





**ACTIVITY
REPORT** 2020

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INTRODUCTION

COMPANY PROFILE

DEME is a world leader in the highly specialised fields of dredging, solutions for the offshore energy market, infra and environmental works. We can build on more than 140 years of know-how and experience and have fostered a pioneering approach throughout our history, being a front runner in innovation and new technologies.

While our company roots are in Belgium, we have built up a strong presence in all of the world's seas and continents, operating in more than 90 countries worldwide. We can rely on 5,200 highly skilled professionals across the globe. With a versatile fleet of


We also believe in turning challenges into opportunities. That's why we are continuously looking for ways to deploy our knowledge and expertise in other activities, exploring new horizons and expanding our solutions portfolio.

OUR VISION IS TO WORK TOWARDS A SUSTAINABLE FUTURE BY OFFERING SOLUTIONS FOR GLOBAL CHALLENGES.

over 100 vessels, backed by a broad range of auxiliary equipment, we can provide solutions for even the most complex projects. Our vision is to work towards a sustainable future by offering solutions for global challenges: rising sea levels, a growing population, reduction of emissions, polluted rivers, seas and soils, and a scarcity of natural resources.

Although our activities originated with our core dredging business, our portfolio has diversified substantially over the decades. Our offering includes dredging and land reclamation, solutions for the offshore energy market, infra and environmental solutions. These multidisciplinary capabilities and ability to benefit from synergies across projects, as well as our integrated corporate structure, have made us into a global solutions provider.

In line with our ambitions to have a long-term, sustainable business our activities in the offshore wind industry are being extended outside of Europe, to Asia and the US. We have also entered the green hydrogen market with several initiatives underway. Additionally, we launched the innovative 'Marine Litter Hunter', which is tackling the plastic pollution problem in the River Scheldt in Belgium. We continuously strive for improvements in our environmental performance and productivity rates, and this is highlighted in our ongoing investments in our fleet and equipment.

DEME's shareholder is the Brussels-based civil engineering contractor CFE, which is controlled by the Belgian investment group Ackermans & van Haaren – both publicly listed companies on Euronext Brussels. 



MESSAGE FROM THE BOARD OF DIRECTORS

What a journey we have all been on in 2020. A year we have battled the coronavirus pandemic. A year we have secured the largest dredging and land reclamation project in our history and the largest inter-array cable contract ever awarded in the industry. But whatever highs and lows we have faced - one thing remains constant - the continuous drive to achieve a sustainable future - for our people, our company and society at large. We remain focused on this goal no matter what hurdles we have to overcome, and indeed we have had several to overcome in 2020 - a year when the resilience of our staff and crew was tested to new limits.

Even against this challenging background, we have been profitable, we have reduced our Net Financial Debt significantly, and we have seen our order book reach an unprecedented height.

We have been steadfastly working towards our sustainability goals for more than a decade, actually before it emerged on the international agenda. This is why we have orientated our company to find clean, green, environmentally friendly solutions. We are already a global front runner in building offshore wind farms, a leader in cleaning up polluted soils and water, many of our vessels can run on LNG and the new fuels of the future, and we are exploring opportunities in the green hydrogen sector. At the same time, DEME wants to counter the other great challenge of these times, the loss of

biodiversity, by studying how the regreening of certain desert areas can be achieved. These are just a few initiatives where we are laying the foundations to ultimately play our role in the complete decarbonisation of society.

Setting such long-term goals and keeping our precision focus takes effort and dedication. And as mentioned, 2020 was certainly a year when our people had to do their utmost to maintain our resolve. The year opened strongly for DEME and the outlook was really promising, but then in March it became much clearer what we were about to encounter. COVID-19 was not the only exceptional event. Alongside the pandemic, the shipbuilder of many of our vessels got into difficulties and then came the accident on board 'Orion' when the vessel was undergoing crane tests.

We dealt with COVID-19 like a 'difficult project', albeit an extremely complex one. It is simply the nature of our Group to deal with unforeseen circumstances. Of course there were the immediate health implications - keeping people safe - and on top of that, the pandemic led to an enormous logistical crisis.

We were put under tremendous pressure. Our crew members and project teams were not able to get home when they had expected. Many had to stay on board for months and months, and sometimes in very remote locations. However, they continued their work and have done a tremendous job. And across the globe our staff ashore have been



LUC
VANDENBULCKE
CEO
DEME Group

The resilience of our staff and crew was tested to new limits.

LUC VANDENBULCKE | CEO DEME GROUP



LUC
BERTRAND
Chairman
DEME Group



Our focus is always on the long-term and the pathway to a sustainable future.

LUC BERTRAND | CHAIRMAN DEME GROUP

in various lockdowns, and had little social contact with their colleagues and teams.

We deviated vessels for crew changes, chartered aircraft, established strict procedures for every vessel, project site and office, and provided psychological support for our employees and their families. Our shareholders all backed the management's decision to do whatever it took to get people home safely. There was no compromise. Our people are our number one priority, no matter what is happening around us.

Our people's resilience was also highlighted when we overcame another major setback in 2020 – the incident on board of the offshore installation vessel 'Orion'. Before the vessel was delivered to DEME and while she was having her crane fitted, there was unfortunately a malfunction of the crane hook and the new crane was heavily damaged. Admittedly, we probably spent the first 24 hours in shock but then we dealt with it how DEME always does. We looked forward, we looked for solutions.

Our teams 'dusted themselves off' and started afresh, quickly chartering a third-party vessel for the Moray East offshore wind farm where 'Orion' was due to be deployed. Despite this setback, the pandemic and a number of other challenges, the installation of the jacket foundations on Moray East was safely completed in December.

Newbuilds such as 'Orion' and our powerful cutter suction dredger 'Spartacus' embody our pioneering values. The next generation vessels can help take us where no one else goes. Their technical complexity positions us in niche markets where we can make a difference.

We have continued to invest and extend our fleet. New vessels such as 'Bonny River', 'Meuse River' and 'River Thames' are all competitive, productive vessels and have been occupied since entering the fleet. Even during the pandemic, we ordered a second offshore installation vessel - 'Green Jade' - which again shows how strongly we believe in the renewables sector. It also underlines how DEME is looking at offshore wind way beyond the traditional European market to the Asian and US market. We are setting up the right partnerships to help us realise our ambitions in these regions.

Despite the unparalleled challenges of 2020, there are plenty of reasons for optimism. We achieved a record high order book, which is remarkable given the context.

Our four activity lines - Dredging, Offshore, Infra and Environmental - have all played a key role in making sure we come through this crisis year. As various lockdowns were implemented it was initially difficult to get some of the dredging activities outside of Europe off the ground but these were

compensated for by infra, offshore wind and environmental activities in Europe - that is the strength of having a diversified portfolio. By the end of the year, we were awarded the largest ever dredging and land reclamation contract in our history, in terms of dredging volume - the prestigious Abu Qir port project in Egypt. We have started work on the Fehmarnbelt Fixed Link, the world's longest immersed road and rail tunnel and one of Europe's largest infrastructure projects to date. In Belgium, we were awarded the contract for the Scheldt Tunnel, as part of the Oosterweel link. Three megaprojects in the Netherlands, the RijnlandRoute, Blankenburg Connection and New Lock Terneuzen, are all proceeding to plan. We successfully completed the first phase of an enormous project in the Arctic. We won an EPCI contract for the inter-array cables at the Dogger Bank wind farm, the biggest inter-array project ever awarded in the industry. Our Environmental teams have had one of their best years, and their hard work has enabled them to develop a very stable business, which is reflected at our soil and sediment treatment centres, as well as through major, multi-year projects such as Blue Gate in Antwerp and the Condé-Pommeroeul Canal, the largest inland environmental dredging project in France. We also launched the world's first Marine Litter Hunter in the River Scheldt. This ingenious equipment combines artificial intelligence, autonomous sailing and virtual reality. DEME Concessions achieved a major milestone when it divested from the Merkur offshore wind farm after a very successful and profitable collaboration. Our deep-sea exploration specialist, Global Sea Mineral Resources, completed two key assessments of its seabed mineral collector technology. This paves the way for a new expedition in 2021.

Undoubtedly, we had a lot of extra challenges and costs in 2020 but despite this our order book remains robust with several new projects coming up. This reflects the strong commitment of our people and the right investments we have made over the past several years in new vessels and technology, enabling us to remain ahead of the competition. Historically, we believe we will look back and see the events of 2020 as challenges we successfully overcame, relatively 'short-term' setbacks in the grand scheme of things.



The next generation vessels can help take us where no one else goes.

LUC VANDENBULCKE | CEO DEME GROUP

Our focus is always on the long-term and the pathway to a sustainable future. Yes, we are living in extraordinary times, but fortunately we have extraordinary people and extraordinary assets. We are certain this winning combination will help us achieve our goals.

We would like to extend a special word of thank you to Theo Van De Kerckhove, our Chief Operating Officer who retired after 40 years with the company. Theo has been a key driver in many new company initiatives, including our fleet investment programmes, and above all he had a tremendous passion for our people, and our crew in particular. His knowledge, commitment and focus on people made a significant difference that will have a lasting impact. Theo's legacy will continue to be an inspiration for many of us.

Let's continue to Create Land for the Future, in the literal and more than ever, in the figurative sense! 🌱

OUR VISION

OFFERING SOLUTIONS FOR A SUSTAINABLE FUTURE

Although DEME's historic roots, which date back some 140 years, stem from the dredging sector we have steadily diversified into other sectors over the decades. We are no longer a pure dredging contractor but have undergone a transformation, ultimately becoming a sustainable solutions provider. We are making continual progress and constantly explore the potential of new business solutions, highlighted by our recent move into the green hydrogen sector.

We have a very clear vision to work towards a sustainable future. We are focused on offering solutions for global challenges such as climate change, rising sea levels, an increasing population, the reduction of pollution in air and rivers, and the scarcity of natural resources. This vision has been turned into concrete actions.

Becoming a sustainable company and providing sustainable solutions to tackle these global challenges are at the heart of DEME's vision.

These ambitions are being actively pursued. We are making choices, tailoring our portfolio, taking initiatives to develop and invest in pioneering new industries such as green hydrogen. We have not only set ourselves ambitious targets, we are making sure these are carefully monitored and measured. Step by step we are making progress so we can turn our vision into reality. Sustainable solutions are not just something we like to highlight in our communication – for us sustainability has to live and breathe within our organisation.

Although we know we still have a long way to go, we are on a steady course to achieve these goals, which are not only good for our people and business, but indeed, the entire planet.



TACKLING POLLUTED SOILS AND RIVERS FOR DECADES

Our active pursuit of sustainability is evident throughout the decades and has been the basis for many of the diversifications from DEME's original core activity. This need to explore to ensure we play a pioneering role in creating a better world has always driven us. Already in the early nineties, DEME took a definitive step into environmental activities, cleaning polluted soils and rivers, and indeed these activities have flourished and now stand as one of our four core pillars (Dredging, Offshore, Environmental and Infra).

COASTAL PROTECTION

DEME is renowned for its smart coastal protection solutions and we are continuing to develop them with a keen eye on nature-inspired solutions. One great example is the Plant A Million Seagrass (PLANT ME) project whereby the potential of seagrass is being explored for coastal protection as sea levels rise and coastal communities are left more vulnerable to flooding. We also wrapped up the first phase of the Coastbusters project, looking at solutions to combat coastal erosion by cleverly constructed natural reefs.

Throughout our history, DEME has always played a leading role in protecting people living in coastal areas through our dredging and land reclamation works, as well as our dyke reinforcement and beach nourishment activities. Protecting people against rising sea levels has never been more important than now. According to the United Nations, currently around 680 million people live in low-lying coastal zones and it is expected that this might surpass a staggering one billion by 2050. (Dredging, p. 48)

CREATING NEW LAND AND SUSTAINABLE INFRASTRUCTURE FOR THE FUTURE

The growth in population and world trade results in increasing demand for sustainable infrastructure. DEME's people are builders by nature - we have been creating new land for more than a century. Our expertise is highlighted by the Abu Qir project in Egypt where we have recently started work. This ambitious megaproject creates land for the expansion and further development of this bustling city. Another example, where DEME is playing a key role in supporting the growth in world trade, is Tuas Terminal Phase 1 (TTP1), an enormous land reclamation project in Singapore. TTP1 will eventually be able to handle no less than 20 million TEU containers. (Dredging, p. 48)

At the same time we are connecting people, improving mobility, which is clearly demonstrated by the once-in-a-lifetime project, the Fehmarnbelt Fixed Link. This will be the world's longest immersed road and rail tunnel at 18 kilometres, and connect Germany and Denmark. (Infra, p. 130)

NUMBER ONE OFFSHORE WIND CONTRACTOR IN THE WORLD

Then from 2000 we took a further bold step into the new, unexplored offshore wind industry, which was at that time the subject of a fair amount of scepticism. But again we didn't follow the rest, we forged our own future, and made an active decision to enter and play a pioneering role in the development of the renewables industry. Twenty years ago we were constructing the first wind farms - at a time when 1.5 MW turbines were impressive - and now DEME is the number one offshore wind contractor in the world, installing mega turbines of 10 MW plus. To date, we have installed almost 2,400 wind turbines and contributed to more than 70 offshore wind farms, including cables, foundations and offshore substations. We have grown our portfolio outside of Europe to Asia and the US. (Offshore, p. 92)



COASTAL PROTECTION

We continue to combat coastal erosion with a keen eye on developing nature-inspired solutions.

INVESTING IN THE DEVELOPMENT OF THE RENEWABLES INDUSTRY

Not only do we install offshore wind farm components, we are also taking on the development and financing of several wind farms through our DEMA Concessions arm. This has so far included the very early C-Power offshore wind farm constructed in 2007, and then Rentel, SeaMade and Merkur followed. We are also continuing along this path and intend to seek out more opportunities where we can use our decades of experience to the full. (DEMA Concessions, p. 146)

REGREENING AND RESTORING ECOSYSTEMS

The protection of biodiversity and restoration of ecosystems is another major focus of DEMA. Often triggered by a growing population and rapid climate change, loss of biodiversity and desertification are other global challenges where we are taking a proactive role. DEMA is actively engaging in finding greening solutions, in combination with its dredging activities.



REGREENING AND RESTORING ECOSYSTEMS

DEMA is actively engaging in finding solutions to restore ecosystems.

FIRM STEPS INTO ANOTHER 'NEW' INDUSTRY – THE GREEN HYDROGEN SECTOR

In a major step taken more recently, we have also entered another new industry – the green hydrogen sector. Again this shows that we pioneer, we want to be ahead of the curve, rather than adopt a 'wait and see' approach.

As it became clear that a sustainable world cannot be created by only decarbonising electricity generation alone, DEMA sees that hydrogen can potentially play an important role in decarbonising heavy industries too, such as steel, refining and transport, if it is produced using renewable energy. Therefore DEMA and its key strategic partners are focusing on harvesting this green energy, both offshore wind and solar, and turning it into molecules such as green hydrogen. We have ramped up our efforts related to renewable hydrogen in the last few years and a first mega-scale project is already underway in Duqm, Oman. We have also entered into an exclusive partnership to develop an industrial scale green hydrogen plant in Belgium (HYPORT® Ostend). (DEMA Concessions, p. 146)

In other initiatives DEMA has joined forces with Neptune Energy for the PosHYdon offshore hydrogen pilot and we have signed a cooperation agreement with six other leading industry players in Belgium for the import of green hydrogen. Additionally, DEMA joined the European Clean Hydrogen Alliance which brings together more than 200 leading players keen to support the scaling up of the hydrogen value chain across Europe.



GREEN HYDROGEN

Our green hydrogen solutions can potentially play an important role in decarbonising heavy industries.

This need to explore to ensure we play a pioneering role in creating a better world has always driven us.

TACKLING PLASTIC POLLUTION – LAUNCH OF 'MARINE LITTER HUNTER'

Adding to our well-established capabilities to remediate polluted soils and silts, we are also tackling the pollution of rivers and oceans. In our daily business, we are only too aware of the increasing plastic pollution problem. And indeed our focus on our vision and deep concerns about this growing problem led us to take immediate action. We set up our Plastic Soup division, which has just launched the world's first 'Marine Litter Hunter', which is tackling plastic pollution in rivers before it even has a chance to reach the oceans (Environmental, p. 122).



PLASTIC POLLUTION

We are exploring solutions to tackle plastic pollution in rivers before it even has a chance to reach the oceans.

We continually strive to excel in our own operations.

SCARCITY OF RESOURCES – SUSTAINABLE DEEP-SEA MINING

For the last decade, DEME has also been developing ideas for solutions to tackle the global challenge of scarcity of resources and we are certain that this is another vital element in the decarbonisation of the worldwide economy. One of our pioneering initiatives is the exploration of sustainable deep-sea mining solutions through GSR, our division which is focused on the collection of polymetallic nodules from the seafloor. We believe that responsible nodule collection can play a role in meeting the demand for future metals for electrical vehicles etc. DEME is carefully examining how mining can be done with respect for the environment and with minimal harm to biodiversity. (GSR, p. 154)



SCARCITY OF MINERAL RESOURCES
We believe that responsible nodule collection can play a role in meeting the demand for future metals for electrical vehicles.

EXCEL IN OUR OPERATIONS

DEME is also making sure its own house is in order and we continually strive to excel in our own operations. As well as addressing global challenges through our solutions, we are also tackling the issues directly in-house too. It is vital that our own activities and actions contribute to a sustainable planet as well.

PEOPLE FIRST

Care for our people is always at the heart of DEME – Health & Safety comes first. Just look at the many unprecedented measures we are taking during the COVID pandemic. Diversity is also very much a key to DEME's success. We already have more than 80 nationalities working at our company, and we are absolutely certain that having multicultural, diverse teams, with an innovative and 'can-do' spirit, gives us the leading edge in this competitive business.

SUSTAINABLE PARTNERSHIPS WITH LOCAL COMMUNITIES

With DEME's presence across the globe, building collaborative and sustainable partnerships is essential for our success. We work closely with many local communities and endeavour to give back to these communities by being involved in a diverse range of social projects. Many of these initiatives are driven by our own employees, who spend years working at the heart of these communities.



SUSTAINABLE PARTNERSHIPS WITH LOCAL COMMUNITIES
Many of our local partnerships are driven by our own employees, who spend years working at the heart of these communities.

DRAMATICALLY REDUCING EMISSIONS – FLEET INVESTMENT PROGRAMME

Undoubtedly, one of the biggest challenges we face is reducing emissions from our fleet. We have embarked upon a multi-year investment programme. The fleet is steadily being decarbonised, in line with our ambition to reduce emissions by 40% by 2030. We are addressing this on five fronts: increasing efficiency (both technically and operationally), reducing air emissions on the go, creating flexibility in fuel use, building futureproof vessels and exploring the vast potential of future e-fuels. (Fleet investment, p. 36)

INNOVATION AT THE HEART OF PROGRESS

Smart, sustainable solutions of course are not possible without innovation, which has always been the growth engine of DEME. Today, with our new activities such as the Marine Litter Hunter, a sustainable deep-sea minerals industry and green hydrogen, plus pioneering vessels such as 'Spartacus', the world's largest and most innovative cutter suction dredger, and 'Orion', a vessel set to revolutionise wind farm construction, DEME will continue to be a front runner. We are continually pushing the boundaries. Our moves into new activities and willingness to invest in the best vessels and equipment to realise our vision takes courage. But we are determined to stay on top, to lead, and ultimately create a more sustainable world.



DRAMATICALLY REDUCING EMISSIONS
The fleet is steadily being decarbonised, in line with our ambition to reduce emissions by 40% by 2030.

A RESILIENT BUSINESS

To ensure we have a resilient and long-term business we also operate by our so-called 'STRIVE' values (Safety, Technical Leadership, Respect & Integrity, Innovation, Value creation and Environment). These standards are applicable to our business units and subsidiaries worldwide. They are at the centre of our commitment to consistently deliver excellence. We also expect suppliers, subcontractors and partners to adhere to these standards so they are also embarking on this journey to sustainability alongside us. We understand that there is still much work to be done. But we are making strong progress and will remain focused. As you all know, actions speak louder than words. These initiatives make it crystal clear that DEME is making specific decisions and investments to support our vision for a sustainable planet. 🌱

OUR MANAGEMENT TEAM



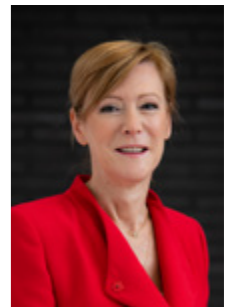
OUR EXECUTIVE COMMITTEE



LUC VANDENBULCKE
Chief Executive Officer



PHILIP HERMANS
Managing Director
Activity Line
Dredging



ELS VERBRAECKEN
Chief Financial
Officer



ERIC TANCRÉ
Managing Director
Activity Line
Dredging,
Managing Director
Activity Line Infra



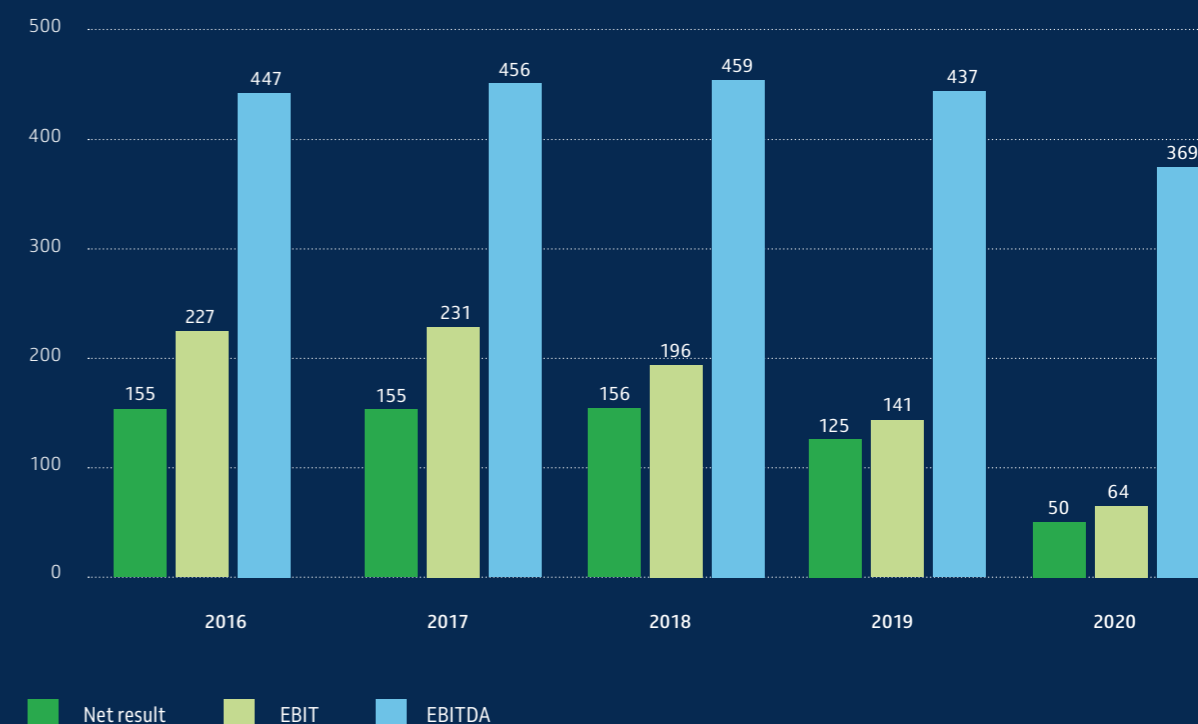
HUGO BOUVY
Managing Director
DEME Offshore

FINANCIAL HIGHLIGHTS

DEME Group key figures As of December 31 (in millions of EUR)	2020	2019	DELTA
Turnover	2,195.8	2,622.0	-426.2
EBITDA	369.5	437.0	-67.5
EBIT	64.3	141.1	-76.8
Net result from joint ventures and associates	22.4	18.4	4.0
Net result share of the Group	50.4	125.0	-74.6
Order book	4,500.0	3,750.0	750.0
Shareholders' equity (excl. minority interests)	1,467.5	1,435.5	32.0
Net financial debt	-489.0	-708.5	219.5
Balance sheet total	3,941.5	3,944.8	-3.3
Total investments	258.2	446.1	-187.9
Dividend of the year	20.4	0.0	20.4
NON-FINANCIAL KEY FIGURES			
Average # personnel (in FTE)	4,976	5,089	-113
Ratio male/female personnel (%)	85/15	86/14	-1/+1
Number of nationalities	80	82	-2
Lost Time Incident Frequency Rate (LTIFR)	0.19	0.24	-0.05
GHG emissions worldwide in 1,000 Ton CO ₂ -eq. (scope 1 & 2)	660	681	-21

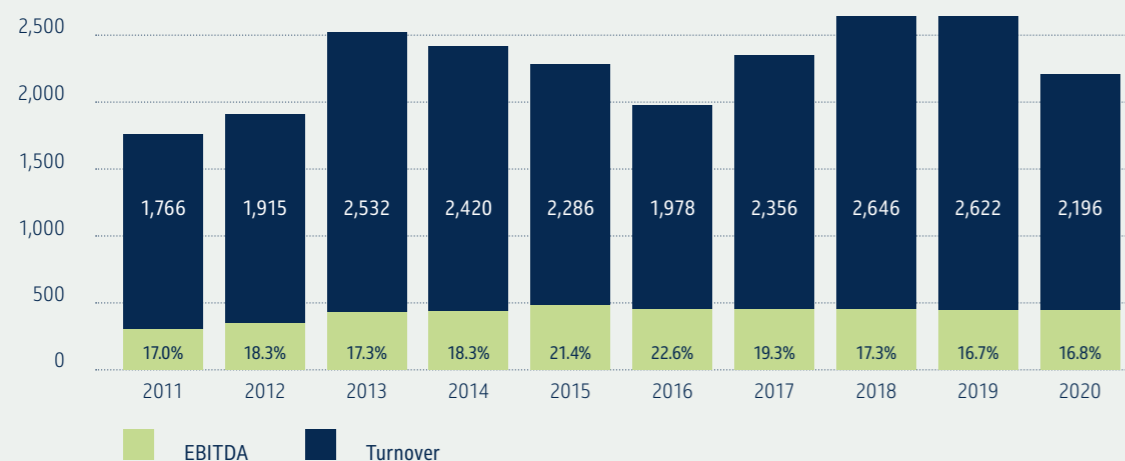
DEME GROUP EVOLUTION OF NET RESULT, EBIT AND EBITDA

As of December 31 (in millions of EUR)



DEME GROUP EVOLUTION OF CONSOLIDATED TURNOVER AND EBITDA

As of December 31 (in millions of EUR)



Definitions

EBITDA is the sum of operating result (EBIT), depreciation, amortisation expenses and impairment of goodwill.

EBIT is the operating result or earnings before financial result and taxes and before our share in the result of joint ventures and associates.

Order book is the contract value of assignments that are acquired as of December 31 but that is not yet accounted for as turnover because of non-completion. The amount also includes our share in the order book of joint ventures, but not of associates.

Net financial debt is the sum of current and non-current interest-bearing debt decreased with cash and cash equivalents.

Total investments is the amount paid for the acquisition of intangible, tangible and financial fixed assets, which equals the total investment amount of the consolidated cash flow from investing activities.

For the definitions of the **non-financial key figures**, as well as further information about the topics, we refer to the sustainability report.

DEME GROUP CONSOLIDATED TURNOVER

As of December 31

BY REGION

	2020	2019
Europe - EU ⁽¹⁾	77%	69%
Asia & Oceania	7%	9%
Africa	6%	9%
Europe - non EU	6%	4%
Indian subcontinent	2%	3%
America	2%	3%
Middle East	0%	3%



BY ACTIVITY LINE

	2020	2019
Offshore	43%	44%
Dredging ⁽²⁾	40%	41%
Infra	9%	7%
Environmental	5%	6%
Others ⁽³⁾	3%	2%



(1) UK included.

(2) Maintenance dredging amounts to 11% in 2020 of total DEME Turnover, 10% in 2019.

(3) Salvage works, marine aggregates, concession and deep-sea harvesting activities are represented in Activity Line Others.

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COMPANY
OVERVIEW

OUR PEOPLE

In an extraordinary year, our activities have been largely dominated by dealing with the coronavirus pandemic. Throughout the company, several teams worked 24/7 to make sure DEME people were kept safe and could continue their work in very difficult circumstances.

And indeed, we have nothing but praise for our employees – who showed the special DEME spirit: resilience, agility, flexibility and the ability to deal with a crisis and find creative solutions.

UNPRECEDENTED MEASURES TO GET PEOPLE HOME

In an unprecedented year, many of DEME's people had to stay on vessels and projects across the globe for much longer than anticipated because of the various lockdowns and travelling restrictions. Around 1,200 crew members had extended stays on board. DEME chartered more than 10 aircraft to bring our people home. Several vessel deviations took place so crew changes could be carried out and so we wouldn't let our customers down. Additionally, HR set up special extraction teams and a crew change task force to repatriate people.

A remarkable effort was the repatriation in August of 75 Philippine crew members from 12 vessels worldwide. The crew members have all spent some of the longest time stranded abroad because of the COVID-19 lockdowns and travel restrictions in the various countries they were active in.

Then for everyone in the offices worldwide, plans to enable people to work at home had to be swiftly developed.

MENTAL HEALTH SUPPORT AND ENERGY@DEME

In addition to dealing with the practical logistics matters, DEME recognised that the pandemic could potentially have a big impact on mental health. Several wellbeing training and development courses were set up, whereby the team could support people remotely wherever they were in the world. DEME also offered this support to family members.

As well as keeping mentally healthy, there were also sports initiatives to help people keep in good shape, such as a global competition inspired by the Tour de France. The Energy@DEME sports and wellbeing programme keeps on attracting more and more employees to participate in events, even during a year the events were taking place virtually.

As the world faced the second wave of the pandemic in the latter months of 2020, DEME will do whatever it can to continue supporting employees.

NEW IT SYSTEM

Although COVID was an overriding feature, the HR team also focused on the implementation of a new IT system (Workday) which involves a 'self-service' approach to HR, whereby managers and employees have more control over their own data and communicate with HR directly. This new IT system will transform the management of data processes at the company, in compliance with GDPR standards and national regulation. 🌱

Special extraction teams and a crew change task force was set up to repatriate people.



In August 75 Philippine crew members from 12 vessels worldwide were brought home with a chartered plane.



Our people have demonstrated resilience, flexibility and agility in an extraordinary year.

DEME'S CORE VALUES

We have established a set of standards applicable to our business units and subsidiaries worldwide. They are the centre of our commitment to consistently deliver excellence to our customers and value to our company. We also expect suppliers, subcontractors and partners to adhere to these standards. At DEME, we define our company culture using the acronym STRIVE.

S SAFETY

The personal safety and health of employees and stakeholders is our greatest responsibility. Everyone has the right to work in a safe and risk-free environment at all times.

I INNOVATION

Innovation is the cornerstone of our achievements. We continuously push our boundaries by developing new, value-adding services and solutions.

T TECHNICAL LEADERSHIP

With an open mind and the right team spirit, we continue to improve all aspects of our work process and develop trailblazing solutions to the needs and challenges of our customers.

V VALUE CREATION

We make result- and sustainability-driven decisions in order to ensure long-term growth for the benefit of employees, customers and shareholders, including financial discipline to keep our company healthy.

R RESPECT & INTEGRITY

Our employees are trained and motivated to meet the challenges ahead. Individuality and diversity are valued and performance is recognised. Our relationships with suppliers, subcontractors and partners reflect respect, understanding and sound business practice. We observe all applicable laws and regulations of the countries in which we are active. We respect human rights and prohibit discrimination.

E ENVIRONMENT

We protect the environment and avoid any negative impact on the communities in which we do business.

SUSTAINABILITY

At DEME, it is our ambition to fundamentally contribute to sustainable solutions for the global environmental, societal and economic challenges facing our world today.

Every day we are involved in a wide range of large, complex projects worldwide, ranging from dredging and land reclamation to infra, environmental and offshore energy works. All these projects have a potential impact – positive or negative, minor or substantial – on communities, local economies and the overall climate.

We always strive to improve the sustainability of our own operations. An intense internal cooperation process took place across our activities, leading to a two-dimensional strategy for sustainable performance.

01

TO EXPLORE SUSTAINABLE BUSINESS SOLUTIONS

by continuously challenging ourselves to develop more sustainable business solutions, to enlarge our sustainable business portfolio and to align our business decisions with the Sustainable Development Goals where DEME can create the most impact.

02

TO EXCEL IN OUR OPERATIONS

by maintaining and strengthening a sustainable performance in our daily operations.

This strategy will help us to create sustainable value for our customers, DEME and society.

EXPLORE SUSTAINABLE BUSINESS SOLUTIONS



EXCEL IN OUR OPERATIONS



OUR COMMITMENT TO THE SUSTAINABLE DEVELOPMENT GOALS

It is undeniable that the world is facing multiple global challenges that could have a serious impact on society and the environment unless we take action now. With its 17 Sustainable Development Goals (SDGs), the UN has identified its priorities for creating a better world by 2030.

While these goals address different themes and aspects of sustainability, they are all interconnected. Together, they

will help us to overcome global poverty, stop climate change and fight inequality so that we all live in a better world.

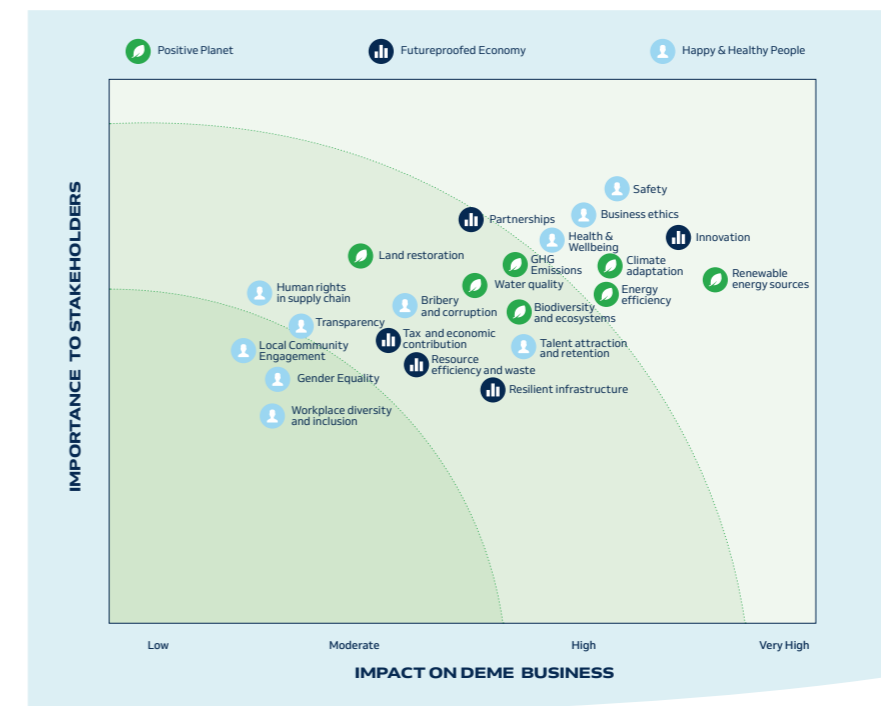
At DEME, we are fully committed to helping achieve the SDGs. These goals have helped us to understand the economic, environmental and social impact of our operations as we move towards a project portfolio with a strong sustainable focus.

MATERIALITY MATRIX

To understand the key Sustainable Development Goals and related sustainability themes where we can have the most impact, extensive stakeholder consultations were conducted in 2017 and 2018. These in-depth stakeholder consultations and additional research resulted in a materiality matrix reflecting key priorities, based on business impact and importance to our stakeholders. The materiality assessment helped us to further define our two-dimensional sustainability strategy, resulting in eight key sustainability

themes which are the drivers for our sustainable performance.

In 2020 we worked to further refine the implementation of these eight key sustainability themes on those impact areas that are most relevant for our business and for our external stakeholders. Consequently, we set up an operational framework of well-defined sustainability programmes connecting our ambitions with clear targets, action plans and performance indicators in a coherent and structured way.



For further information on DEME's approach to sustainability and the progress we have made towards achieving our ambitious goals, we refer to our **Sustainability Report 2020**.

QUALITY, HEALTH, SAFETY & ENVIRONMENT

In 2020, our Quality, Health, Safety and Environment (QHSE) efforts focused on 'what is going right'. What DEME does well was the basis and a recurring theme in the QHSE communication plan.

In an unprecedented year of challenges, the robust systems and procedures we have in place to handle difficult situations all worked smoothly, even when they were tested to the extreme. Crucially, our employees stayed healthy and operationally, projects kept running across the globe.

COVID-19 SUPPORT TEAM

Even before the coronavirus pandemic started to emerge in March, a COVID-19 support team, including QHSE, HR, Communications, the company doctor and our Purchase & Logistics managers was set up. Having such a close-knit team was vital, enabling us to communicate the very latest information with our employees worldwide. We introduced a whole series of simple leaflets explaining COVID measures and procedures.

We implemented social distancing at offices and project sites, stringent quarantine and test procedures before boarding our vessels, disinfected meeting rooms, performed temperature checks and daily online health checks amongst other initiatives.

Due to these robust measures, taken right from the start, we managed to keep the situation under control and our projects continued.

WORKING AT HEIGHT SAFETY CAMPAIGN

As well as the focus on just the very rare occasions when things do go wrong, or almost go wrong, we adopted QHSE campaigns that strongly emphasise the many, well prepared, high risk

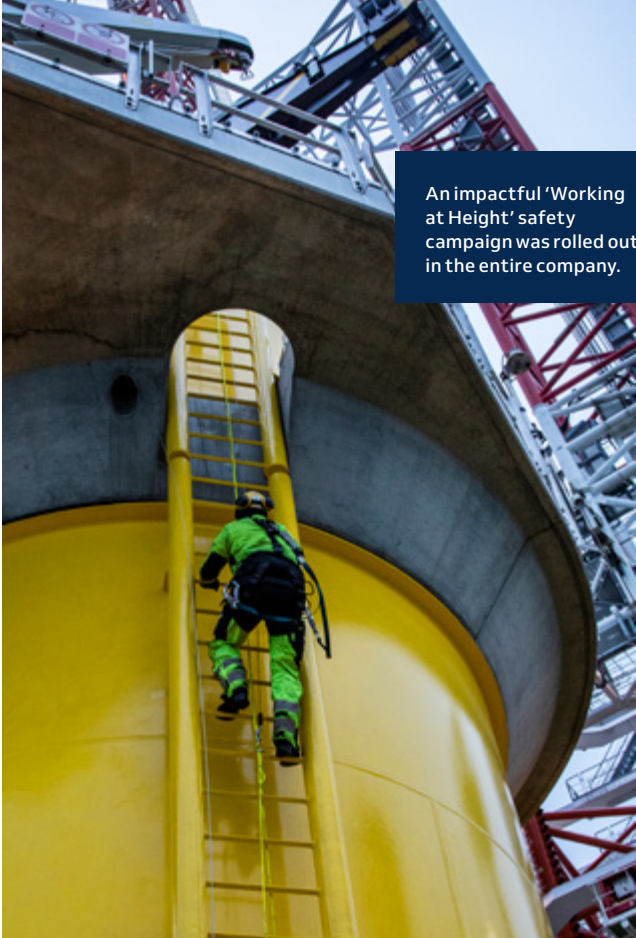
activities that we do right. These are then shared and we use them as a learning moment to disseminate throughout the organisation.

For example, we launched the 'what we do well' Working at Height campaign, whereby we asked our crews and project teams to share their 'Safety Success Stories' and handy tips and initiatives about safely working at height. 'Working at Height' is a broad topic, which can include scaffolding, personal fall protection, mobile elevated working platforms, lifting of persons, rope access, ladders and dropped objects. Two hundred of these positive stories were collected and this resulted in the creation of a very useful and easily accessible database. The successes were highlighted at our annual Safety Moment Day when the best ideas were awarded.

EUROPEAN BUSINESS AWARDS FOR THE ENVIRONMENT

As well as dealing with the coronavirus measures, we continued with our ambitious environmental campaign. In 2020, we were delighted to win the prestigious Silver medal of the 'European Business Awards for the Environment' (EBAE), organised by the European Commission.

This award recognises a successful organisation with the strategic vision and management scheme that enable it to continuously improve its environmental performances. The EBAE added that this award acknowledges businesses that produce maximum economic value with minimum environmental impact and congratulated DEME on its outstanding performance. 🌱



An impactful 'Working at Height' safety campaign was rolled out in the entire company.



INNOVATION

DEME's relentless drive to innovate and to stay ahead of the competition continued in 2020. With a keen focus on global challenges such as CO₂ reduction, a scarcity of natural resources, polluted seas and rivers, an increasing population and marine litter, we launched a wide variety of initiatives this year.



The DEME Convention included workshops concerning different sustainability challenges.



DEME DIVER CAMPAIGN

A very important source of innovative ideas is the so-called DEME Diver campaign which takes place every few years. In 2020, we launched the biggest ever DEME Diver and asked our employees, crew and project teams if they had ingenious ideas we could share with the Group.

The Diver campaign was a terrific success, largely thanks to our 'Diver ambassadors' who promoted the campaign across the globe. For example, the ambassadors in our activity line Dredging organised a livestreaming event with more than 100 people attending. We received about 800 great ideas at the final count.

The 'Green Diver' addressed corporate challenges such as how we can reduce our carbon footprint, how we might increase safety and how we can make sure we achieve operational excellence. As well as this, the Diver campaign called for ideas about enhancing cross-DEME collaboration and communication, how to transfer knowledge to younger colleagues and the further acceleration of digitalisation so we can maintain our leading position.

A jury reviews the initial ideas and looks at how well they match our strategy regarding sustainability and operational excellence etc. In the course of 2021, we then decide which ones should enter the acceleration programme with the aim of making the time to market as fast as possible - so great ideas get turned into reality and create value for the company.

As well as our Green Diver campaign, we also collect initiatives which have already been achieved from the past three years for the Blue Diver. Here we reward innovative initiatives that have proven themselves and could be scaled up in the future.

TARGETED AVISO CAMPAIGNS

In 2020 we also launched several dedicated 'AVISO' campaigns. These campaigns address specific tenders, challenges or vessels. One of the key ones this year actually focused on COVID-19 and 'Moving towards a new normal'. We received more than 100 suggestions, including ideas about how we improve our digital administration and our virtual presence.

One very important and helpful initiative resulting from the AVISO campaign concerned the optimisation of our digital capabilities. For example, by spreading tender preparations over different time zones and getting used to doing things remotely we can maximise our resources. We can then work on tenders 24/7. This greatly improves our flexibility. We can easily bring people with certain expertise on board wherever they are located.

Other ideas included expanding our virtual presence by an extended use of MS Teams and accelerating remote support for our vessels.

DEME CONVENTION

Early in the year we held the DEME Convention. The event was attended by approximately 250 DEME middle and top managers from all over the world. A mixture of inspirational speakers and interesting workshops concerning innovation and sustainability challenges amongst others, ensured that the event was a big success. The innovation team moderated a debate about hot topics such as artificial intelligence, floating barriers, the Geographic Information System, the industrial Internet of Things and swarm technology.

ON A QUEST FOR INNOVATIVE START-UPS

DEME also participates in several initiatives designed to bring interesting innovative start-ups to our attention.

Organised by the European Commission, Directorate General for Maritime Affairs, DEME hosted the first BlueInvest Corporate Day. The event brings together innovators, entrepreneurs, investors and corporates active in the blue economy. Marine litter, hydrogen, the Internet of underwater Things and aquaculture were some of the challenges addressed during this first event and it resulted in several interesting leads.

Additionally, we participated in the European Innovation Council's annual matchmaking event and the Planet.tech challenge. Here we can work together with start-ups to co-create innovative solutions for a number of challenges related to the European Green Deal. 🌱

FLEET INVESTMENT

In 2020 our ambitious, multi-year fleet investment programme continued, with the arrival of two new trailing suction hopper dredgers, 'Meuse River' and 'River Thames'. Meanwhile we are nearing completion of the world's most powerful cutter suction dredger 'Spartacus', a game changer in the industry. Together with CSBC we are also investing in a dedicated DP3 heavy lift installation vessel, 'Green Jade', in Taiwan. With 'Green Jade' we will be uniquely positioned to meet the requirements of the growing Taiwanese offshore wind market.

'SPARTACUS', THE WORLD'S MOST POWERFUL CUTTER SUCTION DREDGER

One of the most anticipated vessels in DEME's history – the most powerful cutter suction dredger (CSD) in the world - 'Spartacus' - is near completion and expected to be delivered in 2021. This vessel marks an important milestone in the industry, as 'Spartacus' represents the next step in terms of production rates, pumping power and water depth, in combination with her seagoing capacity.

This extraordinary vessel has been built in extraordinary times and her construction never stopped, even though she is being built in the midst of a global pandemic. DEME and IHC worked in close-knit, integrated teams to make sure the complicated engineering and construction reached previously unseen states of technology. Our captains also worked alongside the shipyard team. Given her scale and huge dredging anchors for example, it was vital to get their input as they fully understand what will be demanded of the vessel offshore.

With a total installed power of 44,180 kW, we believe this unique vessel will create her own market. Equipped with an energy-saving flywheel, her production rates and ability to cut hard soil are unrivalled. Projects that would not have been feasible before are now possible. With no exaggeration - she is a game changer.

'Spartacus' has more cutting power than any other cutter suction dredger in the market. She can dredge up to an exceptional -45 m, rather than the usual -35 m, and she will have unprecedented autonomy and pumping distance, having the ability to pump 15-20 km ashore. Additionally, we can repair the cutterheads on board, which is a big advantage when working in remote locations.

'Spartacus' can be powered by different types of fuel, including LNG, enabling the operator to choose the cleanest fuel available. Additionally, she has an efficient waste heat recovery system that converts heat from the exhaust gases into electrical power.

Total
installed
power of
44,180 kW

Dredges
up to an
exceptional
-45 m



CSD 'Spartacus' has a total installed power of 44,180 kW.



TSHD 'Meuse River' achieved very high production rates at her first project.

TRAILING SUCTION HOPPER DREDGER 'MEUSE RIVER'

Our 8,300 m³ trailing suction hopper dredger (TSHD) 'Meuse River', a sistership to our pioneering dual fuel TSHD 'Scheldt River', successfully joined our fleet in June, even though she was being commissioned in the pandemic. Her first project was also a particularly challenging one in the Arctic. Our operations and technical departments performed extra sea trials to make absolutely sure she was fully prepared for her maiden voyage. To mobilise 'Meuse River' in good time, we put stringent coronavirus measures in place such as separating the crew from external people and closing off certain areas, creating isolated zones on board. This commissioning and mobilisation was really an impressive achievement.

'Meuse River' already made her name before her official naming ceremony, which also took place virtually due to the coronavirus restrictions. The new TSHD put in a strong performance in the Arctic, achieving very high production rates.

Like her sistership, she has a state-of-the-art dredging system and a very efficient hull shape, which enables her to handle a huge payload with a limited draught. A relatively large dredge pump for her size and a very flexible drive system, which allows the crew to tune it and find the optimal working configuration, are major factors in achieving the impressive production rates. Additionally, backfilling through the suction pipe is very simple. Fuel consumption is also minimised because the hybrid drive system combines power from different sources.

'Meuse River' also has a Green Passport and Clean Design notation.



The compact trailing suction hopper dredger 'River Thames' ensures high manoeuvrability.

TRAILING SUCTION HOPPER DREDGER 'RIVER THAMES'

A new member of our smaller hopper fleet - the TSHD 'River Thames' - was delivered in June. Built by Royal IHC in Batam, Indonesia she headed straight to Africa, where she will be working for the foreseeable future. Designed for operations in remote areas and with a capacity of 2,300 m³, TSHD 'River Thames' has a shallow draught of only 4.25 m, making her versatile and easily mobilised from one place to another. She can operate with a small crew and is easy to maintain.

SPLIT BARGES 'BENDEL' AND 'DEUGNIET'

Two new giant split barges, with a large capacity of 3,500 m³ were delivered in the fourth quarter and immediately headed off for their first project. These supersized barges are ideal to be deployed alongside the mighty CSD 'Spartacus' and our other mega cutters and backhoe dredgers.

OFFSHORE INSTALLATION VESSEL 'ORION'

When you are a pioneer - trying to do what has never been done before - there are sometimes unexpected challenges to overcome. Unfortunately on May 2, before we could take ownership of the new offshore installation vessel, 'Orion', there was an accident involving the crane hook during overload tests at the Liebherr manufacturing facility. Certainly, the crane collapse was a major setback and we had to swiftly find solutions for our project pipeline, but with true DEME determination we found alternatives and looked to the future.

'Orion' features an unparalleled combination of exceptionally high transport, load capacity and lifting heights. The crane has a lifting capacity of 5,000 tonnes and can hoist heavy loads over an exceptional radius and these can be lifted to a height of more than 170 m.

With a total installed power of 44,180 kW and DP3, 'Orion' is the perfect vessel for tackling the next

generation of mega turbines and foundations. At 216.5 m long she has an abundance of deck space and a deadweight that has been maximised so she can handle the heaviest monopiles, jackets and wind turbine components.

Crucially, 'Orion' will be equipped with an integrated special pile gripper and upending tool (weighing more than 3,000 tonnes). This enables the vessel to seamlessly upend the monopiles, which are transported horizontally on her deck. The motion compensated pile gripper can maintain its position despite the vessel's movements. Largely developed by DEME, this concept has never been used before.

Sustainability is also a vital part of the vessel's design. 'Orion' has dual fuel engines enabling her to run on LNG, with a Green Passport and Clean Design notation. Another environmental innovation is a waste heat recovery system that converts heat from the exhaust gases to electrical energy. The evaporation of LNG will also cool the accommodation with a cold recovery system.



'Orion' is the perfect vessel for tackling the next generation of mega turbines and foundations.

FIRST SERVICE OPERATION VESSEL LAUNCHED ON SCHEDULE

DEME's first ever Service Operation Vessel (SOV) was launched on schedule in September and will undergo sea trials in the first half of 2021.

Being built at the CEMRE shipyard in Yalova, Turkey, the vessel marks a major milestone in our fleet history and before her bow had been dipped into the water she has already been signed up for a multi-year charter contract with Siemens Gamesa Renewable Energy. She will be deployed for the maintenance of the Rentel and Mermaid & Seastar (known as SeaMade) offshore wind farms in Belgium. This is the first DP2, twin-hulled SOV in the world and the first to serve three different wind farm sites.

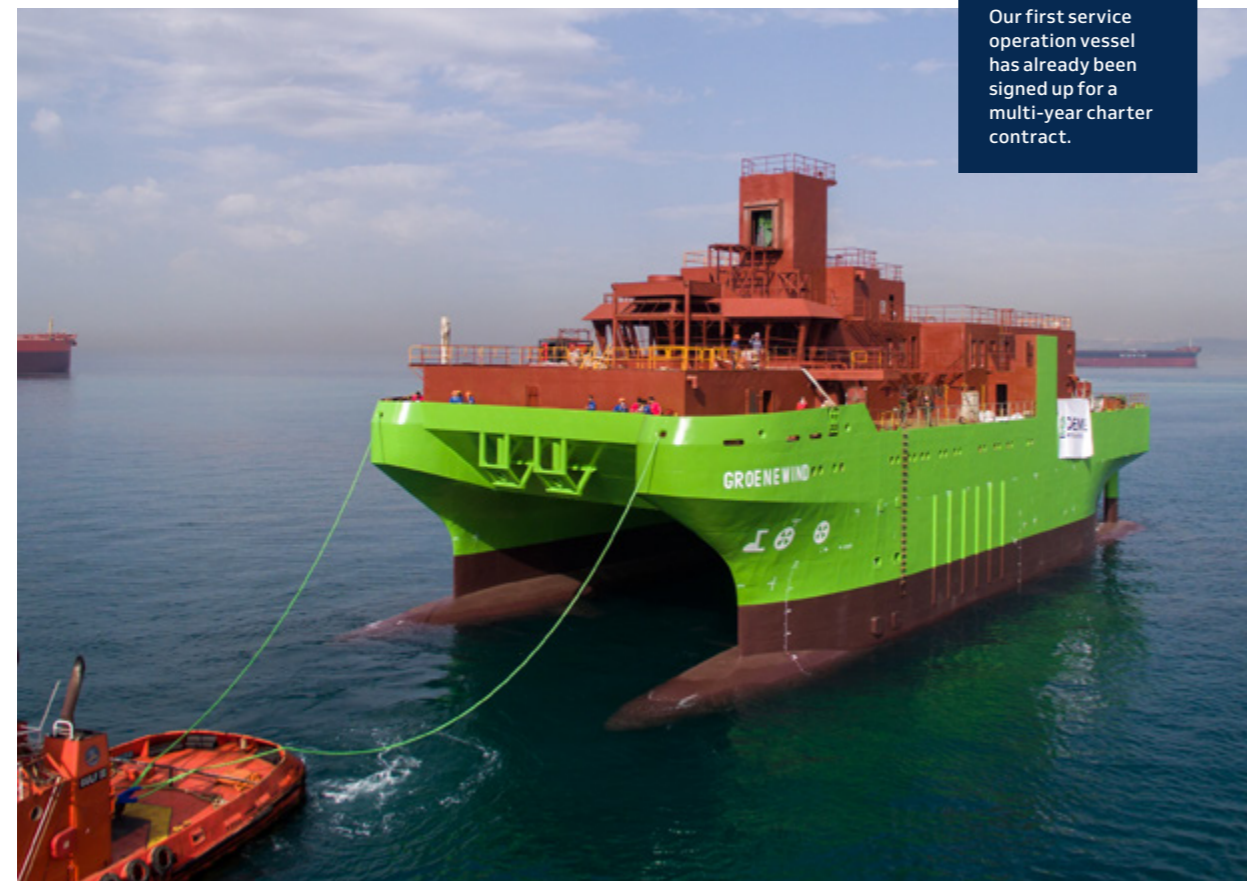
The Small Waterplane Area Twin Hull (SWATH) vessel improves safety, comfort and workability for offshore wind farm maintenance. She easily competes with the large monohull vessels, consuming much less fuel. An impressive fuel consumption reduction of up to 50% can be achieved, further reducing the cost of wind farm maintenance.

With her twin hull and two floaters under the waterline, the vessel provides a very stable platform. As the buoyancy is well below the waves, she is less prone to wave-induced movement and consequently more comfortable for the technicians.

Additionally, the 60 m vessel is equipped with a motion compensated gangway for the safe transfer of the technicians to the turbines, even in significant wave heights. This vessel highlights our philosophy that we need to be innovative to be competitive.

Adding this SOV to our portfolio also means that we can offer the total package of services to the offshore wind industry now - from installation right through to maintenance.

In line with her green credentials, environmental considerations are integral to the vessel design and include a waste heat recovery system and a Clean Design notation.



Our first service operation vessel has already been signed up for a multi-year charter contract.



Offshore installation vessel 'Green Jade' will feature an exceptional combination of high transport and load capacity.

CONSTRUCTION OF PIONEERING INSTALLATION VESSEL 'GREEN JADE' GETS UNDERWAY

With Taiwan's ambitions to make the transition to green energy at the rate of 1 GW every year to reduce its reliance on fossil fuels, CSBC-DEME Wind Engineering (CDWE) is doing its utmost to support the growth in the offshore wind industry and in line with this, it is also very keen to promote local content wherever it can. Crucially, it is also vital to have the right local partner, with the same ambitions for the development of the renewables industry as DEME.

This very fruitful collaboration with CSBC led to the bold decision to invest in a dedicated DP3 heavy lift installation vessel 'Green Jade', which represents the largest single overseas investment for DEME. Being built in Taiwan, 'Green Jade' will also sail under its flag and be crewed by Taiwanese nationals.

In June, CDWE took the Final Investment Decision, really demonstrating the confidence the joint venture shareholders have in the potential of this new vessel, particularly given that it took place during the pandemic. On September 30, a key milestone was achieved when steel cutting got underway. The team have been finalising the full concept design, preparing for the detailed design stage for much of this year.

'Green Jade' will feature an exceptional combination of high transport and load capacity, impressive lifting heights and green technology. The new vessel can transport and install the next generation of foundations and giant multi-megawatt wind turbines in the most cost-effective way.

The vessel is due for delivery in the fourth quarter of 2022 ready for her first projects, which include the Hai Long and Zhong Neng offshore wind farms. Indeed, this locally-built vessel has a healthy order book for the first three years. Taiwan is also busy preparing for the third wind farm auction round. 🌱

DEME'S FUEL STRATEGY

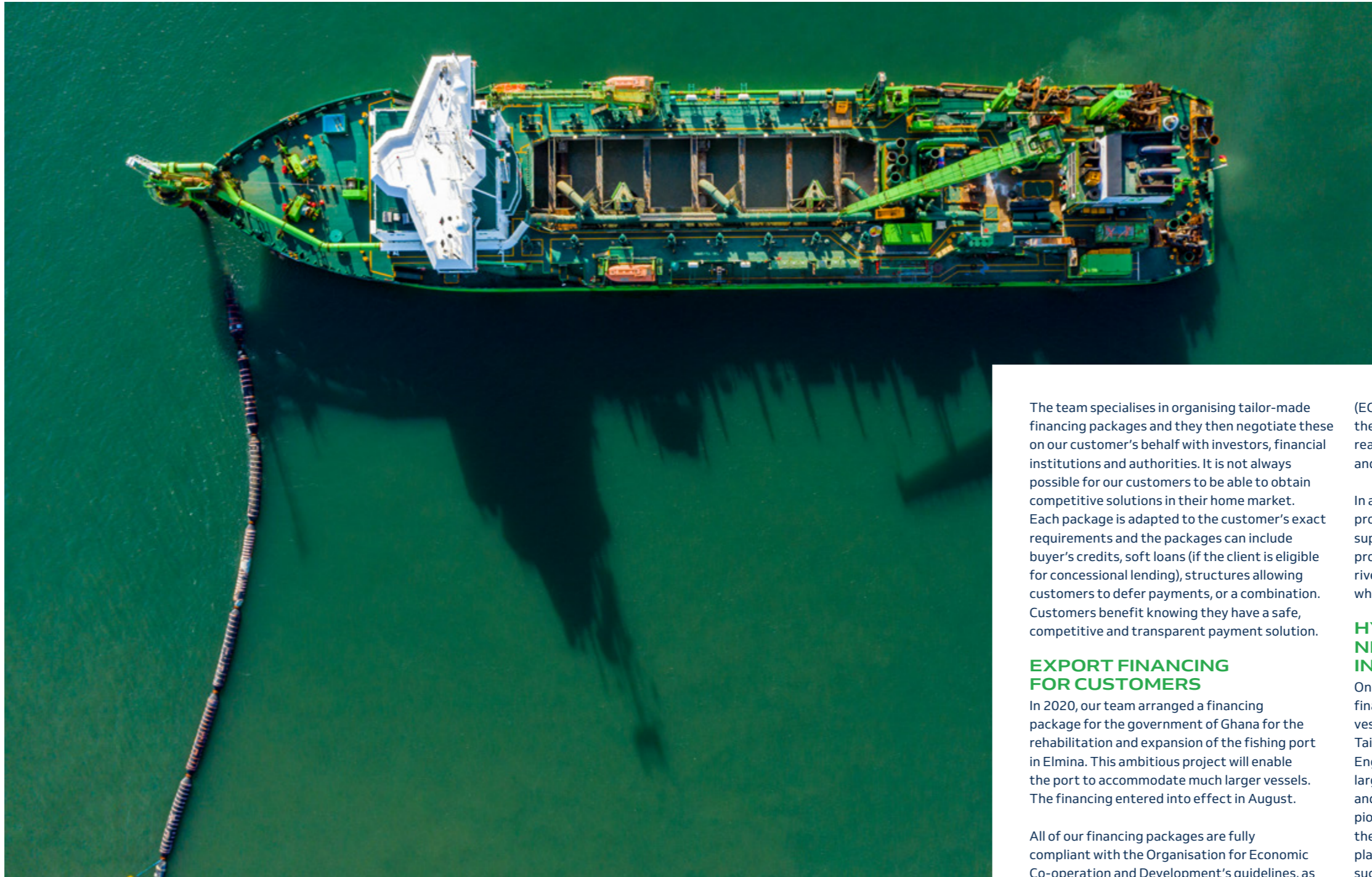
With DEME's ambition to dramatically reduce emissions by 2030 and ultimately to become a climate-neutral organisation by 2050, our fleet investment strategy takes a two-pronged approach to making sure we can achieve this goal.

Firstly, fuel that we don't consume cannot deliver any emissions. Therefore, we are investing heavily in fuel saving technologies and/or ways to do more with less fuel and secondly, we are investing in the use of future fuels, with a very low or zero GHG life cycle and examining how we can use these new fuels such as green hydrogen, ammonia, methane and methanol on new and existing vessels.

While it is difficult today to determine the carbon neutral marine fuel of the future, bio diesel, bio methane and bio methanol are important candidates for the coming years. Thereafter, vessels which are capable of running on one of these bio fuels will also be able to work with the corresponding power to liquid/gas fuel. Many of our new vessels can operate using LNG and are hence ready to run on practically carbon neutral fuels like biodiesel and liquified green methane.

STRUCTURED FINANCE & TREASURY

Even though many deals had to be concluded remotely given the coronavirus restrictions, our Structured Finance & Treasury team has managed to assist customers with export financing deals during 2020 and indeed the DEME Group itself.



The team specialises in organising tailor-made financing packages and they then negotiate these on our customer's behalf with investors, financial institutions and authorities. It is not always possible for our customers to be able to obtain competitive solutions in their home market. Each package is adapted to the customer's exact requirements and the packages can include buyer's credits, soft loans (if the client is eligible for concessional lending), structures allowing customers to defer payments, or a combination. Customers benefit knowing they have a safe, competitive and transparent payment solution.

EXPORT FINANCING FOR CUSTOMERS

In 2020, our team arranged a financing package for the government of Ghana for the rehabilitation and expansion of the fishing port in Elmina. This ambitious project will enable the port to accommodate much larger vessels. The financing entered into effect in August.

All of our financing packages are fully compliant with the Organisation for Economic Co-operation and Development's guidelines, as well as those of the banks. We work with a broad range of financial institutions and in our home market have a longstanding relationship with Credendo, the Belgian Export Credit Agency

(ECA). Given the increasing scale of some of the projects we support, our team has also reached out to other Export Credit Agencies and the private insurance market too this year.

In addition to helping our customers finance their projects, the Structured Finance & Treasury team supports the Group when we work on international projects which involve public-private partnerships, river, port & infrastructure concessions, or when we invest in new vessels or equipment.

HYBRID FINANCING FOR NEW OFFSHORE WIND INSTALLATION VESSEL

One very good example of their support was the financing of our new offshore wind installation vessel 'Green Jade', which is being built in Taiwan for our joint venture CSBC-DEME Wind Engineering (CDWE). Though the negotiations largely took place during lockdowns in Asia and Europe, the team managed to achieve a pioneering new hybrid financing transaction for the vessel. The Final Investment Decision took place in March and the team concluded the deal successfully by end-July, despite the coronavirus restrictions. This innovative financing structure, combines a project approach and a form of conditional recourse. The financing will be fully repaid over a 10-year period after delivery. 💰

DRIVE

DRIVE is our long-established continuous improvement programme that continued to show its value during 2020. On every project, improvement opportunities are continuously identified, screened and executed in order to deliver, time and time again, the best possible project progress and solutions towards our clients.

One of the most remarkable trends in 2020 was the 75% increase in successful DRIVE exercises. This is primarily due to the projects that are increasingly active and structured in their approach towards continuous improvement. Some projects that deserve a specific mention here are the River Elbe deepening and widening project in Germany, the New Lock Terneuzen in the Netherlands, the offshore wind projects Borssele 1&2 and SeaMade and the remediation site of Fort-Filips in Antwerp.

DRIVE AND BOOS-T TEAMS CLOSE COOPERATION REALISING IMPRESSIVE RESULTS

The close cooperation between DRIVE and BOOS-T continued in 2020 and led to some impressive results. BOOS-T is a team of technical expert engineers within the activity line Dredging, who mainly focus on the role of the vessels and operators in the continuous improvement process. The team has the practical experience to assist the project teams and crew to achieve their DRIVE goals and therefore both teams work very closely together. Additionally, BOOS-T plays a role in the project preparation phase and enables us to capture improvement opportunities at a much earlier stage.

The advantages of the cooperation between the DRIVE and BOOS-T teams is highlighted in several successful dredging projects taking place during the year. These include the Sea Channel project in the Arctic, the Świnoujście-Szczecin fairway project in Poland and the Bonny-Bodo Road in Nigeria amongst others.

DIGITALISATION OF OUR PRODUCTION REPORTING ENVIRONMENT DRE & OPRA

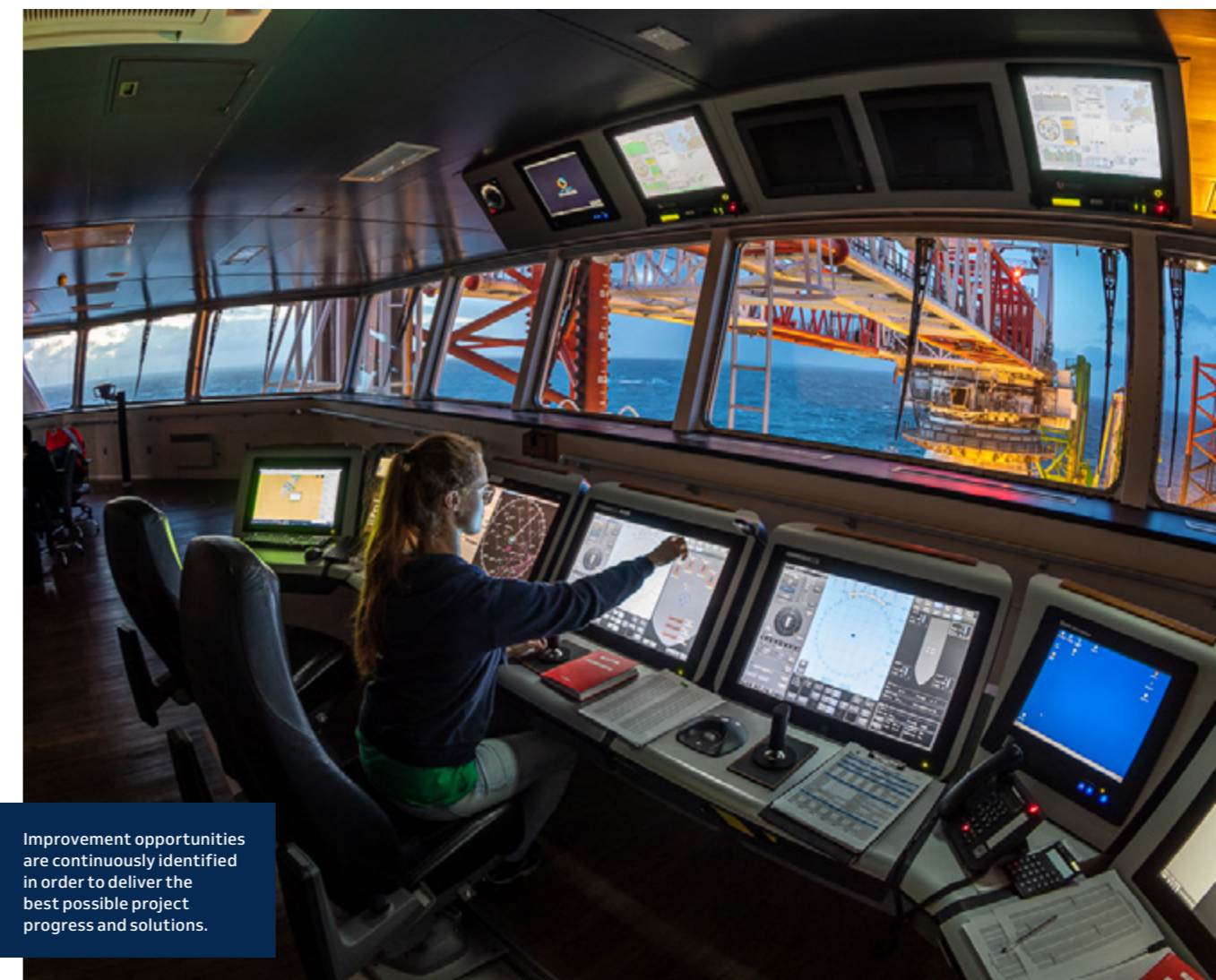
As part of our digital transformation, all our dredging and offshore activities are now captured in the new DEME Reporting Engine (DRE) - a secured, cloud-based database for production and operational progress data. The resulting dashboards provide insights and allow us to monitor in real time the progress of projects and our vessels, and make more informed decisions or take necessary actions as needed.

75 %
increase
in successful
DRIVE exercises
in 2020

We also intensified the investment in our Onboard Production Reporting and Analysis (OPRA) solution, which uses the data captured by the vessel's sensors, and automatically records what the vessel is doing by exploiting the benefits of the Internet of Things. OPRA increases both the quality and extent of the production data, which is then captured into DRE. It was initially installed on our TSHD 'Bonny River', which was working on the River Elbe project at that time. During the implementation phase, a first successful case proved its potential: based on the data captured by the sensors on board, an operational cyclic delay could significantly be reduced, leading to an increased cycle production. After thorough testing and positive feedback from the crew and project team, OPRA will be rolled out further in 2021. 🌱



Production and operational data are captured in a new digital reporting tool.



Improvement opportunities are continuously identified in order to deliver the best possible project progress and solutions.



ETHICS & BUSINESS INTEGRITY

Our commitment to responsible business practices is absolute. The DEME Code of Ethics and Business Integrity puts our core values into practice and provides guidance to all our employees worldwide in making sound ethical business decisions by inspiring dialogues about ethics and compliance issues.

The principles of our Code of Ethics and Business Integrity are both simple and clear: comply at all times with the applicable laws and regulations, act with integrity and honesty, and avoid inappropriate behaviour or even the appearance thereof. It is the personal responsibility and obligation of every employee to adhere to these principles. Moreover, we expect every third party we do business with to respect and act according to our core values and ethical principles.

The DEME Code of Ethics and Business Integrity covers important areas, such as protecting people and company assets, anti-bribery and anti-corruption, compliance with international trade laws, accounting standards and records.

PROTECTING PEOPLE

We are committed to providing a workplace free of discrimination where all employees are treated fairly. We value the diverse backgrounds and talents of employees. As an international player, we ensure that everyone has equal access to opportunities, using the same criteria for employment and promotion for our worldwide activities.

We never compromise on health and safety. To maintain our carefully built-up and valuable reputation in this respect, compliance with our quality processes and safety requirements is key for every individual working for us, both directly and indirectly. Our Health and Safety Policy further guides employees in maintaining a safe and healthy workplace for themselves and others by complying with health and safety procedures and by reporting incidents, injuries and unsafe equipment, practices and conditions.

PROTECTING COMPANY ASSETS

Employees are required to take care of our assets responsibly and protect them from theft, loss and misuse. This includes both physical assets and intellectual property.

ANTI-BRIBERY AND ANTI-CORRUPTION

Our anti-bribery and anti-corruption policy ensures that business throughout the world is conducted in an ethical and legal manner. Rigorous procedures and controls have been put into place to detect and prevent any form of bribery or corruption. These procedures or controls are periodically reviewed to ensure compliance at all times.

INTERNATIONAL TRADE LAWS

We are committed to complying with the applicable laws and regulations in the countries where we operate. Also, we ensure compliance with applicable national and international sanction regulations.

ACCOUNTING STANDARDS AND RECORDS

In order to guarantee the accuracy of our financial records, employees are responsible for providing complete, reliable and accurate data. We work according to accounting standards and procedures that are key in meeting our obligation to provide full and transparent disclosure to stakeholders and regulatory authorities. 🌱

The complete DEME Code of Ethics and Business Integrity can be found on our website.

DREDGING

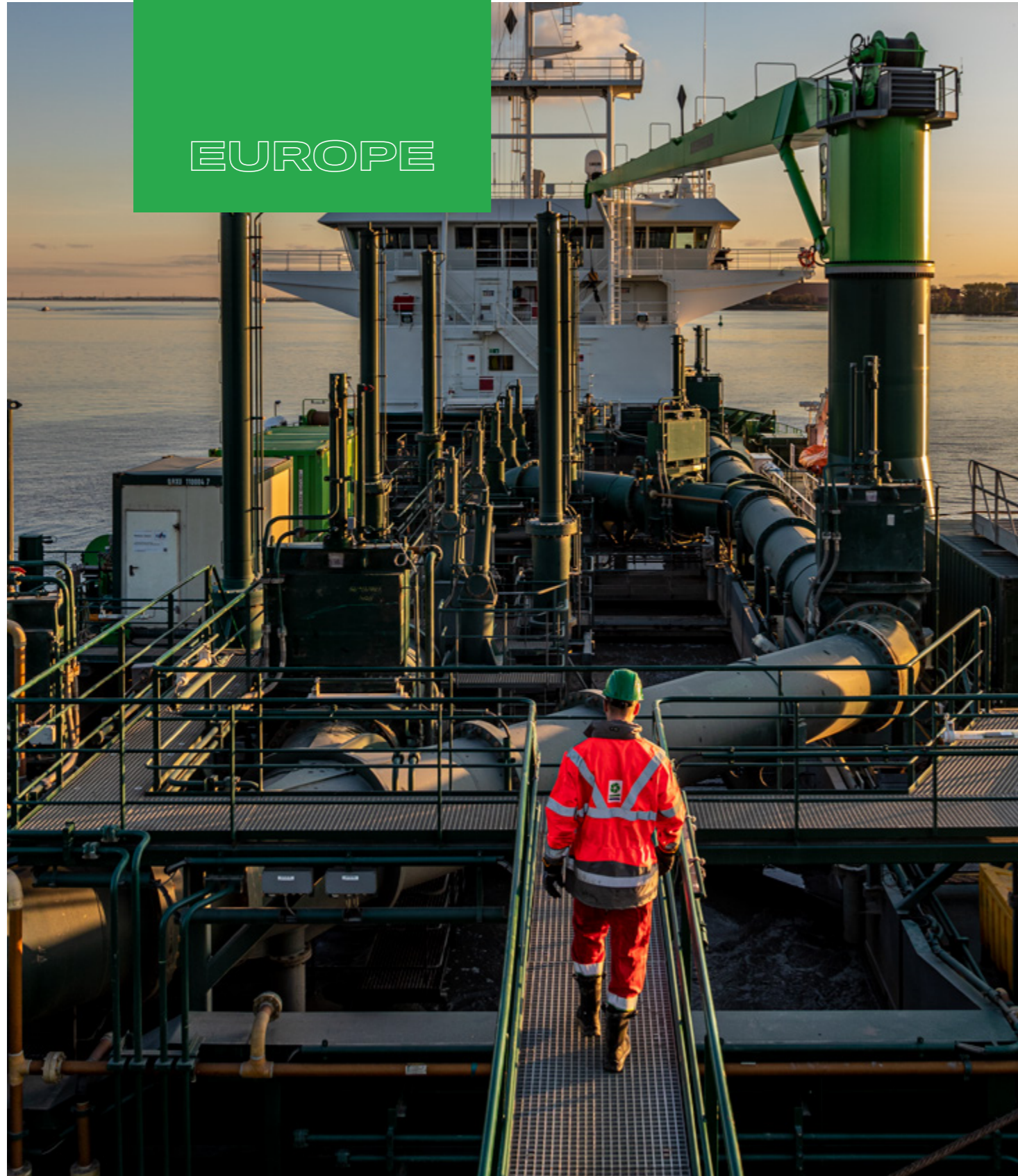
Dredging is more than just one of our core activities. It is at the very foundation of our company. We are involved in dredging and land reclamation projects worldwide, offering customers innovative solutions for even the most complex projects and challenging environments.

We operate the most technologically advanced fleet, including the world's first dual fuel dredging vessels. Over the past decades, we have executed major marine engineering infrastructure works such as the development of new ports, waterways, airports, artificial islands, residential and recreational areas, industrial areas, roads, bridges etc. on all continents.



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EUROPE



BELGIUM

ACCESS TO THE PORTS OF ANTWERP, ZEEBRUGGE AND OSTEND

Our long-term maintenance dredging contracts on the major waterways and along the coast in Belgium continued steadily throughout the year. Our TSHD 'Pallietier' performed several maintenance dredging campaigns on the River Scheldt and in the Port of Antwerp, while our TSHD 'Artevelde' worked along the coastline and in the access channels to Zeebrugge and Ostend. Most of the dredged sediments from within the Port of Antwerp were treated at AMORAS, Europe's largest mechanical dewatering plant for dredged materials.

GHENT-TERNEUZEN CANAL

We successfully finished a four-year maintenance dredging project (2017-2020) along the Ghent-Terneuzen Canal on schedule. We excavated a total of 500,000 m³ of contaminated soil, deploying a pontoon and crane, after which this polluted material was treated by our environmental teams at its specialist centres in Belgium.

HEDWIGE PROSPERPOLDER

As part of a consortium, we were awarded a five-year contract from De Vlaamse Waterweg (the Flemish waterways authority) for dry earthmoving works at the Hedwige Prosperpolder last year. Located alongside the Scheldt on the Belgian-Dutch border, the Hedwige Prosperpolder is being restored as a floodplain and as an estuarine natural intertidal area. In 2020 we started excavation works and made good progress despite some heavy weather. We handled 860,000 m³ during the year.

LOSWAL 1B2

Throughout 2020 we were busy performing dry earthmoving works to remove a 12 ha dredging deposit, which has been used for many decades in the Port of Antwerp. Removing the deposit will enable the PSA container terminal to extend its facility. When work completes in 2021, we expect to have handled around 1.13 million m³ of material. At the request of the Port of Antwerp, additional dredging work in front of the new quay wall was executed with our backhoe dredger 'Peter the Great' between August and September.



BELGIUM - HEDWIGE PROSPERPOLDER

The Hedwige Prosperpolder is being restored as a floodplain and as an estuarine natural intertidal area.

MARINAS IN OSTEND, ZEEBRUGGE AND BLANKENBERGE

An ongoing maintenance dredging campaign carried out by our CSDs 'Vlaanderen XVI' and the electrically-driven 'Blanew' continued in the marinas of Ostend, Zeebrugge and Blankenberge. We performed one campaign before and one after the summer months. CSD 'Blanew' is powered by means of a floating electric cable, which is directly connected to the shore-based renewable electricity network. Following the fierce Ciara and Dennis storms at the beginning of 2020, we dredged an exceptional quantity of more than 110,000 m³ in the access channel to the marina of Blankenberge port. This material was then used to replenish the local beach.

NIEUWPOORT MARINA

In 2019, the Flemish government awarded a major contract to perform dredging works for the construction of a new marina in Nieuwpoort. In addition to the dredging activities, we are responsible for the dry earthmoving works, road and pavement construction. We have largely focused on acquiring the permits and developing the design in 2020.

Nieuwpoort Marina, with 2,000 berths, is already a huge harbour, but there is a strong demand for larger berths. Therefore an additional dock with a deeper draught is needed. Eventually the development will create a new district with 1,000 apartments and 600 extra berths.

SEAMADE OFFSHORE WIND FARM

We successfully completed the dredging works for SeaMade, which is the largest offshore wind farm in the Belgian North Sea.



BELGIUM –
BLANKENBERGE

Maintenance dredging campaigns were carried out in several marinas, including Blankenberge.

The foreshore in Knokke was stabilised with sand from the New Lock Terneuzen project.

PORT OF ZEEBRUGGE

We performed a 'sweep' contract for the Port of Zeebrugge, to level out the high spots underwater with a deep-water plough. This enables the port to maintain its draught for the latest generation of container vessels.

KNOKKE

Meanwhile, two of DEME's project teams could support each other in Knokke. We supplied sand to stabilise the foreshore of Knokke from our project at the New Lock Terneuzen. We transported the surplus sand from Terneuzen with our split hopper barges 'Pagadder' and 'Sloeber'. Approximately 1.5 million m³ of sand will be reclaimed from Knokke's beach at a later stage of this project.

OOSTERWEEL LINK

In June, we were awarded a major project for the prestigious 'Oosterweel link', which will complete the Antwerp Ring Road. As a member of the 'Tijdelijke Maatschap Combinatie Oosterweeltunnel' (TM COTU) consortium, we will construct the Scheldt Tunnel for project developer Lantis. The contract has a value of EUR 570 million. DEME has a share of 25%. [\(see page 144 for more details on the project\).](#) The 1,800 m immersed tunnel will be the most important connecting element in the Oosterweel link and closes the Antwerp Ring Road on the north side. Works are due for completion in 2025. Dredging and dry earthmoving works will be executed together with another partner within the TM COTU.

THE NETHERLANDS

RIJNLANDROUTE

By the end of the year, the removal of all of the sand-bentonite mixture from the 2.2 km bored tunnel has been completed on schedule for the RijnlandRoute project, which is a new road running between Katwijk and Leiden, a connection between the A4 and A44. We handled volumes totalling 440,000 m³ with our fully electric driven soil press 'Terram'. The sand-bentonite mixture was pumped out and transported to a former sand winning pit situated next to the project and along the A4, in an area known as the Meeslouwerplas. All the excess soil is reused for restoration and improvement, such as shoaling (making the lake shallower) and restoring the steep unstable embankments of the lake.

At the other side of the project (A44), about 350,000 m³ of dry excavated soil was handled via the Torenvliet quay and transported by barges for reuse in the Meeslouwerplas. At the end of 2020 about 1.1 million m³ of sand had been supplied.

NEW LOCK TERNEUZEN

The 427-metre-long New Lock Terneuzen is being constructed at the existing locks' complex and is designed to improve access to the ports of Ghent and Terneuzen. Dry earthmoving works totalled 300,000 m³ during the year and about 1.5 million m³ has been dredged with various types of equipment. About 50,000 m³ of contaminated soil was removed and 50,000 m² of scour protection was installed. When the design & build contract is completed in 2023, we expect to have dredged and reclaimed a total of 13 million m³ of material.

One aspect of the project which highlights our ingenuity is the use of customised equipment, specifically designed for this project. For example, our purposely built pontoon 'Impérieuse' was used to excavate the very stiff clay out of the future outer and inner lock heads. Another pontoon, aptly named 'Pebbles', was designed to lay an even gravel bed on the bottom of the lock heads. The strict tolerances and excavation depths of up to -22 m NAP in a closed excavation pit made these phases of the project even more challenging.

BLANKENBURG CONNECTION

At the end of 2020, the earthmoving works on the Maasdeltatunnel North and South, and at the Hollandtunnel were in full swing and all running according to schedule at the Blankenburg Connection project. A major part of the project is to construct an 825 m immersed tunnel (the Maasdeltatunnel). The dredging works will be executed in 2022.

The A24 Blankenburg Connection connects the A20 and the A15 and improves access to the Rotterdam region. The scope includes the construction of a highway with 2x3 lanes, a land tunnel, immersed tunnel, a deepened connection to the A20 road and a high connection to the A15.

Rijkswaterstaat (part of the Dutch Ministry of Infrastructure and Water Management) awarded the EUR 1 billion public-private partnership project 'A24 Blankenburg Connection' to the BAAK Consortium, which comprises DEME Concessions, Ballast Nedam Concessions and Macquarie Capital. The project was awarded on a design, build, finance and maintenance basis and will run for a period of 20 years.

THE NETHERLANDS – NEW LOCK TERNEUZEN

TSHD 'Artevelde' rainbowing at the New Lock Terneuzen.



THE NETHERLANDS – NEW LOCK TERNEUZEN

Several of our activity lines are working shoulder to shoulder on the New Lock Terneuzen.



THE NETHERLANDS – NEW LOCK TERNEUZEN

Customised equipment has been designed for the New Lock Terneuzen project, like the purposely built pontoon 'Impérieuse'.

GORINCHEM-WAARDENBURG DYKE REINFORCEMENT

In 2020 we completed the detailed design of the 'Dyke reinforcement Gorinchem-Waardenburg' (GoWa) project and the so-called 'water act project plan'. While preparing the implementation design, we are currently shaping the budget for the project. This 23-km dyke reinforcement is part of the Netherlands Flood Protection Programme (Hoogwaterbeschermingsprogramma). Waterschap Rivierenland tendered using a totally new contract form, known as an alliance. The partners of the alliance work together right from the beginning of the project. This approach is already proving successful and progressing well, in fact faster than a traditional contract.

Operations are expected to get underway in June 2021 and be completed in 2026. The Netherlands Flood Protection Programme involves the reinforcement of 1,300 km of dykes and 500 locks and pumping stations over the next 30 years.

DYKE REINFORCEMENT OF LEKDIJK

In a unique project approach, the Lek Ensemble Combination (de Vries & van de Wiel, together with Heijmans and GMB) has been awarded a so-called Innovation Partnership contract. As part of the Netherlands Flood Protection Programme, the Dutch government has selected three parties which will work together to achieve six projects related to dyke reinforcement. These parties must design the project whilst taking sustainability, innovation and cooperation into account at all times.

Awarded by Hoogheemraadschap De Stichtse Rijnlanden (HDSR), the reinforcement of the northern Lekdijk consists of six subprojects, located between Schoonhoven and Amerongen, over a length of approximately 55 km. Three of the six tenderers were initially awarded one subproject.

The Lek Ensemble Combination was awarded the Wijk bij Duurstede-Amerongen section.

During the year, we have been working on the programme and project plan, budget and design, whilst continually considering new ways of cooperating, innovating and providing sustainable solutions. Execution is scheduled to start in 2023 but the project duration runs up until end-2029.

RIVERS IN THE WEST OF THE NETHERLANDS

A maintenance dredging programme for rivers in the west of the Netherlands near Dordrecht and Rotterdam, was extended for another year. Our trailing suction hopper dredger 'Zeeland' is being deployed and approximately 350-400,000 m³ is dredged per year.

IJBURG - 'STRANDEILAND'

The first phase of the Iburg 'Strandeiland' (Beach Island) project in Amsterdam was successfully completed in 2020. In a joint venture we performed the reclamation of 100 ha to create a new island for residential development, as well as a new beach. Around 12 million m³ will ultimately be supplied when all of the phases have been concluded.

We deployed several vessels on the project, including our specialist spray pontoon 'Omega'. On completion of phase one in July, we were directly awarded the second phase of the project which will involve the delivery of 4 million m³ of sand to create another island of around 40 ha. We use our own sand winning concessions for the supply of the materials.

In line with the Netherlands push to reduce emissions, and in particular to reduce nitrogen oxide emissions, we are installing selective catalytic reduction equipment on our vessels. So far, we have installed this equipment on board of 10 vessels.

FOUNDATION 'EMISSION-FREE NETWORK INFRA'

To successfully achieve these special projects like the Lekdijk dyke reinforcement, we have also initiated the foundation 'Emission-Free Network Infra'. The goal is to speed up the development of zero-emission equipment. This foundation brings together a network of infrastructure specialists where we can share our knowledge about the most efficient way to achieve zero emissions. Currently, members include representatives of Volvo, Hyundai, Rijkswaterstaat (Directorate-General for Public Works and Water Management) and independent research organisation TNO amongst others.

GERMANY

RIVER ELBE DEEPENING AND WIDENING

As the historic River Elbe deepening and widening contract nears completion - on schedule and on budget despite the coronavirus restrictions - there are few projects in our portfolio which showcase DEME's extensive capabilities more than this one.

The main aim of the project is the adaptation of the 116 km long Elbe fairway to enable container vessels, even the mega carriers, to access the Port of Hamburg independently of the tides by creating an extra draught of 1 m. The dredging works comprised four key tasks: the river widening, the creation of a passing box, deepening of an existing anchorage to form a waiting area and the deepening of the entire channel. With completion expected early 2021, we will have eventually dredged, transported and relocated more than 25 million m³ of material.

This project kicked off in the summer of 2019 and since then the dredging work has continued apace with our powerful newbuild TSHD 'Bonny River' and specialised spreader pontoons 'Vagant' and 'Al Dana'. In spring and autumn there was even a green flotilla on the river for several months as our TSHDs 'Uilenspiegel' and the brand-new fleet member 'Meuse River' joined the effort. Several of the vessels were being mobilised for a major project in the Arctic but were deployed on the Elbe project before and after the summer. They added to our dual fuel TSHD 'Scheldt River', the backhoe dredger 'Peter the Great' and self-propelled split hopper barges 'Vlaanderen VII' and 'Vlaanderen VIII'. Earlier in the year there was a slight delay to the schedule because of three huge storms that hit the region in a row, but deploying more vessels from the DEME fleet enabled us to catch up and keep the project on track.



GERMANY - RIVER ELBE

A green flotilla has been deployed on the Elbe project.



GERMANY – RIVER ELBE
Maintenance dredging works also continued along the River Elbe.

For the dredging works, the fairway was divided into 18 work sections and simultaneous dredging was only allowed in three at the same time in order to minimise the disruption to maritime traffic. Initially, a 43 km long stretch was widened by 20 m and then the passing box in Wedel near Hamburg was dredged. Here, the River Elbe was widened from 250 m to 385 m, which enables two container vessels to safely pass each other. Once these steps were finished, the deepening of the fairway from Wedel to the North Sea began in earnest.

The large TSHDs worked with two different spreads, which resulted in very efficient production rates. The dredged material was taken to five newly-built underwater areas. It was pumped with the spreader pontoons, which disposed of the material through diffusers close to the seabed to limit

Our prime focus was on limiting the potential ecological impact.

the turbidity. The success of these measures was confirmed by the environmental monitoring of the client who owns a dense network of environmental measurement stations along the Elbe. During each stage of the project our prime focus was on limiting the potential ecological impact, taking into account the breeding and fish spawning season.

In addition we faced a major challenge in relation to the amount of UXOs discovered and many of them were in the very last area. Together with the client, we were in close contact with the government's special intervention team to make sure any ordnance was handled safely by the experts.

On top of that, the project was of course taking place in the midst of the pandemic. But thanks to the professionalism of all of our crews, staff and our HR department, and the strict quarantine measures we implemented, we fortunately avoided any COVID-related issues - all in all a staggering achievement given the very challenging circumstances.

RIVER ELBE MAINTENANCE DREDGING

Awarded in 2017, the maintenance dredging works also continued along the River Elbe. We performed water injection dredging with our WID 'Dhamra' and our hoppers were busy on the waterway including our TSHDs 'Breughel', 'Scheldt River', 'Uilenspiegel' and 'Meuse River'. As mentioned, several of the vessels were being mobilised for the Arctic project and arrived from all over the world. Bringing in extra help meant that we could manage the deepening and maintenance projects in a smart and efficient way for our customers.



GERMANY – RIVER ELBE
Next to our trailing suction hopper dredgers maintaining the river Elbe, the compact water injection dredger 'Dhamra' dredged soil on smaller high spots in the river.

POLAND

ŚWINOUJŚCIE-SZCZECIN FAIRWAY MODERNISATION

Although the Świnoujście-Szczecin fairway project is extremely challenging, given the presence of UXOs and because we had to mobilise during the COVID-19 lockdowns, a fantastic team has kept the fairway modernisation project firmly on schedule.

As part of a joint venture, we were very busy performing design and preparation works in the first half of 2020 but when the time came to mobilise it just coincided with lockdowns in both Poland and Belgium. However, with strict health & safety measures in place and in close collaboration with our Client, we successfully achieved the mobilisation of our CSD 'Amazone' against all the odds. With crew changes being a challenge in itself, the crew worked relentlessly from May until October and achieved a brilliant performance. Our TSHD 'Scheldt River' then joined the project in September to dredge the remaining, more remote fairway sections.

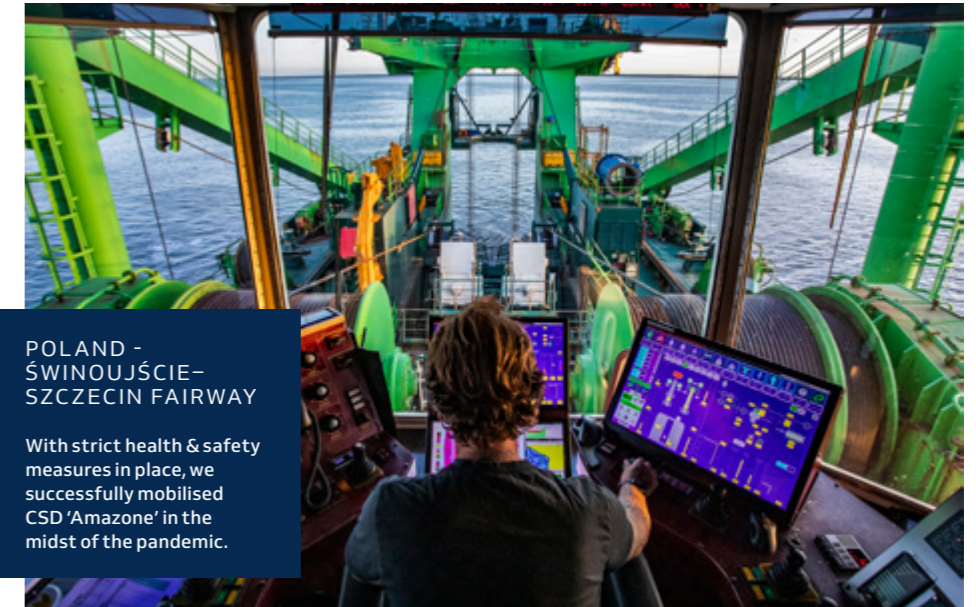
The fairway provides access from the Baltic Sea, starting at the city of Świnoujście up to the Port of Szczecin, which is 66 km further inland. The fairway has a depth of -10.5 m and is being deepened to -12.5 m, enabling the Port of Szczecin to handle much larger draught vessels. Additionally, extensive civil works are being performed including creating revetments for artificial islands and the reinforcement of several quay walls and river banks to accommodate the new design of the fairway. The project also includes the rerouting and dismantling of a series of cables.

The scope involves capital dredging of more than 20 million m³ and one of the main tasks this year is using the dredged material to create two artificial islands in the Szczecinski Lagoon, which will become nature habitats. Thanks to the hard work of our crews the islands can now be seen well above the waterline.

As this area was subject to very heavy bombardments during World War Two, the presence of UXO is always something we have to consider. An extensive surveying and clearance campaign was finished off by the end of the year, which involved

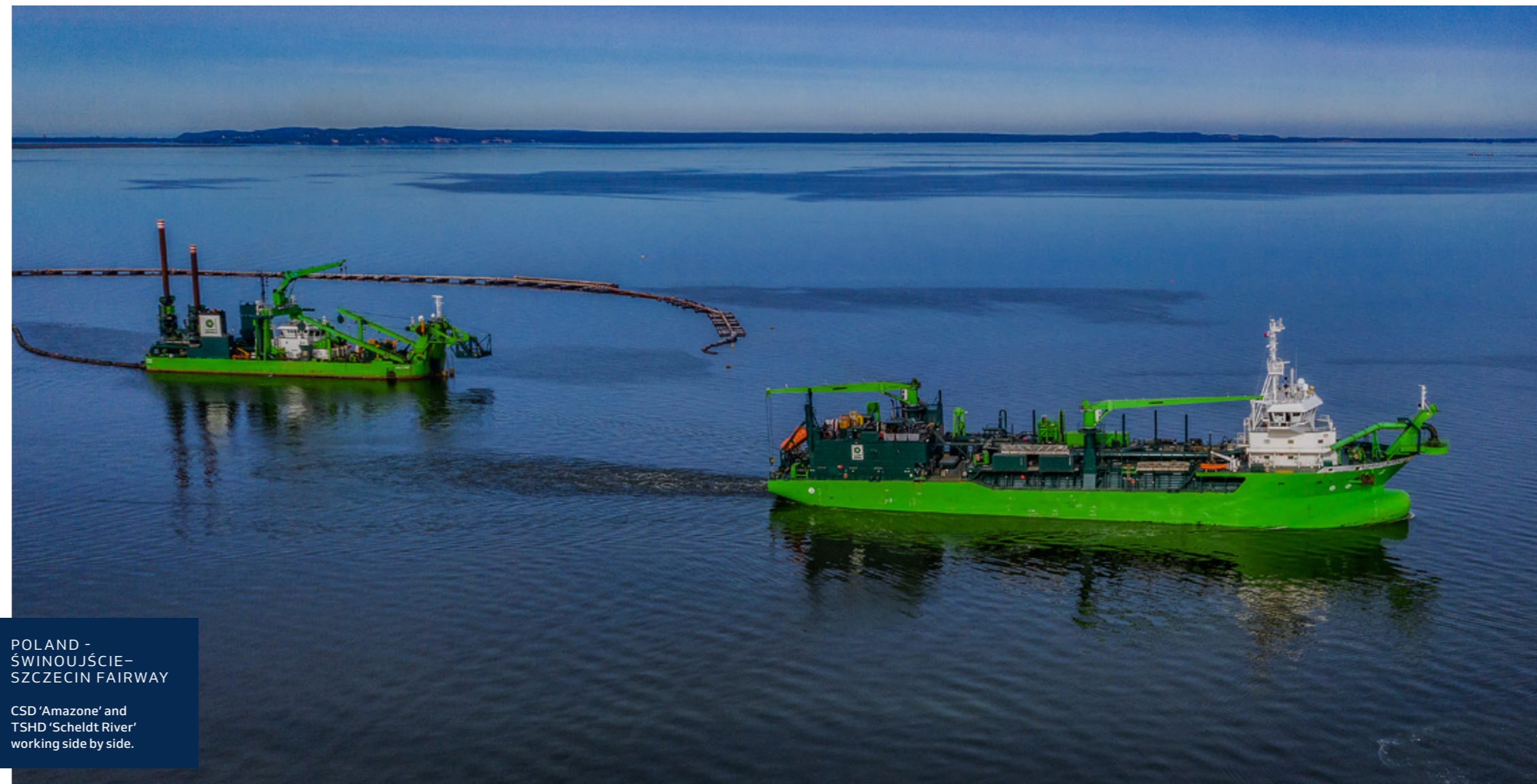
some 10 to 12 separate spreads of equipment along the fairway. And indeed the largest unexploded bomb ever found in Poland - a huge, 5,000 kg 'Tall Boy' - had to be detonated by the Polish navy in October. Our surveying teams had discovered the bomb a year earlier but careful planning, preparations and safety precautions had to be carried out before the Tall Boy could be neutralised.

However despite the hurdles the team faced, the widening project is on track, thanks to a very efficient project team and through close collaboration with the Client. The entire project is due to wrap up in the summer of 2022.



POLAND - ŚWINOUJŚCIE-SZCZECIN FAIRWAY

With strict health & safety measures in place, we successfully mobilised CSD 'Amazone' in the midst of the pandemic.



POLAND - ŚWINOUJŚCIE-SZCZECIN FAIRWAY

CSD 'Amazone' and TSHD 'Scheldt River' working side by side.



FRANCE – LA ROCHELLE

As well as carrying out the dredging work in the port, we also levelled the seabed.

In this particularly special project DEME's dredging and offshore activities are both highlighted.

FRANCE

PORT-LA-NOUVELLE

A major capital dredging contract for the access channel to Port-la-Nouvelle, which is creating a strategic base for the offshore- and floating wind industry, got underway in December. Together with our consortium partners, we are responsible for the dredging and the construction of a 200 m quay wall, which is suitable for heavy loads such as turbines and floating foundations. We expect to dredge approximately 1.5 million m³ in the access channel, deploying our TSHD 'Artevelde'. We are particularly pleased to play a role in the development of this new offshore wind port because this is in line with our focus on the renewables sector.

LA ROCHELLE

We were awarded a major design & build contract for the deepening and extension of Atlantic Port La Rochelle. We started the design phase in the autumn and eventually expect to dredge 1 million m³, most of which is in rocky conditions. Our joint venture partners will construct a 430 m breakwater within the port.

This is a particularly special project because DEME's dredging and offshore activities are both highlighted. La Rochelle is being used as the base port for the construction of the Saint-Nazaire offshore wind farm, which will be the first offshore wind farm in France. A consortium including DEME Offshore was awarded the engineering, procurement, construction and installation (EPCI) contract for 80 foundations.

As well as carrying out the dredging work in the port, we also levelled the offshore seabed - which is very rocky - to prepare it for the footprints of our DP2 offshore installation vessel 'Innovation', which will be installing the monopiles and transition pieces at Saint-Nazaire.

DUNKERQUE, GRAVELINES AND GIRONDE

We continued several long-term maintenance contracts throughout France. These included Gravelines in the north of France, where we carried out works for the 'Département du Nord', and Dunkerque where we are responsible for a sediment management project addressing historical pollution in the port. The dredged material is taken to a dedicated area for dewatering and drying. Our customer reuses this dried and dredged material for various projects. On the Gironde we maintained the entrance to the Port of Bordeaux.

ROUEN, LE HAVRE AND SAINT-NAZAIRE

The French public dredging company 'Dragages Ports' chartered our vessels as a replacement for the Port Authority's own vessel which is being converted. Our TSHDs performed maintenance work in several ports including Le Havre, Rouen and Saint-Nazaire.



FRANCE – LA ROCHELLE

Our CSD 'd'Artagnan' was deployed in La Rochelle.

ITALY

SALERNO

A major dredging contract in the Port of Salerno, which we are carrying out in a joint venture, is in full swing. Representing more than 3 million m³, the project was a considerable challenge as it was taking place in the midst of lockdowns. However, under strict safety measures, we succeeded in finalising the first phase. We expect to finish the project in 2021.

NAPLES

The historic maintenance dredging campaign was completed in the Port of Naples, whereby the dredged volumes were being reused to create a new storage area in the port.

RAVENNA

In October, we were very proud to be awarded the multi-year design & build contract for the entire restructuring of the Port of Ravenna, on the Adriatic coast, in a joint venture with our Italian partner Consorzio Stabile Grandi Lavori. This mammoth Ravenna Hub project encompasses deepening the entire port, and adapting all the quay walls to the new depth. Additionally, we have to treat and then transport the material to reclamation areas.

We expect to handle volumes of approximately 4.7 million m³. Some of the material will also be used for beach nourishment projects. In the final months of 2020 we started working on the design and then operations are due to get underway in 2021. We will dredge to depths of -12.5 m. This will allow the port to handle much larger vessels of 75,000 dwt and containerships of up to 8,000 TEU.

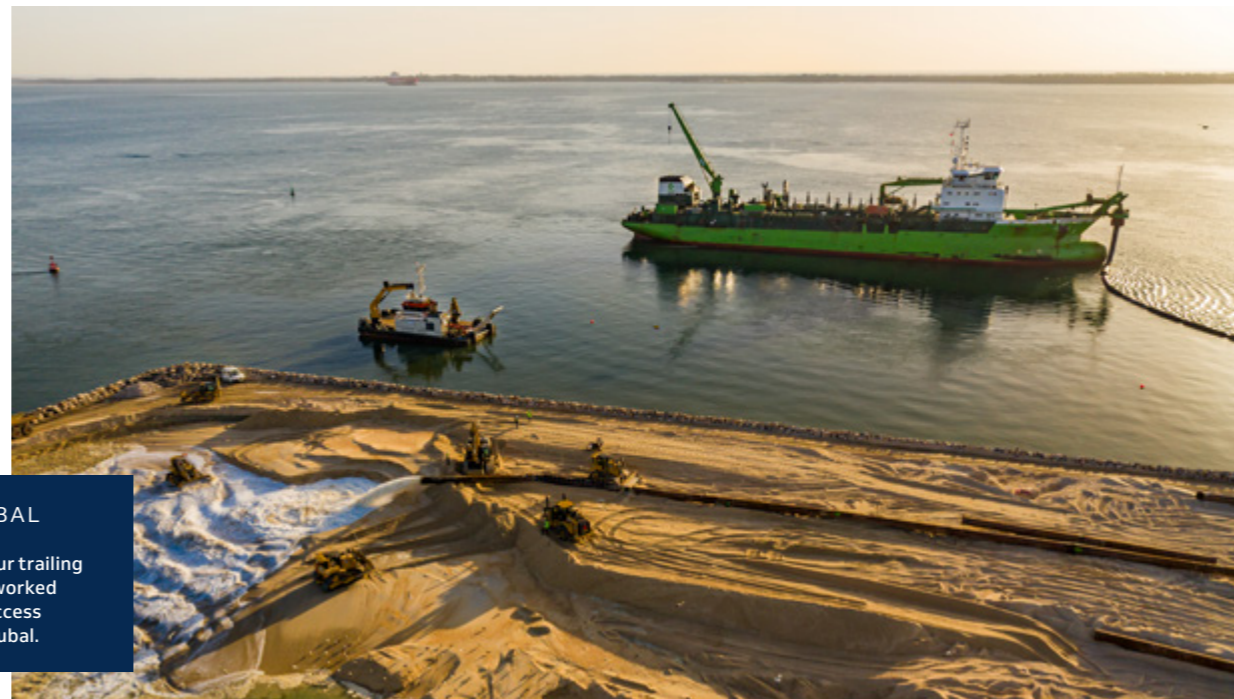


ITALY –
SALERNO

We succeeded in finalising the first phase of the Salerno project.

SICILY

In a joint venture we were awarded a civil works project to construct a new 10 ha harbour extension in the Port of Augusta in Sicily, including 900 m of quay walls. This year we performed a pile testing campaign and worked on the design plans. Execution works are due to start in 2021.



PORTUGAL – SETUBAL

During the year three of our trailing suction hopper dredgers worked on the deepening of the access channel to the Port of Setubal.

PORTUGAL

LEIXÕES

Towards the end of the year, we won a contract to deepen and extend the Port of Leixões, near Porto. Rock dredging is the crucial part of the project, together with the extension of the Leixões breakwater realised by our Portuguese partners. Execution is set to start in 2021.

SETUBAL

At the end of the year we completed a large dredging project to deepen the access channel to the Port of Setubal, which is south of Lisbon. Three of our TSHDs were working on the project during the year - 'Breydel', 'Scheldt River' and 'Uilenspiegel'. The work has taken place in a very environmentally sensitive area and we had to carry out careful monitoring of marine mammals and archaeological observations. Proper environmental management was key to the successful completion of the project and indeed the achievement is even more impressive when considering that much of it was being conducted at the peak of the pandemic. All the dredged material was valorised to create a new harbour area and used for beach nourishment schemes. We finally dredged 3.2 million m³. 🌱

EASTERN EUROPE



RUSSIA – SEA CHANNEL

Six of our TSHDs and two chartered TSHDs were mobilised for the Sea Channel project.

At the peak
more than
600 DEME people
have been involved.

RUSSIA

THE ARCTIC, SEA CHANNEL

In one of the most complex, challenging and remote projects in our history, we have successfully performed the first campaign of the 'Sea Channel' project in the Arctic. We mobilised eight large TSHDs, as well as 10 auxiliary vessels to dredge the access channel to Sabetta port, where a liquefied natural gas facility is being developed.

Additionally, this project was all happening at the height of the pandemic, making crew changes almost impossible. This meant that many of our crew members had an extended stay on board and even without the pandemic, the area is so remote that it is not possible to go ashore. We also had a very tight weather window and could only work between end-July and late October as the ice starts to build up again.

Mobilising in July, six of our TSHDs - 'Uilenspiegel', 'Congo River', 'Breughel', 'Breydel', 'Meuse River' and 'Artevelde' - plus two chartered vessels, tirelessly worked 24/7. In just 11 weeks they dredged a staggering total of 32 million m³. At the peak, more than 400 people were directly on site and overall, probably another 600 DEME people have been involved. Meticulous planning was vital because the project site is five days sailing from Murmansk.

This is truly a pioneering project and we are delighted to have set a new standard in performing Arctic operations, with a keen focus on a sustainable approach. We paid particular attention to environmental matters, including extensive turbidity monitoring and by dredging with 'green valves' on board all of our trailers. We also made sure we protected the marine life, with the crew looking out for whales. As well as this, we used low sulphur gasoil to minimise our carbon and particulate matter footprint.

To ensure the success of the project, we worked very closely with our customer, the Hydrographic Department of Rosatom State Atomic Energy Corporation. In 2021 we are due to return for the next campaign of this three-year project.

This is the third time we have carried out a project in this extremely remote area, between 2014-2015 we also dredged the access channel and turning basin and in 2019 we dredged the Utrenniy Terminal project.



RUSSIA – SEA CHANNEL

In just 11 weeks our vessels dredged a total of 32 million m³.

THE ARCTIC, UTRENNIY TERMINAL

We officially handed over the Utrenniy terminal access channel project to our customer Rosatom State Atomic Energy Corporation in the summer.

This followed the installation of the navigational aids to provide a light line for the ice breakers transiting the channel. We dredged the 3 km long access channel to the new LNG terminal and the basin. This facility is opposite Sabetta, on the right bank of the Ob River.

Again, this was an extremely challenging project. Initially we had to dredge through permafrost to gain access to the first berth that was installed some years ago.

TAMAN

In May, we completed extensive dredging works at a dry bulk terminal in Taman, operated by the OTEKO Group. This was a really challenging project because of difficult soil conditions and the presence of extremely hard outcrops in the access channel. Our TSHDs 'Pearl River' and 'Uilenspiegel' performed the work despite the coronavirus restrictions which meant that crew changes were impossible. In total we dredged 11 million m³.

11 MILLION m³
in total has been
dredged by our
TSHDs 'Pearl River'
and 'Uilenspiegel'.

TURKEY – AKKUYU

CSD 'd'Artagnan' dredged extremely hard rock.



TURKEY

AKKUYU

In late October we started a project to dredge the access channel to a power plant in Akkuyu for the Turkish contractor Cengiz. Our CSD 'd'Artagnan' completed the project by the end of the year and it represented approximately 1 million m³ of material, mainly extremely hard rock. 🌱

AMERICAS



BRAZIL

PORT OF RIO GRANDE

A major project in the Port of Rio Grande, in the south of Brazil was finished off end-January and handed over to the client. This joint venture project involved dredging the access channel and berths, with volumes representing 17 million m³.

Approximately
1 million m³
of material
was dredged
in the Port of Tolu.

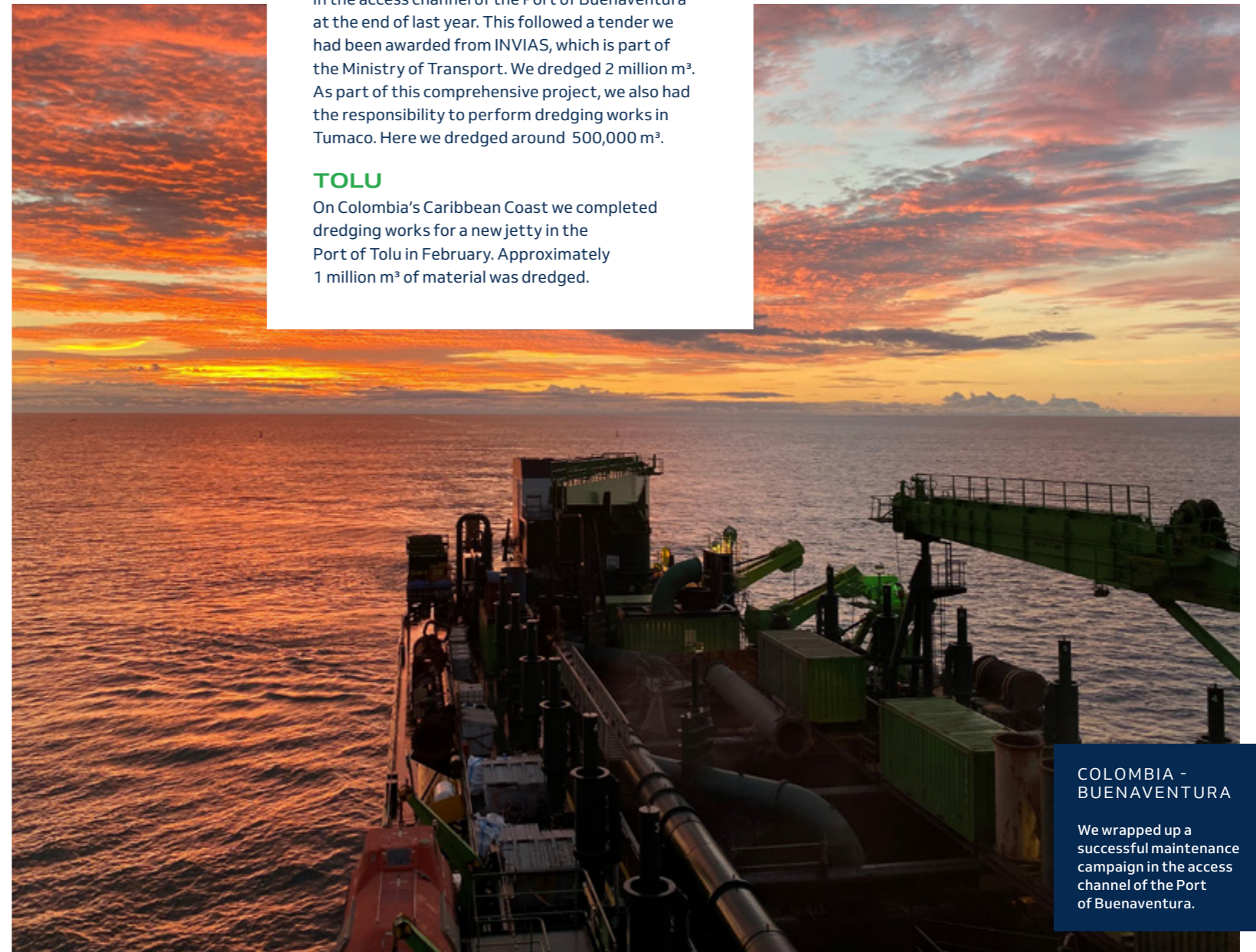
COLOMBIA

BUENAVENTURA AND TUMACO

We wrapped up a successful maintenance campaign in the access channel of the Port of Buenaventura at the end of last year. This followed a tender we had been awarded from INVIAS, which is part of the Ministry of Transport. We dredged 2 million m³. As part of this comprehensive project, we also had the responsibility to perform dredging works in Tumaco. Here we dredged around 500,000 m³.

TOLU

On Colombia's Caribbean Coast we completed dredging works for a new jetty in the Port of Tolu in February. Approximately 1 million m³ of material was dredged.



COLOMBIA - BUENAVENTURA

We wrapped up a successful maintenance campaign in the access channel of the Port of Buenaventura.

MEXICO

TUXPAN, TAMPICO AND COATZACOALCOS

In early 2020 we were busy performing maintenance dredging for the port authorities of Tuxpan, Tampico and Coatzacoalcos. In total some 1.7 million m³ of material was dredged. This was the first time we had worked for these three ports in a row and it marked our return to Mexico after a few years absence.

PERU

SALAVERRY

As part of recurring maintenance campaigns since 2018, we have performed in 2020 another maintenance dredging campaign in the access channel and port of Salaverry, which is Peru's biggest port. We are set to perform the maintenance campaign every two years. The crews put in a great performance because the dredging was conducted right in the middle of the pandemic, making crew changes extremely difficult. However, they rose to the challenge and successfully dredged 1.5 million m³.



MEXICO AND PERU

Our crews put in a great performance despite the pandemic.

PANAMA

PANAMA CITY

At the end of the year we carried out a small intervention at the Balboa container terminal in Panama City on behalf of Hutchison Port Holdings.



URUGUAY & ARGENTINA

We will be busy on the Canal Martín García until June 2023.

URUGUAY & ARGENTINA

CANAL MARTÍN GARCÍA

Together with a joint venture partner we were awarded a five-year contract for the deepening and maintenance of the Canal Martín García. In 2019 we entered the maintenance phase of the project. The Canal is located between Uruguay and Argentina and is the main access channel to Uruguay's second largest port, Nueva Palmira, as well as to the Rio Uruguay. The main objective of the dredging programme is to deepen the Canal and subsequently maintain a depth of 10.4 metres. In rocky areas this is 11.6 metres.

Usually the Canal is subject to a lot of sedimentation, which can amount to as much as 4 million m³ per year, but this year sedimentation was lower due to the impact of the La Niña weather phenomenon, which meant there was less rain and consequently less sedimentation.

We will be busy tackling sedimentation in the river delta until June 2023. 🌱

ASIA- PACIFIC



MALAYSIA

PORT OF TANJUNG PELEPAS

On the Malaysian Peninsula and a stone's throw away from Singapore, we were engaged in the widening and deepening of the strategic port of Tanjung Pelepas in Johor state. A TSHD, a large grab dredger and two plough vessels were mobilised to perform dredging works in the 14 km long access channel, 14 berth pockets and slopes, with all the spoil pumped and transported to an onshore stockpile area. The project started in the first quarter and was successfully completed by end 2020, despite wide-ranging COVID-19 restrictions.



MALAYSIA –
PORT OF
TANJUNG
PELEPAS

A TSHD was deployed for the widening and deepening of the port of Tanjung Pelepas.



PAPUA NEW GUINEA – LOWER OK TEDI RIVER

Our teams have been working in Papua New Guinea for more than 20 years and are involved in local community projects.

PAPUA NEW GUINEA

LOWER OK TEDI RIVER

DEME has been active on the Lower Ok Tedi River in the Highlands Province for an impressive 24 years, but we have never faced a bigger challenge than the corona pandemic restrictions, which made crew changes extremely difficult. But in an incredible feat, we continued to dredge throughout the year in 2020, and not only did work continue nonstop, the crew of our CSD 'Cap Martin' achieved the highest ever production rates.

We have been carrying out these rehabilitation dredging works since 1997. The main goal is to remove sediments and mine tailings released in the river at the mine located upstream, and thereby reduce the environmental impact of these sediments. We also maintain the navigation on the downstream part of the Fly River.

OK Tedi Mining Limited has decided to extend the lifetime of the mine to at least 2026, resulting in DEME's continued presence on the Lower Ok Tedi River in the Highlands Province throughout 2020 and up to 2026. We are delighted to continue our long-lasting partnership with OK Tedi Mining and are confident that we will again meet our client's expectations in relation to the stringent environmental and safety requirements applicable to the dredging and stockpiling works.

To date, more than 220 million m³ of mine tailings have been placed into engineered stockpiles. As a result of the mine life extension and the increased need for sediment storage capacity onshore, a floating booster was mobilised in early 2020. Our CSD 'Cap Martin', in combination with this booster, is able to pump the sediments over a distance in excess of 5 km and into the designated stockpile area. Hence, the record production rates we achieved this year.

However, the mobilisation of the floating booster was a challenge and very time consuming given the extremely low river levels along the Fly River, which is the only way to access this very remote location.

In spite of the project being so remote and situated in an area that is subject to seismic activity, significant river currents, water level increases and flooding, we could again boast an exemplary safety record in 2020, achieving a staggering nine-year and 4 million man-hours LTI-free milestone.

We are proud that despite the impact of the pandemic, our team, in close cooperation with our client, has been able to remain fully operational and adjust to complex changes in flight/crew schedules, strict quarantine requirements and delays in the supply chain to our operational base and camp in Bige.

SINGAPORE

TUAS TERMINAL PHASE 1 (TTP1)

At the end of 2020, all the marine works for the Tuas Terminal Phase 1 (TTP1) megaproject were concluded, with only subsequent earthmoving works on the reclamation footprint remaining.

While several of our Singapore projects were subject to interruptions because of the COVID-19 'circuit breaker' in Singapore, work continued at TTP1 for many more months thanks to the project's own isolated facility for workers at the site.

Despite the challenges, by the end of June all marine operations had been completed, and now earthmoving works on the reclamation footprint are taking place. The project is being performed together with our South Korean joint venture partner Daelim Industrial and it is expected to be finished by end-2021.

This huge project includes the reclamation of 88 million m³ of land from the sea and at its peak around 2,500 people and 150 vessels were working on site.

Over the years, the project has been awarded several important safety-related awards including LTI-free awards, the Workplace Safety and Health Innovation Prize by the Ministry of Manpower, and the Silver Award for 'Workplace Safety & Health Innovation' from the Singapore Contractors' Association.

Moreover, the rock mound installation pontoon 'Tamarock' that was especially developed for the caisson installation scope at TTP1 has been awarded a Platinum Construction Productivity Award by Singapore's Building and Construction Authority (BCA).

This huge project includes the reclamation of 88 million m³ of land from the sea and at its peak around 2,500 people and 150 vessels were working on site at any given time.



SINGAPORE – TUAS TERMINAL PHASE 1

At the end of 2020, all the marine works for the Tuas Terminal Phase 1 megaproject were concluded.

JURONG ISLAND WESTWARD EXTENSION (JIWE)

In 2020, we successfully completed the infrastructure works including sewer, drains and roads, for the Jurong Island Westward Extension (JIWE) project for JTC, the Singapore Government's lead agency for the development of industrial infrastructure. Furthermore, several additional works under the contract were awarded to the DIAP-SHAP joint venture for soil improvement and earthmoving works, which are currently ongoing.

The COVID-19 circuit breaker did lead to delays to these ongoing works, therefore the final completion of the additional works is expected in the second quarter of 2021.

The JIWE project is executed with an exemplary safety record with an impressive 2,005 LTI-free days and 7.25 million LTI-free manhours. For the second time, the JIWE Project received the prestigious WSH SHARP Safety Award by Singapore's Ministry of Manpower and it was awarded the JTC Construction Safety Award.

AYER MERBAU RECLAMATION PHASE 2

Also on Jurong Island and for JTC, the same project team executed a second major design and build contract at Ayer Merbau.

This project includes 35 ha of land reclamation to further extend Jurong Island. Our scope includes the design of the works, the hydraulic study of the reclamation channel, landside site clearance, bund construction with shore protection, dredging of the sand key, soil improvement works, sand supply, reuse of marine dredged material, sorted rock and land-based excavated material, drainage and the maintenance and diversion of the existing drainage system.

The COVID-19 circuit breaker in Singapore and the resulting additional precautions imposed by the government are having an impact on the remainder of the works, but even under these challenging conditions, the project team completed the soil improvement works, together with the shore protection and two channels.



SINGAPORE - JURONG ISLAND WESTWARD EXTENSION

The JIWE project is executed with an exemplary safety record.

Thanks to our continuous efforts in achieving the highest safety standards, the project has also been recognised for its commendable safety performance, winning the 2020 JTC Construction Safety Award in the Infrastructure and Land Reclamation category for the second time in a row.

TAIWAN

KUANTANG - THIRD LNG RECEIVING TERMINAL

The first caissons for the new greenfield Kuantang harbour development were installed this year by our joint venture partners Pan Asia Engineers and Constructors and Hwang Chang General Contractor. Awarded by CPC Corporation, Taiwan's state-owned oil company, this JV project includes the dredging and land reclamation works for the creation of near- and offshore land platforms (totalling 48 ha), along with the construction of breakwaters, an LNG berth and perimeter dykes for the new harbour development in north Taiwan.

We are responsible for the dredging and reclamation of an offshore artificial island, representing around 6 million m³ of material to be moved. All excavated and dredged soils will be reused as reclamation fill for different parts of the project. These areas will subsequently be compacted to meet CPC's requirements.

The initial stages of the nearshore reclamation were completed ahead of schedule by means of dry filling in 2019, and large-scale dredging operations are set to get underway in 2021.

We are executing all aspects of this project according to the provisions of the Environmental Impact Assessment, the requirements of the environmental monitoring and management programme, and the local navigation safety requirements.

THAILAND

RAYONG - IRPC

A maintenance dredging project for Thai petrochemical company IRPC at its industrial harbour in Rayong was successfully executed in line with the planned schedule. We are delighted to have executed this project, which marks our return to Thailand.

VIETNAM

DUNG QUAT

We completed an important project to deepen the turning basin and access channel to the port of Hoa Phat Dung Quat, located in central Vietnam, on behalf of a major steel producing company in the first quarter of 2020. Working closely with our local partner, the project was finished ahead of our client's schedule. We deployed our TSHD 'Congo River' and more than 10 million m³ of dredge spoil was deposited offshore during the project. Dung Quat is now able to handle vessels up to 200,000 dwt and the port has the second deepest draught in Vietnam. Crucially, our client can save cargo costs and conveniently export their finished products from the newly constructed deep-water berths. 🌱



VIETNAM - DUNG QUAT

TSHD 'Congo River' navigates through the South China Sea after completing the Dung Quat project.



THAILAND - IRPC

We performed maintenance dredging at IRPC's industrial harbor.

MIDDLE EAST & SOUTH ASIA



EGYPT

ABU QIR GREENFIELD PORT PROJECT

In the largest ever dredging and land reclamation contract in our history, we were delighted to be awarded the prestigious Abu Qir port project by the Egyptian Navy in November. We have been tasked with carrying out all of the dredging activities for this new greenfield port development in Abu Qir, which is part of the city of Alexandria.

This vast project includes the reclamation of 1,000 hectares of new land, the deepening of the port's approach channel to -23 m and the dredging of a turning basin to -22 m. An enormous volume of more than 150 million m³ will eventually be dredged.

We will be deploying the new, powerful cutter suction dredger 'Spartacus' on the project – the most powerful CSD in the world, as well as a wide range of different sized trailing suction hopper dredgers.

The marine works, including the construction of 6,800 m of quay walls for new berths, 8,800 m of breakwaters and soil improvement works, will be executed by our consortium partner GIECO, Egypt's leading marine engineering company.

This ambitious megaproject creates land for the expansion and further development of Abu Qir, and alongside this, a large multifunctional port facility will be developed adjacent to the Abu Qir Container Terminal, which is currently under construction. In the latter months of 2020, full-scale preparations got underway and work officially began onsite in January. The project is due for completion in 2023.

DEKHILA, ALEXANDRIA

We completed a two-month capital dredging project at Quay 96 in Dekhila, Alexandria, with our TSHD 'Reynaert'.

EGYPT – ABU QIR

We are deploying our CSD 'Spartacus' on the Abu Qir project, as well as a wide range of different sized trailing suction hopper dredgers.



BAHRAIN

INVESTMENT GATEWAY BAHRAIN PHASE 2

TSHD 'Antigoon' successfully carried out a land reclamation project for 'Investment Gateway Bahrain Phase 2' in Bahrain in July, despite the fact the country was in complete lockdown. We handled volumes of approximately 1 million m³ during the land reclamation which will be developed for real estate purposes. Due to the COVID restrictions we had to perform the management of the project remotely in the Middle East outside of Bahrain.

SAUDI ARABIA

TRIPLE BAY MARINA BASIN

Under an early contractor involvement (ECI) we prepared the conceptual design for the AMAALA marina and luxury tourism project as part of the Triple Bay Development, at the Red Sea coast of Saudi Arabia.

We handled volumes of approximately 1 million m³ during the land reclamation which will be developed for real estate purposes.



TSHD 'Antigoon' worked in both Bahrain and India.

INDIA

SEABIRD PHASE II - WEST COAST

We completed the final dredging, reclamation, soil compaction and soil improvement works of the Seabird Phase II project on the West Coast of India at the end of the year with our TSHD 'Brabo' and CSD 'Al Mahaar'. In total, we have dredged 11 million m³ of materials, which we reclaimed and reused as much as possible. The project was performed in a joint venture with Larsen & Toubro.

EAST COAST PROJECT

In a separate joint venture with Larsen & Toubro, we have finished the second dredging season for a new facility on the East Coast of India. Our TSHD 'Brabo' concluded this phase of the works in July.

MUMBAI - ACCESS CHANNEL TO JNPT CONTAINER TERMINAL

We conducted a maintenance campaign for the Dredging Corporation of India Limited in the access channel to JNPT container terminal, which is the largest container facility in India. Representing substantial volumes of 8 million m³, this project was quite an achievement given that we managed to successfully carry it out in the midst of the pandemic. This meant our crew and project teams had to overcome many challenges and COVID restrictions during the work, which included extended stays on board and strict quarantine procedures. However, despite these hurdles we even managed to complete the job earlier than planned in June.

MUMBAI - BMCT TERMINAL

Additionally, we started the first phase of a capital dredging project for Bharat Mumbai Container Terminals (BMCT). We deepened the terminal from -13.1 m to -14.5 m. 🌱



Our crews of TSHD 'Antigoon' worked in both Bahrain and India.

AFRICA



BENIN

Delivered in 2020, TSHD 'River Thames' was transported to the Port of Cotonou.

ANGOLA

PORT OF SOYO

We conducted an annual maintenance campaign in the navigation channel to the Port of Soyo. The dredging work enables LNG carriers to have safe nautical access to and from the port and it is crucial that it is carried out before the start of the sea turtle breeding season. We managed to dredge volumes totalling 3.5 million m³ and this was even completed ahead of schedule.

BENIN

PORT OF COTONOU

The 2,500 m³ TSHD 'River Thames', which was constructed by Royal IHC in Indonesia, was delivered in 2020 and destined to be deployed in Africa. Due to the spread of the coronavirus, many of the ports were closed in several African countries. The Port of Cotonou in Benin was still open and allowed us to offload 'River Thames' from the semi-submersible she was being transported on.

DR CONGO

CONGO RIVER

An annual maintenance dredging campaign was carried out on the Congo River, handling 2 million m³ of material. This is part of a 10-year public-private partnership (PPP) with La Congolaise des Voies Maritimes which guarantees a 26-foot draught and safe access to the ports of Boma and Matadi.

GABON

OWENDO PORT

After our return to Gabon, we have managed to extend three contracts - all of them in Owendo Port. We performed four interventions in front of quay walls on behalf of the French group Bolloré Transport & Logistics, the Gabon Special Economic Zone (GSEZ) and Gabon Port Management (GPM) in 2020.

GHANA

ELMINA PORT

We were delighted to be awarded a major contract in April from the Government of Ghana to develop Elmina fishing port, enabling it to accommodate much larger vessels. The construction and rehabilitation project includes extending the breakwaters and deepening the port to -6 m. During 2020, we were working on the detailed design plan and construction is expected to get underway in mid-2021.

GUINEA

FATALA RIVER

In a long-term contract we are partnering with bauxite exporting company Société de Gestion Fluviale (SGF) to perform the dredging and maintenance of the Fatala River, where they have a concession. The first capital dredging campaign was conducted in 2020.

KAMSAR

A maintenance dredging project was executed in the access channel and berthing facility in the Port of Kamsar, on behalf of La Compagnie des Bauxites de Guinée (CBG), the largest bauxite producing company in Guinea. Approximately 350,000 m³ was dredged during the project which took place in September.

IVORY COAST

ABIDJAN

We were awarded a new contract to perform the annual maintenance campaign at the port of Abidjan. Works were carried out at the beginning of the year.

SAN-PÉDRO

In San-Pédro we performed capital dredging works for an extension to the port on behalf of civil contractor Afcons Overseas Ltd. Our scope involved deepening the access channel to -15 m and reclamation works for a new 800 m multipurpose terminal. In a challenging project, we encountered a lot of hard soils and debris. Our TSHDs 'Orwell' and 'Marieke' were mobilised in October 2019 and the project was completed in March.

NIGERIA – BONNY AND ONNE

TSHDs 'Breughel' and 'Marieke' performed maintenance dredging campaigns in 2020 in the access channel to the LNG terminal in Bonny.



NIGERIA

BONNY AND ONNE

Our yearly maintenance dredging works continued in the access channel to the LNG terminal in Bonny, which ensures that the ports of Onne and Harcourt remain accessible. This is part of a long-term PPP with the Bonny Channel Company, a joint venture with the Nigerian Ports Authority. Our TSHDs 'Breughel' and 'Marieke' performed the campaign in 2020.

BONNY AND BODO

In a very difficult environment, taking place right in the midst of the pandemic, we successfully concluded a project to elevate wetlands between Bonny and Bodo, where a new road will be built. Covering a stretch of 35 km in an extremely remote area covered in mangrove swamps, the crew of our TSHD 'Marieke' managed to perform this onerous task, although they had to stay onboard for many months due to the lockdown in Nigeria. Working tirelessly between February and July, we finally reclaimed 2 million m³ of sand and successfully completed the project. 🌱



AFRICA

Our newbuild TSHD 'River Thames' will be deployed in Africa.



NIGERIA – BONNY BODO ROAD

Our crews and project team worked tirelessly in an extremely remote area on the Bonny Bodo project.

CTOW

Specialist maritime services company Combined Marine Terminal Operations Worldwide (CTOW) has expanded its operations to the Port of Duqm in Oman, adding to its existing activities in Nigeria.

Owned by DEME, Herbosch-Kiere and Multraship, CTOW has acquired a contract to provide towage, pilotage and other marine services. The 60-tonne bollard pull ASD tug 'CTOW Bieke' will start services in 2021. Duqm is a greenfield port ideally located at the crossroads of the Gulf and the Red Sea which is being developed as a strategic multimodal logistics hub. DEME Concessions and Omani partners are also establishing a world-leading, green hydrogen plant in Duqm ([see page 152](#)).

Meanwhile, operations continued on a long-term contract at the Nigeria LNG Ltd (NLNG) terminal on Bonny Island. Four vessels from CTOW's fleet are based at the facility, comprising two newbuild, 85-tonne bollard pull ASD tugs, 'CTOW Kathy' and 'CTOW An Sofie', as well as a 60-tonne bollard pull ASD tug, 'CTOW Lala' and a Stan Tender 1905 pilot launch. All of the vessels are crewed by Nigerian nationals and are operated by CTOW's Nigerian subsidiary CMTON Ltd. Despite the pandemic, work continued throughout the year. CTOW implemented special coronavirus safety measures such as quarantine before any crew changes. 🌱



DEME BUILDING MATERIALS

Although DEME Building Materials (DBM) was impacted by the coronavirus pandemic as the countries in which it operates started to go into lockdown one after the other, the specialist marine aggregates company managed to maintain a steady level of activity throughout the year. On the project side, DBM also won a major contract to supply marine aggregates for the sub-foundation of an offshore wind turbine manufacturing facility in France.

The optimal use of the stockpiles at its four locations, particularly in Vlissingen, played a vital role in navigating through the crisis phase of the pandemic. As demand suddenly decreased, these stockpiles could absorb the temporary overcapacity of the vessels, which allowed them to remain fully operational. This in turn, meant that DBM didn't have to disappoint any customers during the lockdown period. Overall, DBM's three specialist vessels had a full order book throughout the year.

BELGIUM

In our home market, DBM started the supplies for the first phase of the prestigious Oosterweel link project, which will complete the Antwerp Ring Road. DEME is part of the THV COTU consortium, which will construct the Scheldt tunnel in a second phase. These infrastructure works are now in full swing and will last until 2030.

Additionally, DBM carried out several smaller contracts for DEME Offshore such as dredging high spots in deeper water at a wind farm project and performing sand supply for backfilling works by DEME's fallpipe vessel 'Flintstone'.

FRANCE

Meanwhile in France, DBM was awarded a contract from Eurovia to supply some 200,000 tonnes of marine aggregates for the foundation of a new Siemens manufacturing facility for offshore wind turbines in Le Havre. These supplies took place over the summer months and compensated for a slowdown in France when many building projects around Paris had been temporarily halted.

The aggregates for this project were dredged offshore by DBM's trailing suction hopper dredgers 'Charlemagne' and 'Victor Horta' in both our own licence area and that of the client. The perfect suitability of marine aggregates for this type of application was again confirmed by the very good results of the load bearing tests.

Staying in France, DBM also acquired 50% (thereby acquiring 100% in total) of the shares in the joint venture company CBD, which mainly supplies sand to the construction industry in the Nord Pas de Calais region.

The supply of aggregates continued for three megaprojects in the Netherlands, including the Blankenburg Connection and the New Lock Terneuzen.



The DBM team maintained a steady level of activity throughout the year.



DBM's three specialist vessels had a full order book throughout the year.

THE NETHERLANDS

The Netherlands was exceptionally busy as DBM continues to supply aggregates to three ongoing megaprojects in the country - the IJmuiden Lock, Blankenburg Connection and the New Lock Terneuzen.

In Amsterdam, the IJmuiden Lock is nearing completion and DBM has supplied marine gravel totalling some 300,000 tonnes for the concrete production of this construction project, which will be the world's largest sea lock once completed.

For the Blankenburg Connection, DBM supplied sea sand for backfilling works. In 2019, its vessel 'Mellina' filled up the temporary cofferdams which have been put in place to provide a construction pit for the tunnel elements and in 2020 the company has provided the washed sea sand for the landside of the dyke. In this case, the sand has to be desalinated first with fresh water from the river, which is no problem for DBM's fleet which can carry out the process on board, before discharging ashore. In 2020, approximately 320,000 tonnes of washed sea sand was supplied. The next phase will be supplying the aggregates - both sand and gravel - for the concrete elements of the tunnel.

In addition, DBM continued to supply sand and gravel from its production terminal in Vlissingen to the New Lock Terneuzen project.

UK

While the UK market has slowed down due to the pandemic, one highlight was Brett Aggregates opening a new, state-of-the-art marine aggregates production facility in Newhaven Port on the south coast of the UK in June. After conducting several trials, both from a nautical and technical perspective, our trio of dedicated vessels have all been successfully carrying out deliveries to the new facility. We have supplied Brett for many years at its facilities in the UK at Cliffe and Ipswich. 🌱

OFFSHORE

DEME Offshore is the leading provider of solutions for the offshore renewables industry. We have an unrivalled track record in the transport and installation of foundations, turbines, inter-array cables, export cables and substations for offshore wind farms. In the oil & gas industry we have an unrivalled expertise in landfalls and civil works, rock placement, heavy lift, umbilicals and installation and decommissioning services. By operating a high-tech and versatile fleet of vessels we offer flexible solutions for the most complex offshore energy projects.



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RENEWABLES

BELGIUM

SEAMADE OFFSHORE WIND FARM

In a particularly impressive achievement, construction of Belgium's largest offshore wind farm - SeaMade - was successfully completed within 16 months.

Deploying 'Apollo', we installed the last of 58 Siemens Gamesa 8.4 MW turbines in early December. Ultimately, DEME installed the foundations, inter-array cables, two offshore substations, export cables and performed the rock placement works within just 16 months - a staggering performance given that most of the work took place in the middle of the pandemic.

Undoubtedly, our integrated Balance of Plant approach and strong cooperation with our customer led to the success of the project. Our teams had previously worked together to construct the Rentel offshore wind farm and this was an important factor in repeating this success story.

The SeaMade project consists of two wind farms (Seastar and Mermaid) each with its own offshore substation and the export cables connect them to the 'Modular Offshore Grid' switchyard individually. Initially we began with the installation of the turbine and offshore substation foundations in September 2019 and the two export cables followed in December 2019, which were manufactured by our partners Sif-Smulders and Hellenic Cables respectively.

In spring 2020 we kicked off the inter-array campaign, comprising 64 cables, using our DP3 cable installation vessel 'Living Stone'. The vessel also performed the burial works with our specially designed trencher CBT1100. Given that the project was subject to stringent safety measures, including quarantine for all the crews before boarding, it is even more remarkable that it was achieved ahead of schedule.

Meanwhile, in March we installed the topsides for both substations. Here in a joint venture with ENGIE and Smulders, we were responsible for the transport and installation scope. We then deployed another member of our Group, Scaldis, to perform the installation of the 1,200 tonne topsides with the DP2 heavy lift vessel 'Gulliver'.

Additionally, our fallpipe vessels 'Flintstone' and 'Rollingstone' carried out various rock placement campaigns at the SeaMade offshore wind farm in 2020. The vessels installed scour protection blankets, as well as carrying out protection works on the cable/pipeline crossings, inter-field and export cable and at the cable end approach to the monopiles.

We did everything possible to make sure this project was delivered on time. Our dedicated crews and project teams really went the extra mile to deliver what we had promised.

The SeaMade wind farm, which is located around 40 km off the coast of Ostend, will provide green energy for 485,000 households and will lead to a significant reduction of annual CO₂ emissions of at least 500,000 tonnes. DEME Concessions has a participation in the wind farm.



BELGIUM –
SEAMADE

SeaMade was the first turbine installation project for our offshore installation vessel 'Apollo'.

Saint-Nazaire will be the first wind farm in the world to use drilled XL monopile foundations.

FRANCE

SAINT-NAZAIRE OFFSHORE WIND FARM

A key milestone in the Saint-Nazaire offshore wind farm project was achieved in September when we successfully commissioned the tailor-made XL subsea drill on schedule after the Factory Acceptance Tests. Saint-Nazaire will be the first commercial offshore wind farm ever to be built in France.

Jointly designed by DEMA and Herrenknecht, the 350-tonne offshore foundation drill (OFD) will perform the drilling work for the XL monopiles. As well as the OFD, we designed the so-called MODIGA, together with TMS, which is nearly 60 m high and has a base diameter of 11.5 m. The MODIGA, which will be standing on the seabed on its 'moon lander' mats, will encapsulate the drilling and installation operations and reduce exposure to the adverse Atlantic marine conditions, therefore enhancing operational working time.

The MODIGA will receive a large diameter, hollow tube liner inside and then the OFD is inserted into the liner. Once the drilling is finished, the OFD is taken out and the monopile is inserted into the liner and the grouting work then takes place.

Never seen before in the industry, this unique subsea drill and the MODIGA combination embodies our expertise in soil mechanics, marine engineering, drilling, cutting, pumping out and grouting.

In addition to Factory Acceptance Tests in Germany and the Netherlands, we conducted a number of important tests in the final quarter of the year to put this extraordinary set of equipment through its paces. First we performed the 'wet tests' and submerged the OFD to depths of -15 m in the Vlissingen harbour. Then in December we conducted an 'integration test' of the OFD working together with the MODIGA and liner. Before starting the actual works, we plan a full-scale dry-run.

Months of preparations, involving a team of some 200 people, will culminate in the course of 2021 when we start to drill. The unique MODIGA, liner and OFD will be deployed from our offshore installation vessel 'Innovation'. Saint-Nazaire will be the first wind farm in the world to use drilled XL monopile foundations with 73 of the 80 foundations being drilled through calcarenite rock, and the remainder through sand.



FRANCE – SAINT-NAZAIRE

The tailor-made subsea drill that will be used to install XL-monopile foundations at the Saint-Nazaire offshore wind farm has been commissioned after passing Factory Acceptance Tests.

Additionally, our trailing suction hopper dredger 'Bonny River' and our self-propelled 28,200 kW rock cutter 'D'Artagnan' also started to prepare the seabed for 'Innovation's' spud legs and rock tips, removing rocky outcrops - highlighting how several DEMA activity lines can support each other to find the optimal solution for these complex projects.

A consortium including DEMA Offshore and Eiffage Métal was awarded the EPCI contract for the 80 foundations for the 480 MW wind farm in 2019. In the consortium, we will perform the transport and the installation of the monopiles and transition pieces. Completion is planned for the summer of 2022.

FÉCAMP OFFSHORE WIND FARM

Steel cutting started for the offshore substation for the Fécamp (Normandy, France) offshore wind farm at Chantiers de l'Atlantique shipyard in Saint-Nazaire on September 30.

The substation is being designed and manufactured by Atlantic Offshore Energy with its partners SDI/ DEMA Offshore and GE Grid Solutions. We are responsible for the transport and installation of the substation (jacket and topside), and the pre-piling.

This same consortium has also secured the substation contract for the Saint-Nazaire and the Courseulles-sur-Mer offshore wind farms in France. To provide the most efficient solution possible, we will use the same seabed template for Saint-Nazaire and Fécamp.

GERMANY

ARCADIS OST 1 OFFSHORE WIND FARM

We have been awarded the EPCI contract for the foundations for Parkwind's Arcadis Ost 1 offshore wind farm, which is located in the German Baltic Sea to the northeast of Rügen island.

The 28 XXL TP-less monopile foundations are the biggest ever built at more than 2,000 tonnes each. Being manufactured by Steelwind in Germany, they are a staggering 108 m long and have a diameter of a maximum of 9.6 m. One of the 28 foundations will support the offshore substation.

Production of the monopile foundations starts in 2021, while the installation campaign is planned in the third quarter of 2022. Arcadis Ost 1 is scheduled to be commissioned in early 2023.

DOLWIN6

The DolWin6 project really highlights our capabilities. Here we will transport and install the offshore section of the DolWin6 high-voltage direct-current cable, which runs from German offshore wind farms through the Wadden Sea.

In 2020 detailed preparations were underway. Offshore installation is expected to start in the summer of 2021. Here our DP3 cable installation vessel 'Living Stone' shows what she is made of. 'Living Stone' has two turntables so can smoothly install cable bundles and in this case she is set to install the 2 x 40 km sections simultaneously.

DolWin6 has a transmission capacity of 900 MW and is owned and operated by transmission system operator TenneT.

KASKASI OFFSHORE WIND FARM

We have been awarded the first ever transport and installation contract for RWE Renewables' new monopile foundation collars. The three collars will be installed in the second half of 2021 at the 342 MW Kaskasi offshore wind farm, located in the German North Sea.

This pioneering project highlights how DEME is keen to support clients which are developing innovative technologies and new concepts in the renewables sector. These special collars will be installed around the monopile foundation on the seabed. They provide additional support for lateral loading, increase the bearing capacity of the foundation and improve the structural behaviour of the entire structure.

This is a prime example of how the versatility of our fleet, which includes vessels with many different sized cranes and other unique capabilities, helps us to deploy the ideal vessel for such a specific project, in this case our jack-up 'Neptune'. In close collaboration with our client, we have been able to tailor the installation techniques and minimise any potential risks.

At the Dolwin6 project 'Living Stone', equipped with two turntables, will install the 2 x 40 km cable sections simultaneously.

THE NETHERLANDS

BORSSELE 1&2 OFFSHORE WIND FARM

Wind farm developer Ørsted and DEME Offshore have successfully completed the installation of 94 foundations in June at Borssele 1&2. Despite the challenges related to COVID-19, we achieved an excellent performance with our installation vessel 'Innovation', installing all foundations in just five months.

Following the successful completion of the East Anglia ONE turbine installation in the UK, we headed straight off to the Borssele 1&2 offshore wind farm for the WTG scope. Alongside Ørsted and Siemens Gamesa, we smoothly performed this project, again deploying our two-vessel solution. 'Sea Installer' and 'Sea Challenger' completed the installation of 94 turbines in early September, after installing the first turbine in April.

Although this project took place at the height of the pandemic, it was largely unaffected following stringent measures carefully put in place. We also made sure that all of the subcontractors were aligned with our own standards. This project highlights what can be achieved by working closely with the client, turbine manufacturer and the various subcontractors involved.

This was also the first time Siemens Gamesa's 8 MW offshore wind turbines had been used for a commercial project. The SG 8.0-167 DD turbines have an impressive tip height of 200 m and a rotor diameter of 167 m. The turbines will deliver enough electricity for one million Dutch households.

HOLLANDSE KUST NOORD AND WEST ALPHA

We were awarded the contract for both the Hollandse Kust Noord and West Alpha offshore substations, which will be located in the Dutch North Sea. Our scope includes the transport and installation of jackets and topsides for the two Hollandse Kust offshore substations, as well as the installation of the scour protection.

The contract was awarded by the joint venture ENGIE Fabricom - Iemants (subsidiary of Smulders) which is responsible for the engineering, procurement, construction and offshore installation of the two substations. We have teamed up with the joint venture several times in the past few years, installing substations in Germany and more recently in Belgium at SeaMade.



THE NETHERLANDS – BORSSELE 1&2

In June we have successfully completed the installation of 94 foundations with offshore installation vessel 'Innovation'.

We deployed our two-vessel solution 'Sea Installer' and 'Sea Challenger' for turbine installation.



UK

DOGGER BANK WIND FARM

We have been awarded a major EPCI contract for the inter-array cables at the Dogger Bank A and Dogger Bank B wind farms in the UK, the first two phases of the 3.6 GW Dogger Bank Wind Farm, which is the world's largest offshore wind farm under development. This contract also makes history in the industry, being the largest inter-array project ever awarded.

Our scope includes the engineering, procurement, construction and installation of the subsea cables for the combined 2.4 GW wind farm. We will supply, install and protect 650 km (representing 120 cables for each project) of the 66 kV inter-array cables.

Dogger Bank Wind Farm is located more than 130 km off the North East coast of England and is currently being developed in three 1.2 GW phases by joint venture partners SSE Renewables and Equinor.

With the design and preparations in full swing this year, production of the cable will start in 2021 and will be installed using our state-of-the-art DP3 cable installation vessel 'Living Stone'. She was selected based on her huge cable capacity of more than 10,000 tonnes and proven track record. 'Living Stone' has a unique dual-lane system, consisting of two cable highways – one for laying the cable and one where the next cable can be simultaneously prepared and have the cable protection system (CPS) installed. This significantly reduces the time needed for preparing the cables, minimises manual handling, increases the vessel's workability and ultimately, improves production rates.



UK – HORNSEA TWO
Offshore works for what will become the world's largest offshore wind farm kicked off in October.

EAST ANGLIA ONE

Our two-vessel turbine installation solution really proved successful at the East Anglia ONE offshore wind farm project, where we seamlessly installed 102 Siemens Gamesa 7 MW turbines off the Suffolk coast in the UK, even though we faced some heavy weather conditions and the challenges of the pandemic.

Working directly for Siemens Gamesa Renewable Energy, we deployed our sister vessels 'Sea Installer' and 'Sea Challenger' side by side. By employing the two vessels we made sure the project was kept firmly on track, despite dealing with the complexities of the extra coronavirus measures. The project was concluded in spring 2020.



UK – MORAY EAST
The final jackets for the 950 MW Moray East offshore wind farm were installed in December.

HORNSEA ONE OFFSHORE WIND FARM

We performed an extensive cable repair and replacement campaign at the Hornsea One offshore wind farm spread over three campaigns, the last of which took place right through the winter months, highlighting 'Living Stone's' productivity and workability, even when there are challenging sea conditions. Ørsted's Hornsea One is not only one of the largest offshore wind farms in the world but it is also located 120 km offshore.

HORNSEA TWO OFFSHORE WIND FARM

Offshore works for what will become the world's largest offshore wind farm kicked off in October. Ørsted's Hornsea Two will surpass its predecessor Hornsea One by generating 1.4 GW of clean energy once complete in 2022.

Monopile foundation installation at the wind farm located 89 km off the Yorkshire coast started with offshore installation vessel 'Innovation'. In total, 165 monopiles and transition pieces will be installed in preparation for the site's 8.4 MW turbines.

Our fallpipe vessels 'Flintstone' and 'Rollingstone' performed scour protection works, including some pre-lay seabed preparation works for the export cable, representing volumes of 100,000 tonnes.

DEME Offshore will also provide installation vessel capacity to transport and install 165 Siemens Gamesa 8.4 MW turbines at the wind farm. Installation should be completed in early 2022.

MORAY EAST OFFSHORE WIND FARM

Key milestones have been falling like dominoes at the Moray East project in 2020, even though this huge offshore wind farm, comprising 100 x 9.5 MW MHI Vestas turbines, is being built in the middle of the pandemic. The enormity of the project is highlighted by the fact some 4,500 people were involved, in at least 10 countries. During peak production periods DEME was managing more than 10 vessels at the offshore site.

DEME Offshore was awarded the Engineering, Procurement, Construction and Installation (EPCI) contract for the 950 MW wind farm, which is located in the Outer Moray Firth, off the northeast coast of Scotland in December 2018. Our scope originally included 100 turbine foundations, three offshore substation platform foundations, as well as the transport and installation of the three substations. In addition, this year we were also awarded a subcontract for the installation of the inter-array cables at the wind farm.



UK – MORAY EAST
Despite the pandemic the production of jackets at our subcontractors' locations was kept firmly on track.

Early in the year, all 309 pin piles had been installed and then in the summer this was followed by the three substations. Then in September, the last jackets were safely loaded onto the heavy transportation vessels at Rig Metals LLC (part of Lamprell) in Dubai ready for their journey to the UK. These giant jackets actually had to be shipped around the Cape of Good Hope because they were too tall to transit the Suez Canal. To ensure a timely production flow, we had contracted Lamprell for the fabrication of 45 wind turbine foundation jackets and the substation jackets. The remaining 55 jackets were awarded to Smulders which constructed them at facilities in Belgium and Newcastle.

Jacket installation on schedule

By the end of the year, all the jackets had been installed and in line with the schedule. This is even more remarkable considering the coronavirus and the late delivery of AFC drawings by our client.

Additionally, during the COVID period at the jacket production and subcontractors' locations – such as Dubai, Spain, Belgium and the UK, we pulled out all the stops to make sure the project remained on track and chartered aircraft to bring our people to the project site in North Scotland. We were able to limit delays and catch up with the schedule by changing the sequence of the works.

Meanwhile, our specialist cable laying vessel 'Living Stone' began the cable laying work in September, with the first campaign (40) successfully completed in November. 'Living Stone' really put in an excellent performance, achieving very high productivity rates. The remaining 60 cables will be installed in Spring 2021. Our dedicated fallpipe vessel 'Flintstone' was also performing rock placement works for the export cables, and the DEMA crew transfer vessel 'Aquata' was deployed on the project, so there was literally a sea of green vessels offshore.

We were also awarded a contract from NKT to carry out rock placement works for the export cables – including pipeline crossings and cable protection works. Furthermore, scour protection blankets have been installed prior to the jacket installation. Our dedicated fallpipe vessels 'Flintstone' and 'Rollingstone' had placed around 300,000 tonnes at the Scottish wind farm as the year drew to a close.

Innovative technology

We also developed and deployed a lot of innovative technology on the project such as a special lifting tool to handle the large jackets, a patented piling template, and underwater pile cleaning and pile dredging methods. The jacket-pin pile gripper is particularly special. This makes sure that movements of the connection between the

jacket and pin pile are reduced so the hardening of the underwater grouting could sufficiently take place - a solution which has been fully accepted and approved by the certification authorities. Deploying the piling template from our offshore installation vessel 'Apollo' was a very efficient solution for the pin pile installation works, and enabled us to achieve very accurate tolerances.

NEART NA GAOITHE OFFSHORE WIND FARM

Full-scale cable production was underway in line with the planned schedule for the Neart na Gaoithe Offshore Wind Farm in the UK. We were awarded an EPCI contract for the 56 inter-array cables for the 450 MW wind farm, which is located near Fife Ness in Scotland, in September 2019.

Under the EPCI contract we are responsible for the engineering, cable design and manufacturing, load-out and transportation, cable installation and burial, post-installation survey, termination and testing, as well as the provision of cable protection systems. Our DP3 installation vessel 'Living Stone' will be deployed, together with our trenching machine CBT 1100.

Neart na Gaoithe will encompass 54 wind turbines, of 8 MW each, with approximately 105 km of inter-array cables.

TRITON KNOLL OFFSHORE WIND FARM

We were awarded a contract to install the 90, MHI Vestas 9.5 MW turbines at the Triton Knoll Offshore Wind Farm in the UK, which is located approximately 32 km off the Lincolnshire coast, in 2019. DEMA Offshore is responsible for the design and manufacturing of the sea-fastening and tagline systems, and the transport and installation of the turbines.

Mobilisation for the turbine installation had just got underway in December, with offshore work set to begin in January 2021.

In 2020, we successfully installed 28 foundations at Triton Knoll. Despite the soft soil and presence of multiple boulders, our DP2 offshore installation vessel 'Innovation' performed the foundation installation in record times.

Triton Knoll is owned by innogy and partners J-Power and Kansai Electric Power and will be one of the first wind farms in the world to install and operate MHI Vestas' V164-9.5 MW turbines.

DEME OFFSHORE ACQUIRES SUCTION PILE ANCHOR AND FOUNDATION SPECIALIST

In November, DEMA Offshore officially acquired SPT Offshore from private equity company VE Partners and the company's management. Based in the Netherlands, SPT Offshore is the leading global contractor for suction pile anchors and foundations.

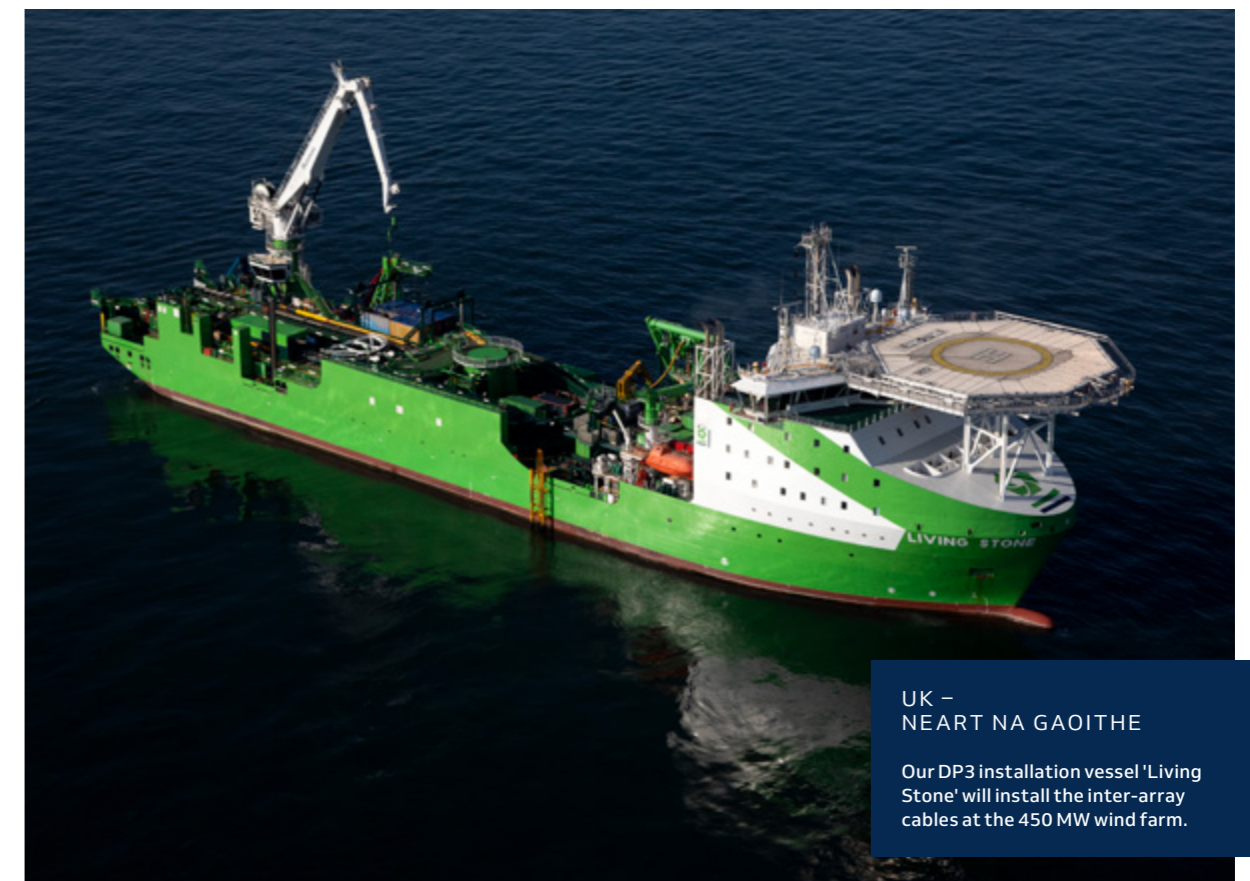
Founded in 1997, SPT Offshore has an unrivalled track record in both the renewables and oil & gas market.

With the growing trend of increasingly stringent environmental regulations concerning drilling and driving piles offshore, suction pile technology offers a silent installation method. This means no expensive noise mitigation measures such as huge bubble curtains or shutdowns are required.

As well as this, it makes it easier to perform reuse, relocation and decommissioning activities without

leaving a trace on the seabed. Due to the faster installation on site - only a matter of several hours for each structure - vessel time is strongly reduced thereby also reducing CO₂ and NO_x emissions.

The acquisition of SPT Offshore marks the next stage in DEMA Offshore's journey to offer customers the most comprehensive solutions in the offshore energy market. SPT complements DEMA Offshore's own expertise and enables us to have an in-house suction pile technology specialist, reinforcing our leading position in the market and further boosting our offshore energy portfolio.



UK – NEART NA GAOITHE
Our DP3 installation vessel 'Living Stone' will install the inter-array cables at the 450 MW wind farm.

TAIWAN

CDWE is investing in a pioneering offshore installation vessel 'Green Jade' and construction is underway.



TAIWAN

HAI LONG OFFSHORE WIND PROJECT

CDWE started early preparatory works on the Hai Long Offshore Wind Project, including the detailed design, engineering and procurement requirements for the foundations and cables, where there will be a strong emphasis on local content requirements.

CDWE was established in February 2019 by CSBC, the largest shipbuilder in Taiwan, and DEME Offshore. This successful collaboration has already led to a decision to invest in a pioneering installation vessel 'Green Jade' and construction is underway (see page 41 for more information).

Hai Long Offshore Wind awarded Taiwan's first ever, large-scale Balance of Plant Preferred Supplier Agreement for this project in the autumn of 2019. The Engineering, Procurement, Construction and Installation (EPCI) of the foundations, inter-array cables, export cables and transport and installation of the turbines are included in the BOP package. The mega 14 MW Siemens Gamesa turbines have been selected for the wind farm, which can be comfortably accommodated and installed by our new offshore installation vessel 'Green Jade'.

Hai Long Offshore Wind Project and CDWE are working closely together to meet the localisation requirements of the Industrial Development Bureau and Bureau of Energy. CDWE subsequently launched a large-scale market study of Taiwanese steel fabricators and marine engineering services providers to assess local capabilities and set up a team under its direction.

In 2020, the execution team is already being shaped, with the Project Director and experienced T&I managers appointed. Offshore installation works are expected to kick-off in early 2023. On completion, the wind farm cluster will generate more than 1 GW.

ZHONG NENG OFFSHORE WIND FARM

This year CDWE started the early engineering works for the Zhong Neng Offshore Wind Farm. CDWE and the Zhong Neng Wind Power Corporation Preparatory Office have signed two contracts for this project which include the transportation and installation of 33 jacket foundations, as well as a Preferred Bidder Agreement for the transportation and installation of the wind turbines.

Being developed by China Steel Corporation together with the Danish developer Copenhagen Offshore Partners (COP), the 300 MW Zhong Neng Offshore Wind Farm is planned for completion in 2024, offshore works will start in 2023. We are also working very closely with the Zhong Neng Wind Power Corporation Preparatory Office to make sure local content is optimised.

Preparations are in full swing and in 2020, we have started to assemble the project team. This wind farm is expected to be the first project for 'Green Jade'.

CHANGFANG-XIDAO OFFSHORE WIND FARM

CDWE is also performing the project management for the WTG transport and installation scope of CIP's 600 MW Changfang-Xidao Offshore Wind Farm. The scope includes the transport and installation of 62 turbines, with an installation schedule divided in two phases between 2022 and 2023.

CHINA

PINGHAIWAN

In the first half of the year, COSCO-DEME New Energy (CDNE) performed a contract to install 20, 6 MW turbines, at the Pinghaiwan Phase 2 offshore wind project in the Putian Pinghai Bay area in the Chinese Province of Fujian. The 20 turbines have been installed on a High-Rise Pile Cap foundation, which consists of eight inclined installed piles of 2 m in diameter and a concrete cap 5 m high and 16 m in diameter.

CDNE's DP2 jack-up vessel 'LiYa' (ex-Goliath) completed the lifting works for the completion of the cap and the lower part of the turbine for our customer CCCC3 in July.

JAPAN

PENTA-OCEAN CONSTRUCTION CO., LTD. AND DEME OFFSHORE SIGN MOU TO JOINTLY DEVELOP OFFSHORE WIND FARMS

In March, DEME Offshore and Penta-Ocean Construction Co., Ltd., Japan's leading marine contractor, concluded a Memorandum of Understanding (MOU) for a comprehensive cooperation for the construction of offshore wind farms in Japan. The partners have agreed to establish a jointly incorporated company by March 2021.

New regulations promoting offshore wind power generation in the general sea areas, as well as in port and harbour areas, have been introduced and the first wind farm auction round is expected to take place in 2021. Japan has very ambitious targets to develop 10 GW of offshore wind power by 2030, and this includes 4 GW of floating wind energy.

Japan has very good wind conditions but challenging subsoils, which can be a mixture of sand and rocks. This means that often drilling expertise is necessary at offshore wind farm sites and both companies have a lot of experience in this field given their dredging activities. As well as this, severe metocean conditions such as typhoons, bomb cyclones, etc. and seismic forces need to be considered.



JAPAN

Japan has very ambitious targets to develop 10 GW of offshore wind power by 2030.



US

We secured a preferred contractor award for a significant installation scope at one of the first large-scale commercial wind farms to be built in American waters.

US

DEME Offshore is targeting the growing US offshore wind market, which has an enormous potential in the years ahead. For example, the individual North East Atlantic states have set ambitions that more than 30 GW should be installed as we head towards 2035. Although it is an emerging market the right parameters are coming into place, creating a new market for DEME Offshore which is only around 14 days sailing distance from Europe.

DEME Offshore is ready for this market and we have already established our own entity in the US, 'DEME Offshore US LLC' which is based in Boston, Massachusetts. Our US team is very active in tendering and working together with local companies, institutes and stakeholders, particularly in the states.

VINEYARD WIND 1

Vineyard Wind, a joint venture between Avangrid Renewables and Copenhagen Infrastructure Partners (CIP), selected DEME Offshore as its contractor for the offshore transport and installation of the wind turbine generators for its Vineyard Wind 1 project, the first utility-scale offshore wind installation in the United States.

Vineyard Wind 1 is an 800 MW project located 15 miles off the coast of Martha's Vineyard and is slated to become the first large-scale offshore wind farm in the United States. The project, including 62 turbines, will generate cost-competitive electricity for more than 400,000 homes and businesses in the Commonwealth of Massachusetts and is expected to reduce carbon emissions by more than 1.6 million tonnes per year.

Securing the Vineyard Wind 1 contract is an important milestone for DEME Offshore in the emerging US offshore wind market. 🌱

G-TEC

G-tec is our specialist geoscience services company, which provides geotechnical and geophysical offshore site investigations for both the renewables industry and the oil & gas sector. Additionally, G-tec provides a broad range of data management and GIS services.

GEOTECHNICAL PROJECTS

The first geotechnical project of the year was carried out at Hornsea Project Four. On behalf of Ørsted, the team was tasked with investigating the export cable corridor and wind farm location. Deep coring and seabed Cone Penetration Testing (CPT) was carried out between April and July. Following the offshore works the samples were analysed in the second half of the year.

This project was swiftly followed by a contract for SSE Renewables, where we went directly to the Berwick Bank and Marr Bank (formerly known as Seagreen 2&3) offshore wind farm locations at the end of July. Here we executed 15 boreholes to a depth of -50 m below seabed, as well as carrying out CPT testing. This was performed until October, producing some very good quality samples. Laboratory testing was underway in the final quarter.

Additionally, in August we were awarded a framework agreement from the Elia Group for investigations to be carried out for its two transmission system operators, Elia in Belgium and 50Hertz in Germany. Our team had to perform site investigations at the new Modular Offshore Grid extension ('MOG II') in the North Sea. 'Omalius' sailed out in November to the future offshore platform locations and performed 12 CPTs to -80 m and drilled three boreholes to -80 m below seabed for the soil investigations. This campaign will be followed by further site investigations in Germany.

G-tec provides geographic information system solutions to improve efficiency and quality in the operational Offshore Wind Farm lifecycle.

GEOPHYSICAL INVESTIGATIONS

Geophysical investigations included a wide variety of projects. We worked for several clients including the Walloon Waterways authority. We performed multi-channel seismic surveys for EDF France in Gravelines and in Portgordon, Scotland we conducted a seismic refraction survey. We also carried out multibeam surveys at the Saint-Nazaire offshore wind farm and did some maintenance and inspection surveys for the Merkur, Rentel and C-Power offshore wind farms.

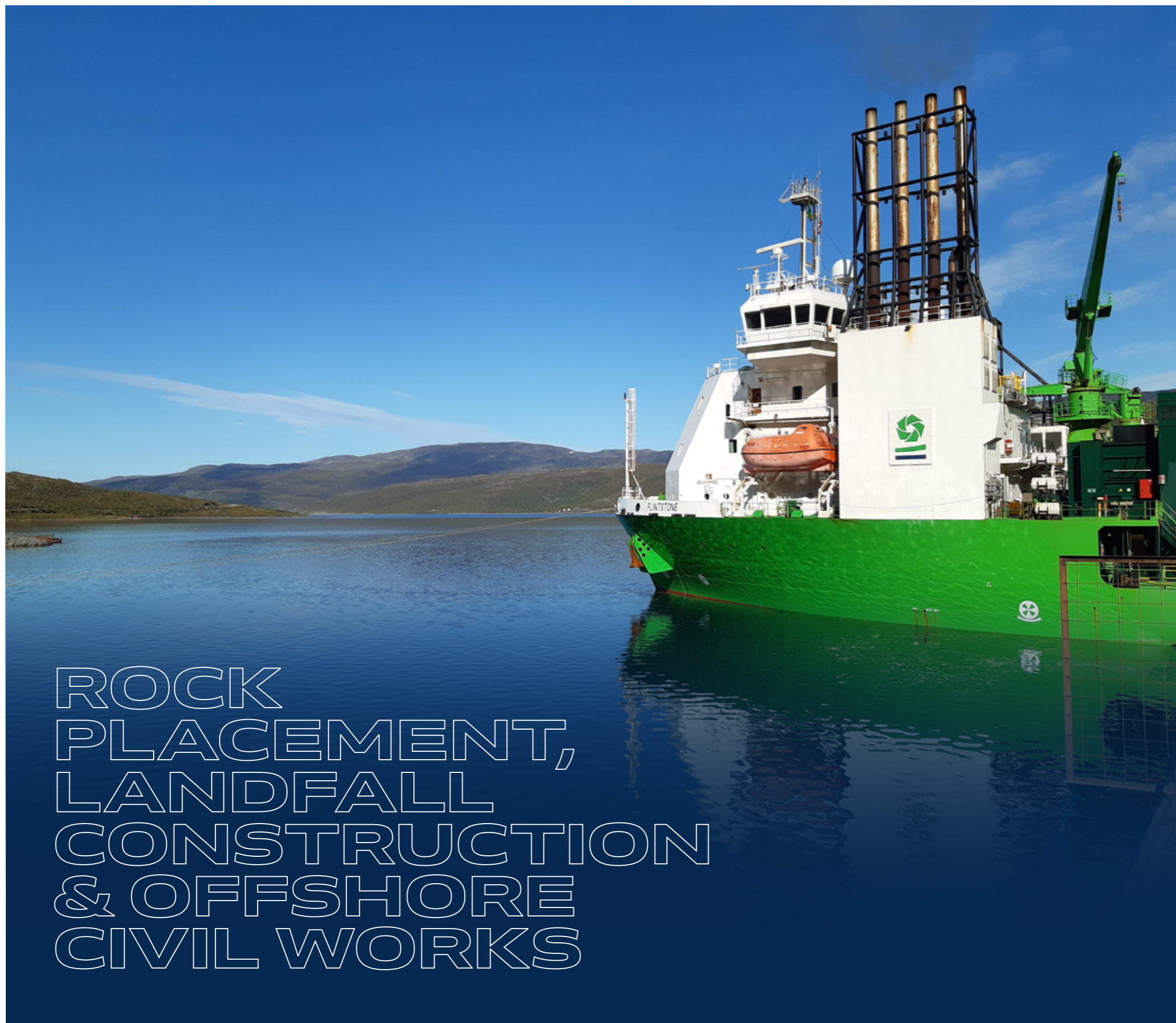
DATA MANAGEMENT & GIS

G-tec provides geographic information system (GIS) solutions to improve efficiency and quality in the operational Offshore Wind Farm (OWF) lifecycle, from site investigations to the production phase. OWF projects lead to massive (spatial) data production and require strong collaboration between different stakeholders. Thanks to GIS, G-tec ensures the delivery of operational insight for all the project phases.

As well as our geotechnical and geophysical services, we have an expert data management team, which is an activity that is growing tremendously. We performed data management and GIS services for most of the geophysical projects we worked on during the year.

In 2020 we were particularly proud to be awarded a 'Special Achievement in GIS (SAG) Award' from ESRI for our innovative application of mapping and analytics technology and leadership in the field of GIS to support installation operations and maintenance of offshore wind farms. We are a front runner in GIS and intend to expand our capabilities in the future. 🌱

We are proud to be awarded for our innovative application of mapping and analytics technology and leadership in the field of GIS.



ROCK PLACEMENT, LANDFALL CONSTRUCTION & OFFSHORE CIVIL WORKS

Our dedicated fleet of fallpipe vessels has performed a wide variety of projects for the renewables industry and the oil & gas sector during 2020.

NORTH SEA LINK INTERCONNECTOR – NORWAY, UK

In the summer we completed the latest rock placement campaign for the North Sea Link project, an interconnector between Norway and the UK. On behalf of cable manufacturer Prysmian Group, we have carried out various campaigns over the last few years. Given the many pipeline crossings and areas that cannot be reached by traditional trenching, rock protection is necessary. Passing through Norwegian and British waters, the 730 km long North Sea Link is the longest subsea interconnector in the world. We placed a total of approximately 400,000 tonnes of rock in 2020.

OFFSHORE WIND FARMS IN BELGIUM AND THE UK

Our fallpipe vessels carried out various rock placement campaigns at the SeaMade, Hornsea Two and Moray East offshore wind farms in 2020. For more information see the 'Renewables' section.

CPC CORPORATION GAS PIPELINE - TAIWAN

Fortunately we just managed to complete an urgent rock placement project in February for CPC Corporation's gas pipeline, off the west coast of Taiwan before the pandemic took hold. Our DP2 fallpipe vessel 'Seahorse' placed 190,000 tonnes of rock at two locations which was sourced from local facilities. The existing pipeline is largely installed in a valley which is subject to landslides. Therefore if the channel is not stabilised with a carpet of rock, there could be further shifts, which could damage the pipeline itself. After this assignment 'Seahorse' was mobilised for the scour protection works for the Yunlin offshore wind farm.

EQUINOR NORWEGIAN CONTINENTAL SHELF

We wrapped up several major projects around the Norwegian Continental Shelf on behalf of Equinor in December. In a joint venture, we secured a long-term agreement with Equinor to provide subsea rock installation works between 2018-2020. In the course of 2020, the following contracts were completed: Troll B, Zeepipe, Gina Krogh, Sleipner, Kvitebjorn, Johan Sverdrup and Edvard Krieg.

VIKING LINK – UK, DENMARK

We were awarded a three-year contract to perform various rock placement campaigns for the 1,400 MW high voltage direct current (DC) electricity link between the British and Danish transmission systems, connecting at Bicker Fen substation in Lincolnshire, Great Britain and Revsing in Southern Jutland, Denmark. Viking Link will be approximately 760 km long and is due to be operational in 2022.

NORTH SEA PROJECTS

In a two-year project, we have started carrying out pipeline protection works at the Shell/Penguins Development Project which we expect to complete in 2021. In 2020, we performed rock placement works at the Gannet 'D' and Pierce Field in the UK North Sea.

Additional pipeline protection works have been carried out for the Dana Petroleum/DP006A Pipeline, Ithaca/Vorlich Project, Fairfield/PL5 Development, Chrysaor/Callanish Development, Perenco/PL24 Pipeline, Neptune/Cygnus Development and Premier Oil/Catcher North Development.

In 2021 the western section of the Baltic Pipeline will be installed. This pipeline starts from a tie-in at the existing Europipe II, runs in an easterly direction over the North Sea, crosses the mainland of Denmark and the Baltic Sea and ends in Poland. On behalf of Allseas, we will install approximately 100,000 tonnes of rock over this pipeline upon installation in May-June 2021 using our DP fallpipe vessel 'Flintstone'.

Additionally, we are currently preparing the shore approach and landfall at Houstrup, on the west coast of Denmark, deploying our backhoe dredger 'Samson' and TSHD 'Reynaert' to dredge a 2,500 m trench for the future 36" pipeline. We began in January 2021 by constructing the 202 m cofferdam and dredging is expected to get underway in April 2021, followed by the pipe pull in May and subsequent backfilling. In 2020 'Flintstone' already installed special rock grading as protection for the 38" inch pipeline on the Energinet/Lillebaelt Crossing, during the summer.

Additional seabed preparation and cable protection works have been carried out on the following projects: EDF/IFA 2 Power Cable System, Neart Na Gaoithe/Seabed Infill Works, Borssele OWF/Cable Protection Works and Subcon/Havfrue Communication Project.



We wrapped up several major projects around the Norwegian Continental Shelf on behalf of Equinor.

MEXICAN GULF

Our DP fallpipe vessel 'Rollingstone' was also active at various upheaval buckling mitigation projects in the Mexican Gulf, during the first half of 2020.

DP fallpipe vessel 'Rollingstone' was active on both the North Sea and in the Mexican Gulf.



HUSKY WEST WHITE ROSE PROJECT - CANADA

Following our award of the dredging works for Husky Energy's West White Rose Project, which is located off the east coast of Newfoundland, Canada, we have been busy studying various options to tackle the polluted soils and bund removal at the dry dock.

West White Rose is being developed by constructing a fixed oil drilling platform consisting of a Concrete Gravity Structure. This huge 200,000 tonne CGS is being built in a purpose-built excavated dry dock. On completion, the dock has to be flooded and the CGS is towed out to the site. However, with concrete work taking place during the height of the pandemic, the facility had to close for several months in 2020.

We have been contracted to dredge three channels to a -19.2 m depth to the dry dock and to remove the bund. This is particularly challenging because it is situated close to an airfield which was used in WW2, so the waters are full of debris and potential UXOs. Additionally, there are very challenging soil properties in the area with everything from boulders, sand, bedrock to weathered rock and clay.

SHELL PULAU BUKOM REFINERY - SINGAPORE

In another project impacted by COVID, we started preparations for a rock removal, trench dredging and shore approach contract for the Pulau Bukom Shell refinery in Singapore in 2020. The facility is linked to an offshore buoy and a 2.5 km section of the subsea pipeline has to be removed and replaced. We have been assigned to carry out the rock removal scope on the existing pipeline and trench dredging works for the new pipeline. Our CSD 'Ambiorix' will be deployed for trench dredging in the harder soils and the fallpipe pontoon 'Temarock' will be deployed for the rock installation scope. As many projects were shut down during Singapore's lockdown period, this project was also delayed but works are now scheduled to commence on site in early 2022.



DP fallpipe vessel 'Flintstone' had a full order book throughout the year.

NAM CON SON 2 PIPELINE - VIETNAM

We successfully completed the dredging and backfilling of a 130 km offshore pipeline in Nam Con Son, Vietnam on behalf of TechnipFMC. Located nearshore at approximately 60 m water depth, this project was particularly challenging because of the presence of very stiff clay, sand, coral reefs and very strong currents and like so many other projects, it was being performed during the pandemic. Some crew changes were extremely difficult and had to take place in Sri Lanka and we had strict quarantine and health and safety procedures in place on board and for the staff involved. Initially our TSHD 'Nile River' dredged between March and July, then it returned end-September to execute the backfilling. We handled a total volume of around 1.4 million m³.

HINKLEY POINT - UK

With execution expected to start in March 2021, we have been making preparations and carrying out engineering work, developing lifting procedures and engineering various components for the Hinkley Point nuclear power station gravity based structures and shaft construction in the UK. We are also set to start the fabrication of the template structures soon.

Balfour Beatty appointed DEME's subsidiary NewWaves Solutions as a subcontractor for Hinkley Point under an Early Contractor Involvement (ECI) agreement. Our scope includes dredging works for six pits required for the construction of the intake and outfall structures of the new nuclear power plant, for which we completed a test pit in October 2018. 🌱



Rock placement and scour protection campaigns were carried out for several offshore wind farm projects.



PLATFORM INSTALLATION & DECOMMISSIONING

DECOMMISSIONING OF 11 PLATFORMS IN THE SOUTHERN NORTH SEA

In 2020 we finished off the engineering scope for a major contract to perform the decommissioning of 11 platforms in the UK sector of the Southern North Sea, which will be carried out in partnership with AF Offshore Decom AS (AFOD).

Currently, the offshore works are expected to get underway in 2022. AFOD prepares the platforms for removal, while we are responsible for the marine engineering, removal and transportation. 💰

SCALDIS

Scaldis, owned by DEME and two other shareholders, is a highly experienced offshore heavy lift contractor, specialised in the transportation and installation of offshore structures and the decommissioning of offshore facilities, in addition to salvage works, marine heavy lifting for civil projects and in ports.

In 2020 Scaldis carried out six decommissioning projects. These complex jobs were prepared by the company's dedicated and highly skilled decommissioning engineers for several years before the start of the works. Scaldis also transported and installed two topsides directly from the deck of its heavy lift vessel (HLV) 'Gulliver' to the SeaMade offshore wind farm, providing a very flexible and cost efficient solution.

BELGIUM

TOPSIDES FOR SEAMADE OFFSHORE WIND FARM

On behalf of DEME Offshore, Scaldis was responsible for the transport and installation of the Mermaid & Seastar (known as SeaMade) offshore substations. Having installed six substations in the Belgian North Sea, Scaldis has developed a new transportation concept for the sister substations, which is very efficient, enabling the two topsides to be transported directly on the deck of its DP2 HLV 'Gulliver'. Using in-house designed seafastening grillages on her aft deck, the 1,200 tonne topsides were supported and secured during transit to the field. This innovative method avoided the need for an offshore lifting operation from a barge and the need for auxiliary tugs, thus reducing operational time and costs. 'Gulliver' loaded the topsides in the harbour and sailed directly to the site, which led to a very fast installation time.

On 2 March, the Mermaid's offshore substation arrived in Vlissingen where it was picked up by 'Gulliver' and in the evening 'Gulliver' left the port at high water and sailed towards the field.

The crew had conducted the DP trials before entering the field and was ready for installation to begin before noon. The substation was lifted from the deck in front of the foundation and 'Gulliver' slowly approached the last 100 m towards the monopile in DP2 mode. On the instructions of the heavy lift supervisor, the substation was lowered gently over its stabbing guides. The Mermaid substation was installed in record time. However, the record only stood for 11 days because Scaldis successfully installed Seastar's substation on 16 March.

This project was a milestone for Scaldis as it was the first DP2 installation it had performed directly from the deck. Additionally, the benefits of this method mean the operational window is substantially reduced, hence less offshore time and less reliance on the weather conditions. HLV Gulliver's efficiency has clearly been recognised for installing jackets and topsides as the company now has orders running into 2022.



BELGIUM

For the offshore substation installation at the SeaMade offshore wind farm, Scaldis used a new in-house developed transportation method.

SECOND LOCK GATE ZEEBRUGGE

In May, Scaldis was again busy at the Pierre Vandamme lock in Zeebrugge. The HLV 'Gulliver' executed the first phase of the lifting operations and removed the 2,700-tonne 'Lock Gate 1' from the lock complex and the whole operation went flawlessly.

In 2018, Scaldis was contracted to remove Lock Gate 4 and a year later, to install the lock gate back into its original position with its HLV 'Rambiz'.

The Pierre Vandamme lock complex, which consists of four lock gates and four bridges, is the connection between the inner harbour and the Belgian coast.



UK

DECOMMISSIONING OF SIX PLATFORMS AT VULCAN & VIKING AND VIKING BRAVO FIELDS

On behalf of Chrysaor, Scaldis successfully performed the decommissioning of six Vulkan & Viking satellite platforms and two Viking Bravo platforms situated in the UK Southern North Sea. Six platform removals were carried out in 2020 and despite the challenges brought about by the pandemic, Scaldis even finished the project ahead of schedule.

As each platform was completely different, this project involved several years of preparations. The scope included the engineering and preparation, transportation and disposal services. Progressing very smoothly, this decommissioning assignment highlighted how the HLV 'Gulliver' is a true decommissioning machine. The heavy lift vessel, an expert crew and a very good collaboration with the client led to the successful completion of the project.

To get the six platforms ready for removal dedicated hardware was installed such as leg-cutting platforms on the leg extensions and trunnions on the topsides' main columns. Additionally, Scaldis installed new lift points, weight shedding and the structural integrity of the ageing assets was also improved.

Alongside the preparation campaign our in-house engineers carried out the structural removal assessments that were used for the operational planning and execution of the preparation and removal phases, as well as designing the seafastening.

The four satellite platforms and two main hubs were removed in one campaign starting in June and ending in August. Initially the topsides were removed and collected together. A barge then took them to Great Yarmouth for dismantling. In a second phase Scaldis removed the jackets and all the substructures in one go. The jackets were all transported in the hooks and taken directly to the dismantling yard.

The smart engineering and bundling the activities really paid off, and is more impressive given that it was during the pandemic. Essentially the crew of the 'Gulliver' and the necessary additional personnel was in its own 'bubble', with no one else allowed to enter the vessel.

Scaldis achieves two major milestones during the project.

Firstly, this is the heaviest structure the company has decommissioned until now, weighing up to 2,600 tonnes. Another record was also broken when considering the quantity of platforms, in combination with their weight. During the removal phase (2019-2020) Scaldis removed eight platforms, representing in excess of 10,750 tonnes of material.

As well as these two major achievements, we are even more proud to say that we worked 0.7 million man hours without any significant incidents or injuries. 🌱

Six platform removals were carried out and despite the challenges brought about by the pandemic, Scaldis even finished the project ahead of schedule.

UK

HLV 'Gulliver' working on the decommissioning of the Vulkan and Viking Bravo platforms.

ENVIRONMENTAL

Our environmental specialists take a proactive role in sourcing and developing potential remediation projects, alongside their development partners.

We offer innovative solutions for soil remediation and brownfield redevelopment, environmental dredging and sediment treatment and water treatment. We are also leveraging our expertise to develop solutions to tackle the plastic waste that is polluting the world's rivers and oceans. A test project got underway to assess the effectiveness of a new technology to catch plastics from our rivers before they reach our oceans.

A person wearing a green hard hat and an orange high-visibility jacket with reflective stripes is standing on a construction site. They are holding a handheld electronic device, possibly a GPS or data logger, and looking at it. The background shows a large pile of dark material, possibly soil or sediment, and some industrial structures under a cloudy sky.

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SOIL REMEDIATION & BROWNFIELD DEVELOPMENT

BELGIUM

FORMER RENAULT SITE - VILVOORDE

In a joint venture, we have been awarded a contract to perform the environmental remediation of the former Renault site in Vilvoorde, 23 years after the closure of the factory. Once fully remediated, this huge factory site will be turned into a whole new city quarter (approximately 60 ha), even including a hospital.

This year we started preparatory works whereby we have to demolish a massive area of concrete paving where the new cars used to be parked. Additionally, the Renault production plant had been built on a household waste dump, so this is a very complex project representing a mixture of industrial and household waste.

In 2021, we will build a remediation tent on site and will start sorting and sieving the material. Our experts will initially deploy bioremediation techniques, but if the soil is too contaminated we will take it to our own recycling facility in Kallo. However, we expect an impressive 80% of the soil to be cleaned and reused on site. We will excavate the contaminated soil to a depth of 4 m and are expecting volumes of approximately 90.000 m³. After the excavation the groundwater will also be monitored.

BLUE GATE - ANTWERP

Throughout 2020 work continued on the second phase of Blue Gate Antwerp, a 66 ha, historically polluted blackfield site, which is being transformed into a sustainable business park. The second stage of this large-scale project started in May 2019. Our scope includes soil remediation, elevating the terrain and infrastructure works. This year we are also cleaning sludge out of a 2 km canal running alongside the site.

In total, we expect to have cleaned 90,000 tonnes of soil and to have used around 350,000 tonnes to raise the site when our scope is completed. A 17 ha business park will then be established when this phase of the project concludes at the end of 2022.

Located in Antwerp's old petroleum harbour, the Blue Gate Antwerp project was originally awarded to the Blue O'pen Consortium (DEME and sustainability specialist BOPRO) in 2016. The first phase of this project was successfully completed on schedule and a wide variety of new businesses have already been established there.

During this phase we elevated almost 600,000 m³ of terrain, remediated 100,000 tonnes of soil and moved some 200,000 tonnes, as the more lightly polluted soils could stay on the site once they had been mapped and reported. The redevelopment is being undertaken in phases, which will run until the end of 2036.

ZONNEBERG TERRANOVA/ CALLEMANSPUTTE - GHENT

After obtaining all the permits, we started the remediation of the 22 ha 'Callemansputte' dredging disposal site this year, which we will turn into a nature reserve, including several lakes and bird-watching hides. Acquired together with our joint venture partner, the dredging disposal site is adjacent to the former gypsum dump of Nilefos in the Port of Ghent.

In the past the dredged spoils were not dried first before being dumped, so initially we have to prepare the surface prior to constructing a working platform for our equipment and then in 2021, we will start installing several vertical filters to drain the dumped material. The drying and compacting process is expected to take three to four years.

In 2018, we fully remediated the gypsum dump and a new 15 MW solar farm has already been set up, producing green energy for 4,000 households. Additionally, as the Callemansputte site is around 5 m high and the Terranova one approximately 55 m, the whole site will eventually be landscaped into one. This project is likely to run for another 10 years.



BELGIUM –
ANTWERP

At the Blue Gate blackfield site, our scope includes soil remediation, raising the terrain and infrastructure works.



BELGIUM – ANTWERP

Remediation works at BP Hoboken kicked off in spring 2020.

FORT SINT-FILIPS - ANTWERP

In the largest rehabilitation project in the Port of Antwerp ever, a consortium including our environmental specialists, has started work on encapsulating the heavily polluted ruins of Fort Sint-Filips.

After WWII, the old 19th century fort, which is located on the right bank of the River Scheldt, served as a dumping ground for millions of litres of oil and chemical waste, as well as an incineration plant for waste products between 1950 and 1970. Starting in 2019, the remediation of the site is due for completion in August 2021.

The 31 ha area was buried under a layer of sand. Once this was removed, we started to encase the fort in an underground cement-bentonite wall, which will make it completely watertight. This wall will then connect to the boom clay layer, which is approximately 30 m deep, so that the contamination is completely isolated. The dump will then be filled and capped with an impermeable top layer of film and clay mats and finished with pure topsoil. Contaminated soil in the remainder of the area will be excavated and removed.

The banks of the fort are also part of the Sigma flood protection plan, therefore the height of the dykes will be increased and a new revetment area along the banks of the River Scheldt will be built. And even though the fort site will not be accessible once the works are completed, the contours will be built up again, giving people an impression of the fort.

NEW DOCKS - GHENT

The third and final phase of the much anticipated 'New Docks' project in the centre of Ghent was successfully completed end-2020. In total, 55,000 tonnes of contaminated soil were excavated and treated during this project.

We finished the first phase of this new city neighbourhood, which is located on the site of the former docks, in 2018. The docks were bought by project developers and we worked in partnership with them to remediate the ground to the highest environmental standards. Eventually the new neighbourhood will comprise 1,500 homes, businesses, a school and recreational areas.

BP - HOBOKEN

Remediation works at BP's former Hoboken lubricants' production plant are in full swing after kicking-off in May. We began by demolishing all of the old tanks and now soil excavation activities are underway. Uniquely, we joined forces with Seafar, which is specialised in remote ship management, and deployed a 135 m remote-controlled barge ('Zonga') to transfer the contaminated material from the site to our recycling centre in the Port of Antwerp. This is believed to be the first time such a barge has been deployed in Europe. Around 50,000 tonnes of contaminated soil are due to be treated.

After the site's remediation our client will transform the site into 'Maritime Campus Antwerp' (MCA). The remote-controlled vessel is one of the first innovations to emerge from MCA, which aims to connect entrepreneurs who develop sustainable and water-related businesses.



BELGIUM – ANTWERP

In a partnership our teams are currently tackling the historically polluted Fort Sint-Filips site, which is one of the most complex remediation projects ever to take place in Belgium.

BASF - FELUY

We were awarded two contracts related to a 63-ha BASF site in Feluy, in the early months of the year. BASF awarded us the contract to remediate the site in January and this was shortly followed by the authorisation from the Walloon government that we could establish a public-private partnership (PPP) between Ecoterres, a public works company and a local intercommunal company 'Idéa'. This PPP will be responsible for the purchase of the site, before it is remediated by Ecoterres, and then for its redevelopment. Extensive preparations are needed and this has taken up much of our time in 2020.

The purchase of the site is now planned for February 2022 and remediation works should start in June of the same year. This perfectly highlights our philosophy of breathing new life into brownfield sites by taking on the risk of cleaning them up and then redeveloping them. We believe this is a win-win solution for BASF, the public authority and Ecoterres.

FORMER QUARRY - WÉRIHET

Towards the end of the year, we were awarded a contract together with our partner to backfill and cap an old quarry (13 ha) in Wérihet, near Liège. The site is lightly polluted by municipal wastes and will be redeveloped into a new business park.



CODAMI - MANAGE

Remediation works have been completed at the Codami site in Manage, in line with the schedule and to the customer's satisfaction. Completed in August, around 120,000 tonnes of polluted soils were treated.

YARA - TERTRE

We have been remodelling and capping a large, heavily polluted industrial site, using confinement techniques at the Yara Tertre chemical plant. Due to bad weather, this will be completed in 2021. This was a complex project and very dependent on the weather because we had to lay geotextile and HDPE membrane on two large slopes. Eventually, we handled more than 250,000 tonnes of polluted material.

TEC - OMAL

In a new project we started remediation works at an old tank station owned by the Walloon public transport department in September. We expect to carry out offsite biological treatment of approximately 20,000 tonnes at our specialist centre.

BELGIUM - TERTRE

We have been remodelling and capping the heavily polluted Yara industrial site, using confinement techniques.

NORWAY

TØNSBERG - VALLØY

We officially handed over a former ExxonMobil refinery site located near Tønsberg in the spring, after successfully concluding a four-year remediation campaign.

This complex project was subject to very strict environmental regulations where we had to turn the excavated acid tar into good quality, usable secondary fuel and we also had to ship 50% of the treated soil by water. Additionally, the facility had been bombed during the Second World War so we had to carry out UXO investigations. We discovered several UXO, which had to be detonated. The new rehabilitated site will now be used for commercial and residential purposes.

SCOTLAND

FORMER EXXONMOBIL SITE - BOWLING

We have been awarded as a sole contractor a major contract to remediate the former ExxonMobil site in Bowling near Glasgow, under an Early Contractor Involvement (ECI) agreement. This award followed soon after the successful completion of a four-year refinery remediation project, we recently handed over to ExxonMobil in Tønsberg, Norway.

Located near the River Clyde, the Scottish site is approximately 61 ha and a substantial 250,000-300,000 tonnes of soil washing and treatment is expected to take place. Most of the material will be reused on site.

This year we have started the permitting process, with operations due to begin in Q1 2021 and end in 2023. On completion of this extensive remediation, the site will be transformed into an industrial and commercial development. Around a hectare of the land is also earmarked for a new road which would provide an alternative route in and out of West Dunbartonshire.

All of the land will be remediated to ExxonMobil's stringent standards, which have been agreed by the Scottish Environmental Protection Agency.



The Scottish site is approximately 61 ha and a substantial 250,000-300,000 tonnes of soil washing and treatment is expected to take place.

THE NETHERLANDS

MILIEUPARK OOST

We have embarked on a major project to reconstruct our 'Milieupark Oost' depot into a soil recycling and treatment centre, focusing on environmentally friendly methods. Currently, we are handling onshore and offshore waste, such as cuttings and mud for the Dutch exploration and production company NAM. We prepare them for cleaning and reuse. Annually, we expect to be able to handle around 30,000 tonnes. This initiative provides a good example of how we can create a circular and sustainable economy.

We used this material, which is very good quality, to protect a submerged pipeline for Shell in Rotterdam. This fits in with our strategy of changing the emphasis from dumping dredging spoils to cleaning them and reusing them. ♻️



DEME HYBRID SOIL WASHING PROCESS IDEAL FOR PFAS CLEANING

In a very significant step, we have developed an innovative, hybrid soil washing process. This is particularly important for the Netherlands, which has introduced strict regulations regarding PFAS, which is leading to severe delays for many infrastructure and construction projects.

We joined forces with consulting and engineering firm Tauw to bring this cost-efficient and sustainable cleaning technique for PFAS-contaminated soil to the Dutch market. We now offer customers a total solution in the field of PFAS sandy soil cleaning and granulate construction materials.

The special soil washing process achieves an impressive cleaning yield of more than 99%. The innovative method is a hybrid version of the wet extractive cleaning process, which, in addition to fraction separation, focuses on purifying the wash water.

PFAS (a collective name for poly- and perfluoroalkyl substances) is found in many household products that we use on a daily basis to make sure they are water-repellent, dirt-repellent, heat-resistant and even fire-resistant. Due to their wide use and multitude of applications, PFAS has a significant impact on the environment and is also present in soil. In 2019, this prompted very strict soil standards in the Netherlands.

We have one fixed soil wash installation at GRC Kallo and three mobile soil wash installations which we can use in the Dutch market. Currently, we have four locations where we can take in PFAS contaminated soils: Den Helder, Amsterdam, Rotterdam and Terneuzen.

At the moment we are the only company in the Netherlands with this capability. We are proud to be able to start the shift to cleaning and recycling soil and sediments, rather than dumping them.

DREDGING, SEDIMENT AND WATER TREATMENT

BELGIUM

NYRSTAR, BALEN

In Balen, we continue to perform activities involving the dehydration of Nyrstar's process residue. We are carrying out the tailing management and dewatering, as well as making filter cakes from the material for the mining and metals company.

FLEMISH INLAND WATERWAYS

We are working for De Vlaamse Waterweg as part of a seven-year contract, treating the dredged sediments at its centres throughout Belgium.

AMORAS - ANTWERP

As part of a consortium, we have been awarded a 15-year contract for the AMORAS facilities in Antwerp. This is a major design, construction and operation contract for sediment treatment and storage in the Port of Antwerp.

WALLOON WATERWAYS

Under a four-year framework contract, we dredged approximately 100,000 m³ of potentially contaminated sediments from the Walloon waterways. All the sediments were dredged by our equipment and transported by our own barges. The material was discharged into treatment centres using high-density pumps.

SOIL AND SEDIMENT TREATMENT CENTRES - SEDISOL, CETRAVAL, PETIT TRY

The activities at our soil and sediment treatment centres were lower than 2019, largely due to a new law named 'Walterre', which relates to contaminated and non-contaminated soil management. Although this leads to a reduction of volumes at the treatment centres, it also brings new 'trading' opportunities, whereby we can pretreat polluted soils on site and then transport the clean soil for reuse at another site. In 2020, Ecoterres will have managed/treated around 260,000 tonnes of polluted soils and sediments at our own centres and we will have managed an additional 50,000 tonnes externally. We will open a new treatment centre in Wambrechies in the course of 2021. Perfectly located along the River Deule (promoting the transport of polluted and treated soils/sediments by water), we expect to handle 30,000-40,000 tonnes a year.



WATER TREATMENT

Our environmental experts are specialised in water treatment solutions. As well as performing design and build contracts, we have around 30 mobile and fixed water treatment plants.

BOREALIS - ANTWERP

We have been awarded a major design, engineer & build contract from the chemicals company Borealis in 2020. We have spent much of the year designing and engineering the reverse osmosis and electro deionisation unit. All elements of the installation will be thoroughly tested at our site before being unmounted and taken to Borealis in 2021.

OPERATIONS & MAINTENANCE ACTIVITIES

In January 2020 we started a new long-term Operation & Maintenance contract for a major pharmaceutical company in Belgium. Our operators carry out the daily supervision of the wastewater treatment installation, do inspections, sampling, laboratory tests, as well as the calibration and cleaning of instrumentation, amongst other tasks, to the full satisfaction of our customer.

FRANCE

CONDÉ-POMMEROEUL CANAL

In the execution of an important contract awarded by Voies Navigables de France, work on the Condé-Pommeroeul Canal project continued throughout 2020. This multi-year project will ultimately lead to the reopening of a 6-km section of the canal between the Belgian border and the city of Condé in Northern France.

Under phase 1 we have been building three large landfills that are designed to store the future contaminated sediments which we will dredge under phase 2. During 2020, all the earthworks were completed. Two landfills have been finished off and one of them is already operational. However, the weather has to be favourable for this kind of job and the third phase is expected to be wrapped up in early 2021.

Ecoterres has the special French certification (Asqual), which allows us to install HDPE membrane and geotextile installation work in France. At the end of phase 1 (May 2021), we will have installed more than 400,000 m² of HDPE and geotextiles to secure the site and protect the groundwater and soil.

Running on schedule, phase 2 also got underway, with the dredging works along the canal starting in September. By end-2020 we had already dredged 70,000 m³. Phase 2 represents volumes of 1.2 million m³ - currently the largest dredging project on the inland waterways in France.

We designed a tailor-made unloading system for transferring the sediment from the barges to the disposal sites. This new equipment - believed to be the first in Europe - is particularly innovative because it has to take the heterogeneity of the dredged sediments into account. The system also has to have very high productivity rates of more than 2,000 m³ per day. It sieves the material using high density pumps and can easily handle sediments with many different physical characteristics. After a few teething troubles, the installation is even exceeding our expected returns. After phase 2 we will then carry out bank protection works.

FRANCE -
CONDÉ-
POMMEROEUL
CANAL

Our teams are currently executing the largest inland waterway dredging project in France.



The Condé-Pommeroeul project will lead to the reopening of a 6-km section of the canal.

RIVER DEULE PROJECT AND RIVER ESCAUT/SCHELDT

In two new contract awards from Voies Navigables de France, we are carrying out the dredging and widening of the Deule river (Northern France), together with Ghent Dredging. Preparation got underway in 2020 and dredging works will begin in the first quarter of 2021 for a period of two years.

In the second project, we again teamed up with Ghent Dredging, and will be dredging the River Scheldt (Northern France) and managing the sediments under a four-year contract. This is expected to start in September 2021.

DUNKERQUE

We continued performing maintenance dredging in Dunkerque with our joint venture partner and sister company SDI to the full satisfaction of our client. This includes management of the sediments at a local centre within the port. 🌱



THE MARINE LITTER HUNTER COMBINES FOUR NEW TECHNOLOGIES

- 1 Artificial intelligence for object recognition
- 2 Autonomous sailing (unmanned)
- 3 Virtual reality
- 4 Solar-charged batteries



A selection of plastic objects and fragments caught by the Marine Litter Hunter.

PLASTIC SOUP SOLUTIONS

In line with our sustainability goals we are very keen to tackle plastic pollution, and in 2020 we officially launched our pioneering 'Marine Litter Hunter'. This also marks the first initiative from our new business unit Plastic Soup Solutions, which was established in 2019.

Utilising cutting-edge technology this plastic collector combines artificial intelligence for object recognition, autonomous sailing (unmanned), virtual reality and solar-charged batteries for propulsion.

Designing and engineering the vessel and equipment in-house, we have stationed the Marine Litter Hunter along the River Scheldt, near the bridge of Temse (Belgium). This was chosen as an ideal location for the one-year pilot project because it has the largest tidal difference of 7.5 m between high and low tide and strong currents.

Officially operational since October, the new innovation is already proving successful, catching plenty of plastic and other waste, and even performing better than we had expected. Our customer, De Vlaamse Waterweg is also very pleased with its performance.

The vessel has V-shaped floating booms which it uses to catch the plastic. Cameras deploying AI are on the bridge to identify any debris floating down the river. Current, wind and environmental data are processed, which enables the system to predict where the object will go and then it notifies the collector.

The collector knows where the object will end up in the shipping channel, intercepts it and pushes it towards a 200 m wide funnel. Once the funnel has filled up, an operator using VR, empties the rubbish into a container on the vessel which it later unloads at a collection point on the quayside.

As it is in the test phase, the vessel is currently manned but eventually it will be a fully autonomous vessel – the first on the Flemish waterways.

When the project completes we will evaluate its potential but we are confident that it could be scaled up for use in rivers, ports and estuaries. In any case, its technology is certainly going to be valuable for other activity lines within the DEME Group. ♻️



BELGIUM – TEMSE

2020 marked the launch of the test phase of the Marine Litter Hunter. The one year pilot is the result of inhouse engineering.

INFRA

DEME Infra is our subsidiary which specialises in marine infrastructure and civil works that complement and reinforce DEME's dredging, land reclamation and offshore activities.

These include the design and construction of hydraulic works such as jetties, port terminals, locks and weirs, infrastructural works such as bored, immersed and cut and cover tunnels, foundation and marine works for bridges or other constructions in a marine or fluvial environment, concrete (gravity based and floating) foundations for offshore renewables, and civil works for harbour construction, dams and sea defences, canal construction, revetment, quay wall construction and shore protection.

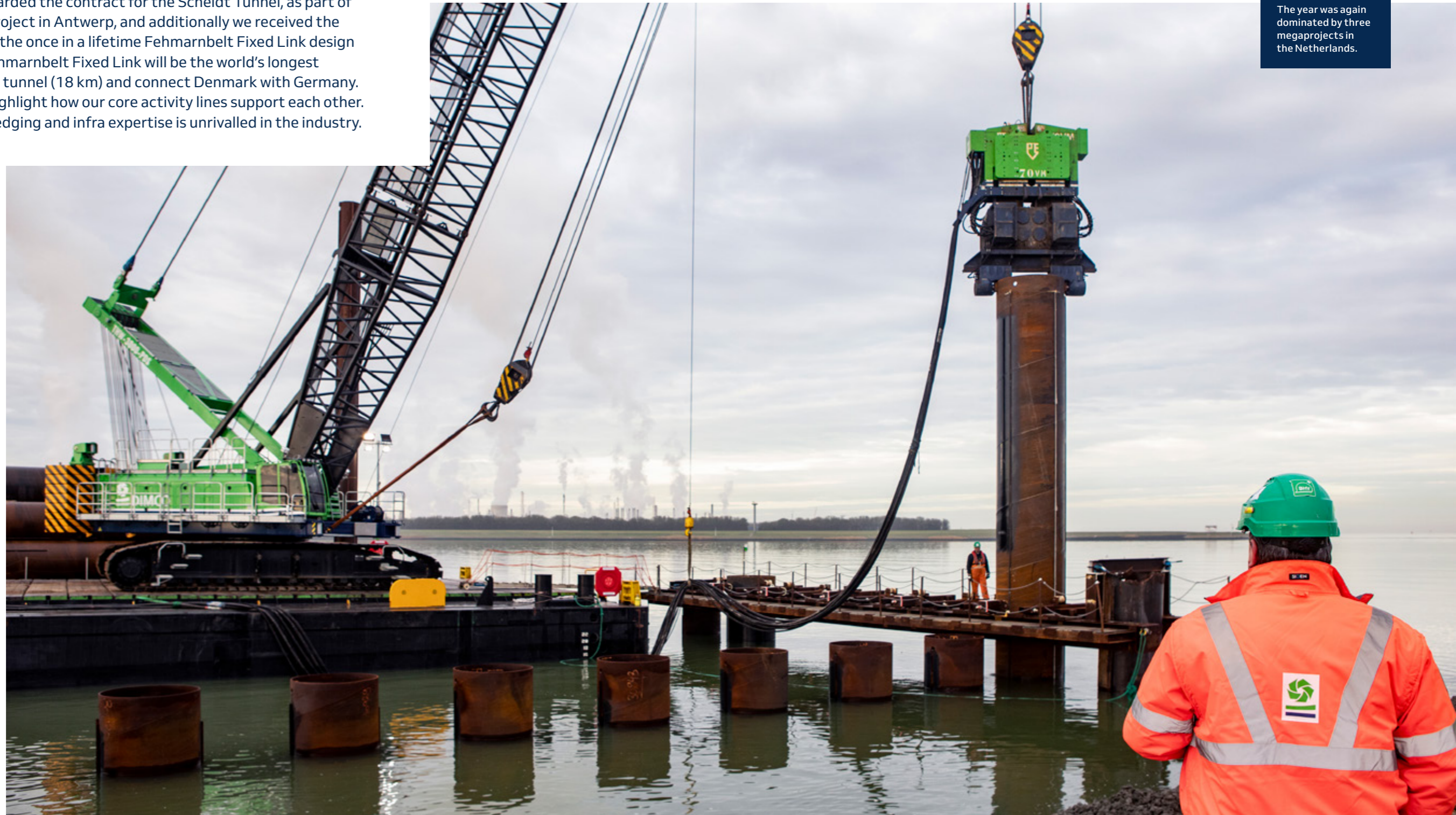


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INFRA

2020 was again dominated by three megaprojects in the Netherlands: the RijnlandRoute, Blankenburg Connection and New Lock Terneuzen.

But these were joined by two more prestigious projects during the year - in Belgium we were awarded the contract for the Scheldt Tunnel, as part of the 'Oosterweel link' project in Antwerp, and additionally we received the 'Notice to proceed' for the once in a lifetime Fehmarnbelt Fixed Link design & build project. The Fehmarnbelt Fixed Link will be the world's longest immersed road and rail tunnel (18 km) and connect Denmark with Germany. These huge projects highlight how our core activity lines support each other. Our combination of dredging and infra expertise is unrivalled in the industry.



The year was again dominated by three megaprojects in the Netherlands.

THE NETHERLANDS

BLANKENBURG CONNECTION

At the end of 2020, the earthmoving works on the Maasdelatunnel North and South and at the Hollandtunnel are in full swing and in line with the schedule of the Blankenburg Connection project.

In the tunnel heads and the approaches of the 825 m immersed tunnel (Maasdelatunnel) we undertook activities such as excavation works (dry and wet), the installation of concrete and steel struts, installation of grout anchors and the prefabrication and installation of steel reinforcement cages in the underwater concrete.

Meanwhile, for the Hollandtunnel various foundations were constructed. Additionally, the flyovers for the A15 and A25 are under construction.

By the end of the year, about 2 million m³ of earthmoving was executed and some 1.4 million m³ of sand was supplied by DEME Building Materials. The dredging works will be undertaken in 2022.

The A24 'Blankenburg Connection' connects the A20 and the A15 and improves access to the Rotterdam region. The scope includes the construction of a highway with 2x3 lanes, a land tunnel, immersed tunnel, a deepened connection to the A20 road and a high connection to the A15. Additionally, the A20 will be widened.

Rijkswaterstaat awarded the EUR 1 billion, public-private partnership project to the BAAK consortium, which comprises DEME Concessions, Ballast Nedam Concessions and Macquarie Capital. The project was awarded on a design, build, finance and maintenance basis and will run for a period of 20 years. Works are expected to be completed by end-2025.



THE NETHERLANDS –
BLANKENBURG
CONNECTION

Works on the Maasdelatunnel are in full swing.



THE NETHERLANDS –
NEW LOCK
TERNEUZEN

At 427 m long, 55 m wide and 16.44 m deep, the new lock is being built in the middle of the existing Terneuzen locks' complex.

NEW LOCK TERNEUZEN

In 2020, we achieved several major milestones on the New Lock Terneuzen project, which is firmly on track. These included the successful installation of the underwater concrete in both the outer and inner lock head. In just eight days, a total of 22,000 m² (equivalent of four soccer fields) of concrete was poured into the lock heads, which creates a 1 m thick layer at a depth of 20.5 m. We also carried out the excavation and the installation of the gravel bed at both the outer and inner lock head.

We also finalised the two concrete bottom grids in order to have them immersed in the lock chamber. These provide the means by which the water level inside the lock will be regulated. As a dry in-situ construction of these grids was deemed too risky, our immersed tunnel specialists came up with the innovative idea to prefabricate and install them as if they were immersed tunnel elements.

In addition, the construction of the four lock gates, which are 58 m high and weigh around

1,600 tonnes each, and two lock bridges of 83.3 m continued and will be ready to be shipped to the site during the course of 2021.

A Dutch-Belgian joint venture 'Sassevaart', comprised of our infra and dredging teams, and the construction companies BAM Contractors, BAM Infra Nederland and Van Laere, was awarded a design and construct contract for the new lock, as well as the maintenance contract for a period of two years.

At 427 m long, 55 m wide and 16.44 m deep, the new lock is being built in the middle of the existing Terneuzen locks' complex, between the West and East locks. It is designed to provide better access to the ports of Ghent and Terneuzen, and to promote a faster flow of shipping between the Netherlands, Belgium and France. The first ship is expected to sail through the New Lock Terneuzen in 2023.

**THE NETHERLANDS –
RIJNLANDROUTE**

The second tube of the 2.2 km bored tunnel was completed.



RIJNLANDROUTE

Several major milestones were achieved at the RijnlandRoute project. As a member of the COMOL5 joint venture, we were awarded a design & build contract in 2017, plus a 15-year maintenance contract for the RijnlandRoute, which is a new road connection from Katwijk, via the A44, to the A4 at Leiden.

COMOL5 is responsible for the reconstruction of the Leiden West motorway junction and the construction of the 4 km N434 road, including a 2.2 km bored tunnel.

In September the COMOL5 teams completed the second tube of the bored tunnel and this was even a month ahead of schedule. The Tunnel Bore Machine (TBM) - named 'Gaia' - saw the light of day again after 3.5 months of underground drilling. 'Gaia' has covered a staggering distance of 2,250 m during the project.

Ultimately, in only 13 months and many of them during the height of the pandemic, the COMOL5 team constructed two tunnel tubes. More than 2,000 rings were built, consisting of 15,000 concrete segments weighing 9,000 kilograms each. Sixty specialist tunnel workers from more than 20 countries worked underground 24/7 to build the tunnel.

A crucial part of keeping the project on track was the early fabrication of the Tunnel Technical Installations (TTI), which were built in Eindhoven. These are tailor-made, containerised units which are already connected with the traffic centre in Rhoon. The 25 modular units of 3 x 3 x 9 m include cameras, lights and signs, etc. which would normally have to be assembled and tested in the tunnel. Building them off-site and testing them in advance saved a lot of time and there were fewer interfaces. Applying this 'plug & play' approach helped to de-risk the project. In October, we achieved the Integral Factory Acceptance Test (IFAT) for these critical technical systems, which means that they are ready to be transported by container to the site and connected to each other.

To mark the successful and swift completion of the two tunnel tubes, our client, the Province of South Holland, also named the new tunnel in the presence of the Dutch Minister of Infrastructure and Water Management Cora van Nieuwenhuizen, Commissioner for Traffic and Transport Floor Vermeulen and other dignitaries. The tunnel is now known as Corbulotunnel, a reference to the rich Roman history in the region.

As well as the tunnelling, we have been performing various road improvement works to existing roads and the construction of the new flyovers and viaducts. We successfully relocated the motorways underneath the newly built flyovers over two weekends in October.

Sixty specialist tunnel workers from more than 20 countries worked underground 24/7 to build the tunnel.



**THE NETHERLANDS –
RIJNLANDROUTE**

Even during the height of the corona pandemic, the COMOL5 team made significant progress.

LOCKS AND WEIRS HAGESTEIN, DRIEL AND AMERONGEN

Together with joint venture partner Siemens, we renovated the weirs of Hagestein, Driel and Amerongen on the River Nederrijn-Lek. We were responsible for the civil scope, while Siemens took care of the automation. These locks are nicknamed 'the water crane of the Netherlands', because they enable water levels in several rivers in the Netherlands to be adjusted. This project was successfully handed over to the client at the end of the year.

MAASHAVEN, ROTTERDAM

Due to a shortage of mooring facilities for inland vessels in the Port of Rotterdam, the port authority tendered a project to refurbish the facilities in the Maashaven. Our scope included the refurbishment of pontoons, construction of new pontoons and the installation of mooring piles. This was a challenging project and this was not only because of the discovery of Chrom-6 in existing coatings. Nevertheless, we succeeded in the timely completion of the project in October.

BELGIUM

OOSTERWEEL LINK

In June, we were awarded a major project part of the 'Oosterweel link', which will complete the Antwerp Ring Road. As a member of a consortium, we will construct the Scheldt Tunnel (Scheldetunnel) for project developer Lantis. The contract has a value of EUR 570 million. DEME has a share of 25%.

Known as the jewel in the crown of this crucial infrastructure project, the Scheldt tunnel will be the most important connecting element in the Oosterweel link and closes the Antwerp Ring Road on the north side. The immersed tunnel has a total length of 1,800 m and is due to be completed in 2025.

Eight tunnel elements of approximately 60,000 tonnes each will be built in the inner port of Zeebrugge and then towed to Antwerp via the North Sea and the Western Scheldt, where they will be immersed in a pre-dredged trench in the River Scheldt in Antwerp.

A team of around 100 employees are currently finalising the design and preparing for the construction of this challenging project.



DENMARK – FEHMARNBELT FIXED LINK

The 18 km immersed Fehmarnbelt tunnel will connect Denmark and Germany.

DENMARK – GERMANY

FEHMARNBELT FIXED LINK PROJECT

In a once in a lifetime project the Femern Link Contractors joint venture, including DEME, now has the green light to proceed with the Fehmarnbelt Fixed Link project. Once completed, it will be the world's longest immersed road and rail tunnel (18 km) and connect Denmark with Germany. This historic project, one of Europe's largest infrastructure projects to date, will take nearly a decade to complete. For the activity line Infra, the project is another opportunity to deploy its expertise in immersed tunnels.

After having signed the three contracts for this mammoth project in May 2016, it wasn't until May 2020 that the Danish Government issued the official Notice to Proceed. In November there was further good news from the German authorities when complaints, which had led to the suspension of the construction permit in Germany, were rejected by the federal court of Leipzig. In the absence of this permit the joint venture could not start the works on the German side.

Construction kicked off in January 2021. Firstly, work will start on the enormous production facility in Rødby where the tunnel elements will be constructed. These elements will then be floated, transported and immersed in the pre-dredged trench. Eventually 89 elements will have been installed, 79 of which are 217 m long.

The Femern Link Contractors joint venture is responsible for the execution of three contracts. Two cover the construction of the immersed tunnel and the production facility that will manufacture the precast tunnel elements, and a third contract deals with the portals and ramps for connections to the existing motorways and railways further inland. The trio of contracts have a combined value of EUR 3.4 billion, of which DEME's share is EUR 700 million. The joint venture comprises DEME, VINCI Construction Grands Projets S.A.S., Per Aarsleff Holding A/S, Solétanche-Bachy International S.A.S., CFE NV, Wayss & Freytag Ingenieurbau AG, Max Bögl Stiftung & Co KG, BAM Infra BV and BAM International BV. 🌱

In 2021 we will start to prepare the building dock for the tunnel elements in Zeebrugge and 350 workers will join this multidisciplinary team.

In December a consortium including DEME has also been awarded the contract for the construction of the Right Bank project. The Right Bank forms the link between the Scheldt tunnel and the R1, both in the Northern and Eastern directions.

**A team of around
100 employees are
currently finalising the
design and preparing
for the construction of
the Oosterweel project.**

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DEME
CONCESSIONS

DEME CONCESSIONS

DEME Concessions oversees the Group's broad-ranging and diverse concessions in the fields of renewables (wind, wave and tidal), marine infrastructure and ports, dredging, green hydrogen and special projects.

Established in 2013, DEME Concessions enables us to develop long-term and lasting partnerships, create regular activities for the Group (some of our concessions even have a 20-30 year duration) and indeed, generate value and recurrent profit for our shareholders. DEME Concessions also provides equity, project finance and specific knowledge to support our core activity lines.



RENEWABLES

MERKUR OFFSHORE WIND FARM

The 396 MW Merkur Offshore Wind Farm really highlights our approach to concessions. Here, right from an early stage, we looked at how we could develop the offshore wind zone and teamed up with the right partners, ultimately creating value for the Group. The German wind farm became fully operational in August 2019 and later in the year we decided it was the right moment to divest our 12.5% share and take advantage of the value created by this undertaking. The transaction was finalised in the spring following EU merger clearance.

RENTEL OFFSHORE WIND FARM

The 309 MW Rentel Offshore Wind Farm, located in the Belgian North Sea, is producing very well after being commissioned in March 2019. We developed this wind farm in a consortium of eight Belgian shareholders, including DEME and our longstanding Flemish and Walloon partners in Otary. It represents a total investment of EUR 1.1 billion.

SEAMADE OFFSHORE WIND FARM

DEME Concessions has a large participation in Belgium's largest wind farm, SeaMade, for which the Group successfully completed the works in just 16 months, including the foundations, inter-array cables, two offshore substations, export cables and rock placement. This achievement was all the more impressive given that it was taking place in the midst of the pandemic. The SeaMade project consists of two wind farms (246 MW Seastar and 266 MW Mermaid) each with its own offshore substation and export cables connect them to the 'Modular Offshore Grid' switchyard individually.

WAVE AND TIDAL

We have a minority interest in the Scottish development company Tidal Power Scotland Limited which controls MeyGen, the world's first commercially grid-connected tidal stream array project and considered the reference project for the global blue energy industry.

INFRASTRUCTURE AND PORTS

Our Infrastructure concessions focus on three key areas – access channel concessions, dredging and port concessions and public-private partnerships (PPP). For example, this can involve maintaining an asset for an authority such as a port access channel, where we may perform maintenance and capital dredging and this is in turn paid for via a toll collected from the users of the waterway.

BLANKENBURG CONNECTION, THE NETHERLANDS

Our activities are in full swing at the Blankenburg Connection, which is one of the largest infrastructure projects in the Netherlands, representing a contract value of a staggering EUR 1 billion. The Blankenburg Connection connects the A20 and the A15 through an immersed tunnel, and will improve access to Rotterdam. The Rijkswaterstaat (Directorate-General for Public Works and Water Management of the Netherlands) awarded the PPP project to the BAAK Consortium (DEME Concessions, Ballast Nedam and Macquarie Capital) in 2018. The project includes the design, build, finance and maintenance for a period of 20 years.

Crucially, this vital project needed a reputable contractor and concessionaire to take it forward. This highlights DEME Concessions' capabilities – we are not merely an investor but a partner with industrial capabilities. At the same time, this mammoth project secures work for the Group for many years to come. It also shows our ability to raise money from the markets, including from the European Investment Bank and funds from an international pool of lenders.



PORT OF DUQM, OMAN

In a first for DEME Concessions, we have taken on the role as a port authority by becoming a shareholder in the Port of Duqm, Oman. DEME Concessions and Port of Antwerp International have a 50% share in the joint venture, with the Government of Oman holding the other 50% stake. The port is in an excellent position geographically, and perfect for access to water, wind and solar energy.

Representing approximately 3,000 ha, we enjoy a long-term concession to co-invest, operate and manage the port. Since acquiring our share in September 2019, we have managed to improve the port's financial position considerably within a very short timeframe. Our goal is to contribute to the commercial development of drybulk, container and logistics activities, as well as to the further development of the port and the Duqm area.

In 2020, we signed an SPV, consisting of DEME Group member CTOW and Omani partner, which will perform all the marine services for the entire concession term. The 'CTOW Bieke' will start services at the port in 2021.

Furthermore, we have taken the initiative to develop industrial scale green hydrogen in Duqm.



H2

GREEN HYDROGEN

Duqm port is also set to play a key role in our ambitions to develop the green hydrogen opportunity. DEME aims to be a front runner in this market and has entered into several green hydrogen partnerships internationally to ensure the Group is at the forefront of developments.

In 2020, we entered into exclusive partnerships to develop industrial scale green hydrogen plants: one at Duqm (HYPORT® Duqm) and one in Belgium (HYPORT® Ostend). Duqm offers the ideal location for solar energy and this can be optimally combined with a good resource of wind energy. Essentially, Duqm would be a hydrogen producer and exporter. A feasibility study we performed in 2020 confirmed the vast potential of green hydrogen and we are now preparing a full FEED study.

HYPORT® Ostend will be the first liquified hydrogen plant in the EU producing hydrogen from renewable energy sources. The combination of renewable offshore wind energy with the production of green hydrogen is fully in line with DEME's sustainability goals. DEME fully supports the European Green Deal and we also understand that we need renewable energy sources on a very large scale to replace oil and gas, including the import of huge volumes of green molecules.

We also know that green hydrogen is a technological challenge just like offshore wind was. DEME is already a leader in this industry and we believe that we can apply the same expertise to developing green hydrogen.

In other hydrogen-related initiatives DEME has joined forces with Neptune Energy for the PosHYdon offshore hydrogen pilot, where we will be involved in the conceptual design of a 100 MW offshore hydrogen production plant. Earlier in 2019, we signed a cooperation agreement with six other leading industry players in Belgium for the import of green hydrogen.

Additionally, DEME joined the European Clean Hydrogen Alliance which brings together more than 200 industry, national and local public authorities, civil society and other stakeholders, and aims to support the scaling up of the hydrogen value chain across Europe.

As a leader in the offshore wind industry we believe that we can apply the same expertise to developing green hydrogen projects.

SPECIAL PROJECTS

NIEUWPOORT MARINA II

The Flemish government awarded DEME and its partners the concession to develop a huge, new marina in Nieuwpoort, which is set to be the largest in northern Europe. In 2020/2021, we are putting the financing in place ready to start building at the end of 2021. Eventually the development will create a new district with more than 1,000 apartments and 500 extra berths. 🌱

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GSR

GLOBAL SEA MINERAL RESOURCES

Global Sea Mineral Resources (GSR), our deep-sea exploratory division, continues its focus on the collection of polymetallic nodules from the seafloor and believes that responsible nodule collection can help meet future metal demand and provide an environmentally and socially responsible alternative to the development of land-based mineral resources.

With Belgium as its sponsoring state, GSR was awarded a 15-year exploration contract by the International Seabed Authority (ISA) in 2013. Under this contract, we have the exclusive rights for the exploration of 75,000 square km of seabed in the Clarion Clipperton Zone (CCZ) in the Pacific Ocean at a water depth of approximately 4,500 metres.

It is estimated that the nodules in the CCZ contain 1.2 times more manganese, 1.8 times more nickel and 3.4 times more cobalt than all known land-based reserves combined. These metals are never found together on land, meaning that one seafloor deposit is the equivalent of three mines on land.

Unlike other types of seabed mineral exploration, polymetallic nodules can be collected from the seafloor with no cutting or drilling into the seabed. Preliminary studies in collaboration with Ghent University, to be published soon, have shown that the CO₂ footprint of ocean minerals is significantly less than expanding land-based mining.



Two key assessments of the seabed mineral collector technology were completed, paving the way for a new expedition in 2021.



Nodule collector 'Patania II'.

SUCCESSFUL VALIDATION IN THE ATLANTIC

In 2020, GSR completed two key assessments of its seabed mineral collector technology. This paves the way for a new expedition to the CCZ in April 2021.

A new trial of GSR's polymetallic nodule collection vehicle 'Patania II' had been due to get underway in the Pacific in October 2020 but this was postponed until 2021 because of the impact of the coronavirus pandemic. In the meantime, a re-engineered umbilical and winch combination has been successfully evaluated mid-water in the Atlantic Ocean at a depth of 4,500 metres. During a trial in 2019, damage had occurred to a critical cable when the vehicle was being lowered. After completing a thorough root-cause analysis, the Launch & Recovery system for the umbilical was redesigned and re-engineered and it performed very well during the recent evaluation.

In a separate validation check, conducted within Belgium's Exclusive Economic Zone (EEZ), 'Patania II' demonstrated its ability to drive and manoeuvre along the seabed.

GSR AND KEPPEL O&M COLLABORATE ON DEEP-SEA RISER AND MINING VESSEL TECHNOLOGY

In 2020, GSR teamed up with Keppel FELS, a subsidiary of Keppel Offshore & Marine from Singapore and signed a memorandum of understanding (MOU) for the development of a deep-sea riser and support vessel to collect, transport and store polymetallic nodules in an environmentally responsible way. Engineering work got underway and a deep-water test is planned in approximately three years' time. This test will inform the design of a full-scale seabed mineral support vessel.

ENVIRONMENTAL WORKSHOP

GSR is close to completing a scoping report that will form the basis of a research programme to establish a baseline for biodiversity in the exploration area.

These studies will assess the impact of nodule collection on the ecosystem's function and services. They will also prepare the way for a full Environmental Impact Assessment, a crucial step in the process of applying to the International Seabed Authority (ISA) for a licence to commence commercial operations.

Forty independent scientists and consultants have contributed to the study design, including representatives from universities and institutions in Belgium, Italy, Germany, Poland, Portugal, the UK, USA, Sweden and Switzerland. The group, which includes experts in deep-sea biodiversity, ocean fluid dynamics, marine ecosystem function and ocean biogeochemistry, participated in a two-day workshop earlier this year, where they were able to discuss their research goals and collaborate on solutions.

The studies will form part of the evidence base that will allow comparisons to be drawn with land-based mining. This will enable rational decisions to be made about how best to meet the growing demand for the minerals required for the clean energy transition and sustainable economic development. 🌱

FLEET & EQUIPMENT



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FLEET & EQUIPMENT

DREDGING FLEET AND EQUIPMENT

01

TRAILING SUCTION HOPPER DREDGERS

Congo River, DP/DT	30,190 m ³
Pearl River, DP/DT	24,130 m ³
Nile River, DP/DT	17,000 m ³
Bonny River, DP2, DF	15,016 m ³
Lange Wapper, DP/DT	13,700 m ³
Uilenspiegel, DP/DT	13,700 m ³
Breughel, DP/DT	11,796 m ³
Brabo, DP/DT	11,650 m ³
Breydel, DP/DT	11,296 m ³
Antigoon	8,460 m ³
Scheldt River, DP/DT, DF	8,400 m ³
Meuse River, DP/DT, DF	8,300 m ³
Marieke	5,600 m ³
Artevelde	5,580 m ³
Reynaert	5,580 m ³
Pallierter	5,320 m ³
Victor Horta	5,136 m ³
Charlemagne	5,000 m ³
Minerva, DF	3,500 m ³
Mellina	3,309 m ³
River Thames	2,501 m ³

02

CUTTER SUCTION DREDGERS

Spartacus, DF ¹	44,180 kW
D'Artagnan	28,200 kW
Ambiorix	28,200 kW
Al Jarraf	12,860 kW
Amazone	12,860 kW
Al Mahaar	11,224 kW
Rubens	10,896 kW
Ganga	6,250 kW
Cap Martin	5,541 kW
Vlaanderen XVI	1,786 kW
Seçkin	1,180 kW
Blanew	565 kW
Pixy	465 kW

03

BACKHOE DREDGERS

Samson	4,124 kW
Pinocchio	2,416 kW
Peter The Great	1,964 kW

04

BUCKET LADDER DREDGERS

Bayard	300 I
Belgica	175 I

05

SELF-PROPELLED SPLIT HOPPER BARGES

Bengel ²	3,595 m ³
Deugniet ²	3,595 m ³
Sloeber	2,735 m ³
Pagadder	2,735 m ³
DI 68	1,000 m ³
DI 69	1,000 m ³
Vlaanderen VII	1,000 m ³
Vlaanderen VIII	1,000 m ³

06

WATER INJECTION DREDGERS

Parakeet	2 x 6,207 m ³ /h
Dhamra	2 x 6,000 m ³ /h

07

DREDGING PLOUGHS

Aramis
Buckingham
Parakeet
Dhamra

07

SPREADER & MULTIPURPOSE PONTOONS

Al Dana, DP/DT
Bayard II, DP/DT
Naseem, DP/DT
Thornton 1, DP/DT
Vagant, DP/DT
De Otter, DP/DT
Mattedoor, DP/DT

01

INLAND/RIVER DREDGERS

Trailing suction hopper dredgers

Piet Hein	995 m ³
Zeeland	735 m ³

Plain suction dredgers

Grinza 6 and 7	646 m ³
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Barge unloading suction dredgers

Texel	2,076 kW
Vlieland	925 kW

03

Backhoe dredgers

Uburg	3-5 m ³
VW9, VW47, VW55	1.5-3 m ³

01



02



03



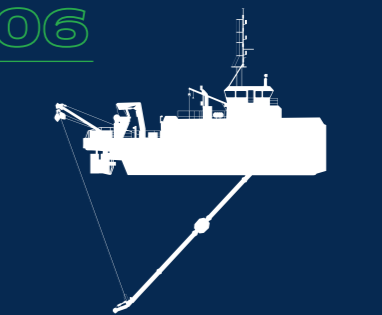
04



05



06



07



08



¹ Delivery 2021/22

² Can be equipped as TSHD

DF Dual Fuel Main Engines (LNG/MGO)

DP/DT Dynamic Positioning / Dynamic Tracking

FLEET & EQUIPMENT

OFFSHORE FLEET AND EQUIPMENT

09 FLOATING OFFSHORE INSTALLATION VESSEL

Green Jade, DP3, DF ¹	38,000 t
Crane	4,000 t
Orion, DP3, DF ¹	35,000 t
Crane	5,000 t

10 JACK-UP OFFSHORE INSTALLATION VESSELS

Innovation, DP2	8,000 t
Crane	1,500 t
Sea Installer, DP2	7,400 t
Crane	900 t
Sea Challenger, DP2	7,400 t
Crane	900 t
Apollo, DP2	4,500 t
Crane	800 t
Thor, DP2	2,600 t
Crane	500 t
Neptune, DP2	1,600 t
Crane	600 t

11 FALLPIPE VESSELS

Flintstone, DP2	17,500 t
Seahorse, DP2 ²	16,500 t
Rollingstone, DP2	11,500 t

12 CABLE INSTALLATION & MULTIPURPOSE VESSEL

Living Stone, DP3, DF	
Cable Installation	10,000 t
Rock Placement	12,000 t

13 HEAVY LIFTING EQUIPMENT

Gulliver ²	4,000 t
Rambiz ²	3,300 t

14 OFFSHORE MAINTENANCE & SERVICE VESSELS

Groenewind ¹	25 pax
Aquata	12 pax
Arista	12 pax

OFFSHORE PONTOONS

Bremen	10,000 t
Wismar	10,000 t
Stralsund	10,000 t

ENVIRONMENTAL TECHNOLOGY

15 FIXED SEDIMENT RECYCLING CENTRES

DEC Puurs
 DEC Zeebrugge
 DEC Zwijndrecht
 DEC Heusden-Zolder
 DEC Gent-Zeehaven
 DEC Deinze
 SEDISOL Charleroi

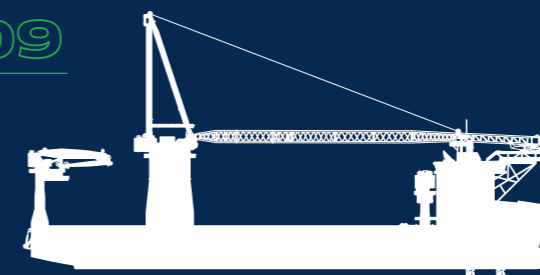
16 FIXED SOIL RECYCLING CENTRES

GRC Kallo, Port of Antwerp
 GRC Brugge, Port of Zeebrugge
 GRC Zolder, Albertkanaal
 Petit Try, Charleroi
 Filterres, Seraing
 Cetraval, Tubize
 Offshore Waste Centre (NL)

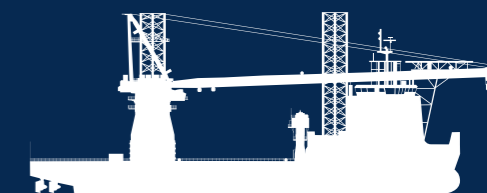
MOBILE TREATMENT PLANTS

Mobile filter presses
 Mobile immobilisation plants
 Mobile soil washing plants
 Mobile thermal plant

09



10



11



12



13



14



15



DF Dual Fuel Main Engines (LNG/MGO)
 DP/DT Dynamic Positioning / Dynamic Tracking

¹ Delivery 2021/22

² Co-ownership

FORWARD-LOOKING STATEMENTS

This activity report may contain forward-looking statements. Such statements refer to future expectations and other forward-looking perceptions that are based on the management's current views, estimates and assumptions concerning future events. Such forward-looking statements, by their nature, are subject to known and unknown risks, uncertainties and other factors, which may cause the actual results to be materially different from those contemplated, projected, forecasted, estimated or budgeted whether expressed or implied, by these forward-looking statements contained in this activity report. DEME neither undertakes any obligation to update any forward-looking statements to reflect the actual results, nor does DEME assume any liability to correct inaccurate data, information, conclusions or opinions published by third parties in relation to this or any other report or press release issued by DEME.

Please note some pictures in the activity report were taken prior to COVID-19 restrictions and social distancing guidelines.

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