



Deltares Strategic Plan 2015-2018





Deltares Strategic Plan

2015-2018





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FOREWORD

This Strategic Plan will introduce you to the world of Deltares. We will tell you about the major, complex issues facing the world that make living in deltas a challenge. That is our field. Deltares has an important job to do. This Strategic Plan describes how we plan to achieve our goals.

The previous Strategic Plan was due for an overhaul, even though the period it officially covered had not yet come to an end. The world around us is changing rapidly. So rapidly, that a new plan is needed to keep us on a tighter course. In addition, this time round, we are publishing the plan at the same time as the other institutes for applied research (the TO2 institutes) to make it easier to establish links between these plans. That was also a request from the Ministry of Economic Affairs with which we were happy to comply.

This plan was established in extensive consultation with others. It is the result of a shared production process with our staff, clients (business and government authorities) and other players in our field of operations. Approximately 100 members of staff have been involved in elaborating the overall content of the plan. We have arranged 80 interviews with people in our field to map out important new developments, questions and wishes for the future. That generated valuable input, alongside all the substantive input received previously from, among other sources, the Knowledge Impact Audit conducted at Deltares recently by an independent international committee. The Deltares management then collaborated with a number of committed employees who had volunteered their services to further elaborate the plan and put it into writing. As a result, this plan is much more than a simple document. It is a dialogue with our organisation and our field about our work, our ambitions and the opportunities open to us. This Strategic Plan is a record of that dialogue.

It covers the period 2015-2018 and constitutes the framework for our knowledge, market and annual operational plans. However, the time horizon for our business extends well beyond those four years. Looking a long way ahead is our job; an adaptive approach is vitally important. So we will have to make regular adjustments to our ambitions and focus if social issues require it. Should it prove necessary to re-calibrate this plan as early as 2017 in response to developments in our field, we will not hesitate to do so.

CHAPTER 1



Developments in the delta



We are talking 2050...

... the Netherlands is the greenest city in the world. The country is a cosmopolitan centre. The Netherlands combines an attractive living environment with an intensive knowledge economy. In addition to international trade and food exports, the worldwide provision of specialist services in the field of water management, the subsurface, food production, bio- and nanotechnology and sustainable energy is an important component of our economic activity. The Netherlands is the world's largest exporter of ideas and technologies for providing the planet's major deltas with security in terms of water, food and energy.

Technological developments have opened up new opportunities for economic growth. The Netherlands has made the most of this by generating large amounts of knowledge at an early stage in its different university centres. The combination of knowledge and the encouragement of collaboration between business and research centres has led to the rapid transformation of new scientific insight into practical applications. Globalisation means that the location of work is no longer relevant and people live where life is pleasant and healthy. The development of an attractive living environment has therefore become essential as a factor in the establishment of the Netherlands as an economic centre.

Energy, health and food

In terms of sustainability, the Netherlands is exceptional because the country is largely self-sufficient in terms of raw materials, energy and food. Given its high population density, that is a major achievement. The energy comes from the sun, the wind, geothermal sources, from

waste and from biofuels. In addition, the water-rich Netherlands obtains energy from osmosis in fresh-salt water interfaces and from tidal plants. Energy is stored in the subsurface in sustainable ways, and by moving water in and out of polders. Energy production fluctuates considerably depending on the natural conditions. Supply and demand are matched on the basis of weather forecasts and predictions of energy requirements. And so, in part because of smart approaches to energy storage and tailor-made



<https://beeldbank.rws.nl>, Rijkswaterstaat / Joop van Houdt

1 Developments in the delta

information technology, there are almost never problems.

Not only is the Netherlands self-sufficient in terms of food supplies, it even exports high-quality foods on a large scale. The results of biophysical research at research centres in Wageningen have pushed up yields per hectare considerably. Research from TNO has made the '3D printing' of food possible. New products are being made from proteins, sugar and fat in combination with water, colourants and aromas. They are edible, but leading chefs and many consumers prefer natural foods, which are produced on high-tech urban farms: the high-quality water for these crops comes largely from local stores of rainwater. In addition to food from the land, salt crops and algae are important sources of basic foodstuffs.

Working with nature

The natural river and coastal processes that form the delta are major elements in water and soil management in the Netherlands. We make efficient use of the services supplied by nature for flood protection, waste-water treatment and drinking water supplies. Flood protection has been designed entirely against a backdrop of rapid sea-level rise and higher river discharges. On the coastline, sand is transported naturally. In the north, forelands are being created that protect the existing dikes. The dikes are becoming increasingly hybrid in nature: river dikes are wide, built-up structures. The low-lying area behind the dikes has been structured so



that it can cope with floods without suffering too much damage or disruption. Vulnerable buildings are located on mounds. The green heart of Holland has been transformed into a blue heart with large areas of open water, and extensive wetlands have been created in the Markermeer and IJsselmeer lakes. In this way, land subsidence has finally been brought to a virtual halt after several centuries. A fine-meshed network of sensors provides close monitoring of the condition of the water and movements in the soil. The resulting data is used to allocate water during periods of excess or shortages.

Big data

Knowledge depends on information. ‘The Internet of things’ is a familiar concept. There are more and more data about water and the subsurface from sources that include the sensor network mentioned above. The Netherlands is home to the world’s leading data management organisations, particularly in the field of delta issues. These leaders have resolved the problem of large amounts of data: how to make sense of a chaotic overload of information. Authorities and managers can make decisions on the basis of clear information. The combination of leading scientific knowledge and applied research, as well

as their transformation into software, has allowed the Netherlands to establish an exceptional, and globally-recognised position, in the field of data. Research institutes have been exchanging their knowledge and skills for years, driven by ever more complex demands. As a result, the Netherlands has established a major lead over other countries.

From disasters to solutions

During the first two decades of this century, the Netherlands started to focus more and more on sustainable and smart ways of using the planet.



1 Developments in the delta

At that time, there were a number of extreme events that accelerated developments that were already in place. Hurricanes Katrina, Ike and Sandy inflicted major damage on the coast of the United States. Persistent drought in the western United States made people aware that even economically strong countries were not immune to the consequences of climate change. In conjunction with the reduction in supplies of water as a result of climate change, demand for water actually increased throughout the world due to rapid economic growth in Southeast Asia,

Africa and South America and the associated rapid increase in demand for food. In addition, energy supplies placed ever increasing demands on water reserves. During the same period, subsurface risks acquired a prominent position on the agenda because of earthquakes in Groningen caused by gas extraction and the increasingly obvious effects of land subsidence. The National Information Facility for Soil Movement made grateful use of innovative 'remote sensing techniques' from satellites, planes and drones to raise the information and



knowledge relating to soil and the subsurface to a higher level.

When large sections of the ice sheets around Antarctica disintegrated in a few weeks time in 2015, people began to worry that sea-level rise would be much faster than had been assumed previously. A rise of six metres, even over a period of decades or centuries, was thought to be realistic and a major threat to low-lying urban deltas. Approximately 40% of the global population was living in these areas. So measures to mitigate the impact of climate change and to safeguard healthy living conditions with adequate supplies of fresh water became a matter of urgency. Investments were diverted to some extent from extracting fossil fuels in challenging locations and increasingly into the development and use of renewable energy sources. In the World Economic Forum's report for that year, the water crisis and adaptation to a changing climate were described as the major challenges facing the planet.

A number of matters became clear. The main one was that, after numerous studies looking at the consequences, it was time to shift the focus to identifying solutions. It was realised that rapid sea-level rise in combination with land subsidence would make it difficult or impossible to protect the planet's main deltas with the resources currently in use. It was time to look at whether more organic, self-adapting systems could provide solutions that could remedy the increasing vulnerability to flooding. In the

Netherlands, people were already experimenting with systems of this kind, for example in the Delta Programme. Furthermore, there was an awareness that the threat to deltas was not just a water problem but also a problem involving land subsidence and sediment shortages.



In the Netherlands, more crops were developed that could cope with salt and drought, boosting agricultural productivity. The precise monitoring of soil and groundwater, and accurate seasonal forecasts, helped to improve crop yields further.

1 Developments in the delta



Accompanying the developments in land food production, agriculture at sea also developed. People switched more and more to plant-based foods.

These developments led to major successes. Between 2015 and 2050, the agricultural sector doubled food production. It was possible to save a large part of the Mississippi Delta using natural flood protection involving the capture of much larger quantities of sediment in the delta itself. Land subsidence was brought to a halt in Indonesia by regulating water supplies so that the delta could be protected from flooding more effectively.

The basis for success in the Netherlands

All these innovations began in the Netherlands. That was no coincidence. The Netherlands was seen as the planetary pioneer in the field of adaptive delta management. It was one of the first countries to make preparations for sea-level rise and falling land levels. That is because the Netherlands had, and still has, a world-class research sector for water, sub-surface, energy and food supplies. Its institutions worked together closely in these areas. This was encouraged by a government that was open to experimentation and a business sector that saw the promise of investments in new approaches to flood defences, water manage-

ment and food supplies. The Dutch Delta Programme turned out to be an excellent step in the right direction. The Netherlands developed into the globe's 'Sustainable high-tech delta' in the fields of water and the subsurface, and this proved to be a major boost for business.

Today's answers to tomorrow's questions

Let us return to the present. Because the developments in 2050 mean that we need to start right now. Deltares is willing and able to make a genuine contribution to these major social challenges. We focus on flood risk management, water quality, the availability of water and the subsurface. That is our 'core business'. We have been developing knowledge and solutions for years. The opportunities and threats afforded by water and the subsurface are highly important preconditions for sustainable life in the delta, and that includes the long term.

'Enabling Delta Life' is what we stand for, now and in 2050. Our work has considerable impact. We want to enhance our knowledge and to put it into practice immediately. We do this by testing solutions and making them feasible. For example by predicting local freshwater shortages and thinking about how to store fresh water in the ground. We map out the impact of human activities on water and the subsurface, and describe alternatives. We develop new and sustainable ways of protecting specific areas and people from the encroaching water and land subsidence. Adaptation is the underlying

principle here, not just for the solutions we devise but also for our working methods. It is better to adapt to new conditions than to fight them. Flexibility is becoming an important principle for life in the delta. Above all, the 'survival of the fittest' means that the most adaptive species will survive. That idea will guide our focus in the years to come.🌀

**'Enabling Delta Life'
is what we stand for,
now and in 2050**



CHAPTER 2



Where Deltares makes the difference



Delta technology is one of the most innovative sectors, with major export potential for the Netherlands. Throughout the world, governments, business and lobby organisations need an independent knowledge partner that can advise them and help them to resolve the highly complex challenges that are emerging in delta areas: a combination of high population pressure, urbanisation, high economic value and safeguarding the living environment. It is important to start thinking now about the questions that will arise in the near future.

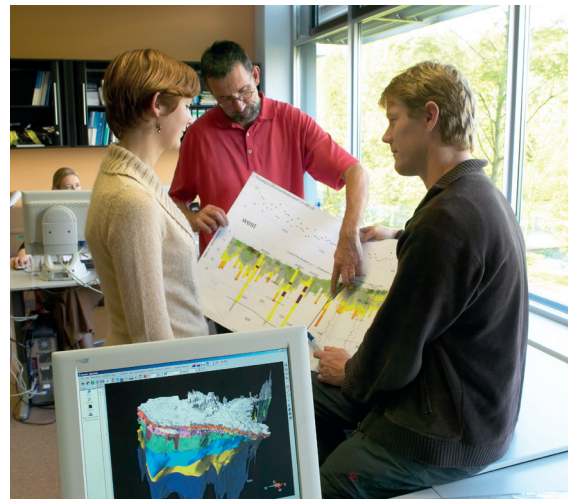
In recent years, Deltares has already demonstrated how valuable it can be in this respect. We have largely achieved our ambition - stated earlier in the 2012-2015 Strategic Plan - to establish a position as an international authoritative research institute in the field of water and the subsurface. In addition to our contributions to Dutch solutions such as the Delta Programme, Room for the River and the Sea Defences research programme, we have been involved in international work in collaboration with Dutch business. Examples are our activities in Singapore, Jakarta and Mozambique, and our involvement in the United States on the 'Rebuild by Design' programme for New York. We have transformed ourselves from a merger organisation into a tight-knit, demand-driven organisation with 30% of our turnover located in other countries.

Our knowledge and innovations, on the basis of an internationally recognised position, make genuine contributions to life, and particularly safe living, in deltas. We have a substantial impact on science and society but we can't rest on our laurels. An ongoing focus and new solutions are required to face up to the effects that climate change and human activity have on water and the subsurface. We will be firmly

committed to these aims in the time to come. That will require high levels of knowledge, collaboration and creativity because the challenges are greater than ever.

2.1 Our mission

'Enabling delta life' is our goal. We contribute our top-level knowledge to open up the way to innovative and sustainable solutions for global issues relating to the use, and the risks, of water and the subsurface.



2.2 Our position

Deltares is an independent research institute. We cherish our independence. It allows us to sit down at the right tables throughout the world to talk to organisations and decision-makers who matter and who can make the difference. Knowledge is what opens up these doors for us. Everything we do is dominated by applied knowledge of water and the subsurface. Our organisation brings together these two fields. And we supply our knowledge to the whole of 'Netherlands plc': where possible, we work on an 'open source' basis. Deltares stands out due to the combination we provide of freely available software, experimental facilities and staff with a high knowledge profile. In our way, we deliver new solutions and insights that allow us to put the challenges facing society onto the agenda.

Deltares is a non-profit organisation. We stand out because of the quality of our work. We collaborate with others on solutions for planetary challenges relating to food, health, energy and physical infrastructure. That involves looking for ways of teaming up with other research institutes and business. Deltares is one



of the six research institutes where a substantial proportion of the applied research in the Netherlands is conducted. That allows us to make a major contribution to tackling social issues and

'The Netherlands Confederation of Industry and Employers (VNO-NCW) is enthusiastic about Deltares and the research it conducts because they are important for the Netherlands, and in particular for Dutch business and the water sector. Deltares also has a clear position in the field, not least with respect to the private sector. Well done!'

Thomas Grosfeld | innovation and industrial policy secretary



enhancing the competitive potential of Dutch businesses and institutions.

In the Netherlands, we do not compete with Dutch engineering firms. On the international stage, we are keen to work with Dutch organisations so that our knowledge can benefit them. In addition to our role as a specialist consortium partner in international knowledge and consultancy projects, our role as a strategic knowledge partner for government authorities, institutions, financiers, NGOs and private parties is crucial. That requires a strong focus on regions, projects and shareholders where our distinctive potential

comes into its own. We aim to continue communicating the distinctive position occupied by Deltares to the market so that governments, institutions, private parties and NGOs can make the most of our capacities.

2.3 Our ambition

In the time to come, we will be further extending our position as an independent, authoritative, research institute. We will be continuing to follow our course and we aim to be a recognised 'Triple A' institute in the area of water and the subsurface, both nationally and internationally. The quality of our work must be unquestionable. We want to excel in all our fields. Our knowledge and ideas are innovative and sustainable, and they are demonstrably effective. Our approach is solution-driven, transparent, and geared to working with the market.

We will provide further details about our thematic ambitions (2.4.), scientific ambitions (2.5.) and international ambitions (2.6.) below.

2.4 Ambitions for our five themes

The world needs solutions to challenges involving the use of water and the subsurface, and the associated risks. Our knowledge agenda focuses on the development of these global solutions.

We have subdivided our portfolio into five themes. Knowledge objectives have been formulated for each theme. Our knowledge agenda and the selection of the themes are based on current

2 Where Deltares makes the difference

issues facing stakeholders, gaps in knowledge that we have identified and issues we expect to see arising in the medium term given social and scientific trends. Research assignments must fit in with one of the themes and the associated programmes, and contribute to the fulfilment of the knowledge objectives. The goals (dots on the horizon) are central to our project recruitment activities and to the elaboration of Joint Industry Projects (JIPs), EU projects and projects in Dutch knowledge programmes. Here, Deltares itself plays a pro-active role and directs the content of projects in such a way that they conform even more closely with the stated knowledge objectives.

Deltares has identified five important themes in the areas of water and the subsurface that provide our activities with a logical structure. In turn, the themes include three subjects where we wish to deepen our scientific understanding; more details in this respect can be found in section 2.5.

1 The 'Flood Risk' theme develops knowledge that can be used in practice to improve flood risk management and to limit or prevent adverse effects. We quantify risks relating to flood risk management. In addition, our activities include the identification of effective, affordable, technically feasible and socially acceptable measures to prevent and manage floods and to mitigate effects. We develop strategies and measures for the optimal protection of delta areas from floods both at the policy level and in crisis situations or preparations for emergencies. Nationally, the theme also focuses to a major extent on the application of the new 'flood probability standards' and the assessment, design and management of flood defences.





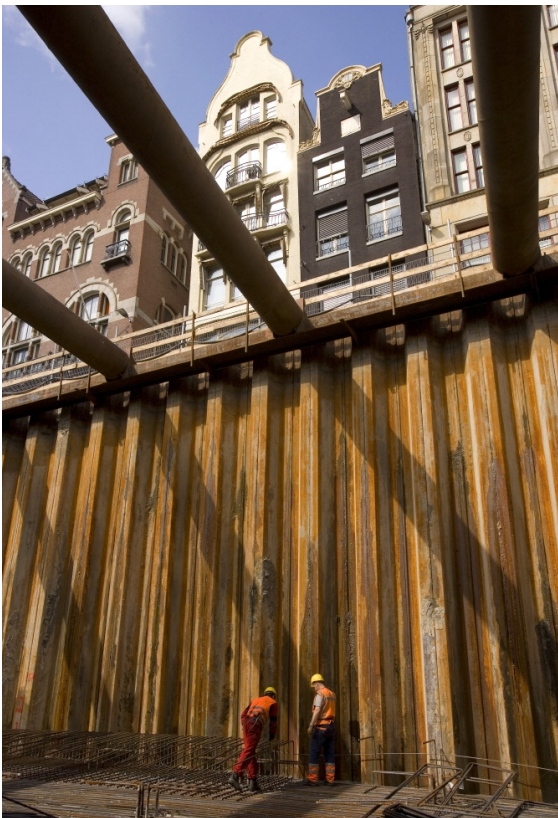
2 The 'Ecosystems and Environmental Quality' theme concentrates on the dynamics of ecosystems and the services they can deliver in terms of safety, health and the economy while maintaining or even improving natural values. There is a particular focus on solutions using nature for things like water defences (nature-based engineering). Innovations are developed for agricultural, industrial and urban areas. We study processes and system behaviours in areas ranging from catchments to coastal zones, and develop the associated measuring methods and strategies. We record the knowledge that is developed in data, model and information systems and use it to deliver information about the condition of the water and the ground that is relevant for management purposes.

3 The 'Water and Subsoil Resources' theme looks at the availability of water and subsoil resources, and at water allocation in river basins and deltas. We work on the reduction of uncertainties relating to the availability of natural resources. In doing so we look at ways of using the subsurface for the storage of water and energy, and as a source of materials. We make improvements to water and soil management, reducing risks and enhancing economic returns and sustainability. Innovative solutions need to be developed to tackle local and regional water shortages. Deltares is developing methods and instruments to help national governments and supra-national organisations with the prevention and resolution of water conflicts.



2 Where Deltares makes the difference

4 The 'Delta Infrastructure' theme focuses on the design, construction and maintenance of physical structure in relation to water and the subsurface. This includes the costs and risks of the construction and maintenance of infrastructure. Existing infrastructure will have to adapt to changing conditions such as climate change, sea-level rise and land subsidence. The socially-acceptable integration of infrastructure in the local environment will play an important role here. Local residents and government authorities are coming up with new demands. We use our unique physical and data facilities to simulate processes and to derive design rules.



5 The 'Adaptive Delta Planning' theme combines our technical knowledge with social sciences for the purposes of policy support and area planning. We develop integrated methods and instruments that contribute to better spatial planning with the smarter use of water, the subsurface and infrastructure. We do this by mapping out a range of adaptation strategies for climate change and land subsidence, often resulting in several possible avenues of action. This is extremely important, particularly in urban areas, as pointed out in Chapter 1. That is why the city is such an important working area for Deltares. Our solutions focus on sustainable urbanisation, with adaptation as the guiding principle.

We have elaborated our themes further in ‘The World of Deltares’. We wish to maintain our recognised national top position, and expand further internationally in the coming years, in all these themes. We set the standard in the Netherlands, lead the trends and guide the development of new solutions. We are a self-evident knowledge partner for government authorities, business, NGOs and other research institutes.

‘Working together on projects delivers products that can be extremely valuable. The scientific quality of the results is excellent and they can be put into practice quickly.’

Piet Hoekstra | Dean of Utrecht University

2.5 Our scientific ambitions

We are introducing more focus to our research agenda in consultation with our stakeholders and in line with factors such as the top sector policy, the European research agenda and the National Knowledge and Innovation Programme, Water and Climate. Our international scientific profile concentrates primarily on three fields: eco-engineering targeting natural flood defences (a part of the Ecosystems and Environmental Quality theme), ‘multi-resolution modelling’ (processing large data sets as mentioned in Chapter 1) and climate change in relation to water management (which is a component of

several themes). This decision was taken because we already have a strong and authoritative knowledge position in these fields, which also clearly respond to scientific and social demand. The fields transcend several of our knowledge themes and open up opportunities for pioneering interdisciplinary research. In that way, we provide a clear demonstration of the range our knowledge covers. When we lack the requisite expertise in specific areas, we enter into partnerships with other research institutes and researchers, both nationally and internationally.

Our goal is:

- To further extend our role as a scientific top institute in the fields of eco-engineering, multi-resolution modelling and climate-change adaptation.

We will do this by:

- Strengthening the relationship with leading scientists in these fields.
- Producing more scientific publications about these subjects.
- Recruiting the relevant professors.
- Engaging in regular reviews of scientific publications in these fields.

2.6 Our international ambitions

The Netherlands is our natural home market and it is where many of the problems we work on are to be found. We uphold the reputation of the Netherlands in the field of water and the sub-surface (delta technology), and that generates opportunities for business. We will be expanding



in this area in the years to come to attain international turnover of € 40 million annually. Internationally, Deltares wants to be in the vanguard of the themes referred to here. We aim to participate in 'iconic projects' that will allow our knowledge to develop and return to the Netherlands. Top scientists in our fields at home and abroad will be eager to work with us. Our software, standards and modelling will be used across the globe.

Geopolitical matters will become increasingly important in project acquisition. Competition from major financial powers will increase accordingly, for example in Asia. The response from the Dutch Water Top Sector will be to focus on supplying integrated solutions in which quality and sustainability will be important objectives. We will further export opportunities

by pooling our strengths on major issues and assignments. That will require robust collaboration in the 'golden triangle' (government/business/research) and a strong focus. We cannot be equally strong in every country.

The Dutch government has selected a small number of countries with whom we intend to strengthen our relationships in the years to come. In addition, overseas development is increasingly becoming a source of opportunities for Dutch business (from aid to trade). Deltares is engaging in this development but we are also looking at regions and countries where we can deliver major added value on the basis of our knowledge. For example, we have a strong and successful local presence in the USA and in the Middle East.

We are therefore concentrating our activities and marketing on countries targeted by the top sectors or the Dutch government and on potentially successful knowledge/market combinations. Our decisions are being made on the basis of operational considerations (such as rates and risks).

Our goal is:

- To increase our turnover outside the Netherlands to € 40 million annually.

We will do this by:

- Further professionalising our marketing, accounts and leads management system.
- Engaging in strategic cooperation agreements with governments and intergovernmental agencies for supranational organisations.

2.7 Bonding and broadening

We have listed the core Deltares themes here.

However, we have found that the social challenges facing the Netherlands and delta areas throughout the world do not fit neatly into this sub-division of the research and consultancy world. The social problems transcend that level.

That requires the establishment of links between Deltares and its knowledge-intensive setting.

Deltares distinguishes between four major issues that are largely outside the domain covered by Deltares but where Deltares expertise is

important:

- infrastructure
- energy
- food
- health



2 Where Deltares makes the difference



We have expertise in the area of 'infrastructure'. Particularly in the area of hydraulic engineering, Deltares already has a strong international track record: with years of expertise in this field, we have a strong position on the national and international stage. Furthermore, there are also many knowledge issues relating to sustainable transport infrastructure. They relate to areas such as climate-robustness, soil movement and navigability. We are looking at the design of more robust cities that can cope better with change in general, and climate change in particular. We are studying the impact of ageing on public infrastructure (such as dikes, roads and mains networks) and our research also covers construction, maintenance and replacement (asset management). In this field, we have

wide-ranging partnerships with MARIN, Delft University of Technology, the Netherlands Organisation for Applied Scientific Research, EU TEN-T, contractors, engineering firms and various cities.



In the field of 'energy', our society faces the challenges of switching to new forms of energy and safeguarding energy supplies. We will therefore be looking at what our knowledge can contribute to opportunities, now and in the future, in the fields of, for example, hydroelectric power, wind, osmotic and thermal energy, and geothermal energy. We will also be looking at the impact of these sustainable energy sources on the locality and the subsurface. More building - for example of wind farms



‘Deltares is strong in water management and risk management, but it needs to link this strength to broader issues affecting society. That requires working together with other research institutes with complementary strengths. Here at IMARES, we are already working with Deltares in that way. We would very much like to upgrade that partnership and extend it in the direction of a more shared approach to positioning, projects and products.’

Tammo Bult | managing director of IMARESS

and tidal plants - will also be taking place at sea and on the coast so that energy demands can continue to be met. We expect partnerships with the Energy Research Centre of the Netherlands (ECN), the Netherlands Organisation for Applied Scientific Research, Utrecht University, Delft University of Technology, Shell, NAM, Tennet, Gasunie, contractors and many others.



Deltares wishes to make a contribution to the development of sustainable and efficient methods for growing ‘food’, for example in aquaculture and ‘city farming’. An important challenge will be how to manage more limited stocks of fresh water. Integrated Water Resources Management will be deployed to optimise the use of available water stocks and

possible courses of action will be set out for users. Measures relating to infiltration, irrigation, drainage and storage will enhance the availability of fresh water and combat salinisation. Another shared field is aquaculture, which can be optimised by including this area in integrated coastal zone development as an ecosystem and in conjunction with coastal protection. We expect wide-ranging partnerships with Wageningen University/Agricultural Research Service, the Dutch Federation of Agriculture and Horticulture (LTO), the Food and Agriculture Organisation of the UN (FAO), Unilever, Heineken...



Floods, climate change and pollution affects the ‘health’ of people and animals. Sustainable measures that safeguard a healthy environment are a component of the Sustainable Development Goals (SDGs). Action to combat negative trends includes anti-pollution measures and the monitoring of the levels of plastic entering the environment. Change also generates opportunities. Changes in how ecosystems perform have multiple effects on human health. We are therefore aiming to link our knowledge of ecosystems with other areas of research so that human health can be taken into explicit consideration during the planning, design and use of ecosystems. We expect wide-ranging partnerships with the National Institute of Public Health and the Environment (RIVM), universities, KWR Watercycle Research Institute, Wetsus, Delft University of Technology, NGOs and international financial institutes. 

CHAPTER 3



The approach to our ambitions



We focus on three basic elements that are essential to our ambitions. First of all, we have excellent knowledge at the top international level. We opt for international excellence in several disciplines. In some disciplines, we collaborate with other research institutes and top organisations. We select the areas where we can be genuine world leaders. In particular, we wish to be in the top flight in terms of our problem-solving power, contributing to the Dutch reputation in the field of delta technology.

In addition, our work has added value for society. That is something we want to be clearly visible. People should understand that our knowledge is used to address important social issues and that it is indispensable if we are to maintain the habitability of deltas sustainably. To enhance our social impact, we link our excellent knowledge in the exact sciences with the social sciences. This social impact is also a major motivator for the people who work for Deltares.

The link between our knowledge and the market is another important factor that helps us to achieve our ambitions. Our research delivers added value (financial and otherwise) for public and private bodies and it strengthens the competitive position of Dutch business. Here, engaging in research alone is not enough. That is why we always take the initiative in looking for smart partnerships to advance our knowledge and to actually use it in concrete solutions.

We will now take a more detailed look at these three basic elements.

3.1 Top international level

Our international ambitions have already been set out in detail in Sections 2.5 and 2.6. Introducing greater focus to our research agenda means that our impact on specific fields can be enhanced further. Publications in leading scientific journals show that our ideas have an effect on the approach to major global issues and that our solutions are being applied enthusiastically and successfully. That is why we want Deltares to produce more academic publications. Monitoring how we use our knowledge will become part of our quality system. More often than previously, we will be using our core expertise to draw the attention of our stake-

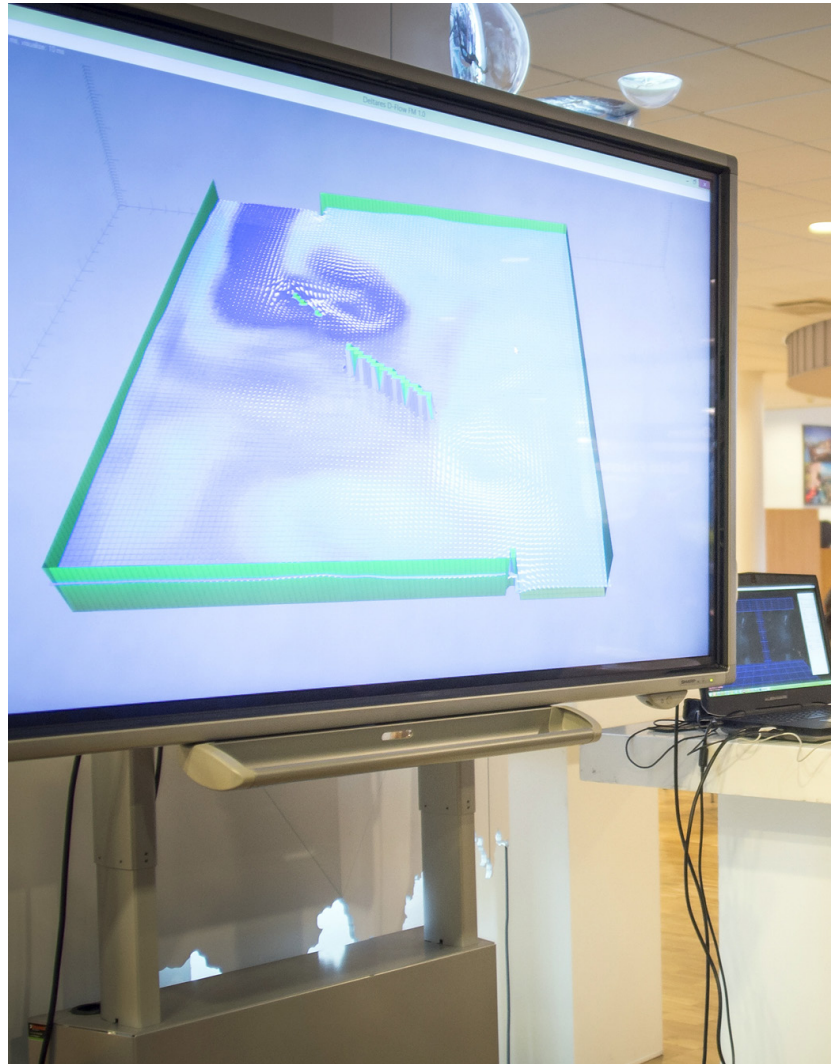


3 The approach to our ambitions

holders to social risks, opportunities or possible courses of action.

Our software and experimental facilities provide indispensable support for our knowledge development and knowledge access. Because of their strategic value, we will be continuing to invest in these facilities to ensure that they are maintained at the top level for knowledge development.

Ninety per cent of all our activities consist of research assignments commissioned directly by public and private agencies. Almost 10% (2014) are accounted for by the subsidy for 'Strategic Research' from the Dutch Ministry of Economic Affairs. That includes the requirement that we must act as the sector's 'institutional memory' (knowledge centre). Equally important is the requirement that we should adopt a pro-active approach to anticipating developments: Deltares puts Delta issues arising in the next decade or later onto the agenda. Our strategic research subsidy is an essential basis for preparing the Netherlands to meet the complex demands of the future in our delta.



'For the National University of Singapore, Deltares is a prestigious knowledge partner that has proven it can generate practical knowledge and deliver innovative solutions for its clients.'

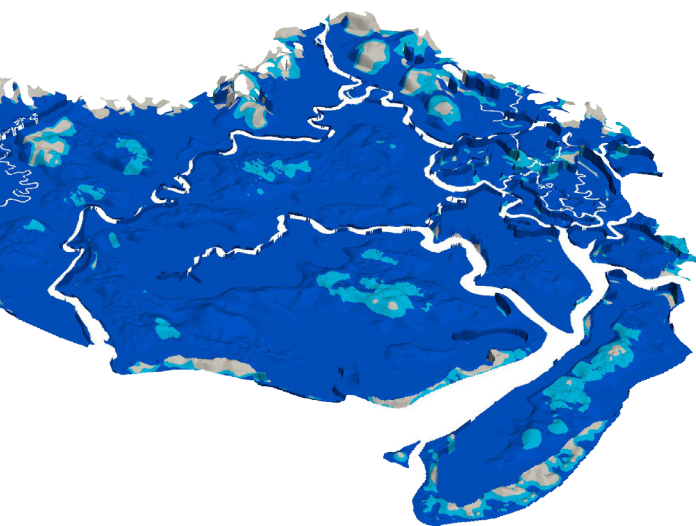
Professor Barry Halliwell | Deputy President (Research and Technology) and
Tan Chin Tuan, Centennial Professor of the National



3.2 The added value of our work for society

On the basis of our slogan 'Enabling Delta Life' and our mission, we develop knowledge for the sustainable development of deltas, coastal regions and river basins, and apply that knowledge in our themes and projects. That means that our work has, either directly or indirectly, a major social impact. That added value consists of proven contributions to the five themes discussed above. We make an assessment prior to each project of whether we can make a positive contribution to these themes.

We have to make it clear how our work matters and explain that in appealing ways. Our partners and clients appreciate the work done by Deltares but some local residents and some businesses feel that it has nothing to do with them. Looking at the social issues that are relevant at present, we have identified five areas that we wish to highlight more in the coming time in our communications. These are subjects that people have in the forefront of their minds or that affect



3 The approach to our ambitions

them directly, such as flood risk management or water shortages. We will be responding to their sense of urgency and trying to explain the importance of our work in ways that can be understood. We do this, for example, by generating attention in the media, including the social media, for these subjects, by being a strong presence at international congresses and conferences, publishing articles, blogging, and by using storytelling techniques so that the importance of our work is explained in appealing ways. This will be the primary focus of our communications in the time to come.

Our goal is:

- The demonstrable added value delivered by Deltares for the five themes should be seen and understood by the public.

We will do this by:

- Generating international media exposure at least 25 times a year, approaching the media in pro-active ways with news that has major social significance.
- The active monitoring of relevant social trends and issues so that we can tailor our 'story' accordingly.

3.3 Bringing knowledge and the market together

The highly complex social issues that Deltares sees as its shared responsibility can only be resolved by working with others. That is why we organise our innovations in an open network structure with public and private stakeholders

who make a long-term commitment to our knowledge agenda. We do that in conjunction with other applied research institutes. That involves working with and supporting small- and medium-sized businesses, including in European innovation programmes, and mapping out opportunities for spin-off activities.

To strengthen our role, we will be using knowledge development from the Water AgroFood and Energy Top Sectors as a flywheel for further knowledge development and innovations that are relevant for practice. Joint Industry Projects can be used as catalysts here. Deltares looks for assignments in the area of knowledge questions in the pre-competition phase that have not yet been picked up by the market. Our role is to engage in pioneering and wide-ranging research and to put innovations into practice so that business and government can reap the benefits. We collaborate here in the 'Golden Triangle' of government, business and NGOs. Where possible, we make our knowledge available on an





‘open source’ basis. That is a decision we made a number of years ago and we will be sticking with it for the future because it enhances our knowledge development and the impact of our work.

Increasingly, Deltares clients include major international institutions with a ‘global scope’ such as the World Bank, the EU and UNESCO. We believe there are opportunities here to extend our international portfolio. We will also be working more with international companies (multinationals, food and beverages, mining etc.) Deltares has the knowledge needed to tackle the problems (water scarcity, flooding, ground movement, etc.) that afflict major international companies throughout the world, endangering their continuity.

Our goal is:

- To strengthen the relationship between knowledge and the market.

We will do this by:

- Increasing turnover for business in the Netherlands and internationally to € 40 million.
- Entering into strategic relationships with individual companies or branches of industry in the form of substantive cooperation agreements (substantive in terms of knowledge development).
- Compensating for declining turnover from the Dutch national government by increasing the share of other government agencies. Maintaining total turnover for Dutch government authorities at approximately the same level of € 60 million.
- Programming half of our Strategic Research as Joint Industry Projects. Our TKI funding will increase to € 3.5 million a year.

3 The approach to our ambitions

3.4 Strengthening our impact

The elements described above mean that our ambition is achievable in the long term. In addition, we also wish to enhance our impact further. We will be doing this as follows:

1. Our goal is to maintain and extend our leading position in areas where we are already strong. Water and the subsurface are our core business: we work on the themes of protection, availability and quality. We focus our contribution in these areas to limiting risks and exploiting opportunities.
2. We have unique knowledge relating to water and the subsurface. The issues facing the

world cannot always be stated in terms of these fields. As a result, we will be working even more closely with partners who have specialist knowledge relating to health, energy, physical infrastructure and food supplies so that we will be in an even better shared position to address the challenges of the future.

3. The world will continue to change. In order to continue providing answers to the right questions and to maintain and establish the appropriate partnerships in the future, we are intensifying our external orientation. We are aware of what is going on in the wider world



outside: the challenges facing our stakeholders and where we have a role to play, now and in the future.

We will now take a more detailed look at these areas.

Enhancing our leading position

The current position occupied by Deltares as the centre for knowledge in the field of water and the subsurface depends on our highly-motivated staff, our exceptional knowledge profile, unique experimental facilities and open-source software. Our knowledge is available in the form of leading

publications in scientific journals, in landmark reports and at national and international conferences. We create an impact by making that knowledge applicable. In recent years, there has been a rapid increase in the availability of global data. We have the knowledge and skills required to use those data: we make calculations with big data and provide others with insights into large quantities of data.

Scientific impact is not enough to establish and maintain a leading position. Our future as a leading research institute requires the exchange of knowledge: both the contribution and the acquisition of knowledge. Deltares brings stakeholders together and organises the debate around substantive themes. The Deltares Software Days are good example. We facilitate discussions about the themes where we shape the knowledge landscape (see Chapter 2). Deltares has leadership teams associated with those themes: professionals with national and international reputations who engage publicly with these issues.

Deltares is involved in topical discussions because our knowledge has an impact on people and society. We start up discussions if the content merits our intervention, for example in the case of major flood risk management initiatives such as the Delta Programme. Deltares is actively involved with the content of the public debate by explaining knowledge and data relating to our field and outlining possible solutions. As an independent institute, we are responsible for counterbalancing 'fact-free



3 The approach to our ambitions

politics'. We provide the facilities our staff need here, for example by encouraging the use of social media, media training and furthering communications skills.

'Deltares is a pioneer and that implies responsibility for public assets. Get out onto the stage, inspire people and set an example.'

Pieter Copper | IUCN-NL

Working with partners

In the decades to come, the properties of soil and water systems will change due to factors such as

climate change but also because of human activities. We contribute what we know about the physical structuring of the world in order to limit risks for infrastructure and transport, energy, food and health. That means we are intensifying the partnerships we have and that we are eager to find new partners, as mentioned in Chapter 2.

Deltares and its predecessors have had long-standing relationships with Rijkswaterstaat, the Dutch ministries and other government agencies (water authorities, municipalities and provincial authorities). We are keen to maintain those relationships and to continue our involvement in areas such as flood risk management, water and soil management, and the smarter building and management of large infrastructure. Our themes





are a perfect match for the top sectors established by the Dutch government. More than in the past, knowledge will be generated in projects and in larger collaborative ventures (including the top consortiums for knowledge and innovation (TKI)): between central government and other government agencies, and between ourselves and our knowledge partners and business (SME). In this respect, as a TO2 institute, we also have a responsibility to society at large. This position implies that Deltares needs to play an active role, and sometimes to take the initiative. We need to collaborate with others. We must ensure that opportunities are taken to

develop knowledge when major social benefits are involved that transcend individual projects.

We share our facilities internationally with universities and fellow institutes; we will be continuing to develop the Deltares campus. This will be an exciting and appealing location for the exchange of knowledge. Not just for our own staff but precisely for our partners.

External orientation

Deltares is looking even more to the world outside our walls. As pointed out above, we will be collaborating more intensively with a wider range of varied partners and clients. But how do we know we are making the right decisions? We will be monitoring this actively: what do we think ourselves and does that match what is happening and what people are thinking outside the organisation? This is a part of our DQMS quality system. We monitor both our own organisation (do we have the required competences?) but we also observe the world around us. We have stakeholder groups consisting of experts from outside the organisation for all of our themes and they keep us on our toes. We also monitor global

'As Deltares, you have to bear in mind that you will be increasingly required to demonstrate the added value of collaboration in the field of knowledge. I see the way we pool our resources in Mexico (with the involvement of the embassy, consultancy and Deltares) as an example of how the golden triangle should work together abroad.'

Jaap Veerman | Dutch deputy ambassador in Mexico

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reports in the media and social media. And so we also focus adequately on the sociological side of our work: the level of interactivity and co-production with the locality, process control and communications with relevant players.

Scientists and experts can turn to us for exchange programmes that facilitate the mutual exchange of knowledge. We know our markets through our range of international branches and strong local networks. We have annual impact discussions with our leading clients and actors working in and around our field, and our staff work actively on building up their networks.

Because we know our clients and stakeholders better, we can develop further from a demand-

‘The slogan “demand-driven” should imply more than just listening to stakeholders. It involves nurturing a close, long-term relationship, asking about client satisfaction not only during and at the end of a project, but also later on to make sure that the product or service continues to be fit for purpose, seeking to be involved in high-impact projects, and setting research agendas together with the stakeholders.’

Internationale KIA (Knowledge Impact Audit) | committee

driven organisation in the direction of open network innovation, taking the initiative ourselves to develop knowledge. As a solution-driven organisation, we supply possible courses of action and advise about the best decisions. These possible courses of action are, where possible, developed as instruments and tools such as apps and games, sometimes in collaboration with private parties. This approach provides clients with a picture of possible solutions rather than a single ready-made solution. As well as increasing their understanding of the situation, this also instils confidence in the fact that our knowledge can be put into practice. An example of the development of this kind is the establishment of the iD-Lab (see Chapter 4).


Our knowledge of the world around us means that we set the agenda: we sketch a picture of the adaptive design of delta areas. We look for

solutions to global issues. We are involved from start to finish: from the stage of ideas, policy, and design to actual implementation, management and demolition/re-use. We will increasingly operate as knowledge entrepreneurs.

Our goal is:

- To further increase our scientific, economic and social impact.

We will do this by:

- Conducting at least 100 exploratory interviews with our stakeholders outside the context of projects and direct assignments.
- Testing the impact of our work and the exploitation of our knowledge in customer satisfaction surveys and at the point of project completion.
- Testing our knowledge impact in knowledge audits during the course of a four-year cycle. 





CHAPTER 4



People, facilities and
software make Deltares



In the years to come, we will be faced with the challenge of shaping the ambition in this Strategic Plan: 'developing into an authoritative international research institute'. The core themes for our staff in this respect are: excellent knowledge, external orientation and internationalisation. Our people are enterprising, willing to take initiatives, involved in discussions about interviews in our field, and authoritative.

4.1 Our people

Our staff are our most important asset. In view of our international ambitions, efforts will be made to raise our profile as an attractive employer for top international talent. We also want to provide the facilities that will allow our staff to perform and operate successfully on the international stage, for example in exchange programmes with international research institutes and the acquisition of employment experience abroad. We always give our staff opportunities to develop further in their fields. We encourage this by means of in-house coaching, outside exchanges with other institutes, and education and training.

We want our staff to be, and remain, intrinsically motivated top professionals in their fields. An important development is that knowledge is ageing ever more rapidly, in combination with the fact that people are working for longer (due to the government's employment disability and pension measures). These are some factors that explain the sharp rise in the average age of our workforce.

Given our low staff turnover rate, we will have approximately 250 members of staff aged 50 or

older in 10 years from now, and 100 employees aged 60 or older, if no changes are made to our policy. A relatively large group of professionals are reaching the top end of their salary scale when they still have a career of 25 years ahead of them. The state-of-the-art knowledge of our employees is a scarce commodity. We are responding to the challenge of preserving our 'knowledge vitality' by, for example, providing



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tailored long-term career planning for all age categories, exchanges with other organisations (universities, the civil service and research institutes) and by including substantive development as a standard component ('lifelong learning') in our regular career advice and interviews. In addition, we have an active recruitment/promotion/onward employment policy to ensure that our employees do not remain with us for too long. Our life-phase-based HR policy therefore concentrates on the ongoing and optimal employment of all our staff within the organisation by taking their current life phase and their associated requirements into

account. Sustainable availability means that people can work in motivating and professional ways, needless to say within the framework of the organisation's operations, strategy and mission.

The external orientation of our staff is very important for the success of our business. In recent years, we have had positive experiences with the development of knowledge entrepreneurship from our colleagues. This means: working more with the setting and the client in mind and, on that basis, engaging in a pro-active analysis of relevant opportunities and develop-



ments. On the basis of this experience we are now planning to initiate group development approaches for existing market teams. We will also be giving individual colleagues the opportunity to further develop their entrepreneurship. We are adopting a selective approach: the required end result can be achieved by means of teamwork and the optimal deployment of the desired competences. Under our communications policy, we will be helping the entire workforce to communicate the Deltares story clearly and consistently. We will ensure that all our colleagues are able to explain not only the technology but also the added value for society of their work.

More diversity in the scientific and management line is another focus of our HR policy: we want to have a better balance between men and women, and between Dutch and international staff. We conduct regular quantitative surveys of the satisfaction of our workforce with respect to Deltares as an employer and the working environment. They provide us with the input we need to further improve our organisation and our role as a good employer.

'We feel that Deltares is helping us a great deal in our efforts to become the most climate-robust city of the Netherlands. We are very impressed by the quality of the work done by Deltares and its staff.'

Alderman Piet Sleeking | Municipality of Dordrecht

Our goal is:

- To develop the expertise and skills of our workforce on an ongoing basis in order to maintain our capacity to tackle complex issues.

We will do this by:

- Encouraging our staff to become leading experts with a focus on the outside world and international activities.
- 200 members of our staff should have doctorates and 400 of them should have international experience.
- A healthy flow of staff to and from important stakeholders.
- Strengthening the interaction between the experts, physical facilities and software (facilities). We want to make the most of these unique assets to safeguard our knowledge position and top quality.

4.2 Our organisation

More than in the past, Deltares will be looking outwards to society in general, the market and our knowledge partners. We can engage in 'community building' in a range of knowledge areas on the lines of the experience we have already acquired in that area relating to our software. That requires a highly adaptive organisation that can respond alertly to changes in the context and bring together relevant players. Deltares has the capacity to deepen knowledge from various fields and to make highly creative combinations. That factor, in conjunction with our ability to transform this

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potential into practical solutions, must become a core competence. The internal organisation will encourage this process. In addition, the organisation must provide the professionals and the working procedures with extremely effective support so that efficiency can be combined with high quality and a strong learning capability. These organisational conditions - external orientation, optimal internal collaboration and room for creativity, efficacy, the deepening of knowledge fields and professional support - can sometimes come into conflict and could result in complex control and management structures. We are emphatically opposed to moving in this direction.

The opportunities that society and the market provide for us guide our strategic decisions. We make the most of these opportunities by engaging in close contact with our stakeholders and targeted marketing activities. Our internal line organisation puts employees first and, with support from HRM, ICT, Finance and Control, Facility Management and the Communications department, ensures that we have a professional and inspiring working environment. The management has an effective approach to the implementation of the strategic policy, which is therefore primarily determined by the requirements of the market and society. We are not introducing any formal structure for the



knowledge disciplines. Staff development in the field of knowledge disciplines is encouraged through the internal line organisation and career counselling. Furthermore, we are upgrading the role of the Scientific Council and the Young Scientific Council in order to safeguard the substantive quality and development of the knowledge programmes and to keep on the alert for relevant developments.

Our quality is determined in part by the degree to which our knowledge is used and by our capacity as an organisation to continue learning from projects, from each other and from our knowledge partners. We monitor whether we are on the right course by asking for regular feedback from our clients and other stakeholders. We make a deliberate effort to obtain that feedback. It can be used as a way of focusing our marketing activities on the clients and potential clients who fit in with our strategic knowledge goals and position.

Although we are aiming to expand further internationally, we are continuing to use the Netherlands as the home base for knowledge development. Our foreign branches are bridge-heads, the main function of which is to allow us to present the full range of Deltares knowledge in the region in question. This allows us to acquire appropriate projects and to establish a local network with knowledge partners and clients. We take opportunities to establish a foreign presence in conjunction with other TO2 institutes. We sometimes have to cope with political instability in different places throughout the

world. We always make sure that we put the safety of our staff first: risk management is a high priority. We are also flexible in terms of which countries we target and we have an anti-corruption code that is actively communicated both inside and outside our organisation.

Our goal is:

- To further enhance the professionalism of our organisation. That is shown by our biennial staff survey and our customer satisfaction survey.

We will do this by:

- Upgrading the adaptive capacity of our organisation.
- Encouraging the sharing of knowledge both inside and outside Deltares.

4.3 Corporate Social Responsibility (CSR)

Corporate social responsibility is part of our DNA. It is what we do, and who we are. Our work is steeped in social relevance: it is a component of our organisation that brings us together and motivates us. We have adopted a joint approach to defining our policy in the field of corporate social responsibility. And we are constantly engaging in discussions about this area, both inside and outside the organisation. We work exclusively on projects that give us the opportunity to discuss aspects of sustainable development in objective ways.

Knowledge development and transfer constitute the foundations of our work. We work with



independence and integrity. That means that we keep out of the political debate but also that we are prepared to contribute facts to that debate. Our integrity policy involves more than just complying with the laws of the Netherlands and other countries; as a result, when we work with sub-contractors, our integrity policy also applies to them.

Deltares is a transparent organisation: we account for our activities, not just in terms of the financial results but also in terms of the contribution we make to the social themes we target. We make research that is financed with public money available to everybody and we also share our research agenda with other relevant players. Our Corporate Social Responsibility policy is

anchored in our management systems. Our decisions are guided by the health, safety and welfare of our staff. It goes without saying that we keep the environmental impact of our business operations to a minimum. We do not work for profit. We are careful in how we use public resources, which provide a substantial proportion of the financing for our work. We conduct our business sensibly and efficiently.

The following step in putting our CSR into practice will be the adoption of a relevant aid project and contributing the knowledge of our staff to that project. Furthermore, in our communications, we will be placing even more emphasis on CSR in order to inspire other organisations and to encourage them to follow our example.

Our goal is:

- To be known as an organisation that assumes our corporate social responsibilities.

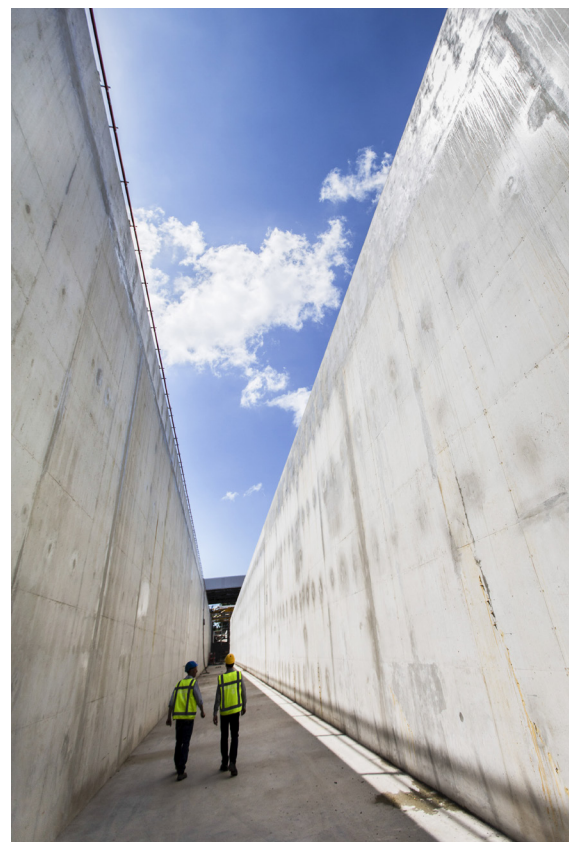
We will do this by:

- Including the factors referred to here as structural components of our management system.
- Adopting a relevant aid project that is appropriate for our position and knowledge, and communicating this clearly.
- Intensifying our communications about our CSR activities and benefits.

4.4 Our experimental facilities

The economic and social added value of experiments is increasingly recognised by our clients. In many cases, physical testing is the only way of quantifying a particular issue or effect, or of validating software. In addition, numerous innovations are generated by project involving experimental studies, sometimes in combination with field measurements and numerical models. That is why Deltares has hydro- and geo-facilities and environmental facilities. Some of them are unique in the world. Major experimental facilities for applied research are expensive but they generate considerable social or economic benefits. These social benefits are often not included in cost-benefit analyses, which can focus exclusively on costs. The challenge facing Deltares is to make a convincing case and to explain the economic value and the social benefits of our facilities. Keeping a close eye on the business cases for experimental research should therefore result in an ongoing match

between the exploitation of our facilities and our business operations. The Delta Flume in Delft is our largest facility by far in terms of both size and investment. Exploiting the potential of this facility and others is our leading priority. Our GeoCentrifuge will be decommissioned in 2017.



The investment proposal for a new GeoCentrifuge will be submitted to our stakeholders before the end of 2015.

Deltares wants to recruit more experts in the field of experimental research, or train them, in order to maintain our ability to respond to demand. In addition, in close collaboration with our university partners in Delft and Utrecht, we

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want to lead the way in data acquisition technology in the facilities.

Our goal is:

- To enhance the economic, scientific and social benefits of our facilities.

We will do this by:

- Using the physical experimental facilities more to improve and validate our computing models and to test innovative concepts and designs.

4.5 Our software

Flows of data are increasing at an explosive rate due to the rise in the number of sensors and available files and as a result of increasingly refined model simulations. Moving and storing large data sets is turning into a bottleneck, as a result of which tools and simulation software are increasingly being taken to the data rather than the data being taken to the models. More and more, computer programs and data are being positioned in the World Wide Web ('the Internet of things'). Calculations are ever faster and ever more detailed.

There are opportunities here for Deltares if we succeed in combining our professional substantive knowledge with new technical possibilities. We are developing new software products and services with the smart use of data and new technologies. Our open-source software and simulations will continue to be important carriers and distributors of our knowledge in the





future. We should be aware of the fact that technology can change quickly and in unexpected ways: payback times are, in practice, short and investments can suddenly become less productive. The challenge is to keep our data and software manageable, and that includes the cost side, while continuing to lead the way in new developments.


We are investing in experimental environments that are separate from the production environ-

ment. This is very clear to see in our new iD-Lab. This is a data and model facility where we are working on visualisation technologies, interactive modelling and planetary models for flood risks, land subsidence and water scarcity. The iD-Lab is home to experiments involving collaborative research looking at the response to emergencies. We are continuing to build on the development capacity of our workforce in the field of e-science: big-data analysis, data-driven modelling, data-driven visualisation, interactive modelling and data validation. We are keeping an eye on developments through technology scans and by calling in external expertise. Where possible and useful, we are developing software in collaboration with private parties from outside the organisation, for example in user communities. The underlying principle here is, and will remain, that the software will ultimately be open-source.

Our goal is:

- To be a pioneer in the development of the data and software integration in our fields.
- To use our open-source software more as a carrier and distributor of knowledge.

We will do this by:

- Adopting a targeted approach to the extension of our open-source software and the associated international communities in terms of data handling and computing techniques for water and ground modelling.
- Making the iD-Lab a successful experimental environment for data, modelling and visualisation. 

CHAPTER 5



Financial ambitions



In the last five years, Deltares has made major investments in innovations in our experimental facilities, in keeping our software and ICT facilities up to date, and in the development of the campus in Delft. In the first seven years of the existence of Deltares, our turnover has remained approximately the same, while the number of FTEs has fallen by more than 10%. We use clear management reporting and a 'balanced scorecard' to monitor on a monthly and quarterly basis whether we are still on operational and strategic course.

We have made analyses of our vulnerability to possible fluctuations in our turnover using long-term scenarios. They show that it will be difficult to compensate for any decline in turnover by improving efficiency. Our current size means that it is no longer possible to maintain our exceptional level of overheads as a research institute, for example for our scientific contributions, PhDs, experimental and ICT facilities, and certainly not to make further investments in keeping those facilities in state-of-the-art condition in order to maintain our leading position as a research institute. It will therefore be necessary to expand slightly in the time to come by 10% and to aim to book a modest positive result amounting to 2% of our turnover.

Our subsidy for the knowledge base has been reduced in recent times from € 17 million to € 10 million. This subsidy is particularly effective because we can combine it (in a process known as 'matching') with other sources of financing, for example for European research programmes. As a rule, one euro of subsidy for our knowledge base generates two or more euros in extra financing from outside the Netherlands.

Our largest clients/principals are the Ministry of Infrastructure & the Environment and Rijkswaterstaat. Knowledge development for the purposes of the National Tasks and Policy-Support Consultancy are part of our core activities. This area has been regulated and set out in the 'Knowledge for the Primary Process' programme. This programme has been cut back by 26% in the last five years. We will be talking to Rijkswaterstaat (Water, Traffic and Environment) about how to implement this programme so that the knowledge requirements for the medium and long terms can be met.

Our goal is:

- 10% growth in the coming period with a target of 825 FTEs and a turnover of 120 million euros.
- To increase our turnover outside the Netherlands (public and private) to € 40 million a year.
- To increase our turnover from business (national and international) to € 40 million a year. 





AFTERWORD

A static plan such as this does not do justice to our approach: our guiding principle is adaptive working. Even so, we thought it appropriate to set out our plans in this document. In our way, we establish a clear picture of the course for the future, and the working methods and organisation that implies. A sharp focus helps us to make fundamental decisions in our complex field. We will be actively monitoring progress and adapting our work if that is required by the demands of society and global developments.

This Strategic Plan is not the first step for Deltares; it is above all a continuation of the journey down the road that we took a few years back. During the drafting of this plan, we sometimes found that our ideas were confirmed, not least in the discussions we had about the plan with our stakeholders. On other occasions, we acquired new insights that we then elaborated further in this strategy.

In any case, it is clear that we have been working on the implementation of this strategy for some time now. We realise that our ambitions for the future are as high as ever. We have demanding standards: an internationally recognised top institute in the domain of water and the subsurface implies sound collaboration with partners and the passionate commitment of our staff. Teamwork, commitment and passion are all very much present and we are continuing to build on that basis. We are proud of that, and so is the Netherlands.

In the years to come, we will continue our commitment to making 'Enabling Delta Life' a reality in the Netherlands and worldwide. That is a wonderful challenge that we are eager to tackle.

We would like to thank everyone who has been involved in the production of this Strategic Plan and in particular our partners whose comments have been quoted.

[On behalf of all employees and the management of Deltares](#)

'Enabling Delta Life'

is our goal

*We contribute our top-level
knowledge to open up the way to
innovative and sustainable solutions
for global issues relating to the use,
and the risks, of water and the
subsurface.*

Deltares

PO Box 177
2600 MH Delft
The Netherlands
T +31 (0)88 335 82 73
info@deltares.nl
www.deltares.nl

