

# CORPORATE SOCIAL RESPONSIBILITY REPORT 2017

COMMUNICATION OF PROGRESS  
- OUR ACTIVITIES IN 2017  
- OUR FOCUS IN 2018





## CHIEF OPERATING OFFICER STATEMENT

The 17 global Sustainable Development Goals (SDGs) represent an ambitious agenda with clear targets to reach and important monitoring mechanisms to follow up. They recognise the interrelated nature of development issues such as poverty, inequality, food production, climate change and ecosystem conservation, as well as the necessity for all societal actors to jointly tackle them.

DHI is contributing to the SDGs through our formulated quest to help solve the world's toughest challenges in water environments. Our main activities are directed towards the goals and targets relating to natural resource sustainability, particularly Goals 6 and 14 on sustainable management of water and marine resources, respectively. This also transpires in this year's Communication of Progress (COP). However, it is important to note that water plays an important role in the majority of the SDGs. We have also illustrated this with examples on how we contribute to other goals and targets through our global activities. We work with clients, partners, universities, as well as public and private organisations to develop innovative solutions that can support sustainability and avoid water from being the limiting factor for development.

It is our fervent belief that knowledge – in its many forms – will provide the answers to the world's water challenges. As such, knowledge-sharing remains one of our core CSR focus areas. Through our local teams, MIKE technology, training courses and online resources, we make it easy for clients to access our knowledge bank wherever they are.

DHI is pleased to reaffirm our commitment to providing our strong support to the United Nations (UN) Global Compact's efforts in the areas of human rights, labour, environment and anti-corruption. We strive to continue the integration of the Global Compact and its principles into our business strategies, culture and daily operations.

Yours sincerely,

Jacob Høst-Madsen  
Chief Operating Officer

*Integrating the principles of the United Nations Global Compact into our business strategies, culture and daily operations remains a true focus at DHI.*

## INTRODUCTION

Corporate sustainability stems from a company's value system, beliefs and principled approach in conducting businesses. Since joining the UN Global Compact in 2013, we have been aligning our strategies and activities to its ten principles, meeting fundamental responsibilities in the areas of human rights, labour, environment and anti-corruption.

As a responsible business with more than 30 offices around the world, we believe that establishing a culture of integrity – and being responsible to the world we live in – is core to achieving long-term success. This Communication of Progress is our third annual report since joining the UN Global Compact. We are pleased to share our results and achievements.

The UN Global Compact is a guiding framework for us to:

- carry out Corporate Social Responsibility (CSR) initiatives within DHI Group and ensure that our business partners support and are in line with the Compact's principles
- communicate effectively with the world around us – because upholding social responsibility and conveying its importance in the work that we do, matters
- maintain a meaningful dialogue with our staff, clients and external business partners

This report is produced for the purpose of:

- explaining our progress to the UN
- communicating our messages, challenges and achievements to various stakeholders
- describing the actions we have taken to implement the UN Global Compact principles to our staff, as well as to others who have an interest in CSR and social responsibility efforts

## CORPORATE SOCIAL RESPONSIBILITY (CSR)

At DHI, we contribute to our CSR through three focus areas:

- Improving the environment
- Responsible business practices
- Sharing knowledge and technology
- Community engagement

Our global activities support the 17 UN Sustainable SDGs. In the coming period, we will increase our focus on supporting the SDGs through our global operations.

# IMPROVING THE ENVIRONMENT



*Through our projects, our services and products have helped **improve the environment** as well as contribute to **social and economic development** worldwide.*

## OUR ACTIVITIES IN 2017

Our projects described here provide concrete examples of how we have helped solve the world's toughest challenges in water environments. Each of these projects has ushered in considerable environmental, social and economic benefits in their respective areas.

Improving water quality of key rivers, ensuring safe drinking waters, and recuperating rivers and lakes by 2020 are the main targets of the Major Science and Technology Program of Water Pollution Control and Management in China. DHI was part of the water project 'Research on Water Environment Risk Assessment and Early Warning Technology in Cross-border Areas of China and Russia', where we developed a water quality model that adapts to frigid areas and used data assimilation technology to improve simulation accuracy in water quality forecasting and built a Sino-Russian cross-border water environment prediction and early warning system. It provides technical support for risk management in water environments, emergency response in water pollution accidents, and identification of water environment responsibilities in cross-border areas of China and Russia.

Operations involving sediment handling in marine waters, such as dredging, disposal and nourishment, can significantly affect the marine environment, with potential effects extending from physical to chemical and biological fields. Based on our worldwide experience in environmental modelling, DHI supported the Italian Superior Institution for Environmental Research (ISPRA – directly linked to the Ministry of Environment), in writing a comprehensive guideline 'Mathematical modelling in the assessment of physical effects induced by sediment handling in marine-coastal areas'. Published in December 2017, the manual is focused on activities

that involve the handling of sediments in different environments (coastal areas, confined basins and off-shore) and aims at optimising the intervention with regard to expected environmental effects. It includes basic knowledge of the operational indications for different marine-coastal areas, and explains the mutual relationship between numerical and environmental monitoring. The manual is addressed to all parties involved, including project owner/developer or client, regulators, operators and stakeholders.

Together with the Vltava River Board, State Enterprise, DHI CZ promoted '20 years of flood model of the capital city of Prague' through a special seminar, presentations and conference papers. We provided information about flood modelling and its role in solving flood issues in the last two decades. During this campaign, there was raised interest of municipalities and cities representatives to use appropriate flood prevention models where urbanisation impacts are considered. As pointed out at the seminar, the Vltava River Board has greatly succeeded in implementing DHI's mathematical models into its overall flood protection measures – proven by the way it tackled huge flood events over the last two decades.

The aquacultural production of fish and especially Pangasius in southern Vietnam has caused severe pollution in the rivers in the Mekong Delta. To enable a more sustainable production of Pangasius, a group of Danish companies, including DHI, decided to form a project-relation called VIDATEC, which would work closely with the aquaculture institute of Can Tho University in Vietnam as well as with production companies. The aim was to study existing production methods and optimise production by using modern technology. VIDATEC built new production facilities on the Can Tho University to demonstrate how modern





## OUR FOCUS IN 2018

production could take place. The results from this plant revealed that the feed-conversion rate could be improved and treatment of the wastewater before discharge would provide additional benefits in lowering the overall pollution.

In Denmark, we carried out a detailed plan for handling the wastewater from Rigshospitalet, Denmark's largest hospital. Hospital wastewater is characterised by high concentrations of hazardous pharmaceuticals and critical pathogens like multi-resistant bacteria. This is why Danish authorities demand that the larger hospitals treat wastewater locally. Together with Danish technology suppliers, DHI had earlier developed advanced treatment solutions which are already in operation in full scale in another Danish hospital (Herlev Hospital). The plan for Rigshospitalet includes an ambitious goal to discharge the treated water to the famous Copenhagen lakes in the city center. This way, the treated water would also act as recreational water, improving the water quality of lakes and keeping water levels high during drought periods during summer.

In 2018, we will continue our focus on improving the environment by developing and delivering services and products that help solve water challenges related to global urbanisation. This includes using water more efficiently, reducing energy consumption, helping cities adapt to climate change and increasing wastewater treatment efficiency.

We will also offer more services and technologies to help solve challenges in the industrial water sector. Examples include using water more efficiently, re-using water and developing water-free production methods. In addition, we will continue to develop advanced decision support technology for water management.

In 2018, we resolve to implement an environmental policy which sets out the framework for environmental management – with objectives and measurable targets to be achieved by all DHI offices worldwide.



# RESPONSIBLE BUSINESS PRACTICES

*We stand firm in our commitment of ensuring responsible business practices throughout our global offices.*

## OUR ACTIVITIES IN 2017

To enhance our internal focus on CSR, we have been working on implementing a process to ensure that all projects carried out by DHI are screened for violation of human rights and labour principles, damage done to the environment and governmental corruption, as part of the risk analysis during the bidding decision process prior to entering into contracts and agreements.

In our Code of Conduct for partners and subcontractors, we now require them to:

- support and protect human rights both in the workplace and more broadly in all their business activities
- manage their operations responsibly in relation to environmental risks and impacts and to adopt a precautionary approach in their business operations
- conduct business in compliance with legal requirements and to adhere to internationally agreed standards of business ethics
- be in strict compliance with named anti-corrupt practices acts and anti-bribery acts

We will continuously monitor partners' and subcontractors' compliance with the standards set out in our Code of Conduct by requiring them to submit relevant information and by conducting supplier audits and reviews.

Our Code of Conduct is [publicly available](#) on our web site.

We have continued to update our workplace risk assessment register for frequently occurring activities performed by DHI staff to improve our working environment and prevent work-related accidents.

Our commitment to CSR is upheld in our offices worldwide. In July 2017, DHI New Zealand became a member of The Sustainable Business Network, a membership-based social enterprise that helps businesses succeed through sustainability. Their vision is to make New Zealand a model sustainable nation. Our involvement in the network has helped lessen our company footprint in these ways: by moving to a modular office, creating more public transport options, using less space and working day-to-day in a more sustainable way. It also gives us access to a previously-untapped network of people in New Zealand working towards a circular economy and a sustainable future.



## OUR FOCUS IN 2018

We will develop policies and guidelines on sustainability and CSR, which set out the overall framework on a daily basis. These policies and guidelines will cover the following areas:

- Environment
- Health and safety
- Security
- Responsible business practice
- Good DHI behavior

All policies will be made available on our website.

We aim to fully implement the process to ensure that all projects carried out by DHI are screened for violation of human rights and labour principles, damage done to the environment and governmental corruption, as part of the risk analysis during the bidding decision process prior to entering into contracts and agreements.

At the same time, we will continue to update our workplace risk assessment register for frequently occurring activities performed by DHI staff to improve our working environment and prevent work-related accidents.



# SHARING KNOWLEDGE AND TECHNOLOGY

*Knowledge **empowers our clients  
and partners** to identify and apply  
appropriate solutions to their  
unique challenges.*

## OUR ACTIVITIES IN 2017

Climate change is affecting hydrological fluxes at all scales. We already have the capability to prepare for and avoid some of the associated hazards, through a combination of selected technologies and technical expertise, though those looking for appropriate solutions inevitably face the difficult task of identifying and evaluating a bewildering range of options. Together with two other organisations, UNEP-DHI prepared and published the guide 'Climate Change Adaptation Technologies for Water'. This practitioner's guide focuses on adaptation technologies for building resilience to climate change-induced hazards in the water sector. It provides a simple and comprehensive overview of specific water technologies and techniques that address challenges resulting from climate change and help to build adaptive capacity.

DHI WaterNet Advisor was awarded the title 'Gold VOD-KA 2017' as a part of the 2017 International Water Supply and Sewerage exhibition in Prague, as the best original technology to meet innovation and applicability. This is a very prestigious award in the field of water management in the Czech Republic.

The Climate Technology Centre and Network (CTCN) promotes the accelerated transfer of environmentally-sound technologies for low carbon and climate resilient development at the request of developing countries. Being a consortium partner under CTCN, UNEP-DHI provided knowledge support on technologies for climate change adaptation to eight countries. Examples of these projects are: Development of flood mitigation approaches in Tbilisi, Georgia; Shoreline management training in Mauritius; and Green infrastructure interventions in six cities in Laos.

In 2017, we continued to co-organise UNEP-DHI Eco Challenges – online serious gaming competitions for high school students in ten countries based on our Aqua Republica game. The challenges presented in Aqua Republica educate youth about the importance and interconnectivity of water, and inspire them to ponder how it can be managed more sustainably. Almost 10,000 students have participated since 2013.

In Chile, a successful DHI technology transfer to the Institute for Fisheries and Aquaculture Research (IFOP) helped in the setting up of new government laws and regulations for the aquaculture industry. This enabled IFOP to guarantee industry interests in a market worth 4,000 million USD a year, while ensuring consistent and environmentally-sustainable aquaculture production – protecting the natural resources of the Patagonian fjord ecosystem.





*Knowledge has a beginning but no end.*

## OUR FOCUS IN 2018

In 2018, we aim to continue sharing our knowledge of water environments through capacity development programmes, training courses and seminars around the world. Our online learning platforms such as webinars and self-paced courses proved to be welcomed additions in 2017 – and we will strive to explore even better ways of knowledge-sharing that make learning easier for our clients.

Technology frees us from traditional business boundaries and allows us to foster new kinds of customer relationships and learning opportunities. Providing digital operational services – and transferring the related skills to clients – is one of our core focus areas in 2018. Being simultaneous and in-the-cloud, the digital services we offer are transverse, accessible and seamless. We strongly believe in not only creating solutions to solve our clients' water challenges, but also equipping them with the necessary know-how to be self-sufficient, 24/7.

At DHI, it is all about creating value for our customers – by understanding what they need, how they think, and how they behave. At the end of the day, all these will translate to smarter business management and success for our clients all over the world.

# COMMUNITY ENGAGEMENT

## OUR ACTIVITIES IN 2017

'Clean River Sazava' in the Czech Republic is a traditional non-commercial activity based on volunteering. Dozens of sponsors – from small donors to larger companies – contribute to the annual cleanup. For years, DHI CZ has been supporting the waste collection campaign from Sazava river by donating and participating in the event as litter collectors. In April, almost 800 volunteers collected more than 16 tonnes of litter from the river in three days.

Earth Observation (EO) for Sustainable Development is a European Space Agency (ESA) initiative headed by DHI GRAS, which aims to achieve better uptake of satellite-based environmental information in the International Financing Institutions' regional and global programs. It follows a systematic, user-driven approach in order to meet longer-term, strategic geospatial information needs. The main goal of the capacity building efforts will be to ensure the development of the required human, technical and institutional capacity to empower stakeholders with the ability to utilise the developed services in an independent and sustainable manner. This will require a significant effort dedicated to enhancing the long-term formation of operators, technicians and scientists, as well as decision makers with the capabilities to make use of EO-based information services for integrated water resource management. There are also plans to strengthen partnership development under the EO4SD initiative, to give local stakeholders access to knowledge and skills, and provide the opportunity to increase networking and funding for all parties.

STEM education in Singapore is a curriculum based on the idea of educating students in four specific disciplines – Science, Technology, Engineering, and Mathematics. Instead of the conventional approach to teaching these four disciplines separately, STEM education integrates them into a cohesive

learning paradigm based on real-world applications. DHI Singapore fully supports this initiative by renewing our partnership with STEM Inc to provide learning opportunities for students to acquire knowledge and skills on STEM.



*'The internship allowed me to better understand the workplace culture, environment and expectations. By interacting with DHI staff and attending weekly meetings, we were inspired by the DHI staff's passion in the field of eco-sustainability.'* Student from Singapore

DHI and our partners ERN International and the Asian Institute of Technology are pleased to have completed India's first statewide assessment of risk arising from earthquakes, floods, flash floods, landslides and industrial hazards in Uttarakhand in northern India. Through visits to local communities and targeted social surveys, we learned about their approach to risk management at a community level, and this has complemented the findings from workshops with other stakeholders.

*It's not just about business at DHI.  
We strive to **impact communities positively** by supporting **knowledge transfer** and **contributing our resources** to environmental initiatives and charities.*

An important principle for us has been the employment of local staff and the effective transfer of knowledge to the local team. Eight members of our core team are Indian nationals with a strong or permanent connection to the state of Uttarakhand. They have worked tirelessly to ensure that our work on the ground has been effective and appropriate.



As a part of our social responsibility to contribute to the integration of refugees into the Danish labour market, an environmental inspector from Eritrea joined us as a trainee in November/December. The trainee position is part of a project initiated by the Association of Danish Engineers, which aims to enhance the skills of refugees with engineering backgrounds and help them penetrate the Danish labour market.

## OUR FOCUS IN 2018

We believe that the most meaningful engagement with communities derives from passionate and engaged staff who seize opportunities to give when they can. In this regard, DHI will support our staff in community engagement and encourage them to participate in activities where they can make a positive contribution using DHI's capacities.

Depending on the circumstances, this contribution may be in the form of sponsorships, time allocated for staff to support activities, cash donations, access to DHI facilities or otherwise.





# UNITED NATIONS SUSTAINABLE DEVELOPMENT GOALS

*Our activities **support** the goals to end poverty,  
protect the planet and ensure prosperity for all*



## Target 2.4: Strengthening agricultural sector adaptation to climate change

In two projects, the UNEP-DHI Centre assisted the Governments of Ghana and Myanmar to improve the resiliency of crops to drought through strengthened early warning. The objective of this technical assistance is to facilitate transfer and capacity building for climate change adaptation focusing on dry season management and planning. The expected outputs will potentially be one of the key tools for accomplishing the goals related to climate change adaptation for the agriculture and water sector in Ghana and Myanmar.



## Target 3.9: Reduce the number of illnesses from polluted and contaminated water

Sewage outfalls, storm water overflows, plant releases, agricultural production effluents—water bodies in urban areas are subjected to many polluted discharges. When these water bodies are also used for recreational purposes, the safety of the population may be at risk. DHI NZ developed an integrated Bathing Water Forecast System to inform audiences about the impacts of contaminant overflows in and around the Auckland harbour. With this system, information and warnings about water quality are now easily accessible across multiple media platforms. This aids to manage and protect the marine environment in and around New Zealand's largest city.



## Target 6.3: Improve water quality by reducing pollution

The Brandenburg State Office for Mining, Geology and Natural Resources contracted DHI for the project, 'Preparation of the Sulfate Forecast Model for the river Spree'. The WBalMo (water balance model) Sulfate Forecast Model Spree allows risk analysis of sulfate concentrations and other quantitative aspects of water supply. We needed to identify critical discharges that exceed the observed distribution in terms of duration and states, for example, in low water-level situations. A continuous water-management balance model that includes withdrawals, minimum flows, inlets, and the management of reservoirs and transfers, as well as of the resulting sulfate concentrations along the course of the river Spree was created. We also monitored the water supply for withdrawals and minimum flow rates in accordance with the management principles from storage and water transfer. The aim is to ensure that water quality requirements are met and that emission limits are not exceeded.

DHI Brazil is helping to improve the water quality in one of the most polluted rivers in Brazil. Ipojuca River Basin, in the northeastern Brazilian state of Pernambuco, is 3435 km<sup>2</sup> long with almost 40% having an intermittent hydrological regime – which conditions the water quality of the stream and thus the economic growth in the Ipojuca Basin.

DHI established a Decision Support System for wastewater discharge permits, enabling quick and accurate evaluations of the river's water quality for new possible wastewater loads scenarios. The DSS provided local river basin authorities with a dynamic tool for transparent decision making when issuing effluent discharges permits. It enables a better planning for what the local community aims to achieve, such as reducing the number of illnesses caused by polluted water and ensuring availability of good quality water. The aim of the project is to help promote sustainable water management for consumption and improvement of the environmental conditions in one of the driest regions of the northeast of Brazil. Local authorities were also trained to use and maintain the system in operation, as well as to replicate the methodology to other river basins in the State of Pernambuco.



## SUSTAINABLE MANAGEMENT OF WATER



### Target 6.5: Implement integrated water resources management (IWRM)

In China, DHI collaborated with Hohai University to provide the overall planning of integrated flood risk management for Jingdezhen city. We analysed various flood risk factors and formulated an integrated flood risk management plan, proposing different measures and implementation procedures for policy improvement and institutional reform. Our work aims to reduce economic loss due to flood disasters and achieve improved water safety in the Chinese city.

UNEP-DHI Centre is leading the global SDG monitoring and reporting on IWRM and contributing to other United Nations target teams working under Goal 6. This role is based on the Centre's long-term support of UN Environment (UNEP) and our extensive experience in successfully undertaking global assessments. In 2017, the focus of work was on developing and implementing a monitoring methodology in 193 UN member states. The methodology not only enabled countries to report on the status of water resources, but also helped them identify key problem areas. The next step for the Centre is to prepare the official UN SDG baseline report on IWRM (due Q3 2018). This report is expected to provide guidance on important follow-up actions by Member States.

### Target 6.6: Restore water-related ecosystems

In dialogue with biologists and landscape planners, the effects and feasibility of various measures to rewet the floodplains were examined at the river Lippe in Germany. The aim of these investigations is to prevent deterioration during extreme floods while still ensuring that the floodplain is temporarily rewetted during the regular small floods. The planned measures include, among other things, lengthening of walkways, raising of floors, and working on the connection of channel structures. Numerical simulations performed by DHI allow for impact prognosis of the planned redesign measures on the hydrodynamics and morphodynamical conditions—helping local water authorities identify efficient and morphologically sustainable measures to restore the Lippe wetlands.

Wetlands provide great diversity of flora and fauna as well as essential ecosystem services. However, they are under immense pressure from human activities. DHI GRAS leads the European Space Agency (ESA) GlobWetland Africa Project to facilitate the exploitation of satellite observations for the conservation, wise use and effective management of wetlands in Africa. The main objective of the project is to provide Earth Observation methods and tools to major parties involved in the Ramsar Convention of Wetlands in Africa. This will help them better assess the conditions of wetlands and monitor their trends over time. GlobWetland Africa is consistent with the upcoming monitoring requirements for SDG indicator 6.6.1 and it recognises the critical importance of supporting developing countries in strengthening the capacity of national authorities and data systems.

## ACCESS TO SUSTAINABLE ENERGY FOR ALL



### Target 7.2: Increase the share of renewable energy in the global energy mix

The 2013 Dutch Energy Agreement initiated the country's goal to increase its offshore wind capacity from 1,000 MW to 4,500 MW by 2023. The Government decided on three offshore wind farm zones for the deployment of the new offshore wind power: Borssele, Hollandse Kust (zuid) and Hollandse Kust (noord). To provide developers with high quality and certified metocean data, DHI delivered a digital database encompassing 38 years of metocean data. This sophisticated database will serve as a basis for the design, operation and maintenance of future offshore wind farms in the Netherlands.

## PROMOTE INCLUSIVE AND SUSTAINABLE INDUSTRIAL- IZATION



### Target 9.4: Retrofit industries with increased resource efficiency

In Teplice, Czech Republic, DHI helped reduce water leakage in the distribution network by 43% within six months. The local water and sewage company realised they were facing a huge challenge with high levels of water leakage. By deploying a DHI solution that helps to improve the reliability of their water supply, the company is able to greatly reduce costs while providing better customer experience at the same time.

A major refining and petrochemical production plant needed ways to improve their cooling system capacity and energy efficiency. DHI examined the possibilities of efficiency improvement by implementing our Industrial Cooling Water Solution. The study we carried out as part of the solution revealed substantial energy-saving potential, especially in cold and moderate climates. Applying just one of the identified options in the studied system would potentially provide 11% of energy savings annually.

## 1 MAKE CITIES SAFE AND RESILIENT



### Target 11.5: Reduce losses caused by water-related disasters

The Huaihe River is a 1,100 km long river in China with a drainage area of 174,000 km<sup>2</sup>. Located in the transitional climate zone, the Huaihe River Basin has been frequently hit by massive floods and devastating flood disasters. Flood control and management are of vital importance for the river's social and economic development. DHI created an integrated flood forecasting and control system to help authorities reduce flood risks and minimise losses. The system includes a flood disaster assessment functionality, which could predict areas prone to flooding, the population affected and even economic loss. The existing flood map – both static and dynamic – is built into the system to query and display the flood area and inundation loss under given hydrological conditions.

## 2 ENSURE SUSTAINABLE CONSUMPTION AND CONSUMPTION PATTERNS



### Target 12.2: Achieve sustainable management and efficient use of natural resources

Jinan, the capital of China's Shandong Province, is facing the challenge of protecting its water springs and maintaining water supply. Also known as the 'Spring City', it is a vital concern for Jinan to meet the growing demands for water and restore its water springs. In collaboration with the Water Resources Research Institute of Shandong Province, DHI is working to determine the relationship between recharge and discharge of spring water in Jinan. Our team analysed the relationship between surface water and groundwater, as well as the dynamic groundwater behaviour in the spring area. We used our MIKE SHE model to calculate the recharge of surface water to groundwater under different precipitation conditions, and the three-dimensional dynamic groundwater model FEFLOW to analyse the relationship between spring flow and aquifer recharge. With the results, we could propose protection measures and optimisation plans for the city's water springs. This project is an example of technical support we provided for the sustainable utilisation of groundwater resources and serves as a solid foundation for the development of a 'sustainable water culture' in the city of Jinan.

### Target 12.4: Achieve environmentally-sound management of chemicals

DHI is part of the partnership 'Chemicals in Circulation' that helps Danish enterprises reduce the use of chemicals of concern in their products. Sustainable and environmentally-friendly production is becoming a key competitive factor worldwide. The reduction of substances of concern will support Danish companies' tradition of delivering quality products produced with respect for the environment and human health. Moreover, it is expected that manufacturing companies will save costs by recycling and reusing materials. Through the partnership, Danish companies can apply for funding of innovative development activities aimed at reducing chemicals that are hazardous to humans and the environment.

## 3 TAKE ACTION TO COMBAT CLIMATE CHANGE AND ITS IMPACTS



### Target 13.1: Strengthening resilience and adaptive capacity to climate-related hazards and natural disasters

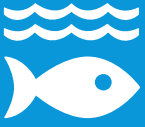
As a coastal megacity, Bangkok faces increased climate-related risks such as rising sea levels and an increased frequency of extreme weather events. Costs of infrastructure and the economic loss from major flooding events today already run into the billions of dollars, with poor urban populations being hit hardest. For Bangkok to address future climate-related risks, sound urban environmental management is crucial. Groundwater pumping, dumping of solid waste into city canals and waterways, clogged drainage systems, and deforestation in the upper watershed all contribute to urban flooding. Better management of these urban environmental issues will help manage future climate-related impacts. Together with Bangkok Metropolitan Administration (BMA), DHI has implemented a demonstration system for early flood warning for a 30 km<sup>2</sup> area in central Bangkok. The activity was supported by CTCN. Activities included:

- Mapping existing drainage
- Building hydraulic drainage models for flood scenario analysis
- Validation of monitoring system design including configuration of web-based information system
- Sharing approaches with other flood-prone cities in Thailand and knowledge transfer to BMA

DHI's services provide an overview for flood risk areas, supporting authorities and citizens of the city. This identification will also serve as a priority tool when upgrading the drainage capacity towards a more sustainable city-environment.

# 14

CONSERVE AND SUSTAINABLE USE OF MARINE RESOURCES



## Target 14.2: Sustainably manage and protect marine and coastal ecosystems

To protect the highly sensitive Bodden landscape, the Fischland-Darss National Park in Germany was established to the east of Prerow, a small coastal community 25 years ago. An emergency and safety port that is still located right next to Prerow today is to be relocated to further reduce impacts on the National Park. Naturally, the neighbouring towns with their distinctive tourist infrastructure are taking a strong interest in this process. DHI is helping to explore the possibility of positioning the port on an island – and as the Prerow beach is of great touristic and economic importance, there must be minimal impact on the beach if the island harbour becomes a reality. DHI carried out morphological simulations in the Bay of Prerow to determine the impact on the beach for different variants of the island harbour. As a result of our work, the longest pier in the Baltic Sea region for connecting the island harbour to the existing infrastructure will be built.

## Target 14.a: Increase scientific knowledge, research and technology transfer in order to improve ocean health

DHI Norway is participating in a project to develop a software tool to describe the presence and movement patterns of vulnerable marine mammals and birds in the Barents Sea. Named the Marine Animal Ranging Assessment Model Barents Sea (MARAMBS) project, the tool will be delivered as an online risk analysis software, and will be valuable to organisations planning activities in the Barents Sea. The project will make use of the available information gained by Norwegian academic institutes and analyse them in innovative ways that are ideal for de-risking the Norwegian oil and gas industry. The MARAMBS model will help us understand how marine mammals and birds react to oil spills and underwater noise, and close a long-time knowledge gap of the industry. This increased knowledge can be used to contribute to environmentally-sound exploration and production activities in the Barents Sea.

# 15

HALT BIODIVERSITY LOSS



## Target 15.8: Protect and prevent the extinction of threatened species

DHI Brunei was involved in a ‘Private Public Partnership’ event last year. As the key environmental consultant to our client, Hengyi Industries Sdn Bhd, we led the pitcher plant relocation program with a number of other collaborators, including those from the NGO and government sector. Two species of pitcher plants – *Nepenthes gracilis* and *Nepenthes rafflesiana* – were relocated to the Berakas Forest Reserve. These species are protected under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and on the International Union for Conservation of Nature’s (IUCN) Red List of Threatened Species.

# 17

STRENGTHEN THE IMPLEMENTATION OF GLOBAL PARTNERSHIPS FOR SUSTAINABLE DEVELOPMENT



## Target 17.9 Enhance international support to capacity-building to implement the SDGs

Through UNEP-DHI, and with the African Ministers’ Council on Water (AMCOW) as the main beneficiary, DHI developed a web-based monitoring and evaluation system, reviewing how well African countries are doing in implementing their policies and reaching their targets for the water sector – including all the water-related SDGs. DHI developed indicators, established the IT-system in AMCOW’s server and built capacity for National Focal Points in African countries to report progress through the system. This will help countries document progress and prioritise areas that need investments and resources.



*Our company's key values, mission  
and vision, clearly supports  
our CSR initiatives.*

## ASPIRATIONS

We have developed a company strategy which clearly supports our CSR initiatives. We will continue our efforts to advance our progress within our four CSR focus areas: Improving the environment, responsible business practices, sharing of knowledge and technology, and community engagement. Being a global company, we see a significant potential in contributing to the sustainable development and social responsibility.

We will fully support the 17 UN Sustainable Development Goals. The majority of the goals and targets involve water-related issues which are at the core of DHI's quest and activities.



# DHI THE EXPERT IN WATER ENVIRONMENTS

DHI are the first people you should call when you have a **tough challenge to solve in a water environment** – be it a river, a reservoir, an ocean, a coastline, within a city or a factory.

Our knowledge of water environments is second-to-none. It represents more than **50 years** of dedicated research and real-life experience from more than **140 countries**. We strive to **make this knowledge globally accessible to clients** and partners by channelling it through our local teams and unique software.

Our world is water. So whether you need to save water, share it fairly, improve its quality, quantify its impact or manage its flow, we can help. Our knowledge, combined with our team's expertise and the power of our technology, holds the key to unlocking the right solution.



## DHI OFFICES WORLDWIDE

Australia	Denmark (head office)	Malaysia	Slovak Republic
Austria	France	New Zealand	Spain
Brazil	Germany	Norway	Sweden
Brunei	Hungary	Peru	United Kingdom
Canada	India	Poland	USA
China	Indonesia	Romania	Vietnam
Czech Republic	Italy	Singapore	

For more information visit: [www.dhigroup.com](http://www.dhigroup.com)

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