



Activity Report
2016
Creating land for the future



DEME

Dredging, Environmental
& Marine Engineering

Activity Report
2016



DEME

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& Marine Engineering

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Concessions

DEME fleet and offices



A GLOBAL SOLUTIONS PROVIDER

DEME is a world leader in the highly specialised fields of dredging, marine engineering and environmental remediation. The Group can build on more than 140 years of know-how and experience and has fostered a pioneering approach throughout its history, being a front runner in innovation and new technologies.

Although DEME's activities originated with its core dredging business, the portfolio diversified substantially over the decades. Today's activities encompass dredging, land reclamation, hydraulic engineering, services for the offshore oil & gas and renewable energy industries and environmental works. DEME's vision is to work towards a sustainable future by offering solutions for global, worldwide challenges: rising sea levels, climate change, the transition towards renewable energy, polluted rivers and soils, a growing population and the scarcity of natural resources.

While the company's roots are in Belgium, DEME has built a strong presence in all of the world's seas and continents, operating in more than 90 countries worldwide. DEME can rely on 4,600 highly skilled professionals across the globe. With a versatile fleet of over 100 main vessels, backed by a broad range of auxiliary equipment, DEME can provide solutions for even the most complex projects.

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.

Thanks to its multidisciplinary capabilities, the synergies in many projects, and its integrated corporate structure, DEME has become a global solutions provider.

The year at a glance

As a pioneer in blue energy, DEME has been involved in MeyGen Phase 1A, the world's first multi-turbine tidal stream energy project. The offshore renewables market has seen particular growth in 2016 with contracts secured in Belgium, Denmark, Germany and the UK.



CANADA

A challenging rock placement project was carried out by Tideway on the Lower Churchill hydropower project in Labrador, Canada. Because of the harsh weather conditions, works could only be executed in a very tight timeframe during spring and summer.

EUROPE



MEDITERRANEAN

In the Mediterranean area DEME maintained a high level of activity in Egypt, with TSHD 'Congo River' deployed on several projects.



LATIN AMERICA

DEME returned to the historical Panama Canal project for the further widening and deepening of the Pacific Access Channel.

AFRICA

DEME has been working for more than 50 years in Africa and maintains a strong presence across the continent. For the first time DEME acquired a contract in Sierra Leone for the Freetown Terminal extension.



For the last decade DEME has been working across the Middle East on many prestigious projects. The New Port project in Qatar and La Mer Jumeirah Open Beach project in Dubai were successfully completed in 2016.



MIDDLE EAST

While DEME continued dredging activities in several ports in India, the company also returned to Sri Lanka for a project in the port of Trincomalee.



INDIAN SUB-CONTINENT

A high level of activity was seen in Singapore at the Tuas Terminal Phase 1 project. The first of 222 caissons for the quay wall structure was launched in April 2016.

ASIA



In Papua New Guinea the remediation dredging program resumed on the Lower Ok Tedi River. 2017 will mark the 20th anniversary of DEME's involvement in this important ecological operation.

OCEANIA

INDIAN OCEAN



In La Réunion works continued for the construction of the "Nouvelle Route du Littoral", a 13 km coastal road built in the ocean. DEME also returned to the Maldives for major land reclamation works at Emboodhoo Lagoon. A first contract was secured in Mauritius for the Port Louis expansion project.

Group structure



DREDGING SOLUTIONS



DREDGING & LAND RECLAMATION

- Baggerwerken Decloedt & Zoon (BDC)
- Dredging International (DI)
- Dredging International Asia Pacific (DIAP)
- Dragabras Serviços de Dragagem
- Mordraga*
- International Seaport Dredging (ISD)*
- Nordsee Nassbagger- und Tiefbau
- Middle East Dredging Company (MEDCO)*
- Société de Dragage International (SDI)
- Societa Italiana Dragaggi (SIDRA)
- Dredging International Australia (DIAU)
- NewWaves Solutions
- Dredging International Mexico
- Far East Dredging (FED)
- Dredging International Services Cyprus (DISC)
- Dredging International Services (Nigeria) (DISN)

DREDGING PLUS SOLUTIONS



94

MARINE & OFFSHORE SOLUTIONS

- GeoSea
- GeoSea Maintenance
- EverSea
- High Wind*
- Tideway
- CTOW*
- Scaldis*



114

ENVIRONMENTAL SOLUTIONS*

- DEME Environmental Contractors (DEC)
- Ecoterres
- GRC
- Purazur
- de Vries & van de Wiel
- Extract-Ecoterres



124

INFRA MARINE SOLUTIONS

- DEME InfraSea Solutions (DISS)
- DEME Infra Marine Contractors (DIMCO)



130

FLUVIAL & MARINE RESOURCES

- DEME Building Materials (DBM)

DEME CONCESSIONS



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CONCESSIONS

- DEME Concessions
- DEME Concessions Wind
- DEME Concessions Infrastructure
- C-Power*
- Power@Sea*
- Rentel*
- Seastar*
- Mermaid*
- Merkur*
- DEME Blue Energy (DBE)*
- Global Sea Mineral Resources (GSR)

* In partnership

Message from the Board of Directors

2016 was a remarkable year for DEME. It was a year of both transition and opportunity. DEME realised a turnover of 1.97 billion EUR and an EBITDA of 450.1 million EUR, despite operating in a volatile environment with challenging conditions in the dredging market and historically low oil, gas and raw material prices.

For the first time in DEME's history, its dredging-plus activities, including marine and offshore solutions, environmental solutions, infra marine solutions and fluvial and marine resources, reached the same level of turnover as its dredging activities. The offshore wind market in particular represented an important opportunity for DEME. Growth in the renewable energy market is also reflected in the geographical spread of activities, with 60% of turnover realised in Europe.

In the dredging market, activities were dominated by the Tuas Terminal Phase 1 mega port project in Singapore. In La Réunion works continued for another major project - the construction of the "Nouvelle Route du Littoral" - with dredging and backfilling works taking place for the gravity-based foundations of the viaduct for the new coastal road. Several new contracts were secured in Africa, including port expansion projects in Sierra Leone and Mauritius. DEME had a good level of activity in many countries in Latin America, and returned to the historic Panama Canal project to complete

the widening and deepening of the Pacific Access Channel. Several projects have been carried out in Egypt and India, while in Europe DEME continued maintenance dredging campaigns in Belgium, France and Germany.

The offshore renewables market has seen particular growth for DEME in 2016. Contracts were secured by GeoSea in Germany, Belgium, Denmark and the UK, including an installation contract for Hornsea Project One, the world's largest offshore wind farm. GeoSea was also involved in the groundbreaking MeyGen tidal energy project in Scotland, the world's first multi-turbine, tidal stream power station to be connected to the electricity grid. With DEME Concessions and investments in projects like Merkur, Rentel and MeyGen, the company continues to be at the forefront of offshore renewables developments.

DEME's environmental specialist companies carried out remediation projects in the UK, Norway and Belgium and saw increasing activity in their soil and sediment recycling centres in Belgium and France. DEME Building Materials maintained a full order book, despite a slowdown in the construction market.

DIMCO, DEME's infra marine specialist, further reinforced its position in the Benelux with several new projects and aims to develop internationally in close synergy with other DEME activities.

Success drivers

Fleet investment programme at full speed

The multi-year fleet expansion programme is focused on further increasing efficiency, both in terms of productivity and environmental performance. In 2017 six new vessels will join the fleet for both the dredging and offshore energy market.

Employees make the difference

DEME's employees, their expertise, creative thinking and full commitment to customers, are the foundation for continued success. To remain at the forefront of an increasingly complex and challenging industry, DEME has started a number of initiatives to attract new talent and to make sure that people can unlock their true potential at the company.

Taking safety to the next level

DEME never compromises on safety. The company is committed to the objective of zero incidents and builds a culture in which all DEME employees share this involvement. In 2016 the CHILDS programme was launched to take safety to the next level, further embedding a safety mindset in all the company is doing.

DRIVE for continuous improvement

With the DRIVE continuous improvement programme DEME aims for operational excellence in all of its activities. A number of new DRIVE initiatives started in 2016 and an

Opportunity & Risk Management team has been established to capture, assess and manage all opportunities and risks from day one of a project starting up through to its completion. Additionally, the LESS = MORE 2.0 programme intends to keep head office costs under control.

Groundbreaking innovation

Innovation and a pioneering spirit have always been at the core of DEME's activities. The company invests heavily in innovation and it is one of the driving forces of DEME's strategy and growth. Sparked by ideas from DEME's employees, several innovations were introduced last year.

Strive for sustainability

DEME strives to do business responsibly and to minimise the impact its operations have on the environment. DEME's strive for sustainability is reflected in all activities, fleet and equipment and climate-related initiatives.

Looking ahead

With a record order book of 3.8 billion EUR at the end of 2016 and a strong project pipeline for the year ahead, DEME is well positioned for sustaining its high performance levels. DEME's long-term strategy and objectives remain firmly in place. The company will continue to invest in its people and fleet, with the aim to deploy the most modern and environmental friendly fleet to serve both the dredging and offshore market. DEME will further reinforce its world leading position in offshore renewables, offering customers every service connected to offshore wind, whether this means cable laying, foundation works, turbine installation or a full

EPC contract. The Group's specialist companies, like DEC and DBM, will continue to seize market opportunities to remain or become market leaders in their sector. DEME will also continue the strong tradition of partnerships either at local, geographic or specialist level. Strategic partnerships have proven successful in many projects and markets and enable DEME to offer customers complete solutions for even the most complex projects.

2017 will undoubtedly come with its own challenges, but DEME has a proven strategy for growth, and most importantly, a team of 4,600 employees worldwide with the expertise and innovative spirit to drive further success going forward.



Luc Bertrand
Chairman DEME

Alain Bernard
Director
Chief Executive Officer DEME

Management Team

Lower row, from left to right

Tom Lenaerts
CHIEF LEGAL OFFICER

Eric Tancré
AREA DIRECTOR NORTH EUROPE

Christel Goetschalckx
SECRETARY TO THE MANAGEMENT
TEAM

Luc Vandenbulcke
DEPUTY CHIEF OPERATING OFFICER
MANAGING DIRECTOR GEOSEA

Martin Ockier
AREA DIRECTOR BENELUX

Els Verbraecken
CHIEF FINANCIAL OFFICER

Alain Bernard
DIRECTOR
CHIEF EXECUTIVE OFFICER

Lucas Bols
GENERAL MANAGER TIDEWAY

Philip Hermans
AREA DIRECTOR ASIA, OCEANIA
AND NORTH AMERICA
GENERAL MANAGER DREDGING
INTERNATIONAL

Upper row, from left to right,

Steven Poppe
AREA DIRECTOR AFRICA

Pierre Potvliege
AREA DIRECTOR INDIAN
SUBCONTINENT

Hugo Bouvy
GENERAL MANAGER TIDEWAY

Hans Casier
HUMAN RESOURCES MANAGER

Bernard Paquot
AREA DIRECTOR MIDDLE EAST

Bart Verboomen
MANAGER TECHNICAL
DEPARTMENT
GENERAL MANAGER
BAGGERWERKEN DECLOEDT & ZN.

Theo Van De Kerckhove
CHIEF OPERATING OFFICER

Dirk Poppe
AREA DIRECTOR EASTERN
EUROPE AND RUSSIA
MANAGING DIRECTOR ECOTERRES
HOLDING

Wim Biesemans
MANAGING DIRECTOR DEME
CONCESSIONS

Pierre Catteau
AREA DIRECTOR MEDITERRANEAN,
SOUTH AND MIDDLE AMERICAS

Board of Directors

Luc Bertrand
CHAIRMAN DEME

Renaud Bentégeat
MANAGING DIRECTOR CFE &
DIRECTOR DEME

**Alain Bernard,
John-Eric Bertrand,
Piet Dejonghe,
Koen Janssen &
Jan Suykens**
DIRECTORS

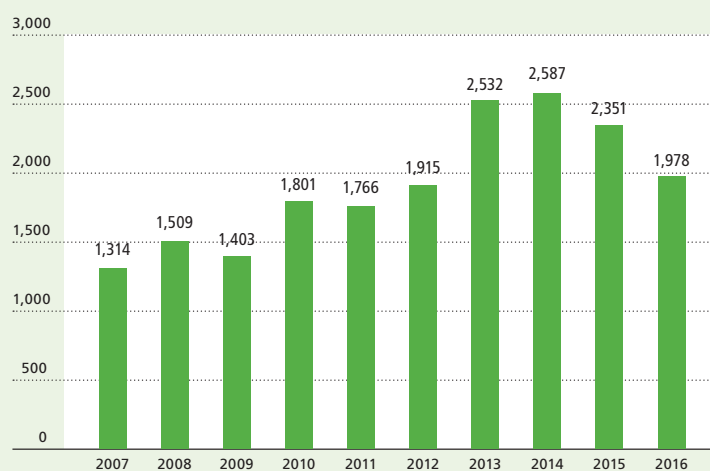




Financial highlights

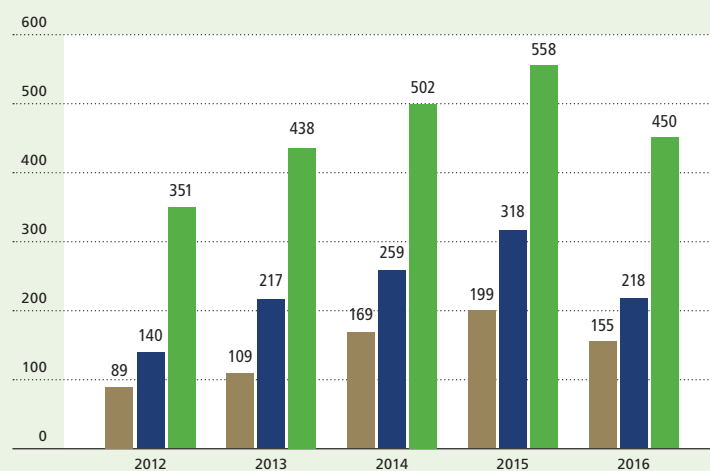
DEME Group evolution of consolidated turnover

economic figures* (in millions of EUR)



DEME Group evolution of net result, EBIT and EBITDA

economic figures* (in millions of EUR)



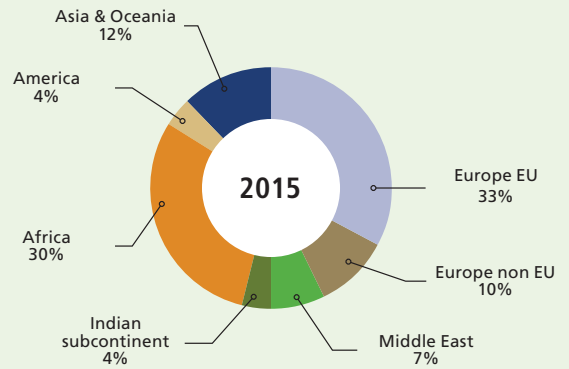
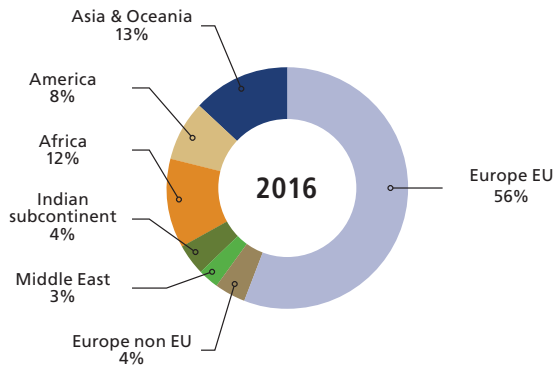
* In the economic figures the Group companies that are jointly controlled by DEME are still proportionally integrated which is not in accordance with the new IFRS 10 and IFRS 11 accounting standards. It nevertheless gives a more complete picture of the operations and assets/liabilities of those companies.

Net result — brown
EBIT — blue
EBITDA — green

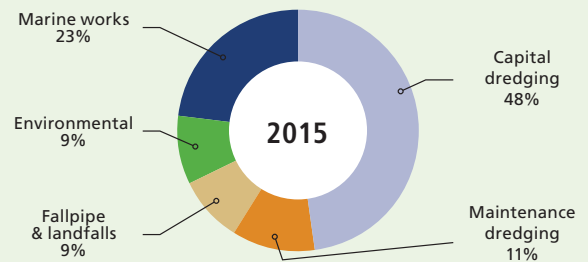
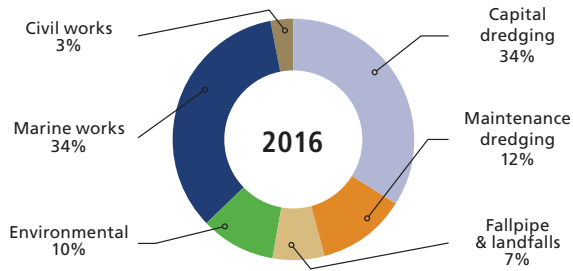
DEME Group evolution of consolidated turnover

economic figures* (in %)

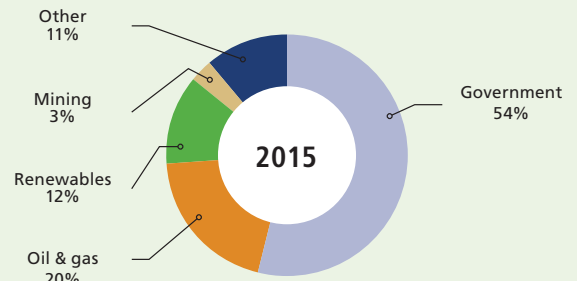
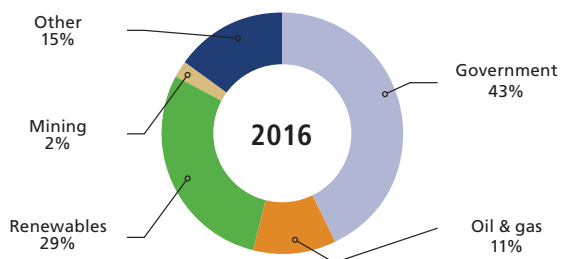
By region



By activity



By customer



* In the economic figures the Group companies that are jointly controlled by DEME are still proportionally integrated which is not in accordance with the new IFRS 10 and IFRS 11 accounting standards. It nevertheless gives a more complete picture of the operations and assets/liabilities of those companies.

Strive for sustainability

The United Nations 17 Sustainable Development Goals (UN SDG) announced in 2015 provided DEME with a further source of inspiration and guidance for the policy in relation to the environment and sustainability. These goals are very ambitious: bring an end to extreme poverty by 2030, protect our planet and encourage human development, but DEME believes they are achievable.

To this end DEME signed the Belgian SDG Charter in October 2016 and it has decided to concentrate its efforts on the five pillars of SDG - the 5P for a sustainable business.

Many of these UN goals are embedded into DEME's initiatives to move towards sustainability, some of which are outlined here.



In our climate policy

Energy Master Plan

As an inspiring example for all our offices, a dedicated Energy Master Plan has been developed at DEME's headquarters in Zwijndrecht with clear targets such as energy independence, CO₂ neutrality and efficient energy use. Several measures have been implemented including cold and heat storage, solar panels, a wind turbine and charging stations for electric vehicles and bikes.

Emissions management

Additionally, DEME maps its carbon footprint and its emission of greenhouse gases annually. The inventory complies with the internationally recognised ISO 14064 Standard and is verified by Lloyd's Register.

CO₂ Performance Ladder

In 2016, DEME became the first Flemish hydraulic engineering and environmental company to achieve the highest certification level under the newest standard conditions of the CO₂ Performance Ladder (Level 5). This instrument enables DEME to demonstrate sustainable behaviour and to encourage its suppliers to further develop best practices for their own operations.

The CO₂ Performance Ladder, which is used in the Benelux, stimulates companies participating in tenders to be aware of their CO₂ emissions in their business operations and in the performance of projects. DEME is the first marine engineering group to obtain the Lloyd's Register Level 5 certification according to the new 3.0 standard.



In our fleet and equipment

Dual fuel

All of the new additions to DEME's Fleet for the Future are fitted with the most advanced equipment, not only technically but also from an environmental point of view. They are equipped with solar panels, heat recuperation and dual fuel main engines that can run on natural gas and diesel oil. DEME's newly built dredgers will be the first in the world to be able to run purely on LNG (see also Fleet investment programme on page 36). On board biodegradable greases are also used. In addition to the maritime fleet, DEME also invests in hybrid technology when it comes to company cars and DEME has new hybrid cranes.

In our activities

Green and Blue Energy

Offshore Wind

One significant way of reducing CO₂ is through the development of green and blue energy. From the very beginning DEME has been taking the lead in this arena. The company was one of the founding partners of the first Belgian offshore wind farm C-Power, and it has now become a renowned player in the European offshore wind market. Through DEME Concessions, DEME's traditional construction, installation and maintenance activities have been extended into full project development, including the associated financing. DEME is eager to repeat the successful formula which has been used for the award-winning German offshore wind farm Merkur and the Belgian Rentel offshore wind farm.

Launch of dual fuel TSHD 'Scheldt River'



A front runner in offshore wind farm projects





Tidal Power

DEME Concessions has acquired an interest in the Scottish development company Tidal Power Scotland Limited (TPSL). Together with Scottish Enterprise, TPSL controls the MeyGen project, the world's first multi-turbine, tidal stream power to be connected to the electricity grid. In the meantime, DEME continues to be a front runner in the groundbreaking blue energy world, which has led to the first full-scale, wave and tidal energy application.

Blue Cluster

DEME is partnering in a number of organisations in the Blue Cluster to look for new initiatives to help promote the sustainability of the North Sea. Here DEME is looking at practical solutions in a number of areas including aquaculture, flood

protection, energy storage and renewable energy amongst others.

Remediation - Blue Gate Project

One project that highlights DEME's sustainable remediation efforts is the Blue Gate project in Antwerp, Belgium. Here DEME is participating in the Blue Open consortium, which has been awarded a public private partnership (PPP) tender to carry out the remediation, redevelopment and commercialisation of the historically polluted Petroleum Zuid site in Antwerp. This last urban wasteland will eventually be redeveloped into a top location for eco-innovation.

DEME's dredging project on the Congo River

One project that represents all five goals for a sustainable business is undoubtedly DEME's dredging project on the Congo River.

DEME has been dredging the Congo River regularly since 1989 but until recently this was always carried out on an emergency basis. The River had silted up to such a degree that inland cargo ships of a certain draught were no longer able to reach the ports of Boma and Matadi.

With its very strong bond with the African continent and recognising that this crucial river artery is hugely important for economic prosperity, DEME decided it had to find a more sustainable solution. This led to the creation of a 10-year, public private partnership (PPP) with the local dredging company "La Congolaise des Voies Maritimes" (CVM).

A toll system was introduced for vessels on the Congo River to ensure the financial resources needed are in place to maintain the river depth

and to counteract the silting up problems on a permanent basis.

Work began in 2015 using the DEME dredger 'Orwell' and, whilst the river used to have a 20 ft draught, DEME now guarantees 26 ft, which is very advantageous for shipowners but also for the local and regional economies. It is estimated that keeping this section of the Congo River silt free leads to a 70 million USD economic boost for the country.

This project was set up in the wider context that DEME prefers to co-invest in entrepreneurial ideas, rather than hand money to charity. It truly believes that if a project is going to be sustainable there has to be a return on investment for everyone involved.

Crew training and vessel ownership

Another vitally important part of the PPP is that it needed to make sure that CVM will eventually have its own vessel and three crews so it can be self-reliant in the future.

DEME is providing training for 40 Congolese youngsters. This includes a 4-year study programme at the Antwerp Maritime Academy. And following a preparatory year in Congo, the first two students arrived in Belgium last year to embark on their studies and future career.

For the benefit of the project, DEME is also working closely with the Antwerp Port Authority, which is making its expertise available.



The first future crew of 'Orwell' - Bénédicte Batunta (left) and Christian Mbu (right)

TSHD 'Orwell' maintaining the Congo River navigability



And in its role as a North-South matchmaker, the NGO Entrepreneurs for Entrepreneurs put DEME in touch with Via Don Bosco, an NGO that supports educational and employment schemes aimed at youngsters in Africa. The NGO is closely involved in the project for the selection and local training of the students enrolling in the dredging training programme. As well as the crew, DEME is helping the participants become surveyors, hydrodynamicists and engineers.

This project represents what DEME is trying to achieve and the five goals - **prosperity** (it is sustainable), **partnership** (working with CVM and the NGOs), **planet** (contributes substantially to CO₂ reduction by making use of the river), **people** (people from different cultures and countries are working together to achieve the same goal) and **peace** (this will only come when there is sustainable business and economic prosperity).



Entrepreneurs for Entrepreneurs Award

In recognition of this very special project DEME was presented with the Entrepreneurs for Entrepreneurs Award for the most sustainable company of 2016. This award honours companies from the North that sustainably promote entrepreneurship in the Southern Hemisphere.

People at DEME

DEME wants to be an Employer of Choice - the preferred employer within the dredging, environmental and marine engineering industry, in Belgium and beyond. To remain at the forefront of this increasingly complex and challenging industry, DEME has started a number of initiatives to attract new talent and to make sure that people can fulfil their true potential at the company.

Given the rapid growth at DEME, the company puts development and performance as priorities, offering many career opportunities for employees.

DEME wants to help employees in managing and growing their careers, as this is a win-win for both employees and DEME's growing business. The company is working on an approach that makes it more transparent to switch between disciplines, subsidiaries or business activities. Employees may start off in dredging or land reclamation, but then move into renewables, blue and green energy, and later find themselves working on a tidal or offshore wind project.

DEME recognises that employees want an interesting career but they also want one that offers continued challenges. The company's innovative and sustainable approach to business and its true international nature make it an exciting company to work for. Employees can find themselves working anywhere in the world in multidisciplinary, international teams. DEME currently has employees from more than 85 nationalities.



Freddy Santon

TUAS TERMINAL PHASE 1,
SINGAPORE

"I started at DEME in my teens as an assistant cook in 1977. I was very grateful to DEME to give me a chance and then to allow me to follow all the courses to develop my career. Like a lot of my colleagues from my generation, I moved on to become a deckhand, pipe operator, second mate, first mate and captain. And now I have been a marine superintendent for many years."

The company offers attractive packages and competitive salaries but it is investigating how it can also become a more flexible employer, with traffic and mobility constraints in mind, satellite or home working alternatives are under consideration.

In several countries, DEME has received employer of choice awards.



One major HR initiative has been and remains the *People@DEME* platform. This gives everyone access to their personal job development matrix, which outlines their function and responsibilities and it introduces various training possibilities. This also includes mandatory training and suggested courses for career development.

Time To

A new performance management tool *Time To* was introduced. The digital platform helps employees and managers to evaluate their performance, competencies and development needs. *Time To* also provides DEME with a valuable, competencies' database so it can make sure it gets the right team of experts matched to the right project.

New DEME corporate employee app

DEME is launching a corporate app, a mobile solution for internal communication and cooperation. With the app DEME can bring news and information directly to an employee's mobile device, as well as instant access to work tools on-the-go. The corporate app is the result of an innovative idea generated by DEME's own employees.

Extensive range of training courses

- DEME employees attend the 3-day *Basics 4 Starters* course. This gives people the opportunity to learn about the company and the industry.
- After a number of years employees can attend the technical *Skills Programme*. This gives people a great chance to network, exchange experiences, and learn about other departments and it highlights future possibilities open to them.
- The *DEME 2020* programme is for selected groups of people, who are working towards becoming a seasoned project manager.
- The *EPC Course* (a 3-day programme) outlines the multidisciplinary and leading role that DEME plays in today's challenging EPC contracts. This high-level, project management course is carried out in collaboration with Antwerp University.
- Since 2015, a worldwide course has been organised to ensure the crew complies with the latest requirements of the Standards of Training, Certification & Watch keeping (STCW) Convention. Around 750 nautical crew members will follow the training programme between 2015 and 2017.
- DEME offers several specialist courses for electricians, surveyors, technical engineers, which are often in collaboration with engine and equipment manufacturers.



Health and safety

At DEME safety is embedded in all activities. DEME's health, safety and environmental policies reflect the commitment to international best practices and compliance with legislation.

DEME has ambitious safety targets and wants everyone on board. Ultimately, it is aiming for zero incidents and that safety awareness becomes part of the company's DNA.

The safety strategy is based on four pillars: engagement/buy-in, collaboration, communication and leadership. These are the foundations for a better safety performance, for better quality and for more efficiency. And these are all crucial ingredients for sustainable business excellence.

A number of initiatives has been launched or continued in 2016 and it is clear to see that the wide-reaching DEME safety programme is showing positive results.



Key Performance Indicator QHSE-S dashboard

Continuous improvement in 2016

In 2015 DEME introduced the *Key Performance Indicator QHSE-S dashboard* in a bid to further improve its safety performance and to generate long-term sustainable improvement. DEME is uncompromising, with several of these ambitious KPI targets set at 100%.

Overall, all 8 KPIs have shown improvement in 2016. For example, the timely reporting of incidents KPI has climbed from 67% to 82%. Toolbox participation is up 10%. Inspections have increased to 96%. Senior management attendance of safety meetings regarding accidents or near misses is also at 96%, with the target set at 100%.

And one KPI - the end of work report - has already achieved 100%, showing how it is now firmly anchored in the business. In 2017, this has therefore been replaced by an *Incident Investigation KPI*, to ensure any accidents are properly investigated and reported.

Crucially, these KPIs show that DEME is achieving the vital engagement/buy-in to its safety culture. For example, the employee safety observations and suggestions KPI has increased from 80% in 2015 to an impressive 97% a year later. This means that nearly each employee - representing more than 4,000 people - has made at least three safety observations.

DEME believes that everyone can make the difference

Safety Moment Day

Every year, a worldwide *DEME Safety Moment Day* is organised. In 2016 this focused on the potential dangers related to stairs. The company will be presenting the *Best Performed Safety Moment Award* to the department/office/project with the most impressive safety initiative.

Awards

DEME is very proud to have been awarded the International Association of Dredging Companies (IADC) Award for the most innovative safety idea, which can be applied to the whole industry. GeoSea's simple but brilliant idea to paint coloured circles on the muster stations won because it makes it very quick and easy to see that the crew is fully accounted for in the event of an emergency. This is the second consecutive time that DEME has won this award. Previously it won for the first CHILD campaign.

CHILD5 Campaign

DEME's safety awareness programme CHILD (Colleagues Help Injuries to Leave DEME) was introduced in 2010. While figures have improved eight-fold since CHILD's introduction, and although DEME has a very good track record compared to its peers, DEME still wants to do more.



For safety to be embedded in the company's DNA, CHILD5 was initiated. Two seminars took place in 2016 for senior and middle management under CHILD5 and 12 more sessions will follow. The first two addressed the manager's attitude towards safety issues and how as an individual they can change their behaviour - and make the difference.

Integrated Management System

The elimination and control of risks is embedded in DEME's corporate *Integrated Management System* and this radiates down through all the projects and into every single operational task.

In 2016 DEME focused on the further development of its *Integrated Management System*. Unlike many other systems this integrates purchase and logistics, tendering etc. but also QHSE-S. So again safety is fully embedded in the company's culture. DEME believes that this integrated management approach is the true foundation for business excellence.

Innovation

DEME has always been at the forefront of innovation, contributing to sustainable growth and creating new opportunities to expand DEME's global reach.

Research & Development is undertaken in a multidisciplinary way, involving close cooperation between sites, vessels and the headquarters but also between calculation desks, project management teams, technical and engineering departments. The innovation process follows a methodical, systematic and structured approach, leading to groundbreaking innovations and developments.



Transport and installation of P11-E minimum facility platform, The Netherlands

Employee driven innovation

To spark and capture groundbreaking ideas from employees across DEME, several innovation initiatives have been launched. The "DEME^X" initiative focuses on disruptive innovation, tapping into young talents at DEME to identify bold business opportunities for DEME.

The DEME Innovation Diver engages all employees worldwide to capture creative ideas with regards to several challenges. In early 2017 the second edition of the DEME Innovation Diver campaign was launched, with employees joining forces and collaborating through an online innovation platform.

DEME's multidisciplinary approach and employee-led innovation resulted in some game-changing ideas.

Modular jacket gas platform design

EverSea developed a standard platform design that is suitable for any gas field in the Dutch North Sea. The design is modular, meaning that only small, less expensive vessels are required for installation of the platform. Furthermore, smart coupling makes it reusable at the next gas field.

Damped pile gripper

An enormous pile gripper was developed to drive the foundations of a wind turbine into the seabed, together with a hydraulic heat compensation system. The benefits are clear: less hindrance from the weather, quicker to implement and cheaper.

Laser-cladded cutterhead teeth

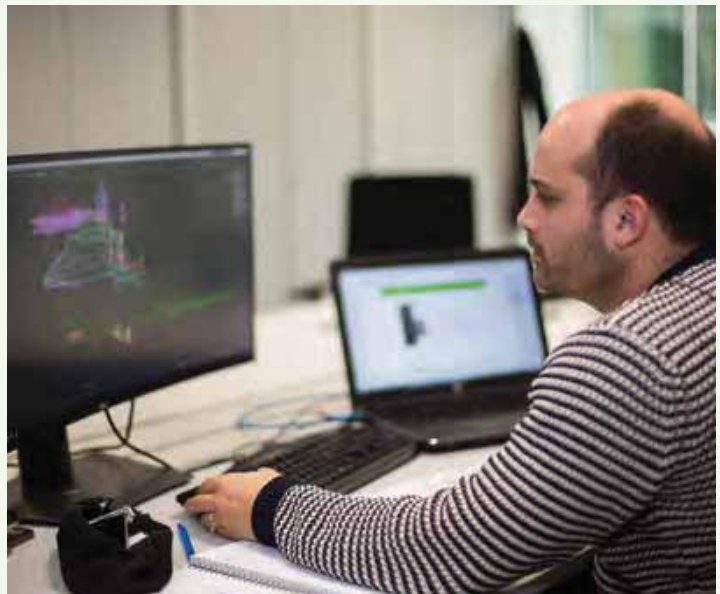
Cutter suction dredgers (CSD) use cutterheads fitted with teeth to cut soil and rocks loose. However, the lifespan of these teeth is limited and the dredging process has to stop each time they are replaced. Using laser cladding the teeth are given a carbide layer. Result: the lifespan of the teeth is lengthened considerably.

Temarock - a specialised and fully automated multipurpose underwater 3D-printer of rock foundations

A quay wall, built of caissons at Tuas Terminal Phase 1 in Singapore, has a foundation consisting of two layers of compacted hardcore. For these to be applied in accordance with the customer's exact specifications three equipment spreads are required. Using the Temarock, DEME has developed a fully automated multipurpose 3D-printer that can do everything much more efficiently, achieve extreme tolerances and facilitate diverless execution.

TE-Norm remediation application of soil washing techniques

TE-Norm stands for Technologically Enhanced Naturally Occurring Radioactive Material. This project studies the technical and economic feasibility of the treatment of soil and sediment that is lightly to moderately contaminated with radioactive material. Using adapted soil-washing techniques the decontaminated material, which can often be reused, is sorted out and treated separately.



ME2WE

A strategy was developed at the Jurong Island Westward Extension project in Singapore, which focuses on teamwork and productivity. This involved creating a tool, ME2WE, which helps to increase involvement, improve internal relationships, create improvement channels and increase productivity.

Visual Lock Out Tag Out (LOTO) app

The LOTO app, designed aboard DEME's CSD 'Ambiorix', is a visual application for the management of the Lock Out Tag Out process. The app helps the crew in indicating the necessary LOTO points, locations and locks, and at just the click of a mouse. This app helps to make repairs and maintenance safer and more efficient and reduces the risk of human error.

Deep sea harvesting of seabed minerals and metals

Addressing the problems of climate change and dwindling fossil fuel resources, the World Wildlife Fund (WWF) published its Energy Report in 2015 stating that the world could get all the energy it needs from renewable sources by 2050.

However, decreasing the world's dependence on fossil fuel increases our dependence on minerals and rather significantly so, as renewable energy infrastructure requires at least double the amount of minerals for the same amount of energy production. Furthermore, the world population is growing faster than at any time in history and the demand for mineral consumption is climbing rapidly as the global standard of living increases.



Tracked soil testing device 'Patania'

DEME's marine harvesting specialist GSR

DEME's marine harvesting specialist Global Sea Mineral Resources (GSR), in collaboration with all stakeholders, is looking at ways in which seabed minerals can contribute to the sustainable development of our world.

On 14 January 2013, the International Seabed Authority and GSR signed a 15-year contract for the prospecting and exploration of polymetallic nodules. Under the contract, GSR has exclusive rights for the exploration of 76,728 km² of seabed in the eastern part of the Clarion Clipperton Zone (CCZ) of the Central Pacific Ocean.

Following the award, GSR has successfully completed the first phases of this truly groundbreaking project. Two surveying expeditions have taken place. In the second expedition a high-resolution geophysical survey of the seabed was executed and samples were collected to study the biological and geological conditions of the deep sea environment.

The main aim of this second expedition was to retrieve soil parameters for the design of a collector vehicle, to locate and quantify nodules in three areas, and to develop an environmental baseline study. The project team expects that around 3 million tonnes of polymetallic nodules could be harvested annually.



François Charlet

GLOBAL SEA MINERAL RESOURCES (GSR)

“Within GSR, we are developing deep sea mining using state-of-the-art, break-through technologies, able to explore and harvest polymetallic nodules in a sustainable and profitable way. During our first two offshore expeditions in 2014 and 2015, we were able to collect geological, biological and geotechnical information, leading to the development of a remotely operated vehicle called ‘Patania’ in 2016.”

SIZE OF EXPLORATION AREA:

76,728 km²



For 150 years, the world has known about this huge potential seabed resource but it is only now that the dream is turning into reality.

INTRODUCING THE ‘PROCAT’ PROJECT - DEVELOPMENT OF THE WORLD’S FIRST TRACKED NODULE COLLECTOR

GSR intends to develop the world’s first tracked nodule collector eventually in 2019, which is based on 100% DEME technology. This unique collector vehicle will be capable of harvesting nodules at staggering depths of 4,500 m right in the middle of the Pacific Ocean, 1,300 km from land.

In 2016, work began on the next exciting stage of this pioneering, deep sea harvesting project. During the year the project team has successfully developed the tracked soil testing device (TSTD) ‘Patania’ along with

several Flemish specialist companies. The TSTD ‘Patania’ will be tested on the Pacific’s seabed in May 2017, when the GSR team will be accompanied by geologists, scientists and geotechnical engineers. When successful, a pre-prototype will be tested during the fourth expedition, which will then take place in early 2019 to thoroughly test the technology.

Crucially, the expeditions will also be taking baseline measurements of the deep sea environment so GSR can measure the impact of the harvesting vehicle. Three large mooring buoys will be placed on the seabed to monitor changes in turbidity for at least a year. DEME is highly aware that any activity has to be both commercially viable and sustainable. In addition to improving deep sea harvesting expertise, the company strongly believes that this project and its expeditions will be an important addition to the world’s scientific knowledge.



Field testing of the TSTD ‘Patania’

Testing before the 'Patania' expedition



GSR also takes part in the projects:



PROJECT DURATION: 2014 - 2018

DEME is one of the leading industrial partners in the European Blue Mining project. The overall objective is to provide breakthrough solutions for a sustainable, deep sea harvesting value chain. The project aims to develop the technical capabilities for accurate and cost-effective discovery, assessment and extraction of deep sea mineral deposits from water depths up to 6,000 m.



PROJECT DURATION: 2013 - 2016

DEME is one of the partners in the Managing Impacts of Deep Sea Resource Exploitation (MIDAS) project. The MIDAS project brings together a broad-ranging group of experts from several disciplines to investigate the potential environmental impacts of deep sea resource extraction and to make recommendations on how best to manage them.



PROJECT DURATION: 2016 - 2019

The European Commission is helping to accelerate innovations that ensure secure and sustainable supplies of raw materials by funding a 4-year project: Breakthrough Solutions for the Sustainable Harvesting and Processing of Deep Sea Polymetallic Nodules - Blue Nodules. Blue Nodules will develop the seafloor and surface processes and equipment for deep sea harvesting of polymetallic nodules. Including the DEME subsidiaries Dredging International (DI) and GSR, the Blue Nodules project will be carried out by a consortium of 14 leading European industry and research organisations.



PROJECT DURATION: 2015 - 2019

In 2015, the Joint Programming Initiative Healthy and Productive Seas and Oceans (JPI Oceans) organised a pilot project Ecological Aspects of Deep sea Mining to assess the ecological impacts which could arise from commercial mining activities. Three expeditions visited several nodule licence areas and a protected area in the Clarion Clipperton Zone, and examined the disturbance and recolonisation experiment (DISCOL) in the Peru Basin, which was conducted 26 years ago.

MeyGen - the flagship project of blue energy

DEME's focus to be at the forefront of blue energy is highlighted by its involvement in the groundbreaking MeyGen tidal energy project at Pentland Firth in Scotland. This project will be the world's first tidal stream turbine array connected to the electricity grid.

DEME is keen to be a pioneer in this sustainable technology and in April 2016, DEME Concessions acquired an interest in Tidal Power Scotland Limited (TPSL), which controls the MeyGen project. Furthermore, DEME's subsidiary GeoSea was awarded the installation contract for Phase 1A of MeyGen and deployed the jack-up vessel 'Neptune' for this challenging project.

The first phase consisted of the successful installation of four gravity-based foundations and it got underway in September 2016, with the foundations and ballast blocks loaded at the ports of Nigg and Scrabster, Scotland. The first turbine was energised and started producing power in November 2016.

During December, two further turbines were installed and the remaining turbine was installed in February 2017. MeyGen 1A

represents a capacity of 6MW, encompassing one 1.5MW Atlantis turbine and three 1.5MW Andritz Hammerfest turbines.

World leading expertise

GeoSea is proud to be involved in this new and challenging industry and the world's first tidal array project, particularly as it is such a key milestone for the industry. GeoSea has conducted progressive research and development into the use of heavy lift jack-up vessels at tidal sites. This included successful sea trials in September 2015 at the Raz Blanchard site, France - considered one of the most energetic tidal sites in the world. GeoSea is passionate about applying its world leading expertise to this exciting, trailblazing project.

GeoSea is now preparing the second 6MW phase of the MeyGen project, which will be executed in 2018.

Besides the participation in TPSL, DEME is involved in two other tidal energy developments - the West Islay Tidal Energy Park in Scotland (30MW) and Fair Head in Northern Ireland (100MW). These projects are currently being developed in cooperation with local partners.



1st

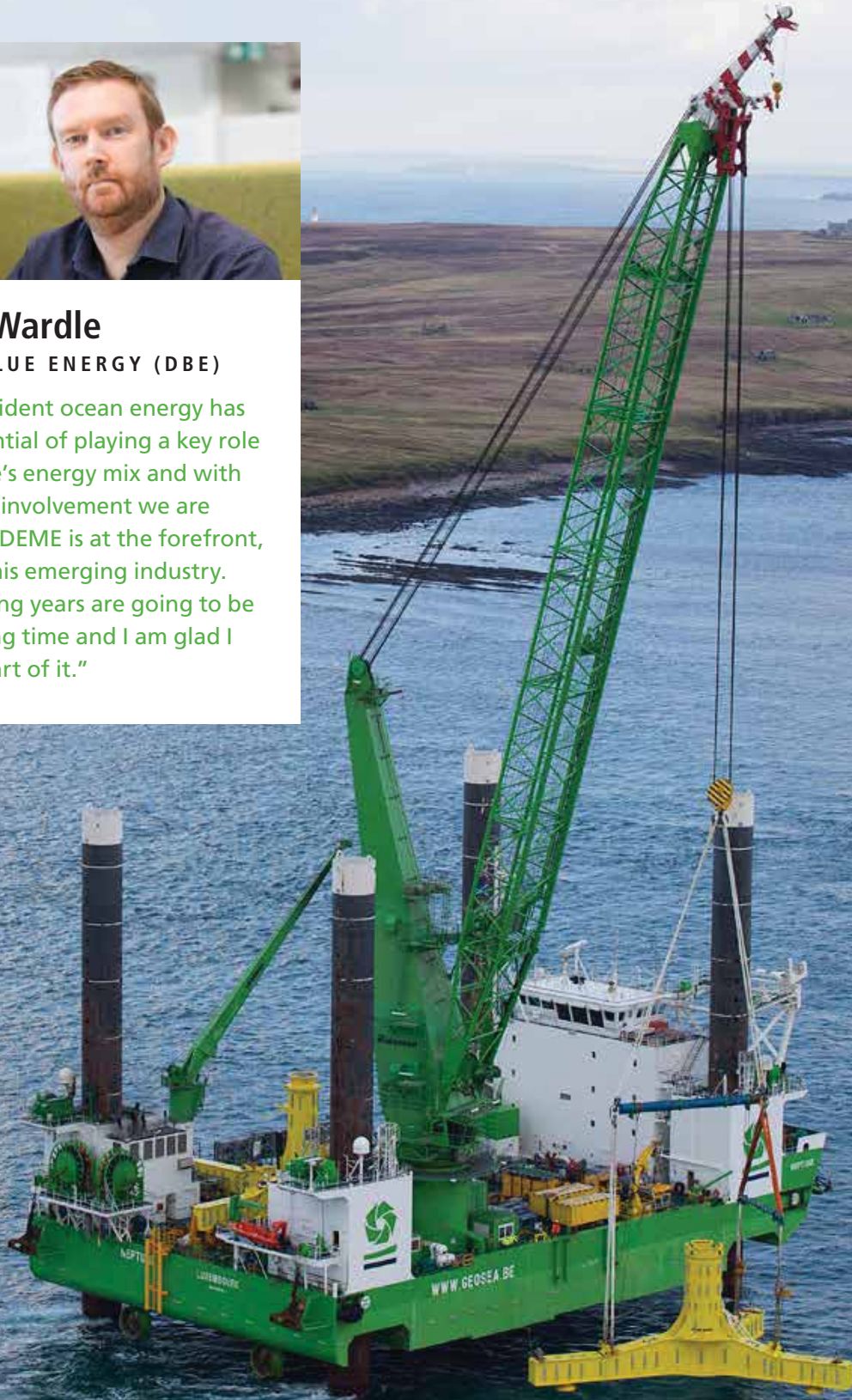
**COMMERCIAL TIDAL ARRAY
IN THE WORLD**



Mark Wardle

DEME BLUE ENERGY (DBE)

"I'm confident ocean energy has the potential of playing a key role in Europe's energy mix and with our early involvement we are ensuring DEME is at the forefront, driving this emerging industry. The coming years are going to be an exciting time and I am glad I can be part of it."



Fleet investment programme - green and innovative

DEME's vessels - green on the outside and on the inside

DEME's ambition to be at the forefront of the industry when it comes to innovative solutions can certainly be seen in its ambitious fleet investment programme.

A number of pioneering vessels - many of which are truly the world's first - were launched in 2016 and they will enter the fleet in 2017. DEME's vision for a cleaner and sustainable world led the company to take the decision to invest in dual fuel vessels, capable of running on LNG or diesel fuel, reducing carbon emissions, almost eliminating particulate matter, SOx and NOx.

When the total investment programme has been realised, DEME will be one of the very few shipowners capable of using LNG as a fuel at such a large scale.

The huge investment programme in greener vessels shows that DEME does not just want to meet current legislative requirements, it wants to exceed them and go beyond compliance. All of the vessels will have a Green Passport and a Clean Design notation.

The dredging fleet will be the first to be joined by these special dual fuel vessels.



'Minerva' and 'Scheldt River' - world's first dredgers able to operate in full LNG mode

The 3,000/3,500 m³ trailing suction hopper dredger (TSHD) 'Minerva' was launched at Royal IHC at the end of 2016, and is scheduled to enter the fleet in 2017. 'Minerva' is the first dredging vessel in the world to be equipped with dual fuel engines and capable of operating in full LNG mode.

Meanwhile, the 7,950/8,400 m³ TSHD 'Scheldt River', also built at Royal IHC, was launched in January 2017 and will be put into service during the summer. Additionally, these vessels pioneer the combination of two-speed propulsion boxes and combinator mode, which results in substantial fuel savings and emission avoidance, particularly when operating at low speeds and manoeuvring.



'Bonny River'

With the order of the 15,000 m³ TSHD 'Bonny River', DEME is investing in a new generation of TSHDs, which are trendsetting in terms of coastal protection and for dredging hard soils. Steel cutting started end 2016 and the vessel is due to be delivered in the third quarter of 2018.

Thanks to the combination of unique characteristics such as a very long suction pipe, a large transport capacity with limited draught and an additional, heavy-duty trail pipe with rock draghead, this multidisciplinary vessel can be used effectively in shallow water and in hard soils.

'Bonny River' will be able to minimise the turbidity generated by process water and facilitates dredging in environmentally sensitive areas. Moreover, the hydrodynamic hull and the dual fuel engines (diesel and LNG) ensure further optimisation of the fuel consumption and a minimal carbon footprint.

'Living Stone'

DEME's cable laying and multipurpose vessel 'Living Stone' will join Tideway's fall-pipe fleet in the third quarter of 2017. Being built at LaNaval, in Bilbao, Spain, 'Living Stone' is extremely versatile with two, 5,000-tonne

cable turntables located below the main deck. The vessel features more than 3,000 m² of unobstructed deck space. This is coupled with a substantial rock dumping ability of 12,000 tonnes. Built as a dual fuel vessel, 'Living Stone' also has a relatively limited draught.

'Apollo'

The new jack-up vessel 'Apollo' will join GeoSea's fleet of self-propelled jack-ups in the third quarter of 2017. This installation vessel has extremely long lattice legs giving the vessel a water depth up to 65 m. She has a crane capacity of 800 tonnes. Long legs mean the vessel is easily able to serve the offshore wind industry, as well as the oil & gas markets in deeper waters.



'Blanew'

Another very specialised vessel is the 'Blanew', which is a small and compact electrically driven cutter suction dredger (CSD) specially designed for dredging works in marinas, canals and lakes. 'Blanew' should be in service by the end of the summer. The CSD is self-maneuvring which allows it to dredge between jetties and pontoons without removing them. In order to reduce the exhaust gas emissions and to minimise noise when working in marinas, 'Blanew' will be powered by means of an umbilical electric cable, which is directly connected to the shore-based network. The vessel therefore also has the capability to run on renewable energy.

'Gulliver'



The 4,000-tonne SWL crane vessel 'Gulliver', due to be operated by Scaldis, is set to enter service in the third quarter of 2017. The vessel is being built by ROC for Royal IHC in Qidong. She will carry out activities including installing offshore infrastructures and decommissioning projects for the oil & gas industry and for offshore wind farms.



Investments continue in 2017

'Spartacus' - simply the most powerful cutter suction dredger ever

DEME has unveiled the mighty 'Spartacus'. With a total installed capacity of 44,180 kW, 'Spartacus' is simply the most powerful CSD that has ever been built. She will be 50% more powerful than DEME's existing CSDs, which are already giants in their own right. Her sheer cutting power will enable her to cut harder soils at speeds that have not been possible before. This means that work can be taken on by the cutter dredger rather than relying on the use of dynamite and blasting.



'Spartacus' will be able to dredge in waters of up to 45 m, compared to the 35 m depth which is presently the upper limit in the market and she is capable of operating in very remote locations with limited infrastructure, given her fuel autonomy and accommodation capacity.

The newly planned vessel will offer much improved crew comfort levels as the deck house will be supported by air cushions, minimising any vibrations. There is also a large workshop aboard for repairing cutterheads.

DEME believes this exceptional vessel will create its own market, by achieving what has been impossible until now.

'Spartacus' was ordered at Royal IHC in February 2017 and will be delivered in the summer of 2019. 'Spartacus' is fully diesel electric and is equipped with dual fuel engines engines and an LNG tank. The CSD boasts a number of very innovative features.

'Orion' - the next generation offshore installation vessel

Another giant DEME is investing in will largely serve the offshore wind market.

The 216.5 m long offshore construction vessel features a crane with unseen lifting capacity. 'Orion' has truly great transport capacity and can take multiple very large and heavy monopiles and transition pieces in a single shipment. With DP3 technology the offshore installation vessel can continue operations under the most challenging conditions.

'Orion' is very energy efficient and clean because it runs on LNG.

The state-of-the-art vessel will enter the DEME fleet in the fourth quarter of 2019.



Export and project finance



One of the keys to a successful business proposal is DEME's Export & Project Finance department, which supports the all-in solutions approach that DEME offers its clients all around the world.

Proactive partner in financing

The Export & Project Finance department assembles tailor-made financing packages and negotiates these packages with potential investors, financial institutions and authorities. These structures offer financing possibilities to a client in either developed or emerging markets, that may not have the capability to arrange a similar financing solution locally, especially with regard to the credit cost, credit tenor or credit amount.

Clients know that they have a competitive, safe and transparent payment solution with DEME's financial packages.

Attractive tailor-made offer

Every financing arrangement is specifically tailored to the requirements of each client and their individual projects. DEME can provide a straightforward buyer's credit, a soft loan (if

the client is eligible for concessional lending), a project finance structure or a combination of all of them.

The financing packages are fully compliant with the Organisation for Economic Co-operation and Development (OECD) regulations and the inherent economic, environmental and social sustainability prospects of each project are considered.

DEME has a long-standing relationship with Credendo, the Belgian Export Credit Agency and Finexpo, the Inter Ministerial Committee for Financial Support of Belgian Export. DEME works closely with these organisations, as well as with a pool of international banks, to achieve the best solution for its clients. Low interest rates and financing conditions in Europe often mean DEME has an attractive offer for its many international clients.

Over the past few years, DEME arranged several financing packages for its clients and it is now working on a number of new transactions in several countries worldwide.

Continuous improvement - risks and costs

— Opportunity & Risk Management

DEME has evolved into a recognised multidisciplinary company handling a diverse range of complex projects worldwide.

Therefore the corporate Opportunity & Risk Management department (ORM) was launched in February 2016 in order to capture, assess and manage all opportunities and risks from day one until the completion of the execution phase.

2016 Achievements

For medium and large tenders and projects DEME has a structured, transparent and consistent ORM strategy, underlying DEME's pro-active and integrated approach to ORM. During 2016 significant and qualitative efforts by all ORM stakeholders have been performed during both commercial and execution phases to comply with the new ORM standards. This resulted in a dedicated and embedded risk-aware entrepreneurship exhibited by all ORM stakeholders within the DEME entities.

2017 Objectives

DEME will further refine and leverage all ORM knowledge and experience during 2017 in the same uniform and viable method. The department will further strive for embedded ORM excellence in close cooperation with all the relevant DEME departments and projects. DEME will further enhance the corporate Opportunity & Risk Management strategy and compliance in order to meet and exceed 2017 requirements.



DRIVE, U-DRIVE & LESS = MORE 2.0

DRIVE is DEME's continuous improvement programme that covers operational excellence, sourcing and the supporting process improvements.

This is reflected in the three pillars of DRIVE:

DRIVE Operational and Technical provides a pragmatic approach to operational process improvement and bottom-up innovation. In 2016, 65 DRIVE improvement projects, better known as DRIVE exercises, were successfully completed on projects worldwide. Within the area Asia and Oceania, no less than 12 DRIVE exercises were carried out, making the region the winner of the so-called *DRIVE Green Jersey* for 2016. The *DRIVE Yellow Jersey* is awarded each year to the area or business unit that realises the highest demonstrable financial savings by performing DRIVE exercises. In 2016 this prize was won by the area Mediterranean and South & Middle Americas. Last year DIMCO also executed its first DRIVE project. Finally, the DRIVE team has continued the development of pragmatic IT tools in support of the identification and execution of DRIVE projects.

DRIVE Cost is focused on sourcing improvement through the regular renegotiation of framework agreements for the main product families, as well as supplier consolidation across departments and business units. Because of an increased focus on the reduction of overhead costs, a lot of attention has been dedicated to reducing indirect spend. This effort will continue in 2017 within the scope of a special overhead reduction programme called *Less = More 2.0*.

Additionally, the **DRIVE Transactional** programme that aims to realise savings, efficiency enhancements and cash out reduction through supporting process improvement will be aligned with *Less = More 2.0* in 2017. In 2016 special attention was paid to the processes related to patents and subsidies.

In 2016 the Technical departments and Purchase and Logistics benefited from the Management Control and Reporting System (MCRS®) that was implemented within the scope of U-DRIVE. This resulted in new framework agreements, an objective sourcing strategy, reduced cost of ownership, a controlled execution of the maintenance programme of the DEME fleet, more efficient dry-dockings and the installation of innovative maintenance methods like condition-based monitoring.

Furthermore, in 2016 the Technical departments and Purchase and Logistics focused on process improvement, KPI roles and responsibilities, with the focus on Maximo, the new asset management system, which will fully embed these processes, enable optimal control and lead to tangible results in the course of 2017 for the user and management.

Corporate Social Responsibility

Corporate Social Responsibility (CSR) is about people, planet and prosperity. CSR is an integral part of DEME's corporate practices. For DEME, this means that all business units always strive to do business sustainably. DEME improves business efficiency, mitigates social and environmental impacts, inspires local participation and seeks original solutions to address global challenges. DEME strives to build partnerships that help create a positive influence on the communities in which DEME works. It can be seen in the DEME4Life campaigns, employee-initiated CSR projects, as well as DEME's drive for protecting and promoting the personnel's well-being.

DEME4Life Foundation

DEME's drive for sustainable solutions is highlighted by its CSR initiatives, which are overseen by the DEME4Life Foundation. In 2016 DEME was involved in a wide variety of projects across the globe.

DEME's strenuous efforts for a sustainable business have led the company to adopt five of the United Nations Sustainable Development Goals: people, planet, partnership, prosperity and peace. One project that represents all of these goals is DEME's dredging project on the Congo River.



Surinder Sandhu

TUAS TERMINAL PHASE 1,
SINGAPORE

"We cannot build our own future without helping others to build theirs."

DR Congo

Helping Congolese youngsters fulfil their career ambitions

In a broad-based project in DR Congo, a 10-year, public private partnership (PPP) has been set up with the local dredging company "La Congolaise des Voies Maritimes" (CVM) to dredge the Congo River. An important part of the PPP is that CVM will eventually have its own vessel and three crews so it can be self-reliant in the future (for more details please refer to page 22).







The 'New Belgica'



DEME volunteers for the Special Olympics

Belgium

'New Belgica'

DEME is supporting a fascinating project, which involves unemployed youngsters building a replica of the famous three-masted ship used by the polar explorer Adrien de Gerlache - the 'Belgica'.

Young people who are unable to find work are helped by the non-profit organisation De Steenschuit, which provides training courses in shipbuilding. The organisation is hoping that the 'New Belgica' will be ready for the Tall Ships Race in 2020.

Volunteers help the Special Olympics athletes stay healthy

The Special Olympics uses sport to improve the lives of those with intellectual disabilities. In May 2016, the national games took place in La Louvière in Belgium, where 3,600 Belgian athletes participated.

DEME has been assisting the athletes taking part for the last four years by mobilising volunteers to help with the Special Olympics Health Athletes Programme (HAP), together with the Lions Club of Belgium. DEME also provides financial assistance to cater for the necessary equipment and logistics.



Sister Jeanne Devos fund, India

India

Several projects are underway in India, largely organised by DEME's joint venture company International Seaport Dredging (ISD).

Namma Beach-Namma Chennai project

DEME supports the Namma Beach-Namma Chennai project, which aims to clean the beach at Injambakkam-Akharai and the surrounding streets. The project has provided the local Injambakkam School with water taps, blackboards, sitting mats for the youngest pupils and tables with benches for the senior students.

SPEED Trust

SPEED Trust is another organisation that has been supported by DEME in recent years.

SPEED Trust concentrates its efforts on one of the largest slums in Chennai where 2,600 families live. DEME is supporting various health and medical projects such as the SPEED Trust Dispensary, Hygiene & Health Education camps for children and it provides assistance for disabled people and widows by helping them find employment.

Sister Jeanne Devos

The DEME4Life Foundation supports the Indian fund of the Belgian missionary sister Jeanne Devos in recognition of her efforts to help children and women in India, such as the initiative for daughters of exploited domestic workers. DEME is providing a classroom and a teacher to help the girls with their homework so they can continue their education.

Singapore

DIAP partners The Red Pencil in Singapore

Since 2015, Dredging International Asia Pacific (DIAP) - the Singaporean subsidiary of DEMA - has been working with The Red Pencil, an NGO headquartered in Singapore that offers both creative and clinical therapy services to various organisations including hospitals, family centres, shelters and schools, as well as to humanitarian missions outside of the city-state.

In 2016, DIAP participated in The Red Pencil Ride for Hope to raise money for the NGO. Additionally, DIAP supported two charity fundraising concerts by bringing two of the best contemporary Belgian ensembles to Singapore, the Belgian Saxophone Ensemble and Incantevole.

DIAP is working on the huge Jurong Island Westward Expansion development in Singapore and Hedwig Vanlischout, project director, also decided to appoint The Red Pencil as the project's official charity. Sam Verrelst, construction manager for the Jurong project, has become a Red Pencil ambassador. He gives talks to companies, highlighting the benefits of art therapy and The Red Pencil's work.

Vietnam

DEME4Life carried out several initiatives in Vietnam during 2016. The Foundation provided support for the Ta Ngai Cho Kindergarten in the Muong Khuong district.

Food, kitchen equipment, water filters, clothes and 1,000 books, amongst other items, were donated by the Foundation. Speaking at a



The Red Pencil Ride for Hope, Singapore



Arts workshop supporting The Red Pencil, Singapore

meeting with DI Vietnam, the school principal Hien said: "With the contribution from your company, the children will have clean water, more food and kitchen equipment to keep and ensure better food quality and safety for the new school year."

Disadvantaged fishermen in An Hai and Xuan Dai districts

DEME4Life supported disadvantaged fishermen in the An Hai and Xuan Dai districts. There had been wide-scale flooding in the area, impacting the fishermen's livelihood. DEME4Life provided rice and noodles, cooking oil and medicines for the fishermen.

Additionally, DEME joined the Belgian Embassy, and supported the Annual Charity Bazaar in Hanoi in November 2016.

UAE

Ras Al Khaimah (RAK) Creeks clean-up campaign

DEME sponsored an ambitious clean-up campaign in Ras Al Khaimah (RAK) Creeks, through its local joint venture DI-MEDCO, based in the United Arab Emirates.

During the 7-day campaign "Marine environment, our responsibility" approx. 45 tonnes of waste was recovered, including 28 shipwrecks, tyres, fishing nets and cages.

In recognition of its efforts, DI-MEDCO was honoured with a Marine Environmental Trusteeship Award presented by the event's organisers.

Brazil

The DEME4Life Foundation supported two Brazilian projects in 2016.

Local employees from Dragabras, the Brazilian subsidiary of DEME, initiated a project to help underprivileged children from Rio de Janeiro's favelas. The DEME4Life Foundation made a donation so the NGO "Mais Caminhos" could purchase computer tablets for the organisation's complementary Education Programme.

In 2016 the children were involved in several interesting projects using educational apps that raise awareness about the preservation of the oceans (close to DEME's heart), avoiding pollution and about different species, fauna and flora.



Raiz Mirim invited at the 'Minerva' and 'Scheldt River' launch ceremonies

Supporting families

In Belgium, DEME is supporting the Brazilian community through involvement in "Raiz Mirim".

"Raiz Mirim" is an educational and sociocultural organisation which provides support to families who have emigrated from Brazil to Belgium. Originally, this project focused on Brazilian children living in Belgium and provided a vital link to their homeland. Every week the children take part in creative and cultural workshops. Then the project further developed because it became clear that some of the families needed more support, so the Foundation also provides assistance for help with any psychological issues that children may be experiencing.

As well as offering funding, DEME4Life organises special outings for the families. "Raiz Mirim" was, for example, invited to take part in the launching ceremonies of the TSHDs 'Minerva' and 'Scheldt River'.



Jaco Bester

DEME HERO

“Take me to the sky, where I will be catching my dreams! Anything is possible at DEME... Creating land for the future all around the world or in our personal lives. DEME stands behind its employees, encouraging them to take on opportunities, to live healthy and be fit. This is for our benefit, jump on board and you will never look back. Commit to be fit and make a difference for yourself.”



"Climbing for Life" 2016 edition, France

Commit to be fit

Wherever they are in the world DEME employees were *On the Move*, with hundreds of people taking part in sporting challenges in 2016, regardless of age or fitness level.

DEME On the Move

In February 2016, the 12th *DEME On the Move Campaign* was officially launched at the headquarters in Zwijndrecht. And the year was packed full of sporting events ranging from cycling in the Alps to rowing in Dragon Boats, to running in the hills of Boma in DR Congo.

DEME made a significant investment in its health platform Energy@DEME. Everyone who subscribed was given a pedometer, enabling them to count their steps and synchronise them to the platform. More than

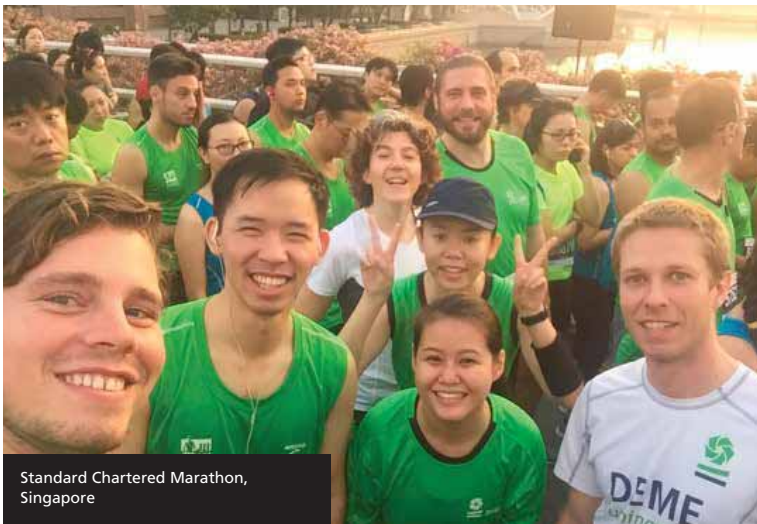
2,000 colleagues are now linked in. And a distance of more than 2.5 million km was synchronised to the Energy@DEME platform by the end of 2016!

Climbing for Life

Once again, DEME sponsored the Climbing for Life event, which provides challenges for cyclists, runners and walkers. Held in the French Alps (Les2Alpes and Alpe d'Huez) in August, the event saw more than 120 DEME participants join, of which 94 were on their bikes and 33 on foot. DEME is the event's Silver Sponsor. In this way DEME is giving its support to the event's accompanying diabetes awareness campaign.



Antwerp 10 Miles, Belgium



Standard Chartered Marathon, Singapore



Wipro Chennai Marathon, India

Keep on running

In Belgium, 12 runs were organised in 2016 starting with the Antwerp Urban Trail in March. The special family event, the Antwerp 10 Miles in April was a particular highlight.

Plenty of sporting effort was also seen around the port city of Boma in DR Congo and in Singapore during the Red Pencil Ride for Hope.

In early 2016, colleagues from the Congo River maintenance dredging project initiated a sportive endeavour to organise regular runs in the scenic hills around the port city of Boma. Both locals and staff enjoyed the picturesque paths amid the verdant tropical foliage. With bubbling enthusiasm and having put plenty of practice in, they were able to conquer the highest point of Boma, which is 291 m.

In December 2016, over 100 DEME employees participated in the Standard Chartered Marathon running event in Singapore. Meanwhile, more than 30 employees from DEME's Indian subsidiary International Seaport Dredging took part in the Wipro Chennai Marathon.

Dragon Boat Race in Antwerp

In China dragon boat races are a tradition dating back more than 2,000 years. They represent team spirit, goodwill and collaboration and there was plenty of that on show in September 2016, when two DEME boats took part in the sixth edition of the Dragon Boat Race in Antwerp. The DEME Dragons A got into the final without a hitch and rowed themselves into a very respectable third place. The DEME Dragons B team reached the semi-finals.

Hercules Trophy proudly added to the DEME trophy cabinet

The Hercules Trophy is a renowned competition, organised all over the world between teams from different companies. The competition consists of a mix of teamwork, physical tests, tactics and agility. This year nearly 90 teams took part in the event, which was held in Antwerp. Three DEME teams participated, and one team 'The Prodigies' won and took home the trophy!



Dragon Boat Race, Belgium

DEME Heroes

This was the culmination of DEME's campaign to inspire employees who would not usually be so sporty. For the first time ever and after a rigorous selection, 10 candidates from DEME's employees were chosen to receive sports, medical and nutritional coaching to enable them to reach the summit. The DEME Heroes threw themselves into the challenge and got ready to cycle up the mountain in just three months! After a tough climb they all managed to reach the finishing line, encouraging each other along the way, and they have all now been named our *DEME on the Move* ambassadors.



Hercules Trophy, Belgium



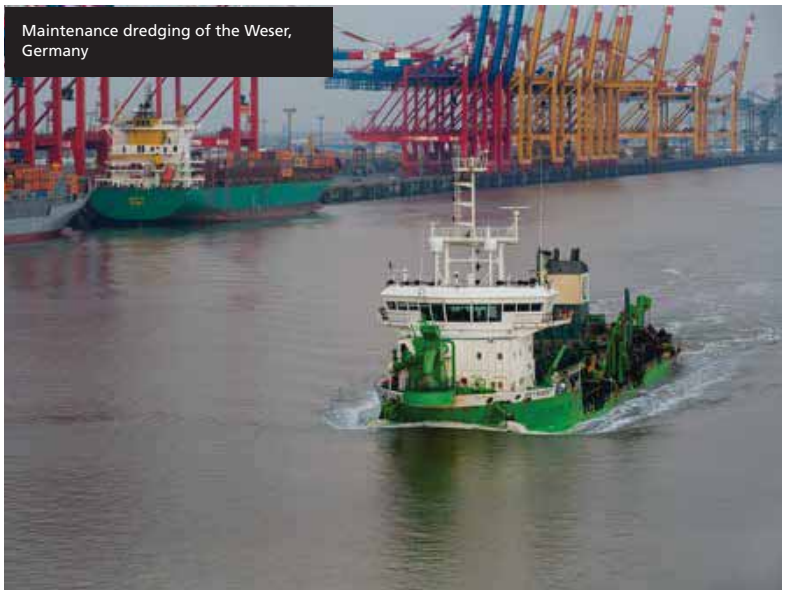
DEME Heroes

DREDGING SOLUTIONS





Eko Atlantic, Nigeria



Maintenance dredging of the Weser, Germany

Dredging and land reclamation are more than just DEME's core activities. They are at the very foundation of the company. DEME is involved in huge, complex dredging and land reclamation projects worldwide, offering customers cutting-edge solutions. Over the past decades, DEME has 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.

BENELUX



Belgium

Antwerp, Ghent and Belgian coast

As part of a long-term contract, DEME continued maintenance dredging works on the Scheldt River and the access channels to the port of Antwerp's locks. A large volume of dredged sediments from the port of Antwerp is being treated at AMORAS, Europe's largest mechanical dewatering plant for dredged materials. Dredging International (DI) and DEME Environmental Contractors (DEC) continued the operation of AMORAS with other partners. Maintenance dredging also carried on in the North Sea, the access channels and ports of Ostend, Zeebrugge and Blankenberge.

In the port of Antwerp, DEME carried out repair works and erosion protection at the PSA container terminal quay wall.

In Ghent, DEME completed the dredging works for the deepening of the Sifferdok.

After the conclusion of a 4-year maintenance dredging programme on the Ghent-Terneuzen Canal, DEME was awarded a new contract to continue dredging works for another 4 years. Works will resume in 2017.

At the Belgian coast, breakwaters were removed in Zeebrugge for the installation of land cable connections for offshore wind farms.



Zeebrugge maintenance dredging, Belgium



Elke Rombaut

SCHELDT MAINTENANCE PROJECT

“Don’t think in problems, think in solutions. This should be part of our DNA on all projects!”



Scheldt River maintenance dredging, Belgium



Offshore Terminal Rotterdam,
The Netherlands

The Netherlands

Offshore Terminal Rotterdam

In The Netherlands, DEME is executing deepening and soil improvement works with the TSHD 'Breughel' in front of the newly built Offshore Terminal Rotterdam quay wall. Works are proceeding according to schedule and are due for completion mid-2017.

Juliana Canal

DEME's subsidiary de Vries & van de Wiel continued the works for widening the Juliana Canal in the Netherlands. When completed in 2018, bigger inland vessels (up to 190 m long and 11.4 m wide) will be able to navigate through the enlarged waterway. In spring 2017, a new canal bed will be constructed at Obbicht and dykes will be replaced between the villages of Berg a/d Maas and Obbicht.

Kooyhaven

In January 2016, de Vries & van de Wiel, together with a Dutch partner, started the development of Kooyhaven at the port of Den Helder. Thanks to its location alongside the Noordhollandsch Canal, the industrial estate is linked directly to the North Sea. Kooyhaven offers space for businesses within the energy market's supply chain that are also reliant on the port and water-based transport. Works include a 660 m quay wall and a secondary dyke of 1.4 km. The public quayside became operational in December 2016 and works will continue in 2017.

Waddenzee

In September 2016, the long-term dredging campaign on the Waddenzee has been completed, with a total of 18 million m³ of sand and silt being dredged.

River Rhine

de Vries & van de Wiel has executed, at the request of the Dutch Ministry of Infrastructure and the Environment, a trial project on the Rhine, near Tolkamer close to the German border. The purpose is to prevent further riverbed erosion by means of nourishment with a sand-gravel mixture, which is required to maintain the long-term navigability of the Dutch river system. In total 70,000 m³ of sand-gravel was used.

Waterdunen

In June 2016, coastal protection works in Waterdunen were completed. Waterdunen includes the development of recreational facilities and a nature reserve. Dykes have been reinforced together with 1 million m³ of reclamation and beach replenishment works.

Dishoek, Zoutelande and Goeree-Westhoofd

Along the Dutch coast, the final phase of beach nourishment works in Dishoek, Zoutelande and Goeree-Westhoofd was concluded in November 2016.

12,728
**TRIPS MADE FOR
MAINTENANCE
DREDGING ACTIVITIES**



Beach nourishment Dishoek, The Netherlands





NORTH EUROPE

Expansion of the Europakai Cuxhaven,
Germany

Germany

Cuxhaven

German seaports operator Niedersachsen Ports has awarded a contract for the expansion of the Europakai (Europe Quay) in Cuxhaven to a consortium including Nordsee Nassbagger- und Tiefbau. The expansion includes the addition of Berth 4 to accommodate increasing roll-on/roll-off cargo, as well as the growing demand from the offshore wind industry. The planned construction spans an area of 90,000 m², which has to be filled with sand, and a 240 m quay wall. The project confirms DEME's subsidiary Nordsee Nassbagger- und Tiefbau's position as a leading expert in soft soil reclamations, a geotechnically challenging discipline. Nordsee will dredge the waterway in front of the new berth. Works are expected to be completed by the end of 2017.

Weser, Elbe and Kiel Canal

Nordsee Nassbagger- und Tiefbau continues the maintenance dredging campaign on the River Weser. A new, 2-year contract has been awarded for 2017-2018. Additionally, water injection maintenance dredging continued on the Elbe and Kiel Canal.

**DREDGING WORKS
EXECUTED IN
10 HARBOURS
AND ON
5 RIVERS**



Gerald Giegerich

NORDSEE
NASSBAGGER- UND TIEFBAU

“The foundation for the success of any project is based on our ability to provide DEME specialists from different disciplines with exactly the right knowledge and experience needed. In this respect our clients in Germany can be assured that they get the best technical solution for their dredging, port expansion and wind energy projects.”

Salvage operation on the Elbe

In early 2016, the giant, 400 m containership ‘CSCL Indian Ocean’ became stranded along the Elbe on its way to the port of Hamburg. An emergency salvage operation was carried out to limit the impact on container traffic. As part of the salvage operation, Nordsee Nassbagger- und Tiefbau executed water injection dredging works to remove sand around the stranded ship. On February 9, 2016 the ship was pulled free from the riverbed.



Water injection dredging on the Elbe for the salvage of the ‘CSCL Indian Ocean’, Germany

New office in Bremen

In October 2016, DEME inaugurated its new office in Bremen. DEME had been consolidating all German activities in Bremen with the office serving as the regional headquarters for the company's operations in Germany since 2015.

For almost 50 years, DEME Group has been active in Germany in maintenance dredging projects and marine engineering activities. As a leading hub for the marine and offshore industry, Bremen is the ideal base from which to strengthen relationships with German customers and suppliers by offering local expertise and market knowledge. The offshore wind energy market offers many opportunities and growth potential for DEME in Germany. The Bremen office currently employs about 100 people.



Inauguration of the new office in Bremen.
Left to right: Christopher Iwens, General Manager DEME German Subsidiaries - Alain Bernard, CEO DEME Group - Andreas Heyer, Managing Director Wirtschaftsförderung Bremen GmbH

UK & Ireland

In 2016 DEME Group reshaped its marketing efforts to the UK market through the establishment of NewWaves Solutions, operating from its office at Canary Wharf, London. By combining the strengths of the DEME Group's operating companies, including DI, GeoSea, EverSea, Tideway, DBE and DIMCO, NewWaves Solutions provides a single point of contact for UK-based projects.

Dawlish Warren Beach Management Scheme

A contract has been secured for a coastal defence project off the coast of Dawlish, Devon. The Dawlish Warren beach area was heavily impacted by storms in 2015 and 2016. NewWaves Solutions will execute dredging and beach replenishment works, to start in June 2017.

Medway Approach Channel dredging

Early 2017 NewWaves Solutions was awarded a new contract for a recurrent maintenance dredging campaign on the Medway Approach channel, located in the Thames Estuary. The campaign was successfully concluded in February 2017.

France

Gravelines maintenance dredging

Société de Dragage International (SDI) carried out a recurring maintenance dredging campaign in Gravelines.

Seine dredging

SDI was awarded the fourth phase of dredging works for the deepening of the Seine in the Courval-Duclair section, including the disposal of dredged gravel at designated sites for reuse as construction material. The main objective was to improve access for larger vessels to the Port of Rouen, a major hub on the Seine between Le Havre and Paris.

Wissant beach nourishment

In Wissant, located on the coast of Northern France, SDI executed emergency beach nourishment works. The northern shoreline in the Pas de Calais region is one of the most rapidly eroding sectors of coast in France. A dune has been reconstructed and stabilised with the installation of wooden piles and revegetation. SDI managed to conclude the nourishment works before the start of the tourist season.



Beach nourishment Wissant, France

MEDITERRANEAN



One country dominated DEME's activities in the Mediterranean region in 2016 and into 2017 - Egypt.

Egypt

East Port Said access channel

Following on from the successful completion of the historic New Suez Canal project, the same consortium comprising DEME's Dredging International (DI) and Great Lakes Dredge & Dock Company (GLDD) was awarded a second contract from the Suez Canal Authority in October 2015, to dredge the Port Said east entrance channel.

Port Said is one of Egypt's most important ports on the Mediterranean. This side channel of 9.5 km long, 250 m wide and 18.5 m deep, provides access to the eastern part of Port Said. The new side canal means that ships sailing to and from Port Said will no longer interfere with the maritime convoys of the Suez Canal.

The contract involved DEME's two jumbo TSHDs, the 'Nile River' and 'Congo River'. This second award was completed well ahead of schedule in March 2016.

Burullus Power Plant

DEME was awarded a project for the startup of a Combined Cycle Power Project in Burullus, which is ongoing in 2017. The scope includes more than 600,000 m³ of dredging and backfilling, as well as pipe laying.

Port Said dredging, Egypt



Alexandria

For the Egyptian Navy, DEME carried out the excavation of the navigational channel, internal corridor and turning basin for Alexandria Port. The project was completed on time by TSHD 'Congo River'.

Ras Al Teen

DEME was awarded another contract in Alexandria. DEME has to dredge 4 million m³ of sand from an offshore borrow area and carry out the onshore reclamation for the construction of the Ras Al Teen navy base extension. The TSHD 'Congo River' has been working on the project since December 2016 and works will be completed in 2017.



Port of Alexandria dredging, Egypt





The 'Congo River' team

ALEXANDRIA PORT PROJECT

"You only fail when you stop trying. Each day we were challenged to deliver safe production, without interfering with the ongoing port operations. Navy representatives were included in the navigational watch because they are familiar with the local waters, port areas and language. All these efforts resulted in maximum operational hours and only minimal traffic delay. To prevent any debris and obstructions from being taken up by the dredger it was necessary, through collaboration with the crew and site, to design and install a finger grid, a specialist screen mesh. This successful innovation resulted in decreased downtime as a result of cleaning the dragheads and thus, optimised effective production time. Even though we were challenged with a lot of difficulties, we succeeded again by having the right mentality and drive for continuous improvement."



Livorno harbour dredging, Italy





Port of Mersin dredging, Turkey

Italy

Livorno

DEME executed maintenance dredging works in Livorno harbour in the dock area Darsena Toscana, as well as in the turning basin. Around 700,000 m³ of dredged material was handled and this includes the transport and disposal of contaminated sediments.

Yard Belleli di Taranto

DEME resumed works at Yard Belleli di Taranto, a National Interest Site. The works involve the installation of a sheetpile wall, as well as a water treatment plant.

Separately, DEME is currently completing the construction of a quay wall in the port of Trapani, Sicily.

Turkey

Mersin

Mersin International Port Management, a partnership between PSA International and Akfen Holding, awarded DEME a project in Turkey for the deepening of the basin and entrance channel to the port of Mersin. The TSHD 'Uilenspiegel' and the CSD 'Amazone' were mobilised. Around 4 million m³ were dredged during the project, which finished in early 2016.

Algeria

Jijel

Work continues at the Jijel naval base where DEME is responsible for dredging and the installation of around 100,000 tonnes of rock.

EASTERN EUROPE & RUSSIA



New Sabetta Port, Russia

2016 was a challenging year for area Middle, which includes Russia, Central Asia and Eastern Europe.

However, DEME has continued its efforts to develop the network of connections throughout the region. Contacts have been reinforced in Russia, Azerbaijan, Kazakhstan, Turkmenistan, Georgia, Ukraine and Romania; new acquaintances have been made and partnerships strengthened.

DEME's Russian offices in Saint Petersburg and Moscow have expanded in the past few years and many major dredging projects were successfully executed including Yamal Sabetta (2nd campaign), Yamal LNG and the Kronshtadt Ship Fairway. Russian engineers assisted with different projects across the globe.



Igor Pogorelov

MORDRAGA

“Mordraga has become a key player in the Russian oil & gas and dredging markets by implementing its strategic solutions and innovative technologies to drive complex projects in highly variable and challenging environments, which are unique to the Russian territories.”



New Sabetta Port, Russia

ASIA & OCEANIA



Tuas Terminal Phase 1, Singapore

Singapore

Tuas Terminal Phase 1 project

The works for the Tuas Terminal Phase 1 mega-project in Singapore have now attained cruising speed and are seeing the deployment of innovative techniques and equipment. In a joint venture with Daelim Industrial of South Korea, Dredging International Asia Pacific (DIAP) is creating 21 deepwater berths. Once completed, these berths will have a combined container capacity of 20 million TEU per year. An important project milestone took place in April 2016: the launch of the first of a total of 222 caissons. When fully placed, these caissons will form the frame of the 8.6 km long quay wall. Construction activities are executed according to strict environmental requirements and with continuous environmental monitoring supervision by an independent environmental specialist, appointed by the Maritime and Port Authority of Singapore.

About the TTP1 mega-port project

In 2030 the Government of Singapore will start to consolidate its container port facilities at Tuas. New technology will be introduced at the greenfield site to create a hypermodern, innovative and largely automated logistics hub. The consolidation will also free up existing port land near the city centre for future urban redevelopment. The Tuas Terminal project, of which Phase 1 is a crucial milestone, will ensure that Singapore's leading global hub port continues to have sufficient capacity to meet industry demand in the long term.





Kristel Laisa Gavia-Cruz

DREDGING INTERNATIONAL
ASIA PACIFIC (DIAP)

“DEME is a company that always strives to do something big and innovative, and I am glad to be part of this, especially the TTP1 Project in Singapore. DEME always keeps us motivated by promoting camaraderie and teamwork among its staff and crew. It is an organisation which appreciates diverse talents and cultural backgrounds and encourages mutual respect, regardless of different philosophies, nationalities, culture or gender.”

Jurong Island Westward Extension

The Jurong Island Westward Extension project is proceeding on schedule and will be completed in 2018. The project comprises the reclamation of 38 million m³ of new land at Jurong Island, Singapore’s dedicated petrochemical hub. DIAP has been involved in the reclamation works since the early 1990’s that led to the amalgamation of Jurong Island from seven separate islands, confirming the company’s strong track record and expertise in the region.

This latest extension project is especially notable for being a soft-soil reclamation: the client, JTC, emphasises the reuse of dredged materials in the reclamation fill, making for a reclamation project that requires less sand from external sources and one that is much kinder to the environment. The use of soft materials for the reclamation fill requires extensive soil improvement in order for the finished product to meet compaction, settlement and load bearing criteria. DIAP is getting increasingly known as a market leader in these types of reclamations, that are becoming much more widespread as clients worldwide seek to minimise the environmental footprint of their projects.

Papua New Guinea

Lower Ok Tedi River

The works associated with the removal of potentially polluted mine tailings from the Lower Ok Tedi River resumed in March 2016 after a period of diminished activity, due to abnormally low water levels caused by El Nino. 2017 will mark the 20th anniversary of DEME’s involvement in the environmental rehabilitation of the ecologically valuable Ok Tedi Basin. The current contract runs until at least 2020.





AFRICA

Eko Atlantic City, Lagos - Nigeria

DEME has been working for more than 50 years in Africa and maintains a strong presence, carrying out dredging and reclamation projects across the continent.

Sierra Leone

For the first time DEME secured a port expansion contract in Sierra Leone, confirming the company's widespread presence and experience on the African continent.

In Sierra Leone DEME teamed up with Eiffage and RMT Clemessy for the further development of the Freetown Terminal. For DEME the project included soil improvement, reclamation and compaction works, as well as the deepening of the existing and future container berths.

Freetown Terminal, Sierra Leone



Nigeria

Eko Atlantic

2016 was again a very busy year for DEME in Nigeria. Eko Atlantic City is one of the most ambitious real estate developments in Africa. The new city is being built on Lagos' Bar Beach - on land that is reclaimed from the sea. Eko Atlantic City is being constructed in six phases that will ultimately result in the creation of 9 km² of prime land, requiring reclamation and sand winning of no less than 100 million m³. In early November 2016 DEME completed Phase 3 of the project with the TSHDs 'Breughel' and 'Breydel'.

Bonny and Onne

DEME continued maintenance dredging works under the long-term PPP agreement with the Bonny Channel Company, a joint venture with the Nigerian Ports Authority, ensuring the channel to the LNG terminal in Bonny and the ports of Onne and Port Harcourt remain accessible.



**FOR THE EKO ATLANTIC
CITY PROJECT**

100,000,000 m³

**OF RECLAMATION AND SAND
WINNING REQUIRED**



Luke Inegbedion

**DREDGING INTERNATIONAL
SERVICES NIGERIA**

“Over the years it has been great to see DEME develop from being a solid contractor when I started 27 years ago, into a full EPC solutions provider or what I always call ‘the total package’.”

Onne Port Extension

The Port of Onne is a fast growing logistics hub for West and Central Africa. The port operates a container terminal, handles cargo ships of up to 60,000 tonnes, and has become a main support base for oil & gas activities in the region. The expansion project includes the construction of a 600 ha new port, which is being developed in three phases. With CSD ‘Rubens’ and TSHD ‘Breughel’ DEME completed the first phase, reclaiming 150 ha of land and executing soil improvement works for the future quay wall. DEME’s jack-up vessel ‘Vagant’ continued works for Nigeria LNG, assisting with the overhaul of the loading arms at the gas export terminal located in Bonny Island.

Lagos Deep Offshore Logistics Base

The Lagos Deep Offshore Logistics Base (LADOL) offers logistics, engineering and other support services to offshore oil & gas exploration and production companies operating in and around West Africa. LADOL and Samsung Heavy Industries have formed a partnership to invest in what is to become Africa’s largest vessel fabrication and integration facility. DEME has been awarded the contract for the yard and quay wall construction, as well as the dredging of the berth pocket and access channel to the quay.

Maiyegun Waterfront

In December 2016, a contract was acquired for the Maiyegun Waterfront development in Lagos. DEME will reclaim approximately 600,000 m³ to raise the level of an existing beach. Maiyegun Waterfront will include new housing units, a commercial hub, as well as leisure facilities. Works started with the TSHD ‘Breydel’ in early 2017.

Illubirin Island and Elegushi

Dredging and reclamation works on Illubirin Island in the Lagos Lagoon were completed in early 2016 with the CSD ‘Rubens’. DEME signed a contract for a similar reclamation project on Elegushi Island, also in the Lagos Lagoon.



Maintenance dredging Soyo, Angola

Guinea

In Conakry a long-term maintenance dredging agreement has been extended to 2018. As part of the project to expand its export capabilities, Compagnie des Bauxites de Guinée will extend the mineral wharf in Kamsar port. DEME will work on the project as a contractor for VINCI's subsidiary Sogea-Satom. In the same port, DEME secured the contract for the maintenance dredging works of the Kamsar Container Terminal facilities for the mining development company Global Alumina Corporation. Works have been successfully completed with the TSHD 'Orwell'.

Ivory Coast

In Ivory Coast DEME was awarded a contract for maintenance dredging in the Port of Abidjan.

Ghana

Takoradi port in Ghana is developing the Takoradi Port Oilfields Service Hub to serve Ghana and West Africa's emerging markets. Viking Offshore, which holds the concession for the new hub, awarded the dredging and reclamation works to DEME, including the creation of a 400 m long quay wall.

Angola

As part of the 3-year agreement concluded in 2015, DEME executed maintenance dredging works on the access channel to the Sonangol LNG export terminal deploying the TSHD 'Breydel'.

DR Congo

Since 1989 DEME has been dredging the Congo River on a regular basis. In all cases, these were so-called emergency projects as the river had silted up to such a degree that some of the inland cargo ships of a certain draught were no longer able to reach the ports of Boma and Matadi. DEME decided to seek out a more sustainable solution by setting up a 10-year Public Private Partnership (PPP) with La Congolaise des Voies Maritimes. The second maintenance dredging campaign took place in 2016. The PPP also provides training for 40 young Congolese staff.

Benin

A contract was signed for coastal protection works in Benin. The Sifato Phase II project, providing sustainable protection of the shoreline in Cotonou, will include beach nourishment and revetment works, as well as groyne construction.

MIDDLE EAST



New Port, Doha - Qatar

Qatar

The New Port project in Qatar, carried out by the Middle East Dredging Company (MEDCO), was successfully completed and handed over to the client in January 2016. Strategically located south of Doha, the mega-project includes a new port, a new base for the Qatar Emiri Naval Forces and the Qatar Economic Zone 3.

Works included the dredging and excavation of some 45 million m³ of hard rock for the access channel, the land reclamation for a new 4.5 km² offshore naval base and the construction of two large, outer breakwaters comprising 4.5 million tonnes

of rock in total. At peak times, about 1,600 people were working on the project.

United Arab Emirates

In 2016 DEME also concluded works at the La Mer Jumeirah Open Beach project in Dubai. The reclaimed area of 2.9 million m² will comprise residential, commercial and leisure facilities and is mainly situated on three peninsulas reclaimed by DEME along Dubai's Jumeirah beachfront.



Alberto Mino

MIDDLE EAST DREDGING
COMPANY (MEDCO)

“Working with MEDCO in Qatar for the dredging and reclamation project of the Doha New Port gave me a real understanding of *creating land for the future*. It is wonderful to see new land or a new island appear gradually before your eyes and know you have played a role in its creation.”

**NEW PORT PROJECT
DOHA, QATAR**

1,600 PEOPLE

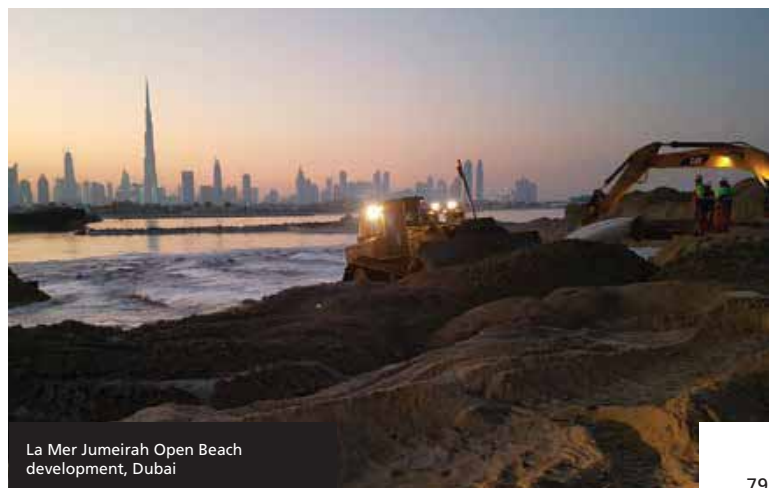
**ON THE PROJECT
AT PEAK TIMES**

45,000,000 m³

**OF HARD ROCK
EXCAVATED**



Dredging of New Port access channel,
Doha - Qatar



La Mer Jumeirah Open Beach
development, Dubai



LATIN AMERICA

DEME was busy in many countries in Latin America during 2016, with a broad spread of challenging projects taking place.

Panama

Panama Canal Pacific Access Channel

DEME again returned to the historic Panama Canal project, where the company had previously worked between 2009 and 2012. DEME completed the further widening and deepening of the Pacific Access Channel to

enable it to handle post-Panamax vessels and this was finished ahead of schedule.

The existing entrance southbound of the Americas Bridge was widened over a distance of 7 km by 37 m on both sides, making the total width 300 m.

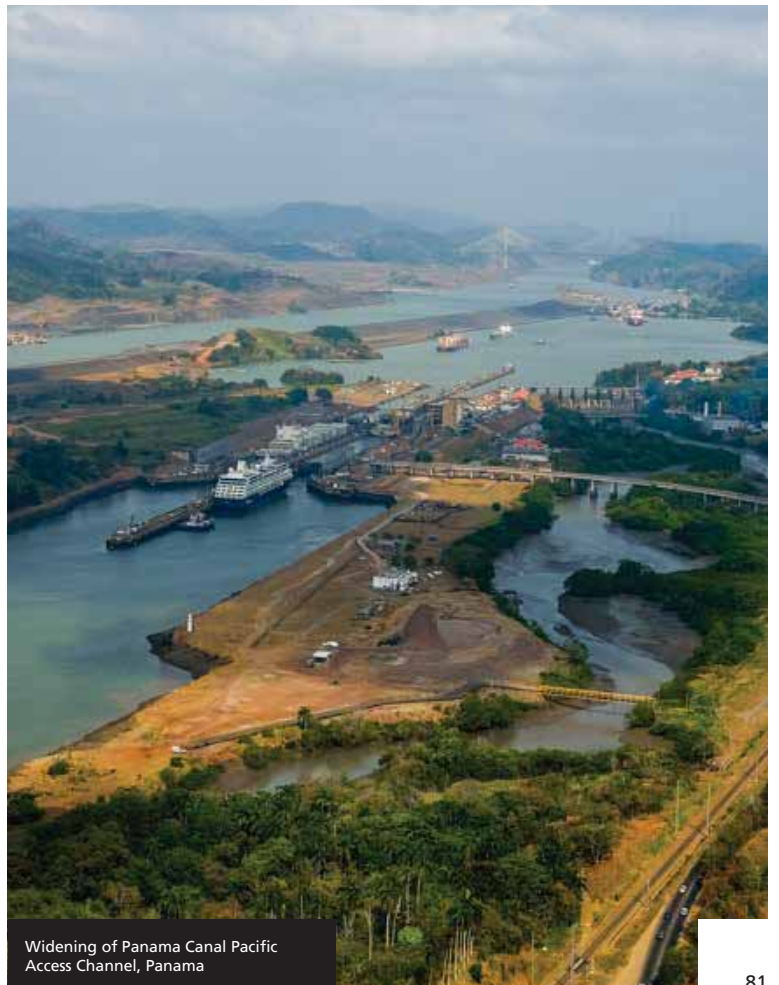
Some 5.6 million m³ of soft and hard materials were eventually dredged deploying the TSHD 'Lange Wapper' and CSD 'D'Artagnan'.

Additionally, DEME will again be busy at the Panama Canal in 2017, dredging in front of the Cocoli Locks with the CSD 'D'Artagnan' from January.

Widening of Panama Canal Pacific Access Channel, Panama



26,000,000 m³
DREDGED FROM
THE PANAMA CANAL
SINCE 2008



Widening of Panama Canal Pacific Access Channel, Panama



Nereida Gomez

**DREDGING INTERNATIONAL
DE PANAMÁ**

“Working in Cuba was a true life experience. I will never forget the quality of people, their optimism and how they valued our work. Seeing every member of the port organisation sit down with us every morning and putting all their resources available demonstrated the impact our work had on that society. DEME was able to successfully carry out a project that opens the door to new opportunities and proves that adjusting to new challenges is part of our strength.”

Cuba

Mariel Port

DEME successfully executed a contract to deepen the access channel and turning basin at Mariel Port in Cuba. Some 300,000 m³ of rock and stiff clay was dredged and this gives the port a Panamax channel. The project was carried out during the summer of 2016 with the CSD ‘D’Artagnan’ and the barges ‘Sloeber’ and ‘Paggader’.

Brazil

Santos, Sao Paulo

At the end of 2016 DEME started maintenance dredging at the access channel to the Port of Santos, Latin America’s biggest and busiest port. Volumes are expected to total 4.3 million m³ and the TSHD ‘Pearl River’ was mobilised in November 2016.

Uruguay

Port of Montevideo

In a joint venture DEME completed the contract for the extension of Muelle D, almost doubling the available quay wall length of the Muelle C contract, which DEME completed four years ago with the same joint venture partners. The related dredging works in the Port of Montevideo were carried out by the TSHD ‘Uilenspiegel’ and a small backhoe dredger.



Capital dredging, Mariel Port - Cuba



Maintenance dredging, Port of Santos - Brazil



Capital dredging, Port of Montevideo - Uruguay

INDIAN SUBCONTINENT



India

Kakinada

For almost 20 years DEME has been dredging in the port of Kakinada. In 2016 maintenance dredging took place at the Kakinada seaport access channel, turning basin and in the newly deepened areas.

Kamarajar

DEME continues dredging works for the Kamarajar port development project near Chennai. The project, executed in various stages, includes dredging for the new container terminal, two coal berths, a multi-cargo terminal and a turning basin. Phase 4 of the port development started in early 2017.

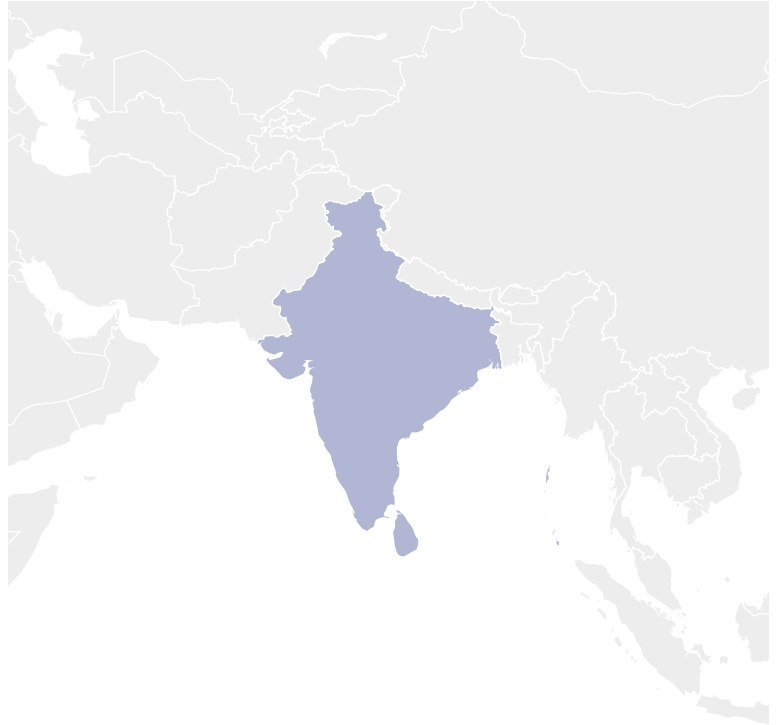
Salaya

In early 2016, DEME completed rock dredging work with the CSD 'Ambiorix' at the Salaya Essar Bulk Terminal in front of the 400 m quay wall.

Seabird Phase II

In January 2017, DEME had been awarded dredging works for Project Seabird Phase II in a joint venture with L&T. It is one of the largest naval infrastructure projects in India, located at Karwar on the west coast of the country.

Kamarajar port development,
Chennai - India



Haritha Kallagunta

INTERNATIONAL SEAPORT
DREDGING (ISD)

"The remarkable growth of ISD by consistently winning major orders in 2016/2017 has been a demonstration of ISD's technical capabilities and commercial acumen

together with that of DEME. With these specialised projects presently underway and to be executed, I hope that ISD grows in size and strength in the coming years and that the Indian Subcontinent success story plays a significant role in DEME's growth too. I'm sure all my colleagues at ISD are super-charged for the exciting years ahead and hope all of us will learn from the challenges and make progress hand-in-hand."

**DREDGING
PROJECTS IN**

19

INDIAN PORTS

Maintenance dredging, Port of Dhamra
- India



Capital dredging, Port of Trincomalee
- Sri Lanka



Karwar

DEME also secured the contract for maintenance dredging on the approach channel, turning circle and berth basin at Karwar Port in early 2017. Dredging will be executed in different types of soil.

Dhamra

Annual dredging works in the access channel and turning basin of Dhamra Port on the northeast coast of India continued in 2016.

Maharashtra

On the west coast in the State of Maharashtra, DEME completed maintenance dredging in the channel and turning basin, as well as some capital dredging works in the berth pockets of the private port of Jaigarh.

Kattupalli

In the port of Kattupalli, near the ISD offices in Chennai, the company executed capital dredging of an alternative channel for accessing the Modular Fabrication Facility jetty.

Sri Lanka

In 2016 DEME returned to Sri Lanka where the TSHD 'Brabo' executed deepening works in the access channel and manoeuvring and berthing areas of the private jetty operated by Tokyo Cement Company in the port of Trincomalee.



INDIAN OCEAN

48 GRAVITY

FOUNDATION PITS
PREPARED FOR THE NEW

5,400 m

VIADUCT OF THE "NOUVELLE
ROUTE DU LITTORAL"

Nouvelle Route du Littoral, La Réunion

DEME — Activity report 2016

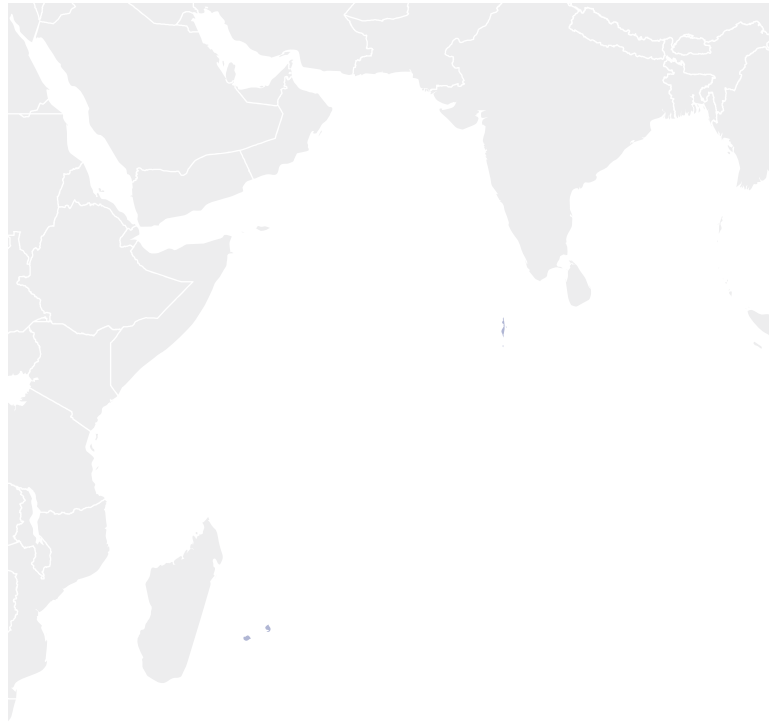
DREDGING SOLUTIONS



Bernard Stevelinck

WORKING ON THE
'PINOCCHIO' AT
THE "NOUVELLE ROUTE DU
LITTORAL"

"This project to build a 13 km coastal road is a real challenge. The existing highway is dangerous because rocks from cliffs, which are eroding, regularly fall down onto the road below. And for the new road we are working with very hard material, including a lot of large boulders and stones, which is pretty rough on our equipment. We have to make sure the dredgers and ancillary equipment are carefully maintained continually, so we don't have any downtime and can keep the project firmly on schedule."



La Réunion

In La Réunion works continued for the construction of the "Nouvelle Route du Littoral", a 13 km coastal road built on the ocean. Currently, a road highly exposed to falling rocks and erosion from nearby cliffs connects the two major cities on the island. The new road is being built to make transport more reliable and safe.

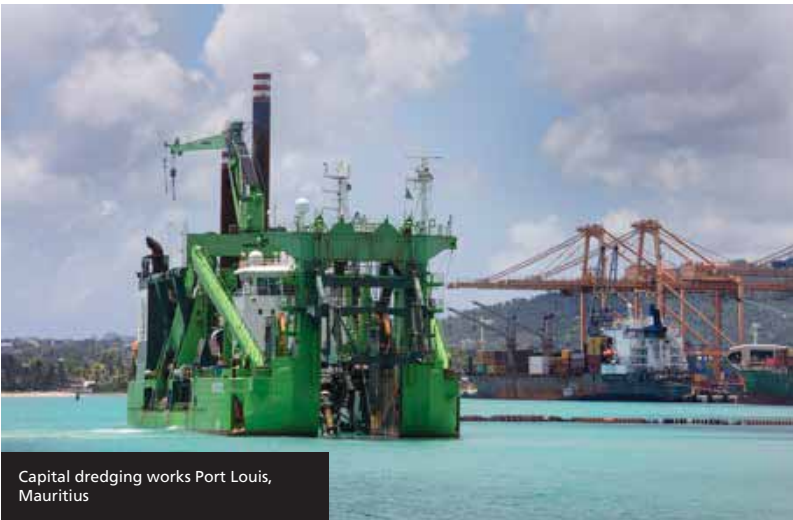
A major part of the coastal highway includes a 5,400 m offshore viaduct. Société de Dragage International (SDI) executes the dredging, gravel bed installation and backfilling works of 48 gravity-based foundations of the viaduct. Works will continue in 2017 with backhoe dredger 'Pinocchio'.



Backfilling works of gravity-based foundations, La Réunion

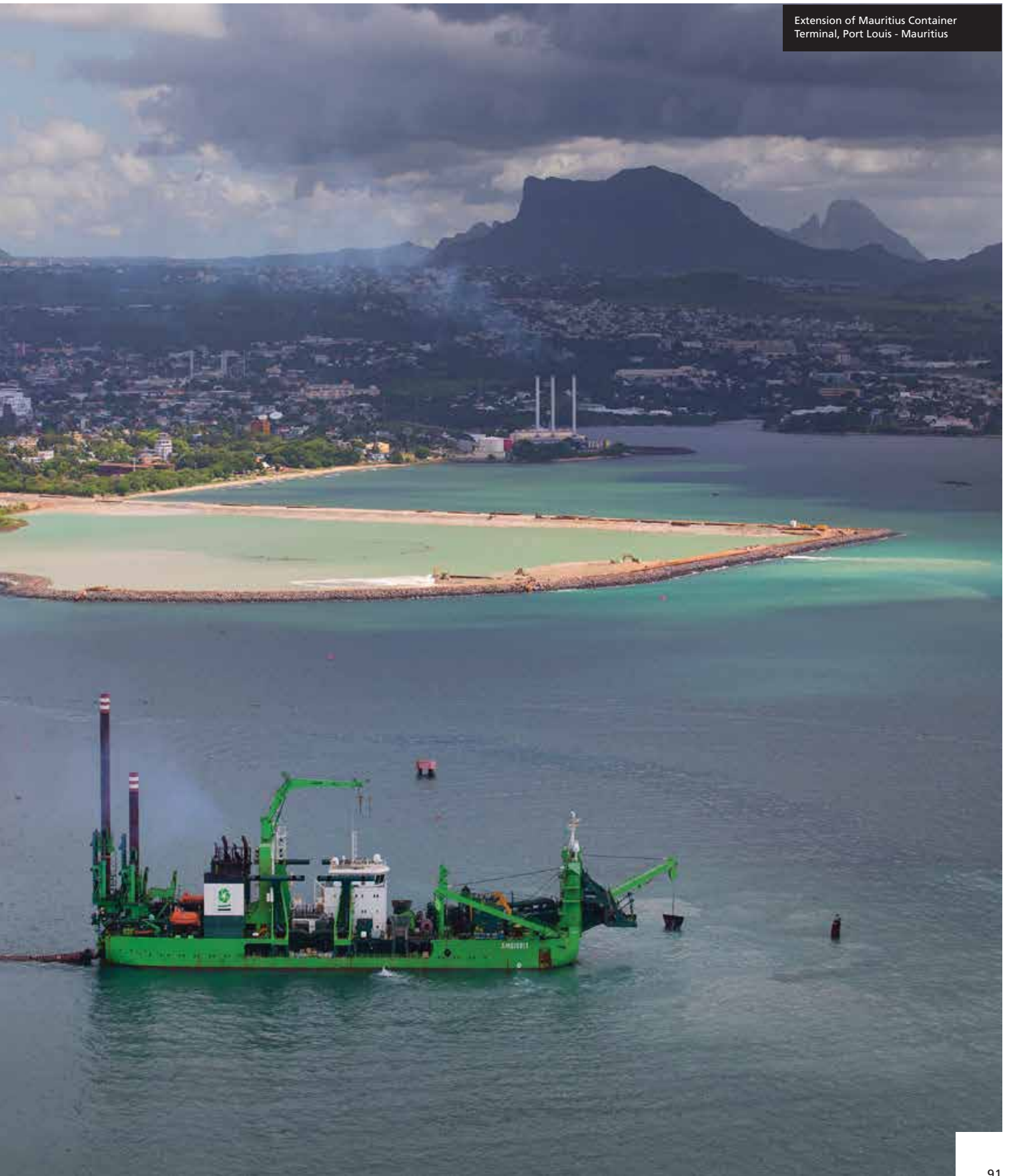
Mauritius

Mauritius Ports Authority launched an extension project in Port Louis for the Mauritius Container Terminal to accommodate larger vessels and to handle an incremental increase in container traffic. The scope of work for DEME involves dredging in various soil conditions, including rock. Works will be executed in 2017 by the heavy-duty rock cutter suction dredger 'Ambiorix', which is suitable to operate in heavy soil and rock conditions.



Capital dredging works Port Louis, Mauritius





Land reclamation at Emboodhoo Lagoon, Maldives

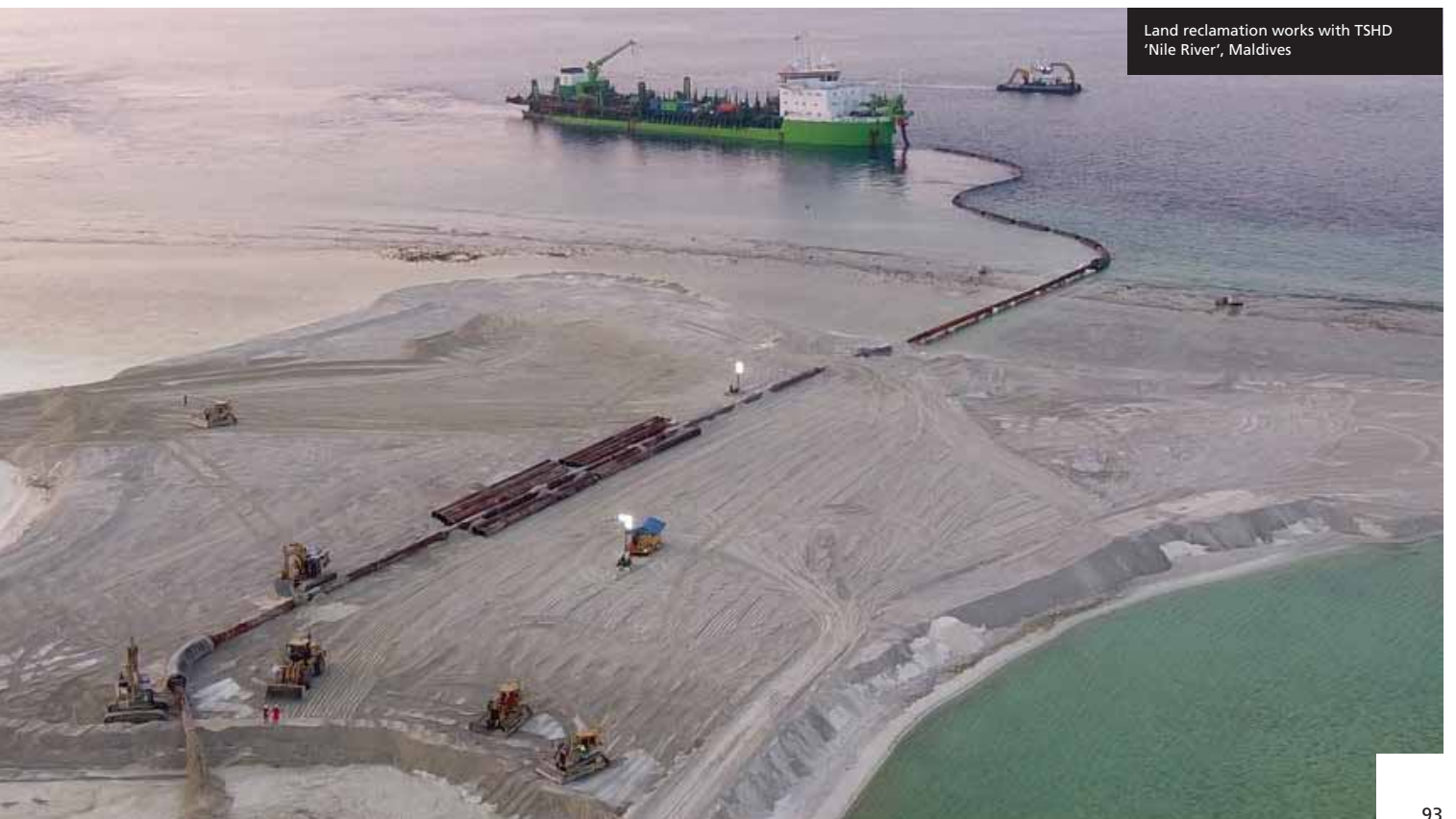


Maldives

Having signed the contract in August 2016, DEME returns to the Maldives in 2017 for major land reclamation works at Emboodhoo Lagoon, located in the South Male Atoll. Ten islands will be reclaimed to develop a high-end, integrated resort. The new contract in the Maldives demonstrates DEME's long established reputation as a reliable and efficient partner to tackle even the most complex and technically challenging projects around the region. Special care is being taken to preserve the environment and especially the coral reefs around the site so that Mother Nature is safeguarded in all her splendour for future generations to come.

Bund construction, Maldives





Land reclamation works with TSHD 'Nile River', Maldives

DREDGING PLUS SOLUTIONS

MARINE & OFFSHORE SOLUTIONS





Nordsee One offshore wind farm,
Germany



DEME has a strong track record in providing offshore services and solutions for the oil & gas and renewable industries. DEME's hydraulic engineering knowledge is second to none and specialist subsidiaries GeoSea, Tideway and Scaldis can offer integrated solutions for complex projects. Services cover provision of the full balance of plant scope including foundation structures (both for wind turbines and substations), offshore cabling (inter-array and export), landfall and scour protection. DEME is also flexible with regards to contract structure ranging from transport and installation up to full Engineering, Procurement, Construction and Installation (EPCI) contracts. DEME also offers operations and maintenance, logistics, repair and decommissioning services to the market.



Installation of monopiles Nordsee One offshore wind farm, Germany

GeoSea

GeoSea is DEME's specialist for complex offshore marine engineering projects. The company offers a wide variety of services to owners of offshore assets, marine consultants and marine contractors in the renewable energy, oil & gas and civil engineering sectors. Established in 2005, GeoSea has evolved from an offshore foundation contractor to a reputable EPCI solution provider.

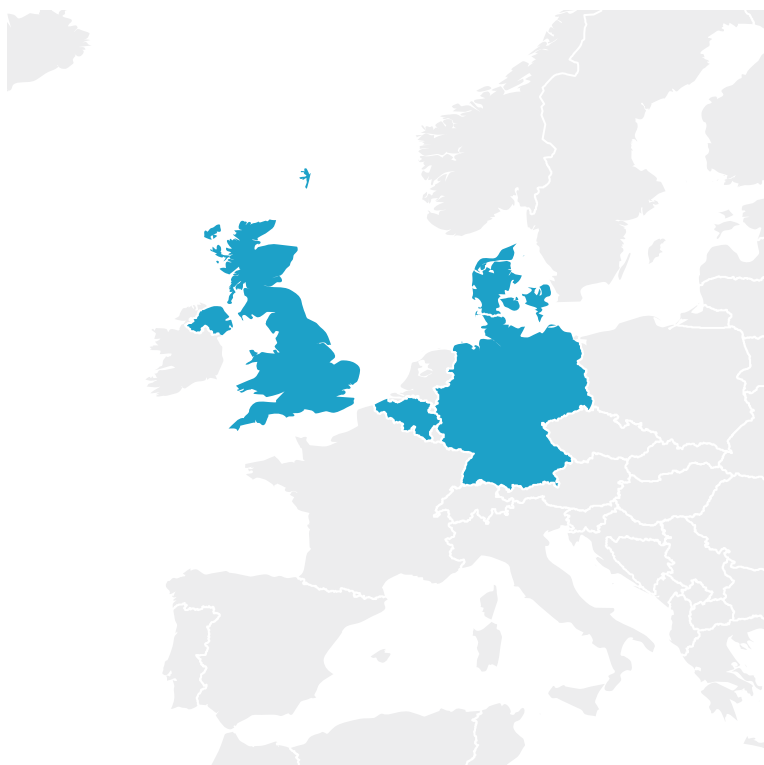
Germany

Nordsee One

In early 2016 works were completed at Nordsee One. GeoSea transported and installed 54 monopiles with the heavy lift jack-up vessel 'Innovation', while scour protection was carried out by DEME's subsidiary Tideway.

Borkum Riffgrund 2

DONG Energy has awarded GeoSea a contract for the installation of 20 jacket foundations at the Borkum Riffgrund 2 offshore wind farm in Germany. A total of 56 Vestas 8MW wind turbines will be installed, of which 20 will be installed on jackets with suction buckets. With rotor spans of 164 m, these will be the largest wind turbines installed in German waters.



Merkur

The 396MW Merkur offshore wind development reached its financial close in August 2016. Merkur is a construction-ready wind farm located approximately 45 km north of the islands of Borkum, Germany, in the North Sea. Close to 500 million EUR in equity was provided by a consortium of five partners, including DEMA Concessions Wind. The GeoSea teams in Bremen will play a major role in the execution of the project, contributing significantly to Germany's energy transition plans.

Hohe See

In February 2016 GeoSea has been awarded the EPCI contract for the Hohe See offshore wind farm in Germany, including the design,

engineering, procurement, fabrication and installation of 71 foundations. With a total installed capacity of 497MW, the Hohe See wind farm is currently the biggest planned offshore wind project in Germany. Financial close for Hohe See was achieved in February 2017.

**THE HEAVIEST
MONOPILE INSTALLED
MORE THAN**

**1,100
TONNES**

Load-out of Galloper monopiles at Offshore Terminal Rotterdam, The Netherlands



UK

Galloper

As part of the EPCI contract awarded by RWE Innogy, GeoSea installed the first foundations at the Galloper offshore wind farm in December 2016. GeoSea has the responsibility for the design, fabrication and installation of 56 steel monopile foundations. The monopiles are the heaviest GeoSea has ever installed with weights in excess of 1,100 tonnes. The scour protection works for the foundations are undertaken by Tideway.

Hornsea Project One

GeoSea secured the installation contract for the 116 monopiles of the Hornsea Project One offshore wind farm off the Yorkshire Coast in the UK, which is capable of powering well over 1 million UK homes. Covering approximately 407 km² and providing a capacity of 1.2GW, Hornsea Project One will be the first offshore wind farm to exceed 1GW in capacity and will become - by a considerable margin - the world's largest offshore wind farm.

Race Bank

GeoSea installed 91 foundations at the Race Bank Offshore Wind Farm in the UK. The contract was awarded by DONG Energy. Tideway also executed the scour protection works.



Load-out at Great Yarmouth - Race Bank offshore wind farm

Unique joint venture with COSCO Shipping

DEME and COSCO Shipping - the largest shipping company in the world - will work closely on the development of offshore wind energy in China. An umbrella agreement was signed in October 2016 in line with the Chinese climate vision and the strategy for the development of renewable energy, which were recently incorporated in the 13th Five Year Plan (2016-2020) for social and economic development. The Chinese government wishes to significantly increase the installed capacity of offshore wind energy by 2020 and beyond.

As the largest shipping company in the world, COSCO Shipping wishes to enter this new market segment and has found a partner in DEME's subsidiary GeoSea, with its extensive experience in developing, building and maintaining offshore wind farms.

The joint venture is also in line with the Group's partnering philosophy, in which DEME expands its international activities through sustainable cooperation with local partners. Such combinations have repeatedly proved successful in DEME's dredging and environmental divisions.

Foundation installation - MeyGen Tidal Energy Project, Scotland





MeyGen

GeoSea deployed jack-up vessel 'Neptune' for the installation of four gravity-based foundations for Phase 1A of MeyGen's Tidal Energy Project, located at the Pentland Firth in Scotland.

Belgium

Rentel

In October 2016 Rentel reached financial close for the construction of a new 309MW offshore wind farm off the Belgian coast. This was an important milestone for the Belgian offshore wind energy market. Thanks to DEME's extensive experience in offshore wind projects, an important contribution will be made towards a sustainable energy supply in Belgium, not only as a financial partner through DEME Concessions, but also by its specialist contractors GeoSea and Tideway. DEME's 'Innovation' will be deployed to install 42 monopile foundations, with works starting mid-2017.

Denmark

Horns Rev 3

During the first half of 2016 GeoSea concluded a contract with Vattenfall for the procurement and installation of 49 foundations at the Horns Rev 3 offshore wind farm in Denmark, set to become the country's largest offshore wind site.



Dirk Pauwels

**WORKING ON THE JACK-UP
'NEPTUNE'**

"After 21 years of creating land for the future with dredgers I've changed to creating energy for the future!"

Installing the MeyGen offshore tidal stream turbines to supply clean and renewable electricity to the UK was pioneering. I am proud to be part of the team realising this job under the most difficult tidal conditions. MeyGen for me really highlights DEME's strive for sustainability."

Decommissioning Thames gas platform,
United Kingdom



EverSea

EverSea is a specialist in complex offshore marine engineering projects, offering a wide variety of services to the oil & gas industry. EverSea relies on its ability to provide innovative techniques and operational reliability through high-tech equipment.

P11-E unmanned minimum facility platform

EverSea successfully completed the transport and installation of the P11-E standard satellite gas platform for Oranje-Nassau Energie BV

(ONE BV), the largest privately owned Dutch exploration and production operating company. The P11-E field is located in the North Sea, 55 km north west of Rotterdam.

The P11-E platform is an unmanned standard satellite platform, which is designed as a generic modular processing facility in order to be reusable in the future. The jacket is designed to be deployed in different water depths and it was connected to the foundation piles by a swaging process using water pressure, deforming the piles inside the jacket. This technique also allows easy reuse. For the actual piling works, EverSea used an environmental friendly piling hammer, which was deployed for the first time offshore. The innovative design of this gas platform is the result of a joint development between ONE and EverSea.



Thames gas platform decommissioning

Many oil & gas installations around the world are reaching the end of their economic production lifecycle. Decommissioning of offshore installations presents a major challenge from a safety, environmental, technological, as well as an economical perspective. EverSea offers innovative solutions for decommissioning platforms and their related infrastructure, deploying DEME's versatile fleet of jack-up vessels.

In 2016 EverSea executed the removal and transportation of the vent tower and crane boom from the Thames gas platform, being decommissioned after cessation of production in 2014.



Transport and installation of P11-E minimum facility platform, The Netherlands

GeoSea Maintenance


As part of a long-term service agreement with C-Power, GeoSea Maintenance executed monitoring and inspection services on the Thornton Bank wind farm in Belgium.

With the jack-up vessels 'Neptune' and 'Thor' several maintenance campaigns were carried out in the Irish and North Sea for different customers. With the fast crew transfer vessels 'Aquata' and 'Arista' and different jack-up vessels, GeoSea Maintenance will provide marine logistical services for the maintenance of the to be constructed Rentel offshore wind farm, off the Belgian coast. Furthermore, GeoSea Maintenance continued similar long-term service agreements with turbine suppliers Senvion and Adwen, and it has a 5-year Balance of Plant maintenance contract for the Dutch wind farm Gemini.





Crew transfer service provided by 'Aquata'



1,375,000
TOTAL INSTALLED
ROCK TONNAGES

Scour protection works, NordSee One offshore wind farm, Germany

Tideway

DEME's subsidiary Tideway has been a specialist in the oil & gas industry for more than 25 years but given the current challenges in this sector, many of the projects in 2016 involved cable laying and rock placement works for the offshore wind industry.

Even though the historically low oil prices have led to a dip in traditional oil & gas activity, Tideway is optimistic that there will be somewhat of a recovery in 2017, though not back to the peaks of previous years. For now offshore wind is the busiest market and the company has already been awarded several key contracts for work in 2017 and 2018.

Offshore wind farms

Here are a few highlights of recent cable laying and rock placement works carried out in the offshore wind market.

For Thorntonbank offshore wind farm in Belgium, Tideway worked on the replacement of an infield power cable. This included preparatory works removing the cable protection and power cable inside the jackets, recovering the defective cable, laying a replacement and burying the new cable.

In the UK, for the DONG Race Bank Offshore Wind Farm, Tideway assisted with the installation of the near shore export cables.

In Germany, the company carried out the post-lay cable crossings for DolWin 3 and Veja Mate offshore wind farms. And at Nordsee One, Tideway completed the scour protection for the foundations.

Tideway performed rock dumping works at Godewind I and II and scour protection works were completed at the Galloper offshore wind farm.

In 2017, Tideway will be equally busy in the offshore wind sector with several awards. For Hornsea Project One in the UK, Tideway is responsible for the supply and installation of the power cable system. To optimise the trenching works a customised drag head is being engineered. This will reduce the volume to be removed and backfilled by the TSHD.

In the home market, several DEME subsidiaries - Dredging International, GeoSea and Tideway - will partner with each other at the Rentel offshore wind farm. They will execute the transport and installation of the 42 foundations, as well as the cable installation. Tideway will be responsible for the infield cable installation works, rock placement and erosion protection for the infield and export cables. Rentel is partly owned by DEME Concessions Wind.

This year Tideway will also carry out the infield cable installation works for the Merkur offshore wind farm, north of the islands of Borkum, Germany.



Tideway receives Best Performing Employer 2016 Award

Tideway received the Best Performing Employer 2016 Award in the hydraulic

engineering sector in the Netherlands.

The nomination committee of the "Nationale Business Succes Award Instituut" thinks that Tideway distinguishes itself because of its recruitment policy

and the trust and responsibility it gives employees, which results in low staff turnover and absenteeism. The committee stated that Tideway is an absolute top employer, which shows once again that employees represent the actual capital of the company.





Sofie Verheyde

LOWER CHURCHILL PROJECT, CANADA

“When working on the rock installation campaign along the HVDC cables in the Strait of Belle Isle in Labrador - northern Canada, we were faced with many impediments such as harsh weather conditions and treacherous and elusive currents. Not to mention the passing icebergs. Anticipating these circumstances kept us on our toes as we had to provide protection to the HVDC cables for 50 years to come. At DEME we are determined to challenge the forces of nature and tough project conditions. We push through with thorough preparation and exceptional teamwork to find solutions for every difficulty encountered.”

Oil & Gas

Meanwhile in the oil & gas market, DEME was awarded a contract for the transport and installation of the P11-E unmanned minimum facility gas platform, and the pre-sweeping and rock placement works were undertaken by Tideway in 2016. The P11-E platform is a natural gas processing offshore facility that will treat the gas feed from the nearby P11-E field on the Dutch continental shelf.

In other challenging projects in 2016, Tideway performed rock placement works on the Lower Churchill Project for the Canadian power company Nalcor. This is for a huge hydropower project in Muskrat Falls, situated in Labrador in an extremely remote location. The company could only work in the spring and summer because of the harsh conditions. Three 30 km power cables were being placed to transport electricity through to Nova Scotia.

Tideway assisted with the execution of a landfall project in the south of Argentina, which was awarded to DEME. For this project, onshore and offshore trenching works were carried out and a 14" gas pipeline was pulled from a pipe-laying barge to shore.

In the Strait of Gibraltar, Spain, Tideway successfully completed rock placement work for a pipeline stabilisation project for two major pipelines. This was carried out in spite of the high currents and in water depths of up to 400 m. Here the DP fallpipe vessel 'Seahorse' was deployed.

Rock placement works, Labrador - Canada



Trench dredging works, Argentina

Subsea installation

In 2016 Tideway also set up a subsea division specialising in umbilical installation. This was instrumental in a contract awarded to DEMA for the Burullus power plant, which is part of the Siemens Egypt Megaproject. DEMA will bring the cool water pipelines from the gas-fired power station to the shore. It will do the dredging and trenching with a cutter suction dredger and install the cofferdam.



CTOW

Combined Marine Terminal Operations Worldwide (CTOW) offers a full package of professional assistance for the operation of dedicated maritime terminals and related services. CTOW can carry out everything from maintenance services to a jetty or fairway, including handling navigation aids, to towing services at a terminal.

CTOW is a joint venture company owned by DEME, Herbosch-Kiere and Multraship. The company seeks early involvement and an integrated and turnkey approach to the development, management and operation of terminals and ports.

Bonny and Onne, Nigeria

In 2016 CTOW successfully continued to focus on its activities in Africa. The contract to provide harbour towage in Onne Port in Nigeria was ongoing throughout the year. At the start of 2016, CTOW was awarded a contract to operate two tugs at Nigeria LNG's Bonny Terminal.

Two newbuild tugs

Since April 2016 CTOW has operated two 60-tonne bollard pull ASD tugs 'CTOW Bieke' and 'CTOW Lala' that provide towage assistance to LNG tankers on the terminal at the mouth of the Bonny River in Nigeria. The tugs are operated with 100% Nigerian crews who have received additional training to perform well in a demanding environment, such as that of an LNG terminal.

1,435

VESSEL ASSISTANCES
PROVIDED BY
THE CTOW FLEET



Two additional tugs plus a pilot launch will enter service in 2018

Additionally in 2016, CTOW was awarded a second contract by Nigeria LNG, for the provision of two more tugs and one pilot launch for the Bonny LNG Terminal. Two 75-tonne bollard pull tugs and one 19 m pilot launch with MEDEVAC capacities are under construction. These new vessels are due to enter service mid-2018.



Wreck removal of the 'Flinterstar', Belgium



Scaldis

Salvage & Marine Contractors

As a specialist heavy lift contractor, operating on a worldwide basis, Scaldis concentrates on marine heavy lifting with its vessel 'Rambiz' for civil construction works, oil & gas projects, renewables, decommissioning and salvage. This broad range of activities has meant that Scaldis had a steady year in 2016, despite the present slump in the oil & gas industry.

Flinterstar wreck removal

A major salvage and wreck removal project the company carried out was the removal of the cargo ship 'Flinterstar' from the seabed off the

Belgian port of Zeebrugge. 'Flinterstar' broke in two and sank in October 2015 after colliding with an LNG tanker.

With the powerful, twin-crane heavy lift vessel 'Rambiz', the cargo ship 'Flinterstar' was removed from the seabed.

Lift of 1,600 tonne Stinger Transition Frame

Scaldis executed a 2-part, heavylift operation for Allseas. In Flushing the 'Rambiz' was deployed to lift a Stinger Transition Frame from a transport & storage barge to the quay. Weighing more than 1,600 tonnes and with large parts protruding, this was a challenging

project. Eventually the solution involved complex rigging including 1 main spreader, 2 sub-spreaders, 44 shackles and 20 slings.

Transport and installation of Nordsee One substation

Scaldis was contracted to transport and install the substation for the Nordsee One offshore wind farm, which consists of a jacket, four piles and a topside.

'Rambiz' lifted the jacket, weighing 1,476 tonnes, and placed it in position. The four piles, each measuring 67.49 m and weighing 241 tonnes, were lifted, upended and installed in the jacket sleeves. In the second phase the 'Rambiz' did the pile top cutting and installed the topside.

Lifting of a tiltable pipelay system

A 2,430 tonne tiltable pipelay system was lifted from its construction location at the Huisman quay in Rotterdam and transported to the pipelay support vessel 'Skandi Buzios' and put into position.

Decommissioning Viking Bravo gas platform

Scaldis was involved in the decommissioning of the Viking Bravo gas platform in the Southern North Sea. Scaldis also executed preparatory activities for platforms, which will be removed in the years 2017-2020.



Lifting of tiltable pipelay system in Rotterdam, The Netherlands



Transport and installation of Nordsee One substation, Germany

15,000
TONNES OF STEEL
STRUCTURES LIFTED
AND INSTALLED



DREDGING PLUS SOLUTIONS
**ENVIRONMENTAL
SOLUTIONS**



Avenue Coking Works, United Kingdom



DEME Environmental Contractors (DEC), de Vries & van de Wiel, Ecoterres and Extract-Ecoterres are all part of Ecoterres Holding, DEME's group of specialist environmental companies. Their activities include soil decontamination, treatment of polluted soil and dredged sediments, as well as the high-tech cleaning of water, with a focus on design, build and operation using innovative techniques.



DEME Environmental Contractors

Proactive approach proves successful

DEME's environmental companies have taken on a proactive role in sourcing and developing potential remediation projects. Along with development partners, DEME's environmental specialists identify old, polluted industrial sites and approach owners regarding the possibility of redeveloping the site into industrial, housing and recreational areas. This strategy is proving very interesting for local councils as they often face budgetary constraints.

Belgium

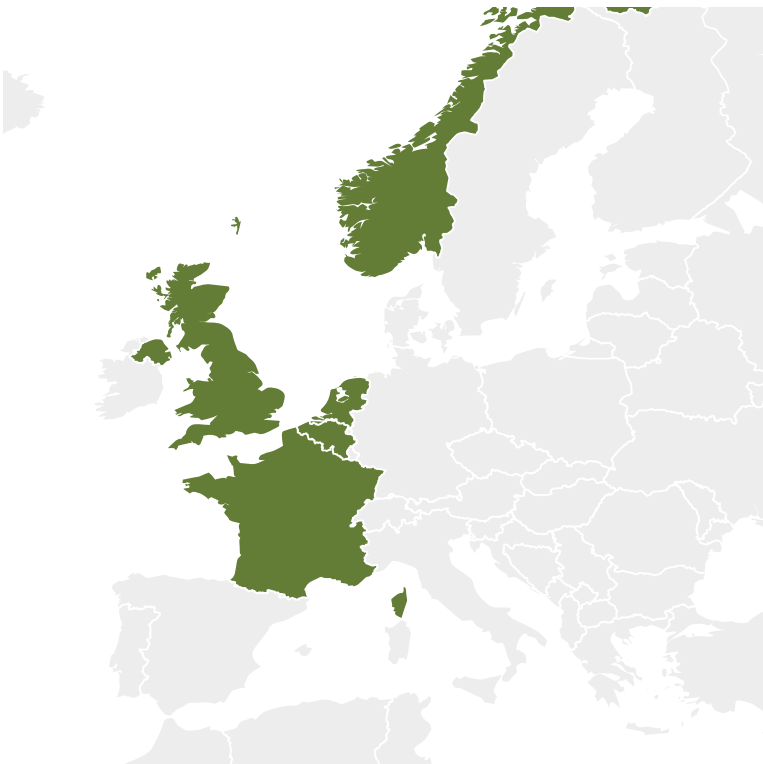
Breathing new life into brownfield sites

This proactive approach is highlighted by several projects successfully completed in 2016, and by some new awards.

Two brownfield developments, Bekaert Zwevegem and Bekaert Hemiksem, carried out in partnership with private developers Vanhaerents and Vooruitzicht, were remediated in early 2016. These sites were previously used for the manufacture of steel wiring. In Zwevegem, a whole new quarter of the town is being created including housing, a sports hall and a park. DEC took over the full responsibility for the remediation project on a lump sum basis.



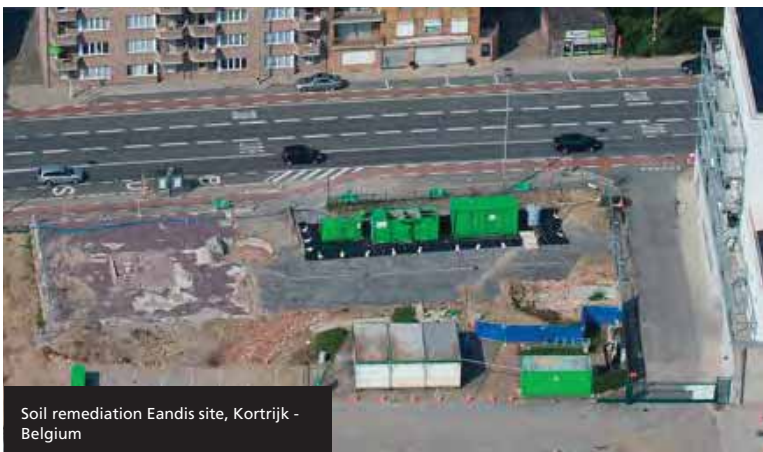
Bekaert brownfield development,
Zwevegem - Belgium



DEC and its joint venture partner acquired an 8 ha, brownfield site from Bayer in Ghent. The work was finished by the end of 2016. Now totally cleaned up, this site will be used for industrial purposes.

DEC was awarded by the Flemish utility company Eandis for another brownfield site in the centre of Kortrijk, which had previously been used for gas production. This will be remediated and then sold on to a project developer. Work is ongoing and due to complete in July 2017.

Meanwhile, works at the Nilefos brownfield site in the port of Ghent got underway in early 2016 with the remediation of the former gas works and the dismantling of the radioactive contaminated structures. Once completed, a new chemical cluster, Dockland, will be established on the site.



Soil remediation Eandis site, Kortrijk -
Belgium

767,760
TONNES OF SOIL RECYCLED



Sediment treatment at AMORAS, Antwerp - Belgium

Tailing management & dewatering

In Balen, DEC is involved in an ongoing project involving the dehydration of Nyrstar's process residue. Nyrstar has awarded two additional contracts for the capping of a dumpsite and the installation of a pump infrastructure network to capture and treat polluted groundwater. Here, DEC has been working on the tailing management, dewatering and making filter cakes from the material.

Waterway solutions

DEC is working for Waterwegen en Zeekanaal (the Flemish inland waterway authority) as part of a 7-year contract. DEC treats the dredged sediments at its centres throughout Belgium.

AMORAS

DEC continues its operations at the AMORAS facilities. This is a major design, construction and operation contract for sediment treatment and storage in the port of Antwerp, covering a period of 15 years.

Remediation for a new city quarter in Ghent leading to the creation of 1,500 homes

A major contract got underway with the "New Docks" project in the centre of Ghent. These former docks have been bought by project developers and DEC is working in partnership with them to remediate the ground to the highest environmental standards.

The old industrial site will be transformed into a new quarter of the city with 1,500 homes, businesses and recreational areas.

This highlights the advantages of bringing in DEC as early as possible, as the City of Ghent originally opened the tendering process for the project in 2013. It was keen that any solution chosen should not just focus on the lowest bid. Above all, it needed to be a sustainable solution.

DEC worked with the project developers very early on and this led to a tailored, integrated approach, which included both the remediation work and the site development. New Docks will be fully compliant with all the latest environmental regulations and it is designed to be entirely electricity neutral, using effluent as the main heating source. With a view to sustainability, all the transport will be carried out by ships and during the excavation process for the remediation works, the foundations will already be put in place for the new houses. This is a two-year project.

Historic pollution tackled along Winterbeek River

Another project concerns Winterbeek River, which has suffered historical pollution from a factory outlet. DEC is responsible for cleaning a 6.5 km section of the riverbed and the riverbanks. This contract was awarded by the VMM (the Flanders Environment Agency) via a public tender and is set to complete by the end of the year.

Treatment centres in Belgium, The Netherlands & France

With several soil and sediment recycling centres in Belgium and the Netherlands, DEC, de Vries & van de Wiel and Ecoterres treated 1.36 million tonnes of polluted soil and dredged sediments in 2016, making them the leading companies in this specialised activity in Belgium and the Netherlands. An overview of the treatment centres is on page 141.

Purazur builds new water treatment installation for Indaver

Purazur, the DEME Group subsidiary specialising in water treatment, is building a new water treatment installation for Indaver, the Antwerp-based waste treatment company. Purazur is responsible for the design, construction and commissioning of the new facility.

Indaver treats industrial hazardous waste in three rotary kiln incinerators. To ensure compliance with stringent emission requirements, the flue gases from the incineration process are treated in a so-called wet gas scrubber, whereby harmful substances



Pieter Van der Mussele

PURAZUR

“Water is no doubt a global challenge and water treatment is increasingly imperative for the environment. It’s an amazing opportunity for me to be part of Purazur, the new innovative niche of DEME.”

are captured by the washing water. This washing water must also meet rigorous discharge standards. To this end, it will be treated separately in the new treatment installation. Indaver’s existing water treatment installation had reached the end of its useful life.

Construction of the plant is due to be completed by August 2017. After a 6-month test period, the new plant will be commissioned in early 2018.

Purazur focuses on the high-tech treatment of industrial and domestic waste water, percolate water from landfills and contaminated groundwater.

Ecoterres achieved very high activity levels in Wallonia and northern France during 2016

In the field of environmental civil works Ecoterres continued the remodelling and capping of a former industrial, heavily polluted landfill at Tertre. The project is based on traditional synthetic liners (HDPE, bentonite, drainage textiles...) and is expected to be finished at the end of 2018.

In a joint venture, Ecoterres continued depollution works at the Codami site in Manage (region of La Louvière). More than 100,000 tonnes of polluted soils will eventually be handled by different onsite and offsite techniques. This is due to finish in September.

Ecoterres completed works at Obourg. Starting in 2011, this project included the isolation of a landfill area of contaminated sediments and the construction of new secured basins with a capacity for 50,000 m³/year.

Construction was also finished at two ponds dedicated to the storage of wastewater coming from an industrial company specialised in refining sugar.

Ecoterres dredged 60,000 m³ of polluted sediments from Wallonian waterways. For these two projects, 50,000 m³ of non-polluted sediments and 60,000 m³ of polluted sediments were dredged by the company's backhoe dredger 'Sclessin', and by the bucket dredger 'Belgica'. All the sediments were transported by Ecoterres' own barges and discharged into the treatment centres with floating units developed in-house, using high density pumping installation. All in and out survey controls were

Dewatering and treatment of dredged sediments, Obourg - Belgium



Treatment of dredged sediments, Vraimont - Belgium



Use of recycled soil for new nature reserve, Vogeleiland Den Helder - The Netherlands



also provided by Ecoterres with its modern measuring and surveying equipment, the vessel 'Zig Zag'.

Soil & sediment treatment centres

Ecoterres' soil and sediment recycling centres of Petit Try (Charleroi), Cetraval (Brussels), Filterres (Liège), Sedisol (Farciennes) and Bruyère-sur-Oise all performed well. More than 400,000 tonnes of polluted soils and sediments have been treated in the centres in Wallonia and nearly 130,000 tonnes in Bruyère-sur-Oise, which is a very good performance after only two years of activities.

All of these centres are located along waterways and in an effort to offer sustainable solutions, Ecoterres encouraged companies to carry out the transport of the polluted and treated soils/sediments by water. Some 220,000 tonnes were transported on the waterways in 2016.

Ecoterres continued to operate the public sediment recycling centre at Tubize (site of Vraimont). In total 110,000 tonnes of non-polluted sediments were dewatered and recycled as fill for industrial terrains.

600,654
TONNES OF SEDIMENT RECYCLED

The Netherlands

de Vries & van de Wiel was involved in remediation projects in Amsterdam, Haarlem, Den Helder and their surrounding areas in 2016. Once remediation took place the sludge and soil was treated at a specialist facility in Den Helder.

NAM also awarded de Vries & van de Wiel a contract to treat offshore and onshore waste such as drilling cuttings, drilling mud and wastewater from its oil & gas activities. This award is an important contract for de Vries & van de Wiel, highlighting its partnership with the oil & gas industry.

The contaminated waste is treated and then the soil is reused in a project to create nature reservations in the Den Helder area, such as the Vogeleiland and Wierholt project. Both of these are examples of creating new nature with techniques such as immobilisation, where former waste flows are reused in a sustainable way.



Remediation of the Esso Norge site,
Valløy - Norway



Norway Valløy, Tønsberg

As an important milestone for the company, DEC was awarded its first contract from ExxonMobil. The project is underway and given its smooth progression it is likely to complete within the foreseen time frame and this means two years ahead of the client's expectations.

Together with Norway's Veidekke Entreprenør, DEC is remediating a former refinery site, which is located at Valløy near Tønsberg, on behalf of Esso Norge. Preparation work on the ExxonMobil site infrastructure started in November 2015.

DEC has to ensure that every part of the operation meets the strict health and safety requirements imposed by ExxonMobil and the Norwegian Environment Agency. The company managed to get all the stringent safety and environmental permits in place and work began in May 2016. The remediation is expected to be successfully finished this summer, even though DEC has the work permits until mid-2019.

DEC expects to treat around 45,000 tonnes of acid tar and more than 250,000 tonnes of contaminated soil. One reason this project is particularly challenging is because the excavated acid tar has to be turned into a good quality, usable secondary fuel and this is being achieved. The fuel will be used by cement kilns as an alternative to coal or other primary fuels.

Ultimately, the Esso Norge site has to be restored to meet the Norwegian Environment Agency's standards for a future mix of commercial and residential use.





UK

Avenue Coking Works, Chesterfield

Phase 3 of the huge remediation project of a 100 ha coking site near Chesterfield, in the United Kingdom is on track and will complete mid-2017. The project got underway in 2009. This had been a heavily polluted site with black tars, cyanide and many contaminants present, totalling some 1 million m³. When the remediation is completed, the site will be used for residential purposes, with sports centres, a school and even possibilities for fishing.

Staveley Goyts, Chesterfield

On a nearby site DEC International started a project to dredge several small channels, which contain heavily contaminated sediments in mid-2016. This project is expected to be finished in the summer of 2017.

France

In the frame of a multi-annual contract won in 2015, Ecoterres continued maintenance dredging of the Escaut River in northern France.

In a 4-year maintenance contract awarded in 2014, Ecoterres continued to handle polluted sediments dredged by SDI in the port of Dunkirk. Additionally, Ecoterres won a project called "Condé-Pommeroeul" in northern France. This project entails the construction of three deposit sites designed for the storage of 1.4 million m³ of polluted sediments and dredged materials. The project should be completed in 2020.



DREDGING PLUS SOLUTIONS
**INFRA MARINE
SOLUTIONS**

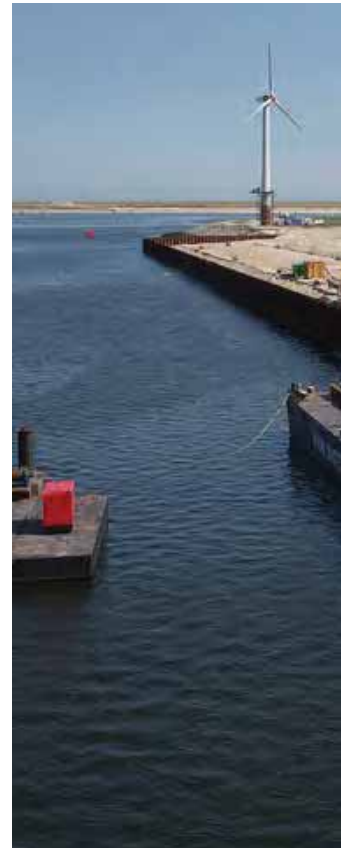
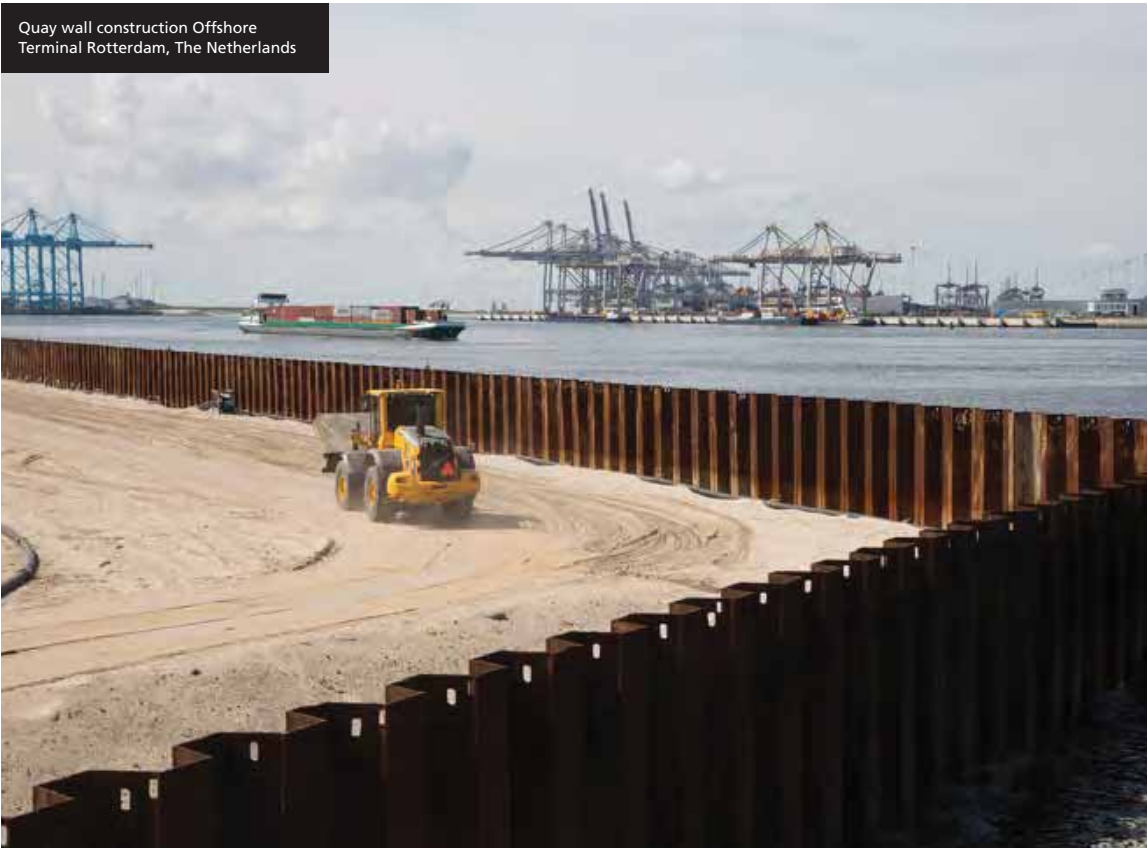


Offshore Terminal Rotterdam,
The Netherlands



DEME's subsidiary DIMCO (DEME Infra Marine Contractors) is involved in marine infrastructure and civil works that complement and reinforce DEME's activities. These include design and construction of hydraulic and maritime works for jetties and port terminals, locks, weirs, bored/immersed/cut and cover tunnels, large and complex earth moving works, foundations and marine works for bridges and offshore constructions, civil works for harbour construction, dams and sea defences, canal construction, revetment work, quay wall construction and shore protection amongst others. The company also has a specialised engineering and design department, which can assist DEME clients.

Quay wall construction Offshore Terminal Rotterdam, The Netherlands



The Netherlands

Offshore Terminal Rotterdam

At the beginning of 2016, DIMCO won a contract in a joint venture with a Dutch contractor for the construction of a 460 m long quay wall for the new Offshore Terminal at the Maasvlakte in Rotterdam. This project was commissioned by the Port of Rotterdam Authority. The new terminal brings together the manufacturing and logistics for offshore wind foundations.

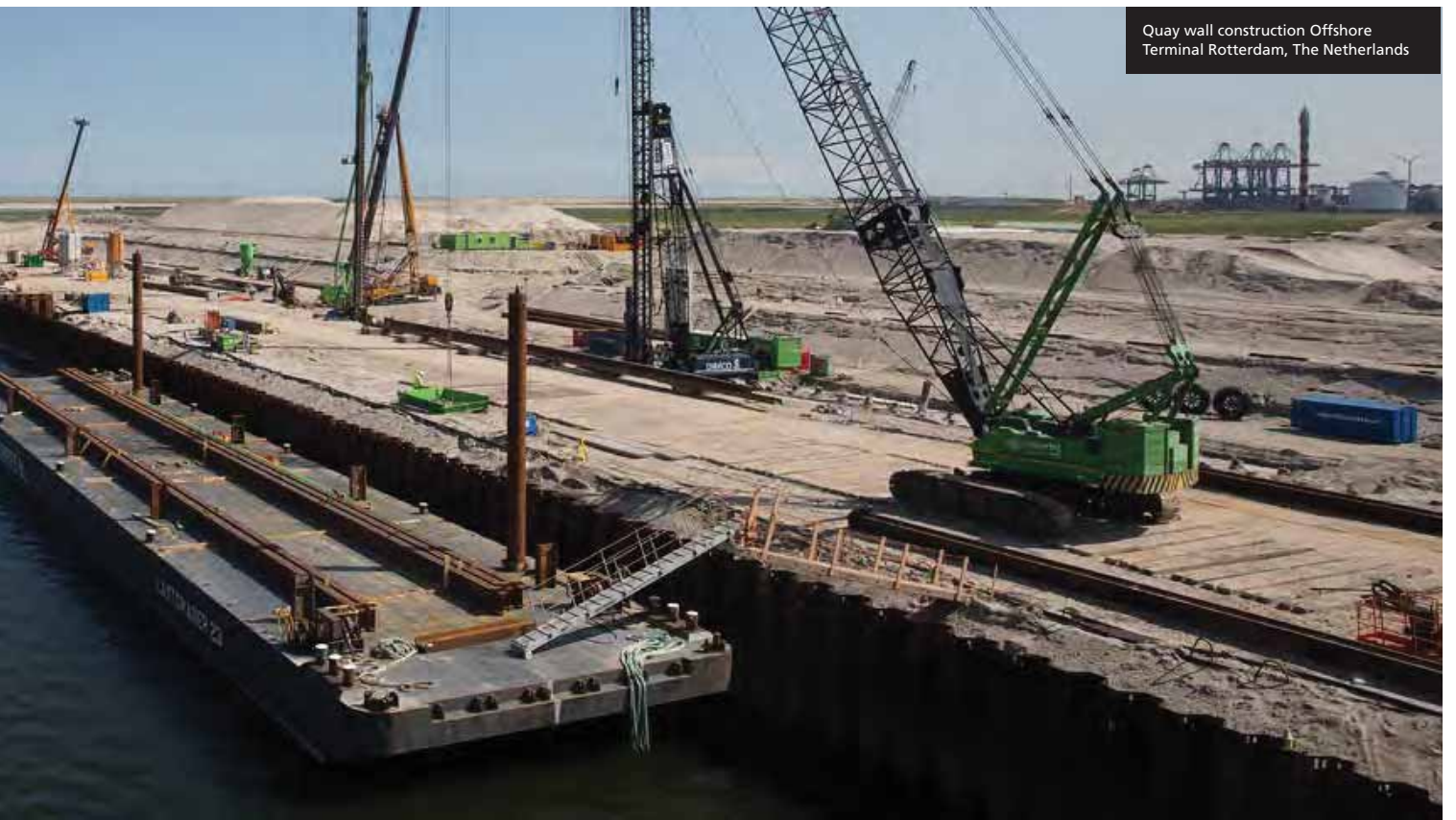
The first 150 m of the quay became operational in December 2016, and the entire quay is scheduled to be put into operation in July 2017. GeoSea's 'Innovation' was the first vessel

to arrive at the new quay for the load-out of monopiles for the Galloper offshore wind farm off the east coast of the UK. All the monopiles for the wind farm, which will house 56 of them, were picked up directly by the installation vessel at Maasvlakte 2.

Spoorzone Delft

The Spoorzone Delft project comprises the integral redevelopment of an area of around 40 ha, located between the inner city and the residential neighbourhoods to the west and south. DIMCO is a fully integrated partner in the project, which includes a 4-track tunnel of 2,400 m (the Willem van Oranje rail tunnel). The project is due for completion in 2018.

Quay wall construction Offshore Terminal Rotterdam, The Netherlands



Spoorzone Delft, The Netherlands





Hans Schutte

DIMCO

“Infra marine specialist DIMCO is the newest member of the DEME Group, handling civil works such as quay walls, jetties, immersed tunnels, piling, bored tunnels and locks.”

44,500 m³
OF REINFORCED
CONCRETE, WITH
10,000,000 kg
OF REINFORCEMENT

Port of Rotterdam

DIMCO was awarded a contract for the construction of mooring dolphins and buoy piles in the Port of Rotterdam. In addition, DIMCO won contracts for a new jetty at the Maasvlakte Oil Terminal and the extension of the Calandsteiger jetty.

Lek weir complex

Together with two Dutch partners DIMCO is modernising the lock and weir complex on the Lek River in the Netherlands. The lock and weir complexes are 50 years old and undergoing a major renovation.

RijnlandRoute

In January 2017 the province of South Holland and Rijkswaterstaat awarded the contract for the first phase of the RijnlandRoute to Comol5, a joint venture including DIMCO. The RijnlandRoute is the new road connection from Katwijk, via the A44, to the A4 at Leiden. Comol5 will be responsible for the reconstruction of the Leiden West motorway junction and the construction of the 4 km new road N434, including a 2 x 2.2 km-length bored tunnel. Projects in DIMCO's Benelux home market are important references for the further development of global operations.



Lek weir complex renovation,
The Netherlands



RijnlandRoute, The Netherlands





DREDGING PLUS SOLUTIONS
**FLUVIAL & MARINE
RESOURCES**



DEME Building Materials (DBM) is DEME's subsidiary specialised in the extraction, transport, processing (washing, crushing, grading) and supply of marine aggregates for the European construction industry. The aggregates originate from DEME's various marine sand and gravel concessions and from third-party licences in Belgium, the Netherlands, France, Poland and the UK. Having built up a reserve of over 300 million tonnes of marine aggregates containing sand and gravel up to 100 mm - and with a high production capacity both on- and offshore, DBM can offer a reliable and constant supply of quality aggregates.

DEME

Building Materials

Strong demand in 2016

The last few years have been characterised by a slump in the European construction industry. But DEME Building Materials (DBM) saw a definite improvement in activity in 2016, particularly in the first half with a full order book for its two state-of-the-art gravel trailers 'Charlemagne' and 'Victor Horta'.

Apart from a strong construction market in the United Kingdom, DBM experienced increased demand for gravel from its Flushing facility in the Netherlands. This was largely due to ongoing low water levels on the River Rhine, which greatly reduced the supply of alluvial aggregates into Belgium and the Netherlands. This again underlines the importance of marine aggregates as a reliable source of construction materials for the long term.

Additionally in the Netherlands, DBM supplied the sand and gravel for the concrete works on the new Offshore Terminal Rotterdam (OTR), a project realised by DBM's sister company DEME Infra Marine Contractors (DIMCO).

In Belgium, DBM sold several hundred thousand tonnes to the local construction market from its own facility in Ostend. And in France the various long-term supply contracts for deliveries

in Dieppe and Le Havre are ongoing, as well as the production and distribution of marine aggregates in the region of Boulogne-sur-Mer and Dunkirk.

Addition to the fleet

Strong demand in 2016 led to the decision to add a third hopper dredger to the DBM fleet. The 'Mellina' is an existing DEME vessel that will be reconverted into a dry discharging aggregate dredger. She is expected to join in 2017 and will further strengthen DBM's position as one of the leading aggregate dredging companies in Europe.

'Mellina' will also open up new markets for the company as it will be much easier to access smaller ports and rivers. 'Mellina' has a capacity of 5,000 tonnes, compared to the much larger 'Charlemagne' and 'Victor Horta', which have a capacity of 10,000 tonnes each.

Delivery of aggregates at Brett-
Aggregates, United Kingdom



Large infrastructure projects

After the successful completion of the Kieldrechtsluis in Antwerp, where DBM supplied over 1.3 million tonnes of sand and gravel, DBM is targeting various other large infrastructure projects, particularly in Belgium and the Netherlands where DBM can offer very competitive solutions from the production terminals in Flushing and Amsterdam.

5,850,000
TONNES OF AGGREGATES
DELIVERED



CONCESSIONS



DEME Concessions brings together all concessions of the DEME Group in the fields of infrastructure (dredging and marine infrastructure), renewables (wind, wave and tidal) and marine resources (sand, gravel and minerals). DEME Concessions provides equity, venture capital and project-specific knowledge, supporting the various activities of the DEME Group. DEME Concessions advocates early involvement, underpinned by a true partnering philosophy for the successful joint development of projects. Investments are always linked to DEME's scope of work in a project.

DEME Concessions

Renewables

Offshore wind farms

Merkur

In August 2016, Merkur Offshore GmbH reached financial close for the 396MW Merkur offshore wind development project in Germany. Close to 500 million EUR in equity was provided by a consortium of five partners, including DEME Concessions with a 12.5% share.

Rentel

Rentel NV reached financial close in October 2016 for the construction of a new 309MW offshore wind farm off the Belgian coast. The Rentel project - located 40 km north of Ostend - will be the fifth offshore wind project in the Belgian North Sea. The total investment is 1.1 billion EUR.

Seastar and Mermaid

Together with the other shareholders of Otary, DEME holds a participation in the concessions for the Seastar and Mermaid offshore wind farms in Belgium.

C-Power

During 2016 DEME sold 50% of its participation in C-Power Holdco wind farm to existing shareholders. DEME maintains a financial interest of 6.46% in the C-Power wind farm.

Wave and tidal

MeyGen

DEME Concessions acquired a minority interest in the Scottish development company Tidal Power Scotland Limited (TPSL). Together with Scottish Enterprise, TPSL controls, among others, the MeyGen project, the world's first tidal power station connected to the electricity grid. By participating in TPSL, DEME is building on the experience gained with complex maritime construction projects and supporting a new technology, which after years of testing evolved from a prototype to operational tidal turbines.

Besides the participation in TPSL, DEME is also involved in DEME Blue Energy (70% DEME Concessions - 30% ParticipatieMaatschappij Vlaanderen) and in cooperation with Nuhma, it is also a partner (50% - 50%) in BluePower, another tidal energy development company. The West Islay Tidal Energy Park (30MW - Scotland) and Fair Head (100MW - North Ireland) projects are currently being further developed. More details can be found on page 30.

Infrastructure

Coentunnel

The participation in the second Coentunnel project in Amsterdam, the Netherlands has been sold.

Marine resources

Together with its subsidiary DEME Building Materials, DEME continues to invest in new and existing nearshore concessions for sand and gravel, of up to 100 m depth. DBM has built up a strong position in many countries based on long-term relationships and agreements with major European industrial partners (see also Fluvial & Marine Resources on page 130).

Mineral concessions

Global Sea Mineral Resources (GSR) is a subsidiary of DEME focused on the development of a sustainable marine harvesting industry. In 2013, the International Seabed Authority and GSR signed a 15-year contract for prospecting and exploring polymetallic nodules. GSR has exclusive rights for the exploration of over 76,728 km² of seabed in the eastern part of the Clarion Clipperton Zone (CCZ) of the Central Pacific Ocean.





DEME FLEET AND OFFICES



DEME fleet

DREDGING EQUIPMENT

TRAILING SUCTION HOPPER DREDGERS

DP/DT Congo River	30,190 m ³
DP/DT Pearl River	24,130 m ³
DP/DT Nile River	17,000 m ³
DP2 Bonny River*, DF	15,016 m ³
DP/DT Lange Wapper	13,700 m ³
DP/DT Uilenspiegel	13,700 m ³
DP/DT Breughel	11,796 m ³
DP/DT Brabo	11,650 m ³
DP/DT Breydel	11,296 m ³
Antigoon	8,460 m ³
DP/DT Scheldt River*, DF	8,400 m ³
Artevelde	5,580 m ³
Marieke	5,600 m ³
Reynaert	5,580 m ³
Pallieter	5,320 m ³
Charlemagne	5,000 m ³
Victor Horta	5,136 m ³
Atlantico Due	4,164 m ³
Mellina	3,309 m ³
Minerva*, DF	3,500 m ³
Orwell	2,575 m ³

CUTTER SUCTION DREDGERS

Spartacus*	44,180 kW
D'Artagnan	28,200 kW**
Ambiorix	28,200 kW**
Al Jarraf***	12,860 kW
Amazone	12,860 kW
Vlaanderen XIX	11,728 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
Blani	458 kW

BACKHOE DREDGERS

Samson	4,124 kW
Pinocchio	2,416 kW
Peter the Great	1,964 kW
Delilah	856 kW
Zenne	805 kW

BUCKET LADDER DREDGERS

Adriatico	900 l
Bayard	300 l
Belgica	175 l

SELF-PROPELLED SPLIT HOPPERS

DI 68 & DI 69
Krankeloon
Pantagruelle
Sloeber & Pagadder
Vlaanderen VII & VIII

WATER INJECTION DREDGERS

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

DREDGING PLOUGHS

Aramis & Buckingham
Parakeet
Dhamra

SPREADER & MULTIPURPOSE PONTOONS

DP/DT Bayard II
Adriatico
DP/DT Thornton 1
De Otter
Mattedoor

INLAND/RIVER DREDGERS

Trailing suction hopper dredgers:	
Piet Hein	1,050 m ³
Zeeland	650 m ³

Cutter suction dredger:	
Ameland	679 kW

Hopper dredgers:	
Grinza 6 and 7	540-750 m ³

Barge unloading dredgers:	
Texel	1,193 kW
Vlieland	679 kW

Backhoe dredgers:	
IJburg	5 m ³
VW9, VW47, VW55, VW56	1.5-3 m ³

OFFSHORE EQUIPMENT

OFFSHORE INSTALLATION VESSELS

DP3 Orion*, DF	30,000 t
<i>Crane</i>	<i>5,000 t</i>
DP2 Innovation	8,000 t
<i>Crane</i>	<i>1,500 t</i>
DP2 Apollo*	4,500 t
<i>Crane</i>	<i>800 t</i>
DP2 Thor	2,600 t
<i>Crane</i>	<i>500 t</i>
DP2 Neptune	1,600 t
<i>Crane</i>	<i>600 t</i>
DP2 Goliath	1,400 t
<i>Crane</i>	<i>400 t</i>

JACK-UP PLATFORMS

Buzzard	1,300 t
Vagant	1,000 t
De Zeebouwer	600 t

FALL PIPE VESSELS

DP2 Flintstone	20,000 t
DP2 Seahorse***	18,000 t
DP2 Rollingstone	11,500 t

CABLE INSTALLATION & MULTIPURPOSE VESSEL

DP3 Living Stone*, DF	
<i>Cable Installation</i>	<i>10,000 t</i>
<i>Rock Placement</i>	<i>12,000 t</i>

HEAVY LIFTING EQUIPMENT

GULLIVER*/***	4,000 t
RAMBIZ***	3,300 t

OFFSHORE MAINTENANCE & SERVICE VESSELS

Aquata	25 kts
Arista	25 kts

OFFSHORE PONTOONS

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

ENVIRONMENTAL TECHNOLOGY***

FIXED SEDIMENT RECYCLING CENTRES

Belgium:
 SRC Ruisbroek
 SRC Zeebrugge
 SRC Krankeloon
 SRC Desteldonk
 SRC Zolder
 SRC Knippegroen
 The Sedisol Centre
 Fasiver

FIXED SOIL RECYCLING CENTRES

Belgium:
 GRC Kallo
 GRC Bruges
 GRC Zolder
 Petit Try
 Filterres
 Cetraval

France:
 Extract-Ecoterres

MOBILE SEDIMENT & SLUDGE PLANTS

Mobile filter presses
 Mobile immobilisation plant

MOBILE SOIL TREATMENT PLANTS

Mobile thermal desorption plant
 Mobile soil washing plant 'SWI I'
 Mobile soil washing plant 'SWI II'
 Mobile soil washing plant 'SWI III'
 Mobile soil washing plant 'SWI IV'
 Mobile immobilisation plant

FIXED RECYCLING CENTRES

The Netherlands:
 't Oost

* Under construction
 ** Incl. D.R.A.C.U.L.A. @ power
 *** Co-ownership
 DF Dual Fuel Main Engines (LNG and Diesel oil)
 DP Dynamic Positioning
 DT Dynamic Tracking

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COMPLIED AND COORDINATED BY DEME

Internal & External Communication

FINAL EDITING

Vicky Cosemans

DESIGN AND REALISATION

Comfi

PHOTOS

We wish to thank all members of our personnel who provided us with pictures of the works. Special thanks to photographers Tom D'Haenens, Colin Turner and Ulrich Wirrwa.





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