerning bribery and corruption.

Boskalis has a Whistleblower Policy in place that offers employees the possibility to report suspected misconduct within the company. This includes any subject of a general, financial or operational nature which is not in line with the General Code of Business Conduct. A confidential independent counselor has been appointed for the purposes of the Whistleblower Policy. The counselor shall take the reported suspected misconduct immediately into consideration and gain information in relation thereto. Based on this information the counselor shall decide which actions are appropriate and necessary, including a possible investigation on the reported misconduct. The employee who has in good faith reported the suspected misconduct to the counselor, in accordance with the Whistleblower Policy, shall not suffer any detriment as a consequence of this notification. The Whistleblower Policy was revised at the beginning of 2016 and can be found on the corporate website.

Furthermore the principle that no bribes or other favors shall be offered, paid, requested or accepted for the purpose of acquiring or bestowing any improper business, financial or personal advantage has also been incorporated in the Supplier Code of Conduct, which is part of the contractual relationship between Boskalis and its suppliers. Suppliers are obliged to select their own suppliers in accordance with the Boskalis Supplier Code of Conduct. In many countries where Boskalis operates it is impossible to conduct activities without a local partner or sponsor. The guidelines for collaborating with such a partner are set out in a contract, which also specifically includes the principle from the General Code of Business Conduct as described above. Local contacts may be maintained by an agent, who also assists in the efficient setting up and execution of projects. Control of integrity risks and compliance with the procedures for concluding agent contracts are part of the internal audits.

#### **TAX PRINCIPLES**

Boskalis has adopted the following tax principles. We believe these principles illustrate good corporate practice in the area of tax management and tax transparency, balancing the interests of our various stakeholders, including clients, investors and the governments and communities in the countries in which we operate.

#### **COMPLIANCE**

We act at all times in accordance with applicable laws and are guided by relevant international standards, for example OECD Guidelines. Disclosures are made in accordance with the relevant domestic regulations, as well as applicable reporting requirements and standards such as IFRS.

#### **BUSINESS RATIONALE**

Tax follows the business, meaning that transactions must have a business rationale. Boskalis does not seek to avoid taxes through 'artificial' structures in tax haven jurisdictions.

#### **RELATIONSHIP WITH TAX AUTHORITIES**

Boskalis seeks to develop strong, mutually respectful relationships with tax authorities.



# WAY OF WORKING: FOCUS ON THE CLIENT AND REDUCED COMPLEXITY

This year we saw the start of the rollout of the new Boskalis integrated quality management system Way of Working (WoW). The system is designed to give Boskalis employees the best possible support in achieving operational excellence. It is aimed at offering a consistent client approach, with a clear focus on providing safe and sustainable solutions. "WoW reduces the complexity of our systems and operational processes, and helps us to understand client requirements better. Following the implementation, we have had many enthusiastic reactions, both from colleagues and from clients,' says corporate SHE-Q manager Joke Vavier.

#### **GETTING IT RIGHT**

"Now that we see different disciplines and divisions increasingly teaming up to tackle ever more complex projects, the drawbacks of using different quality systems were becoming apparent, especially during the project execution phase. Different ways of monitoring progress or managing subcontractors can represent a threat to the success of a project and for the client, at the expense of performance," Vavier continues.

"No matter what phase a project is in, it is always important to put client and corporate interests center stage by focusing on the principles of our Way of Working. This improves the quality of the dialogue," Vavier explains. "It is crucial to know that we have a clear understanding of the client's requirements and of our social impact throughout a project. Our safety program NINA has a prominent place in WoW: together they help us to be more aware of our expert role. The system also integrates CSR aspects of our work, such as the assessment and inclusion of stakeholder interests and expectations. WoW stimulates to consider sustainable alternatives and propose these to the client. In that sense, it is the ideal platform to further execute and embed our social impact program within our process, organization and the mindset of our colleagues. Over eight hundred colleagues, including trainees, have completed the introductory course this past year. Already, WoW is used extensively by various tender teams for an increasing number of projects."

Vavier is supported in her opinion by Frank Stikkel, project manager in the Dredging & Inland Infra division: "The new Way of Working makes 65% of existing procedures redundant, thanks to a new uniform approach. What's more, we are improving quality by learning from each other, from the best practices within Boskalis and by looking at things from the client's perspective."

"One of our goals, both during the tender phase and during the execution of a project, is to keep the client center stage and ensure that all our colleagues have client expectations in mind throughout the process. It all begins with clear communications in the tender phase, and with tight coordination to ensure that we are interpreting client requirements correctly. A crucial aspect is the identification and discussion of possible inconsistencies in a project request. WoW provides us with the necessary, clear framework to achieve this," Stikkel explains about the WoW goals.

#### THE WOW FACTOR

"The WoW approach gives us uniformity within a clear structure. It means that we can find what we need in our toolbox faster. At the same time, WoW stimulates internal synergies because it provides us with a clearer picture of what other disciplines, such as offshore or dredging, can do. Conversely, the other disciplines also know more about how we work," Richard Janssen observes about the benefits of WoW. "The Way of Working enriches the dialogue with our clients and helps us to be accepted as an equal partner at different levels of the client's organization."

"In addition, because NINA is part and parcel of WoW, we can take the burden off the client: we can now provide our proven safety system or combine it with the client's own system. The benefit for us is that we can work using our own tested methods, rather than having to follow client procedures, which are usually not tailored to the work at hand. It makes it much easier to maintain performance standards and optimize collaboration with clients and subcontractors. I call that the WoW factor!" Janssen concludes.





The Boskalis **WAY OF WORKING** quality management system aims to achieve operational excellence with a clear focus on safe and sustainable solutions and a consistent client approach. More than just systems and procedures, the Boskalis Way of Working provides a consistent approach towards the initiation, planning, execution and completion of our projects. At the same time it promotes diversity in our teams with experts, facilitates innovation whilst caring for people and the environment with a commitment to act with respect and integrity. This is how we create new horizons for all our stakeholders.

INITIATE PLAN EXECUTE COMPLETE

### **OUR PRINCIPLES**

WE FOCUS ON UNDERSTANDING OUR CLIENTS AND CONTRACTS

WE DEFINE AND ACHIEVE CLEAR COMMON GOALS

WE ARE **IN CONTROL**MANAGING ALL EVENTUALITIES

WE **CONTINUOUSLY LEARN**AND SHARE KNOWLEDGE

### **OUR IDENTITY**

**SAFETY** IS DEEPLY EMBEDDED THROUGH OUR NINA PROGRAM

AS **PROFESSIONALS**WE LISTEN TO UNDERSTAND

AS **TEAM PLAYERS** WE ARE COMMITTED TO ACHIEVE WIN-WIN SOLUTIONS

AS **ENTREPRENEURS** WE TAKE OWNERSHIP FOR OUR ACTIONS

#### **OUR WAY OF WORKING IN PRACTICE**

#### **REQUIREMENTS & EXPECTATIONS**

Full understanding of our client, their needs, the contract and the applicable legislation is an essential first step in our Way of Working.

#### **DELIVERY PLAN & KPIs**

By utilizing our Group Delivery Plan and KPIs we ensure a professional approach to contract management and project execution.

#### **OPPORTUNITIES & RISKS**

We identify risks upfront and manage and mitigate these during operations whilst continuously seeking opportunities for further optimization.

#### **COMPETENCIES & TEAMS**

With a global presence and large network of experts, we build on teamwork, entrepreneurship and professionalism.

#### **EQUIPMENT & INFRASTRUCTURE**

With a modern global fleet and project management skills, we organize and deploy safe, suitable and reliable equipment and create the necessary infrastructure.

#### **KNOWLEDGE & EXPERIENCE**

With a company history of more than a century, we constantly learn and share our expert knowledge.

#### **SUBCONTRACTING & PROCUREMENT**

We expect our subcontractors and suppliers to commit to the project objectives and to adhere to our Supplier Code of Conduct.

WWW.BOSKALIS.COM/WOW

# RESPONSIBLE SOURCING

At Boskalis responsible sourcing stands for our intention to work with suppliers who act responsibly and with integrity. We select suppliers based on various sustainability criteria and require them to sign and adhere to our Supplier Code of Conduct.

Boskalis maintains relationships with approximately 1,400 suppliers - of which 73% are based in the Netherlands, 14% in other European countries and 13% outside Europe – for the central procurement of consumables, machinery and hydraulics, electronics and survey equipment, services, subcontractors, wearing and construction parts and facility goods. Just over 200 of these are strategic partners, who together account for 90% of Corporate Procurement purchasing volume. Together with our strategic partners, we seek to avoid risks and seize the opportunities that come from building a sustainable future. The Boskalis Procurement & Logistics general manager is responsible for the procurement policy and the selection of strategic suppliers, and reports to Group Management. Our Corporate Procurement department aims to establish long-term relationships with suppliers in keeping with the NEVI Code of Conduct. This code is based on four core values: business ethics, expertise and objectivity, open competition and sustainability.

Boskalis is involved in a number of cross-sector partnerships that enable us to contribute to the circular economy. We have established cradle-to-cradle chains for worn impellers, dredging pumps and pick points in partnership with Van Voorden, Vosta, Allard-Europe and Magotteaux. In 2017, 289,000 kilograms of material was recycled.

#### SUPPLIER CODE OF CONDUCT

Boskalis has a Supplier Code of Conduct, which mirrors our own internal General Code of Business Conduct. Besides considering quality, delivery reliability and price, we also select our suppliers based on sustainability criteria.

The Supplier Code of Conduct is an integral part of all procurement contracts. By entering into a contract, suppliers commit themselves to the Boskalis Supplier Code of Conduct. This commitment is also applicable to their own suppliers. In 2017, 81% of our strategic suppliers endorsed the Supplier Code of Conduct, compared to 76% in 2016. This percentage can fluctuate from year to year, due to variations in purchase patterns. The procurement of the entire modification of the Bokalift 1 from heavy transport vessel to crane vessel was carried out based on an integrated CSR approach. All suppliers for the Bokalift modification endorsed the Supplier Code of Conduct. Both the Supplier Code of Conduct and our General Purchasing Terms and Conditions can be downloaded from our website.

#### IMPLEMENTATION ASSESSMENT SCAN

Each year, we conduct an implementation scan at approximately 10% of our strategic suppliers. This adds up to around 20 companies representing a cross section of our strategic suppliers. The implementation scans, including first- and second-line suppliers, were first performed in 2012. Since then, scans have been conducted at 91 unique suppliers, based in Europe, North Africa, Southeast Asia, China, the United States and the Middle East. An independent external consultant assesses to which extent these suppliers have adopted the Supplier Code of Conduct criteria in their own CSR policy. This is done using the Socially Responsible Procurement monitoring method of the Chartered Institute of Purchasing and Supply. The procedure comprises:

- A fixed questionnaire: compiled in conjunction with the external consultant. Questions are subdivided into the topics covered by the Supplier Code of Conduct.
- An onsite implementation scan: conducted by an external consultant accompanied by one of our senior procurement staff. This is a two-way process: besides evaluating the performance, we are also open to feedback from our suppliers, allowing us to learn from them. The aim is to work together to develop and create a sustainable supply chain. Our suppliers take a positive view of this approach.
- A risk matrix: used to show the level of risk that applies to the various suppliers in terms of CSR and to which extent this might impact Boskalis' business operations or reputation. Suppliers in the segments indicating 'significant risk, high risk, significant impact' and/or 'high impact' are given the chance to improve under our supervision. In the absence of sufficient progress, we will eventually terminate our relationship with these suppliers. The dialogue with the other suppliers is structured according to the matrix on the next page.

Besides these annual implementation scans, purchase officers continually monitor adherence to the Supplier Code of Conduct during visits to suppliers.

#### **ONLINE CSR ASSESSMENT TOOL**

In collaboration with the Maritime Cluster of CSR Netherlands (MVO Nederland), Boskalis and a number of leading Dutch maritime companies have developed an online assessment tool to gain insight in the CSR practices of our suppliers. The tool, which is named BlueScan, was launched in 2017 and creates uniformity in assessment methods. Participants in this platform include companies from across the maritime sector: shipbuilders, contractors and subcontractor, and shipping companies and yards working for maritime and offshore industries.

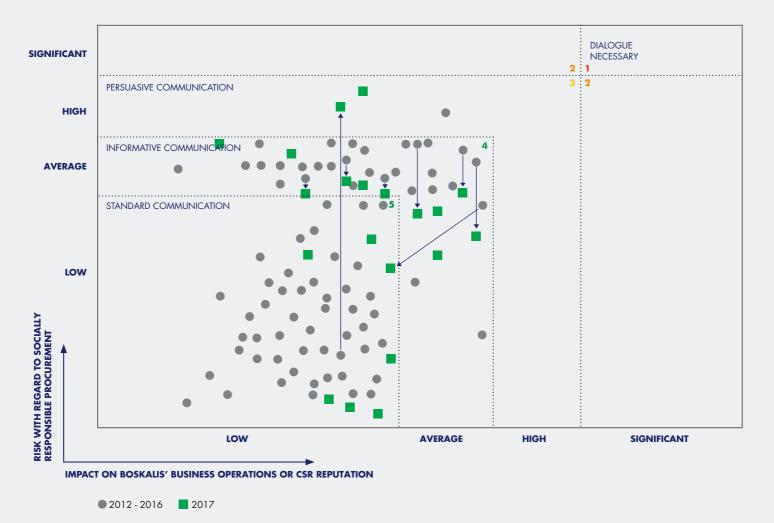
The tool allows companies like Boskalis to execute assessments of the CSR performance of their suppliers. It is an assessment method comprising an online questionnaire based on the supplier codes of project partners and in line with international CSR standards including ISO 26000 and ISO 20400. Through this uniform assessment method, purchasing companies can lift their sustainable procurement to a higher level, while maritime suppliers only need to adhere to one standard and have to fulfill only one audit request. In addition, the transparency created by BlueScan helps suppliers to gain a deeper understanding of potential risk areas and areas where improvement is called for to remain competitive.

BlueScan was officially launched at the beginning of November. Eleven of our strategic suppliers completed the assessment and were very positive about the user-friendliness of the tool, as well as the unity and clarity for all parties regarding sustainability expectations and process implementation. Boskalis will integrate the new assessment method in its responsible sourcing strategy. Onsite implementation scans will also still be carried out by us.

#### **RESULTS IN 2017**

As in previous years, Boskalis carried out the CSR Implementation scan. This year, 9 suppliers that were visited between 2012 and 2014 were revisited. Of the recurring visits, 8 suppliers showed improved scores compared to the earlier scan. Only one scored significantly lower compared to 2012, shifting from 'low risk, low impact' to 'high risk, low impact'. At the request of this supplier, we will be supporting them to further develop and optimize their policies. In addition, 11 new suppliers were visited. The recurring visits were based on the questionnaire and methods used in previous years. The questionnaire monitors the Supplier Code of Conduct criteria in the areas of society, environment, employees, quality, clients and suppliers. The 11 new suppliers were part of a pilot for the BlueScan tool. All 20 suppliers were interviewed based on relevant documents such as their website and supplier agreements. Results were ranked in a risk matrix. By using such a matrix, it is instantly clear how suppliers score regarding CSR and what the possible negative impact could be for Boskalis' reputation and our business operations.

#### CSR IMPLEMENTATION SCAN 2012-2017: 91 SUPPLIERS SCORED



Dialogue necessary (1 and 2): constant coordination and continuous dialogue with the supplier with regard to CSR
Persuasive communication (3): focused on convincing the supplier to take measures in the area of CSR
Informative communication (4): explaining the reasons behind the Boskalis CSR policy to enable an organization to adopt this internally
Standard communication (5): general discussions on CSR; keeping up-to-date on each other's developments



tool, enabling companies throughout the

sustainability level of their suppliers.

maritime sector to execute assessments of the

"It had always baffled me, why in the maritime sector, everybody was auditing using their own methods: we were auditing suppliers right down the supply chain and our suppliers were doing the same on their part," remarks Joost Rijnsdorp, General Manager Corporate Procurement & Logistics at Boskalis. "Just imagine the amount of time and effort it requires from a supplier who has to comply with all the different auditing methods and requirements of his clients. At an MVO Netherlands (Maritime Cluster) event, I took the opportunity to pitch my idea to come to one auditing tool for the entire maritime sector. Together with a number of leading maritime partners, MVO Netherlands decided to support the development of such a tool. Prerequisite was that it would be in line with international standards: first and foremost ISO 26000 and ISO 20400."

"IN CREATING THE BLUESCAN TOOL,
WE HAVE SET A UNIFORM STANDARD
FOR THE ENTIRE MARITIME SECTOR"

"For some time already, numerous companies have been looking to boost sustainability throughout the supply chain. However, the lack of a single, uniform standard hindered this. As a result, we now have many different interpretations and implementations of sustainable practices."

#### ONE STANDARD, ONE AUDIT

"In creating the BlueScan tool, we've set a uniform standard for the entire maritime sector. The standard has been based on input from several other methods that were used to assess the sustainability of our suppliers. In practice, this means that from now on, suppliers only need to adhere to one common standard and will receive only one audit request. The tool is embedded in a project framework that prescribes procurement process requirements to ensure a high audit and/or evaluation standard, which will lead to efficiency gains. The tool offers access to a well-founded sustainability method and is a concrete incentive for sustainable choices in products and services for maritime suppliers worldwide. In addition, the tool enables information sharing amongst the maritime network partners."

Paula Ockeloen, member of the BlueScan Reviewers Board on behalf of Boskalis, continues: "The biggest challenge of the whole process was to create a consensus as to what was required in the audit and how results were to be interpreted and measured. The scan has 110 questions in eight categories. It was essential that questions were formulated in such a way that there could be no doubt as to their interpretation. Only then is it possible to provide a proper rating and set a uniform industry standard."

## BRIDGING THE GAP IN SUSTAINABLE PROCUREMENT PRACTICES

"During this past year, we piloted the scan whilst conducting the implementation scans of our strategic suppliers. We selected nine suppliers, representative for both small and larger companies from the Netherlands and abroad. Their feedback and input has proven extremely valuable in further improving the scan. BlueScan was officially launched during the Maritime Week at the Europort Maritime Exhibition in November," Ockeloen adds.

"By aligning methods and collaborating through one platform, we have managed to achieve unity and clarity for all parties when it comes to sustainability expectations and process implementation. By using the BlueScan tool companies are able to lift their sustainable procurement processes to a higher level. Reactions from suppliers have been very positive. BlueScan not only stimulates transparency in the sector in the field of CSR, but will also contribute to sustainable innovations. Extensive adoption of BlueScan by the Dutch maritime sector will lead to significant effects and will undoubtedly create worldwide positive ripple effects throughout the entire maritime value chain," Rijnsdorp concludes.

#### **ABOUT BLUESCAN**

The BlueScan tool is an online tool that allows companies throughout the maritime sector to determine their own level of corporate social responsibility, as well as execute assessments of supplier sustainability levels. It contains a questionnaire that builds upon the project partners' custom made methods and is in compliance with international standards. The tool has considerable efficiency and cost-saving benefits: suppliers only have to submit the scan once, instead of filling out separate scans for different customers.

#### **LEARNING FROM EACH OTHER**

BlueScan accurately maps the sustainable performance, risk levels and possible areas of improvement of companies in a transparent way. By doing so, it enables interaction between customer and supplier. Users can share scores for CSR and communicate what their efforts and results are. By understanding each other's results, participants can learn from each other and boost their performance.

# SR 2017 - BOSKALIS

## **CORPORATE GOVERNANCE**

Boskalis operates a two-tier board model, which means that management and supervision are segregated. The Board of Management is responsible for the day-to-day management of the business, the continuity of the company and for setting out and realizing the company's strategy for the long-term value creation, as well as for the culture, opportunities and risks and the results of the company. The Supervisory Board is responsible for supervising the Board of Management on the formulation of the strategy for the realization of the long-term value creation and the implementation thereof.

Early 2017, the Corporate Business Plan 2017-2019 was discussed and approved by the Supervisory Board. For more information, please refer to the strategy section in our Annual Report 2017.

Furthermore, the Supervisory Board is responsible for supervising management performance regarding the general affairs of the company and advising the Board of Management. At Boskalis there is close collaboration between the Supervisory Board and its committees, the Board of Management and the stakeholders.

The remuneration policy and remuneration elements are directly derived from the Boskalis strategic agenda, incorporating not just financial-economic objectives but also CSR objectives such as safety and talent management. The 2017 Remuneration Report states clearly that these CSR aspects are part of the long-term corporate objectives. The external auditor is involved in determining the remuneration and is responsible for ensuring that the relevant procedures are followed correctly. Please refer to our corporate website for the Remuneration Report.

The Board of Management is responsible for the company's CSR policy and is supported in this role by the Taskforces Energy Management and Eco-Engineering. The manager SHE-Q reports to the Board of Management on safety related topics. With regard to HR-related objectives, the HR director reports to the Board of Management. The business unit directors and the heads of the relevant staff departments report to the Board of Management on respective CSR key performance indicators.

This CSR Report was drawn up under the responsibility of the director IR & Corporate Communications who also reports directly to the Board of Management. The report is reviewed by the Board of Management of Boskalis and is discussed in its entirety with the Supervisory Board.

For the reports of the Supervisory Board, the Board of Management, our corporate governance policy, terms of office and our organization – including the composition of the Supervisory Board and the Board of Management – please refer to our Annual Report 2017, the Remuneration Report and our corporate website.



# APPENDIX





68	ABOUT THIS REPORT
<b>70</b>	GRI TABLE GRI STANDARDS CORE
72	STAKEHOLDER DIALOGUE OVERVIEW
74	HR DATA
77	SHE-Q DATA
78	INDEPENDENT LIMITED ASSURANCE STATEMENT
<del>79</del>	GLOSSARY

# ABOUT THIS REPORT

#### **PURPOSE AND SCOPE OF THE REPORT**

We have been reporting on our Corporate Social Responsibility (CSR) strategy, performance and results in a separate annual report since 2009.

The scope of our CSR reporting is based on the information requirements of our key stakeholders. Our key stakeholders either have an influence on our license to operate or can be significantly impacted by our activities. In order to ensure we meet their information requirements we carried out an initial materiality analysis in 2015. This analysis was fully updated this year. Boskalis management selected relevant material themes and topics derived from Boskalis' strategy, its activities as well as from international guidelines, regulations and legislation. More than 70 stakeholders from our key stakeholder groups were consulted. An online survey, complemented by desk research and interviews was used to determine how important the individual topics were to the stakeholders. The Boskalis group management also participated in the survey to determine the importance of the topics for Boskalis. Based on the results of this process, the new materiality matrix was drawn up. The materiality analysis provided valuable input for our CSR strategy and structure of reporting. It confirmed that both of these are considered relevant and significant by our stakeholders.

We strive to improve the quality of the information given in our CSR report. In 2017, we have once more taken steps to make the correlation between the various sections of the report clearer. For instance, by including a business model and making a clear link between our input, business, outcome, impact and SDGs, as well as describing opportunities, risks and achieved results. Where meaningful, quantitative key performance indicators have been added.

The CSR Report includes only CSR data from entities that are fully or majority owned and from joint ventures in which Boskalis has a controlling interest. However, Boskalis relies on a significant number of contractors to perform daily activities. Boskalis acknowledges its responsibility for the safety of its contractors and therefore includes contractors in its safety performance reporting. acquired. Divestments are reported in accordance with the financial reporting rules for consolidation. This means that acquisitions are reported as from the moment control (ownership) is acquired. Divestments are reported up to the moment that control is relinquished. Excluded from this report is 2017 CSR data from Gardline, which was acquired and consolidated mid-2017. Gardline will be included in the 2018 report. Please refer to our Annual Report for an overview of acquisitions and divestments in 2017.

#### **REPORTING PROCESS**

The CSR Report is compiled by a multidisciplinary CSR team under the responsibility of the Board of Management. Its content was discussed in its entirety with the Supervisory Board. The consolidation of CSR data takes place at successive levels, starting with the projects and local office organizations, moving up through the relevant business units and staff departments and ending with the consolidated group reports. This is based on quarterly reporting via a dedicated online SAP-based reporting tool, which is monitored by our Group Accounting & Reporting department, in close consultation with our Corporate Communications department that is responsible for the production of the CSR Report. In addition, as in previous years, a number of internal audits were conducted on material CSR topics and indicators in 2017. Although we are confident that our internal audit ensures a reasonable level of data reliability we have our CSR information verified by an external accountant.

#### **REPORTING PRINCIPLES**

The CSR data is prepared in accordance with our reporting principles, which are based on the international reporting guidelines of the Global Reporting Initiative (GRI) standards. In 2017 we started reporting in accordance with the most recent version of the guidelines which were launched in 2016: the GRI Standards. The GRI reference table is included on pages 70-71 of the report. KPIs are selected on the basis of interactive stakeholder dialogue and the issues relevant to Boskalis' operations.

#### **EXTERNAL VERIFICATION**

The information contained in this report faithfully represents the outcome of systematic data gathering and analysis. As in previous years, Boskalis appointed an external assurance provider to verify its key CSR metrics. Please refer to page 78 for the assurance report and conclusion of our external assurance provider.

## METHODS OF ESTIMATION, MEASUREMENT AND CALCULATION

We use generally accepted protocols to compile, measure and present information, including the GRI technical protocols for indicators comprised in the guidelines. We aim to ensure reliability of our reported data by performing internal audits and externally verifying our data. However, due to generic challenges in the data collection process and the nature of sustainability data there are limitations associated with measuring and calculating data. On the next page, we elaborate on the methodology, calculations and inherent limitations of the data.

No changes were made to definitions and measurement methods of the reported data compared to the 2016 reporting period.

#### HR DATA

The employees of joint ventures and the employees of Anglo Eastern, crew of the Dockwise vessels, are included in the overall reporting in view of this group's substantial size. However, these employees are not employed by a Boskalis majority owned entity and are not included in the detailed reporting. For more information, please refer to pages 74-76.

#### CO, DATA

The CO<sub>2</sub> data covers all fuel consumed by vessels of the Dredging & Inland Infra and Offshore Energy divisions. ISO and ISM standards are used for the conversion of fuel to CO<sub>2</sub>. For the conversion of volume to weight, the ISO 8217:2012 standard is followed. The most stringent density factor of 0.890 kg/l is applied to the MGO/MDO conversion. The following ISO and ISM standards are used for the conversion of fuel to CO<sub>2</sub>:

- Volume to weight conversion takes place according to ISO specification 8217E, using the following specific gravity per liter:
  - MGO/MDO 0.890kg
  - HFO 0.991kg
- Conversion of MT of fuel to CO<sub>2</sub> takes place according to IMO Resolution MEPC.212(63), using the following conversion factor per MT of fuel:
  - MGO/MDO 3.206 MT CO<sub>2</sub>
  - HFO 3.114 MT CO<sub>2</sub>

#### **SAFETY DATA**

Lost Time Injury (LTI) expresses the number of workplace accidents serious enough to result in absence from work. Lost Time Injury Frequency (LTIF) expresses the number of workplace accidents resulting in absence from work per 200,000 hours worked. The LTIF overview on page 77 shows a breakdown for the various divisions. In addition to LTIF, we also provide the Total Recordable Injury Rate (TRIR). TRIR is composed of LTIs, Medical Treatment Cases and Restricted Work Cases, per 200,000 hours worked.

#### **COMMUNITY INVESTMENT DATA**

Material permanent operations outside the Netherlands are limited. Most of our activities are project-based and therefore temporary in nature. We provide qualitative reporting on the community activities for these operations. In view of our permanent presence in the Netherlands we provide quantitative reporting on the community initiatives undertaken by our domestic operations. Our operations in the Netherlands account for 54% of our workforce. Community investment data includes the investments in community programs made by Corporate Head Office and by Boskalis Nederland.

#### **SUPPLY CHAIN DATA**

The supply chain data refers to the procurement spend by the suppliers of the Central Procurement department. 204 of these suppliers are regarded as strategic suppliers who account for some 90% of the Corporate Procurement department's purchasing volume.

#### **BENCHMARKS**

In 2017, our sustainability performance was monitored and benchmarked:

- Boskalis was once again certified for the highest level of the CO<sub>2</sub> Performance Ladder (level 5) in the Netherlands.
- We finished 43rd out of 477 companies surveyed for the Transparency Benchmark of the Dutch Ministry of Economic Affairs.
- Once again, we took part in the Carbon Disclosure Project, a global reporting platform that makes information on emissions available to subscribed investors.

In addition, our efforts were recognized as follows:

- Winner of the 2017 SAP Quality Award Gold for rolling out the Business Planning and Consolidation application (BPC), which was also used as dedicated online tool to optimize our CSR reporting process, facilitating data gathering and consolidation.
- Runner-up in the Profit category at the Dutch Stakeholder Management Awards 2018, which are awarded to organizations that have worked on mutual beneficial relationships with all their stakeholders in the most creative, innovative and successful way.
- Highly commended in the Working, Building or Engineering with Nature category at the DPC Innovation Awards 2017 organized by Dredging and Port Construction magazine, for stabilizing the uninhabited island Griend in the Netherlands.

#### **PUBLICATION DATE**

The CSR Report 2017 was published at the same time as the Annual Report 2017 on 8 March 2018 on the corporate website.

#### **CONTACT**

Any suggestions you may have for improving our CSR policy or the way we report on it are greatly appreciated. We are happy to engage with you on this subject, in which case you are kindly requested to contact:

Martijn L.D. Schuttevåer

Director Investor Relations & Corporate Communications

Telephone: +31 78 6969822

Email: csr@boskalis.com

Website: www.boskalis.com/csrreport

# GRI TABLE GRI STANDARDS CORE

This report follows the GRI Standards, level core. The overview below lists the required disclosures we are reporting on along with the references to the chapters where this information can be found.

#### **GENERAL DISCLOSURES**

DISCLOSURE	TITLE	REFERENCE		
ODGANIZATI	ONAL PROFILE			
102-1	Name of the organization	Boskalis at a glance – Company profile		
102-2	Activities, brands, products, and services	Boskalis at a glance – Activities		
102-3	Location of the organization's headquarters	Boskalis at a glance – Company profile		
102-3	Location of operations	Boskalis at a glance – Company profile and Activities,		
102-4	Location of operations	Impact on local communities – Local development,		
		Business conduct – Responsible sourcing		
		Annual Report – Joint operations		
102-5	Ownership and legal form	Boskalis at a glance – Company profile		
102-6	Markets served	Boskalis at a glance – Company profile and CSR strategy,		
		Business conduct – Responsible sourcing,		
		Cover – Key economic and CSR output		
		Annual report – Strategy and Financial performance		
	Scale of the organization	Boskalis at a glance – Company profile		
		Annual Report – Key Figures		
		Annual Report – Consolidated Statement of Profit or Loss		
	Information on employees and other workers	Care for human capital – Labor practices and Diversity,		
1000		Appendix – HR data		
102-9	Supply chain	Boskalis at a glance – CSR strategy, Boskalis at a glance – Business model		
		Business conduct – Responsible sourcing		
102-10	Significant changes to the organization and its supply chain	Business conduct – Responsible sourcing		
102-10	organization and its supply chain	Annual report: Chairman's statement and Financial performance		
102-11	Precautionary Principle or approach	Boskalis at a glance – CSR strategy		
		Annual Report – Report of Board of Management –		
		Risk management		
102-12	External initiatives	Boskalis at a glance – CSR strategy and Business model		
102-13	Membership of associations	Boskalis at a glance – CSR strategy,		
		Appendix – Stakeholder dialogue overview		
STRATEGY				
102-14	Statement from the CEO about the relevance of sustainability	Chairman's statement		
ETHICS AND	INTEGRITY			
102-16	Values, principles, standards, and norms of behavior	Boskalis at a glance – CSR strategy and Business model, Business conduct		
		Business principles and Responsible sourcing		
GOVERNANO	CE			
102-18	Governance structure	Business conduct – Corporate governance		
102-40	R ENGAGEMENT	Dealest and readers at CCD streets are		
	List of stakeholder groups	Boskalis at a glance – CSR strategy		
102-41	Collective bargaining agreements	Appendix – Stakeholder dialogue overview		
102-42	Identifying and selecting stakeholders	Care for human capital – Labor practices		
102-43	Approach to stakeholder engagement	Boskalis at a glance – CSR strategy		
102-44	Key topics and concerns raised	Boskalis at a glance – CSR strategy, Appendix – About this report		
		Appendix – Stakeholder dialogue overview		

DISCLOSURE	TITLE	REFERENCE
REPORTING P		
102-45	Entities included in the consolidated financial statements	Appendix – About this report
100.47		Annual report – Financial performance
102-46	Defining report content and topic boundaries	Boskalis at a glance – CSR strategy, Appendix – About this report
102-47	List of material topics	Boskalis at a glance – CSR strategy
102-48	Restatements of information	No restatements were made with regard to information provided in
100.40	Characteristics	previous CSR reports
102-49	Changes in reporting	Appendix – About this report
102-50	Reporting period	1 January 2017 – 31 December 2017
102-51	Date of most recent report	CSR report 2016, published 8 March 2017
102-52	Reporting cycle	Annually
102-53	Contact point for questions regarding the report	Appendix – About this report
102-54	Claims of reporting in accordance with the GRI Standards	P.1 and Appendix – GRI table GRI standards core
102-55	GRI content index	Appendix – GRI table GRI standards core
102-56	External assurance	Appendix – About this report and Verification statement
	STANDARD DISCLOSURES	DEFENDANCE
DISCLOSURE	TITLE	REFERENCE
HEALTH AND	SAFETY	
GRI 403: OC	CUPATIONAL HEALTH AND SAFETY	
403	Management approach disclosures	Boskalis at a glance – Business Model
		Boskalis at a glance – CSR strategy
		Care for human capital – Health and Safety
		Appendix – About this report
403-2	Types of injury and rates of injury, occupational diseases, lost days,	Care for human capital – Health and Safety
	and absenteeism, and number of work-related fatalities	Appendix – SHE-Q data
IMPACT ON B		
GRI 304: BIOI		
304	Management approach disclosures	Boskalis at a glance – Business Model
		Boskalis at a glance – CSR strategy
		Impact on the environment – Impact on biodiversity and ecosystems
304-2	Significant impacts of activities, products, and services on biodiversity	Impact on the environment – Impact on biodiversity and ecosystems
EMISSIONS		
GRI 305: EMI	21/01/22	
305	Management approach disclosures	Boskalis at a glance – Business Model Boskalis at a glance – CSR strategy
		Impact on the environment – Emissions
		Appendix – About this report
305-1	Direct (Scope 1) GHG emissions	Impact on the environment – Emissions
305-2	Energy indirect (Scope 2) GHG emissions	Impact on the environment – Emissions
303 <u>2</u>	Energy mander (Geople 2) Give chinasions	impact on the citationnoin Emissions
CONOMIC PE	ERFORMANCE	
GRI 201: ECC	DNOMIC PERFORMANCE	
201	Management approach disclosures	Annual Report: Report of the Board of Management
201-1	Direct economic value generated and distributed	Annual Report: Key figures
RESPONSIBLE	BUSINESS CONDUCT	
GRI 414: SUP	PLIER SOCIAL ASSESSMENT	
414	Management approach disclosures	Boskalis at a glance – Business Model
		Boskalis at a glance – CSR strategy
		Business conduct – Responsible sourcing
		Business conduct – Corporate Governance
41 4 1	Niana annalisas shastanas a constituit de la constituit d	Appendix – About this report
414-1	New suppliers that were screened using social criteria	Business conduct – Responsible sourcing
OCAL DEVELO		
	NK WITH GRI	Darladia ata alaura D Ata Jal
DMA	Management approach disclosures	Boskalis at a glance – Business Model Boskalis at a glance – CSR strategy
		Impact on local communities
		Appendix – About this report
	Possipation of the activities involving supporting local communities	Impact on local communities

Impact on local communities

Own indicator Description of the activities involving supporting local communities

# CSR 2017 - BOSKALIS

# STAKEHOLDER DIALOGUE OVERVIEW

Entering into dialogue with both our external and internal stakeholders enables us to acquire a clear understanding of their expectations and interests and allows us to establish the relevant CSR material topics. In 2017, we engaged with our stakeholders regarding the topics listed in this overview. The top three material topics per stakeholder group reflects the outcome of the recently conducted materiality analysis.

#### **EMPLOYEES**

#### MATERIAL TOPICS

- 1. Impact on biodiversity and ecosystems
- 2. Sustainable employability
- 3. Emissions

#### HOW WE ENGAGED

- Six meetings between Works Council and Board of Management
- Frequent visits by Board of Management to projects and vessels
- Corporate Plan meeting with Senior Management
- Six senior staff meetings
- NINA training and meetings
- WoW pre-roll out meetings and implementation training sessions
- Information and engagement sessions on-site
- Cohesion Magazine 3 issues
- Family days

#### SUBJECTS DISCUSSED WITH WORKS COUNCIL

- Reorganization plan for the Boskalis Papendrecht (staff) organization and the harmonization of labor agreements of recently acquired companies
- Continued discussions further exploring how to keep employees healthy, safe and motivated

#### **RESULTS OF DIALOGUE**

- Positive advice by the Works Council regarding the reorganization plans
- Positive advice by the Works Council regarding the labor agreements harmonization plans
- A social plan for the Papendrecht reorganization based on the 2016 social plan
- A program aimed at encouraging employees to work on their own health was launched

#### **CLIENTS**

#### MATERIAL TOPICS

- 1. Health and Safety
- 2. Stakeholder engagement
- 3. Economic performance

#### HOW WE ENGAGED

- Meetings, personal contact, email, telephone
- Conferences and exhibitions
- Press releases and websites
- Client meetings during project execution

#### SUBJECTS DISCUSSED

- Development and implementation of WoW
- Aligning sustainable design and execution, including Building with Nature approach
- Project progress meetings
- Stakeholder engagement on projects

#### RESULT OF DIALOGUE

- Successful execution of multiple projects. Please refer to our Annual Report for more information
- Successful implementation and execution of Building with Nature projects (page 31)
- Successful implementation of Boskalis Social Impact Program in Duqm, Oman (pages 20-21)

### SUPPLIERS AND SUBCONTRACTORS

#### MATERIAL TOPICS

- 1. Health and Safety
- 2. Local development
- 3. Climate change adaptation

#### SUBJECTS DISCUSSED

- Sustainability in the supply chain
- Supplier Code of Conduct implementation scans
- BlueScan implementation scan tool
- Health and Safety

#### HOW WE ENGAGED

- Meetings, personal contact, email, telephone
- Conferences and exhibitions
- Implementation scans

#### **RESULT OF DIALOGUE**

- Implementation scan results (page 61)
- Successful launch of BlueScan tool (pages 62-63)
- Further application of GoodFuel marine drop-in biofuel (page 42)
- Participation of partners in NINA training courses

#### NGOs AND CIVIL SOCIETY ORGANIZATIONS

#### MATERIAL TOPICS

- 1. Impact on biodiversity and ecosystems
- 2. Business conduct
- 3. Responsible sourcing

#### SUBJECTS DISCUSSED

- Creating shared value in the supply chain
- Social and cultural initiatives
- Clearing the world's oceans from plastic
- Restoring marine ecology using 3D printed reefs
- How to maintain an effective level playing field while promoting sustainable development

#### HOW WE ENGAGED

- Meetings, personal contact, email, telephone
- Supporting research, projects and events in kind and/or financially, such as Delft University, Wageningen University and Port XL
- Open day for public on first Marker Wadden island
- Participation in consultation rounds of the Dutch Government together with NGOs, Ministries and the State's export credit agency on CSR

#### **RESULT OF DIALOGUE**

- Development of new prototype for The Ocean Cleanup (pages 24-25)
- Boskalis Beach Cleanup Tour with NGO the North Sea Foundation (page 22)
- Placement of six artificial reef modules in the Larvotto Marine Reserve in Monaco (pages 32-33)
- Development of MedAssist online (page 23)
- 1,291 visitors to the Marker Wadden island
- Historical fishing boat to Zierikzee Port Museum (page 23)

## INVESTORS AND SHAREHOLDERS

#### MATERIAL TOPICS

- 1. Impact on biodiversity and ecosystems
- 2. Waste management and effluents
- Business conduct

#### SUBJECTS DISCUSSED

We strive to inform our stakeholders as completely and transparently as possible about our strategy and our resultant financial performance. Specific topics in 2017 included: Business Plan 2017-19; market developments; financial results and outlook; project pipeline; restructuring measures; capital allocation including M&A, dividend and divestments

#### HOW WE ENGAGED

- General Meeting of Shareholders
- More than 300 investor meetings
- Webcast presentations: Business Plan 2017-19, 2016 Full Year and 2017 Half Year results
- Conferences, email, telephone
- Press releases and website

#### RESULT OF DIALOGUE

Please see our Annual Report

TOTAL

# **HR DATA**

The employees of joint ventures and the employees of Anglo Eastern, crew of the Dockwise vessels, are included in the overall reporting in view of this group's substantial size. However, these employees are not employed by a Boskalis majority owned entity and are not included in the detailed reporting.

#### **NUMBER OF EMPLOYEES**

	2017	2016
Boskalis	5,772	6,153
Anglo Eastern	638	807
Subtotal	6,410	6,960
Joint Ventures	4,322	4,773
TOTAL	10,732	11,733

#### **COMPOSITION OF WORKFORCE**

NUMBER OF EMPLOYEES BY COUNTRY	2017	2016
The Netherlands	3,135	3,444
Philippines	417	368
Belgium	287	496
Germany	239	257
United Kingdom	225	266
Singapore	193	191
Mexico	1 <i>7</i> 5	104
Finland	140	178
Lithuania	133	121
Cyprus	132	125
United Arab Emirates	130	119
Nigeria	41	46
Brazil	18	35
South Africa	14	18
Other	741	385
TOTAL	5,772	6,153
NATIONALITIES	2017	2016
Number of different nationalities	64	63
WOMEN/MEN RATIOS	2017	2016
Women	10%	11%
Man	90%	89%

100%

100%

TYPE OF CONTRACT BY GENDER	TOTAL 2017	FEMALE : MALE	2016
Fixed term/project based	23%	<b>6%</b> : <b>94</b> %	24%
Permanent/indefinite	<b>77</b> %	12% : 88%	76%
TOTAL	100%		100%
FULLTIME/PARTTIME RATIOS BY GENDER	TOTAL 2017	FEMALE : MALE	2016
Fulltime	<b>89</b> %	7% : 93%	93%
Parttime	11%	37% : 63%	7%
TOTAL	100%	_	100%
AGE PROFILE BY GENDER	TOTAL 2017	FEMALE : MALE	2016
Age <30	12%	12% : 88%	13%
Age 30 – 50	61%	11% : <b>89</b> %	61%
Age >50	27%	<b>8</b> % : <b>92</b> %	26%
TOTAL	100%		100%
COLLECTIVE BARGAINING AGREEMENTS BY GENDER	TOTAL 2017	FEMALE : MALE	2016
No	67%	5% : 95%	62%
Yes	33%	13% : 87%	38%
	100%	_	100%

TRAINING HOURS BY JOB CATEGORY AND GENDER	TOTAL 2017	FEMALE : MALE	2016
Management	963	96 : 867	2,027
Office staff	23,351	963 : 22,388	21,281
Project staff	14,563	4,454 : 10,109	27,965
Crew/yard staff	38,922	240 : 38,682	60,901
TOTAL	77,799		112,174

#### **RECRUITMENT**

INFLOW BY AGE BY GENDER	TOTAL 2017	FEMALE : MALE	2016
Age <30	380	40 : 340	379
Age 30 – 50	831	52:779	1,162
Age >50	253	12 : 241	362
TOTAL	1,464	104 : 1,360	1,903
OUTFLOW BY REASON BY GENDER	TOTAL 2017	FEMALE : MALE	2016
Divestments	6%	<b>8%</b> : <b>92</b> %	35%
End of project/contract	<b>52</b> %	5%:95%	44%
Voluntary resignation	19%	13% : 87%	13%
Retirement/death	4%	7%:93%	3%
Termination	19%	22%: 78%	6%
TOTAL	100%		100%
OUTFLOW BY AGE BY GENDER	TOTAL 2017	FEMALE : MALE	2016
Age <30	320	36: 284	557
Age 30 – 50	1,100	107 : 993	1,645
Age >50	427	41 : 386	888
TOTAL	1,847	184 : 1,663	3,090

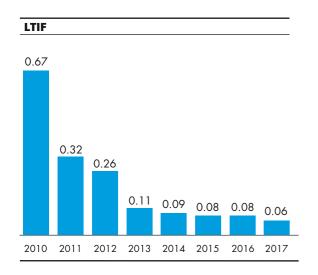
#### **DEVELOPMENT**

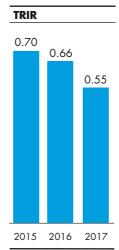
JOB CATEGORIES BY GENDER	TOTAL 2017	FEMALE :	MALE	2016
Management	3%	<b>7</b> % :	93%	3%
Office staff	24%	<b>6</b> % :	94%	31%
Project/Site Staff	<b>27</b> %	32%:	68%	21%
Workforce/Crew	46%	1%:	99%	45%
TOTAL	100%			100%

JOB CATEGORIES BY AGE			2017			2016
	<30	30 T/M 50	>50	<30	30 T/M 50	>50
Management	0%	51%	49%	0%	45%	55%
Office staff	19%	61%	21%	11%	66%	23%
Project staff	<b>9</b> %	66%	<b>26</b> %	18%	61%	21%
Crew/yard staff	11%	59%	30%	13%	58%	29%
TOTAL	12%	61%	27%	13%	61%	26%

# **SHE-Q DATA**

#### LOST TIME INJURY FREQUENCY (LTIF) AND TOTAL RECORDABLE INJURY RATE (TRIR) BOSKALIS





				2017			,	2016
	TRIR	LTIF	HOURS (MILLION)	LTI'S	TRIR	LTIF	HOURS (MILLION)	LTI'S
Dredging & Inland Infra	0.58	0.10	16.63	8	0.83	0.10	15.06	7
Offshore Energy SMIT Amandla Marine	0.43	0.02	8.80	1	0.41 0.19	0.04 0.09	14.00 2.15	3 1
Towage (Northwest Europe) & Salvage	0.83	-	0.24	-	4.30	0.99	0.60	3
Others & Fleet Management	0.70	-	3.99	-	0.61	0.05	3.96	1
GROUP TOTAL	0.55	0.06	29.66	9	0.66	0.08	35.77	15

In 2017 there was 1 fatality in a joint venture project within our Dredging & Inland Infra business unit.

#### **OVERVIEW OF CERTIFICATIONS BOSKALIS**

	ISO 14001	OHSAS 18001 OR VCA <sup>1)</sup>	ISO 9001
DREDGING & INLAND INFRA	✓	✓	✓
OFFSHORE ENERGY	✓	✓	✓
SALVAGE	✓	✓	✓
	<b>v</b>	•	•

<sup>1)</sup> VCA only for projects and activities carried out in the Netherlands, instead of OHSAS 18001

# INDEPENDENT LIMITED ASSURANCE STATEMENT

To the Stakeholders of Royal Boskalis Westminster N.V.

#### Introduction and objectives of work

Bureau Veritas Inspection & Certification The Netherlands B.V. (Bureau Veritas) was engaged by Royal Boskalis Westminster N.V. (Boskalis) to provide limited assurance over selected performance indicators to be presented in its Corporate Social Responsibility Report 2017 ("the CSR Report"). This Assurance Statement applies to the related information included within the scope of work described below.

#### Scope of work

The scope of our work was limited to assurance over the following information included within Boskalis' CSR Report for the period 1st of January to the 31st of December 2017 (the "Selected Information"):

- Direct greenhouse gas (GHG) emissions and fuel consumption (MGO/MDO) from the fleet;
- Number of employees broken down by:
  - employment contract (permanent or temporary contract) and by gender;
  - employment type (part-time, full-time) and by gender;
  - country and number of nationalities;
- Inflow and outflow of employees broken down by age (<30, 30-50, >50) and gender, and outflow by reason;
- Percentage of employees covered by collective bargaining agreements broken down by gender;
- Composition of workforce broken down by gender and by age (<30, 30-50, <50);</li>
- Number of training hours broken down by gender and by job category (management, office staff, project staff, crew/yard staff);
- Talent management and engagement;
- Lost Time Injury Frequency (LTIF) and Total Recordable Injury Rate (TRIR);
- Number of LTIs and fatalities;
- Prevention of occupational and other diseases;
- Spend represented by strategic suppliers; and
- Percentage of strategic suppliers who have signed the Boskalis Supplier Code of Conduct.

#### **Limitations and Exclusions**

The scope of the verification work did not include information relating to activities outside the defined reporting period, statements of a descriptive or interpretative nature, or of opinion, belief, aspiration or commitment to undertake future actions.

This limited assurance engagement relies on a risk based selected sample of CSR data and the associated limitations that this entails. The reliability of the reported data is dependent on the accuracy of metering and other production measurement arrangements which is not addressed as part of this assurance. This independent statement should not be relied upon to detect all errors, omissions or misstatements that may exist.

#### Responsibilities

The preparation and presentation of the Selected Information in the CSR Report are the sole responsibility of the management of Boskalis.

The responsibilities of Bureau Veritas were to:

- Obtain limited assurance over the Selected Information;
- Form an independent conclusion based on the assurance procedures performed and evidence obtained; and
- Report our conclusions to the Board of Management.

#### **Assessment Standard**

We performed our work in accordance with International Standard on Assurance Engagements (ISAE) 3000 Revised, Assurance Engagements Other than Audits or Reviews of Historical Financial Information (effective for assurance reports dated on or after December 15, 2015), issued by the International Auditing and Assurance Standards Board.

#### Summary of work performed

As part of our independent verification, our work included:

- 1. Conducting interviews with relevant personnel of Boskalis;
- Reviewing the data collection and consolidation processes used to compile the Selected Information, including assessing assumptions made, collection processes, and the data scope and reporting boundaries:
- 3. Reviewing documentary evidence produced by Boskalis;
- 4. Confirming the accuracy of a selection of the Selected Information to the corresponding source documentation;
- Reviewing Boskalis systems for quantitative data aggregation and analysis:
- 6. Performing analytical procedures of the Selected Information;
- 7. Re-performing aggregation calculations of the Selected Information;
- 8. Assessing the disclosure and presentation of the Selected Information to ensure consistency with assured information.

#### Conclusion

On the basis of our methodology and the activities described above, nothing has come to our attention to indicate that the Selected Information is not fairly stated in all material respects.

#### Statement of Independence, Integrity and Competence

Bureau Veritas is an independent professional services company that specialises in quality, environmental, health, safety and social accountability with over 185 years' history. Its assurance team has extensive experience in conducting verification over environmental, social, ethical and health and safety information, systems and processes.

Bureau Veritas operates a Quality Management System which complies with the international standards 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.

Bureau Veritas has implemented and applies a Code of Ethics, which meets the requirements of the International Federation of Inspections Agencies (IFIA) 1, across the business to ensure that its employees maintain integrity, objectivity, professional competence and due care, confidentiality, professional behaviour and high ethical standards in their day-to-day business activities.

The assurance team for this work does not have any involvement in any other Bureau Veritas projects with Boskalis.

Bureau Veritas Inspection & Certification The Netherlands B.V.



Sebastiaan ter Horst, CER Director Benelux & UK

1 International Federation of Inspection Agencies – Compliance Code – Third Edition

Amersfoort, 7 March 2018

# **GLOSSARY**

**Ballast water** Used in ships to improve depth, stability and strength when the ship is not fully loaded. It can have a negative environmental impact due to the spread of invasive species.

**BlueScan** Tool that allows companies throughout the entire maritime sector to execute assessments of the sustainability level of their suppliers.

**BREAAM** Leading assessment method that recognizes and reflects the value in higher performing assets across the built environmental cycle. BREEAM certified buildings are more sustainable environments that enhance the well-being of the people who work in them and help protect natural resources.

**Building with Nature** Innovation program that focuses on sustainable hydraulic engineering concepts for river, coastal and delta areas. It begins with the natural system and uses ecosystem services to meet society's need for infrastructure and encourages the development of nature at the same time.

**BWM Convention** Ballast Water and Sediments Convention adopted by the IMO that came into force on 8 September 2017.

Cash flow Group net profit + depreciation + amortization + impairment losses.

 ${\bf CO_2}$  Carbon dioxide is an odorless and colorless greenhouse gas that exists in the earth's atmosphere.

**CSR Netherlands** Network of Dutch companies, authorities and NGOs that are striving towards corporate social responsibility. More than 200 companies are affiliated with this networking organization.

**Cutter suction dredger** Vessel that dredges while being held in place using spuds and anchors. This technique combines powerful cutting with suction dredging. Mainly used where the sea- or riverbed is hard and compact. The dredged material is generally pumped to land through a pressure pipeline.

**Decommissioning** Dismantling and/or removal of oil and gas rigs or vessels which have been permanently taken out of service.

**Drop-in biofuels** Produced from biomass and an alternative to existing liquid fuels, without any significant modification in engines and infrastructures.

**Dutch Society for the Preservation of Nature** Manages, protects and revitalizes over 100,000 hectares of nature in the Netherlands, doing so as a long-term commitment for the benefit of current and future generations.

EBIT Earnings before interest and tax.

**EBITDA** EBIT before depreciation, amortization and impairment losses.

**EuDA (European Dredging Association)** Non-profit industry association for European dredging companies and related organizations.

**Emissions Trading System** Cornerstone of the EU's policy to combat climate change and its key tool for reducing greenhouse gas emissions cost-effectively. It is the world's first major carbon market.

Energy transition Building towards a society less dependent on fossil fuels.

**Environment and Social Impact Assessment (ESIA)** Widely used method to analyze, assess and measure the social and environmental effects of a project on the community and the natural surroundings.

EPC Engineering, procurement and construction services

**Global Reporting Initiative** International organization that develops global standards for sustainability reporting.

**Green valve** System to exclude air bubbles during the overflow from the hold of a trailing suction hopper dredger from excess water containing fine sediment. The sediment reaches the bottom more rapidly, decreasing the turbidity in the water column.

**GT** Gross tonnage

**HFO** Heavy Fuel Oil.

**IADC** (International Association of Dredging Companies) Global umbrella organization for private dredging contractors.

**IMO** The International Maritime Organization is a specialized agency of the United Nations. Its primary purpose is to develop and maintain a comprehensive regulatory framework for safe and sustainable shipping.

**ISM Code** International Safety Management Code for the Safe Operations of Ships and for Pollution Prevention: an international standard for compliance with safety regulations and the prevention of pollution on sea-going vessels. The ISM Code requires ship managers to implement and maintain a safety management system.

**ISO standard** Standards issued by the International Organization for Standardization. Standards include quality management systems (ISO 9001) and environmental management systems (ISO 14001).

LTI Lost Time Injury expresses the number of workplace accidents serious enough to result in absence from work.

LTIF Lost Time Injury Frequency per 200,000 hours worked.

**LNG** Liquefied Natural Gas.

MDO/MGO Marine Diesel Oil/Marine Gas Oil.

Net Group profit Net profit + net profit attributable to non-controlling interests.

**NGO Shipbreaking Platform** Coalition of 19 environmental, human rights and labor rights organizations working to prevent dangerous pollution and unsafe working conditions caused when end-of-life ships containing toxic materials in their structure are freely traded in the global marketplace.

**NINA** (No Injuries No Accidents) Boskalis safety program to achieve an incident and accident-free working environment. NINA sets out Boskalis' vision on safety and describes the safety conduct the company expects from its staff and subcontractors. The program makes people aware of their own responsibility and encourages them to take action to prevent unsafe situations.

**OECD Guidelines for Multinational Enterprises** Recommendations that provide non-binding principles and standards for responsible business conduct in a global context consistent with applicable laws and internationally recognized standards.

Operating result EBIT – impairments including joint ventures.

Order book Contract revenue as yet uncompleted.

Return on equity Net profit as % of the average shareholders' equity.

**Room for the River program** Gives the rivers in the Netherlands more room to manage higher water levels and prevent flooding. Measures are being taken to provide safety, and improve the quality of the immediate surroundings.

**Scope 1 and 2 emissions** Categories for reporting greenhouse gas emissions. Scope 1 are emissions from sources that are owned or controlled by the organization. Scope 2 are emissions from consumption of sources of energy generated upstream from the organization.

 $\textbf{SHE-Q} \ \text{Safety, Health, Environment and Quality}.$ 

**Solvency** Group equity as % of balance sheet total (non-current assets plus current assets).

**Suction bucket jacket foundation** Innovative technology that offers low underwater noise and lower-cost solutions for laying foundations for offshore wind farms. The design involves an inverted steel bucket that sinks into the sandy sediment when water is pumped out of the bucket, creating a pressure difference. Once in place, it becomes stuck fast and anchors wind turbines in the seabed.

**Sustainable Development Goals (SDGs)** Set of seventeen goals with specific targets. Formulated by the United Nations through a deliberate process involving its 193 Member States, as well as global civil society, the goals define the global sustainable development priorities and aspirations for 2030.

**Supplier Code of Conduct** Requirements drawn up by Boskalis for its suppliers of products and services and an integral part of all procurement contracts. Boskalis wants to do business with suppliers who act responsibly and with integrity.

**Social Impact Program** Aims to set out a social impact approach within Boskalis that gives this aspect of our activities a firm foothold within our organization.

2017 - ROSKAIIS

**Trailing suction hopper dredger** Self-propelled vessel that loads its well or hopper using centrifugal pumps and pipes that trail over the bed as the vessel sails. These vessels can transport material over long distances. The dredged material is dumped through flaps or bottom doors, by rainbowing, or pumped onto land using a pipeline.

**Transparency Benchmark** Annual assessment on behalf of the Dutch Ministry of Economic Affairs of the content and quality of CSR reports of Dutch companies.

**TRIR** Total Recordable Injury Rate. Number of LTI's, restricted work cases and medical treatment cases per 200,000 hours worked.

**Turbidity** Caused by churning up the sea- or riverbed during dredging activities, which reduces the incidence of light in the water. This can be temporarily detrimental to underwater animal and plant life.

**VCA** Safety, Health and Environment Checklist for Contractors applicable to our Dutch operating companies.

**UN Global Compact** Voluntary initiative based on CEO commitments to implement universal sustainability principles and to take steps to support UN goals.

**Workday** Boskalis HR information system for measuring and evaluating employees' personal development and performance.

**WoW** Boskalis Way of Working, quality management system that aims to achieve operational excellence with a clear focus on safe and sustainable solutions and a consistent client approach.

# **COLOPHON**

**Compiled and coordinated by** Royal Boskalis Westminster N.V. Corporate Communications Department Group Controlling Department

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