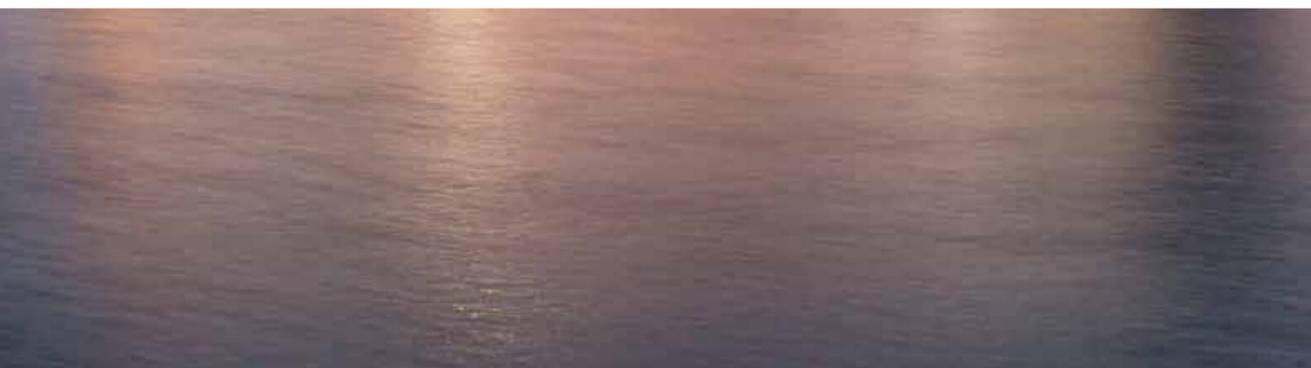


# Engineering: people's work

Annual Report 2016





# Engineering: people's work

Annual Report 2016



## REPORT BY THE BOARD OF DIRECTORS

**In 2016 Witteveen+Bos celebrated its 70th anniversary. There were many highlights in the year under review: we won the prestigious ‘De Vernufteling’ innovation award with our ‘Building with Nature’ mangrove project in Java which is carried out within the consortium EcoShape, we applied innovative digital solutions such as online residents’ participation, and organised various anniversary activities for employees and business relations, with great success. Revenue was slightly below target in the first six months of the year, but showed an upturn in the third quarter. On balance we close the year with a revenue of 137 million euros – an increase of 5.8 % compared to 2015 – and a healthy net result of 15.7 million euros.**

In 2015 the United Nations adopted seventeen Sustainable Development Goals (SDGs), which are aimed at ensuring a socially, ecologically and economically sustainable world by 2030. Together with internal and external stakeholders, Witteveen+Bos performed a materiality analysis to obtain a clear picture of the areas where we can most effectively contribute to the realisation of these goals.

Firstly, the results showed that Witteveen+Bos can achieve the greatest impact through its projects. In 2016 we therefore devoted extensive attention to applying our sustainable design principles in our projects, and embedding them in our Quality Manual.

The materiality analysis also showed that we can contribute to talent development and ensuring an adequate inflow of technical professionals now and in the future. Progress in these areas is reflected in the record number of interns and final-year students hosted by the company, and in the findings of a talent development survey conducted among Witteveen+Bos employees.

Thirdly, the materiality analysis pointed to ways in which we can make our business operations even more sustainable. Measures implemented to that end in 2016 include promoting sustainable business travel, and preparations for the sustainable renovation of our Leeuwenbrug office in Deventer. Plans for the latter project provide for the replacement of all building installations, various structural modifications, and modernisation of the building’s lay-out.

We have also used the results of the materiality analysis to update our Company Code. This document sets out the principles that govern how we do business worldwide and describes our responsibilities to all of our stakeholders: society as a whole, our clients and business relations, our company, and our colleagues.

In 2016 we worked on over 3,500 ongoing and new water, infrastructure, environment and construction projects all over the world. The explicit attention devoted to sustainability in many of these assignments is noteworthy. ‘Building with Nature’, climate adaptation, circular design, and involvement of all stakeholders are aspects reflected in an increasing number of projects. With the projects we worked on in 2016, Witteveen+Bos N.V. realised a total turnover of 137 million euros, representing a 5.8 % increase compared to 2015.

This growth in revenue is attributable to subcontracted work and was accompanied by a slight contraction of the workforce from 1,056 to 1,029 employees. This decrease occurred entirely in the Netherlands and mainly in the first six months of 2016. With our work portfolio and productivity once again increasing in the third quarter, growth resumed in late 2016. The net result in 2016 amounted to 15.7 million euros, yielding a net profit margin of 11.5 %.

The company’s continued growth and international development over the past few years have necessitated the purchase of a new financial management and project accounting system. The transition to this new BST10 system was prepared in 2016. The first Supervisory Board in the company’s history was appointed at the General Meeting of Shareholders in April 2016. The programme of introductions has now been completed and the Supervisory Board has held its first regular meetings.

We are pleased to inform readers about our work and results in 2016. For the first time we have integrated our Annual Report and Corporate Responsibility Report. After all, good financial results are merely a precondition enabling us to do our real job: helping to address the great challenges of our time.

Deventer, the Netherlands, 20 March 2017  
Board of Directors of Witteveen+Bos N.V.

Karin Sluis  
Henk Nieboer

## REPORT BY THE SUPERVISORY BOARD

**The Supervisory Board of Witteveen+Bos N.V. is pleased to present this report to the stakeholders of Witteveen+Bos in order to provide insight into the performance of our supervisory duties in the year under review.**

The members of the Supervisory Board were appointed at the General Meeting of Shareholders on 5 April 2016. This was the first time in the company's history that a Supervisory Board was appointed. Witteveen+Bos applies a mitigated version of the so-called 'two-tier regime', which means that members of the Board of Directors are appointed by the General Meeting of Shareholders. The company has adopted a two-tier governance model in which the Board of Directors manages the organisation and is responsible for ensuring that corporate aims and targets are achieved and strategies and policies are implemented. The Supervisory Board is tasked with supervising and providing advice to the Board of Directors. No committees have been established in view of the limited size of the Supervisory Board. A resignation schedule has been adopted to ensure that members of the Supervisory Board step down in a staggered manner.

Following the appointment of the Supervisory Board, various introductory meetings have been held as well as three regular meetings with the Board of Directors and a number of informal consultations. The standard subjects discussed at the regular meetings included general developments and financial reports. Other matters reviewed included integrity policy, risk management, personnel policy, and the introduction of a new project accounting and financial management system. The regular meetings were attended by all members of the Supervisory Board. Open lines of communication exist between the Board of Directors and the Supervisory Board, giving the Supervisory Board ample opportunity to offer both solicited and unsolicited advice. The Supervisory Board also consulted with the Works Council during the year under review. There were no special decisions that required the approval of the Supervisory Board.

Witteveen+Bos is new to working with a Supervisory Board. In the opinion of the Supervisory Board, the Board of Directors has endeavoured to utilise the enhanced governance model by actively drawing on the expertise of the Supervisory Board's members in areas relevant to the Board of Directors. The Supervisory Board was very interested to learn about the company's governance structure, the special position of its shareholders, and the way these came into being. The Supervisory Board is pleased to be able to make a contribution to the further development of Witteveen+Bos.

In the year under review, the Supervisory Board focused mainly on becoming acquainted with the company and its activities. We endorse the strategy adopted by the Board of Directors, and have every confidence in a successful and financially sound future for Witteveen+Bos.

Deventer, the Netherlands, 20 March 2017

Supervisory Board  
Hans van der Ven (Chairman)  
Gerard van de Aast  
Inca van Uuden



## REPORT OF THE STAKEHOLDER PANEL

**Every year, Witteveen+Bos engages in dialogue with a panel of external stakeholders to discuss how we add value and contribute to addressing societal challenges and how we report on these matters. We use the draft version of the Annual Report as the basis for this conversation.**

A meeting with a panel of five external stakeholders was held on Tuesday 9 February 2017. Witteveen+Bos was represented by the Board of Directors and three members of the CSR team. The main feedback points are set out below. A number of points for improvement have already been incorporated into this Annual Report where possible, while others will be addressed in 2017.

### Materiality analysis

The panel commends Witteveen+Bos for performing a materiality analysis. The results of this analysis were only briefly described in the draft Annual Report. The panel recommends clearly linking the findings to the United Nations Sustainable Development Goals and showing the impact of the company's activities. This feedback has been incorporated in the chapter Objectives.

### Sustainable design principles

The panel is enthusiastic about Witteveen+Bos' application of sustainable design principles to increase value in projects. The draft Annual Report did not yet include any examples of projects where these principles have been applied. The panel hopes that such examples will be incorporated into the final version. This will bring the information in the Annual Report more to life. Any dilemmas encountered during projects can also be identified. Most of the panel's feedback has been incorporated into the final version of the Annual Report.

### Interpreting results

The Annual Report provides a good impression of relevant developments at Witteveen+Bos. It is a concise and accessible publication, but this also means that some sections offer limited substantive information. The different chapters describe the results achieved based on the Key Performance Indicators (KPIs) defined by Witteveen+Bos, with the aim of providing insight into the progress achieved in realising the company's objectives. The links between the defined objectives and progress on the KPIs have not been described clearly enough. The panel recommends attaching conclusions to the measurement of results and indicating the actions required. This feedback has been incorporated where possible, and further improvements will be made in 2017.

### Value chain

A relatively small number of KPIs have been defined that focus on adding value in the supply chain. Further insight could be provided into the value chain of Witteveen+Bos. The Annual Report need not focus only on the achievements of Witteveen+Bos, but also on the impact realised in the chain and how the various stakeholders work to achieve each other's aims. It would be interesting to describe any dilemmas encountered by Witteveen+Bos in this context. Engaging in dialogue is also important. How do project partners implement standards and values, both nationally and internationally? Which measures are taken to prevent abuses? Relatively little attention has been devoted to the supply chain in this Annual Report. In 2017 Witteveen+Bos will focus more specifically on adding value in the chain.

### Looking ahead

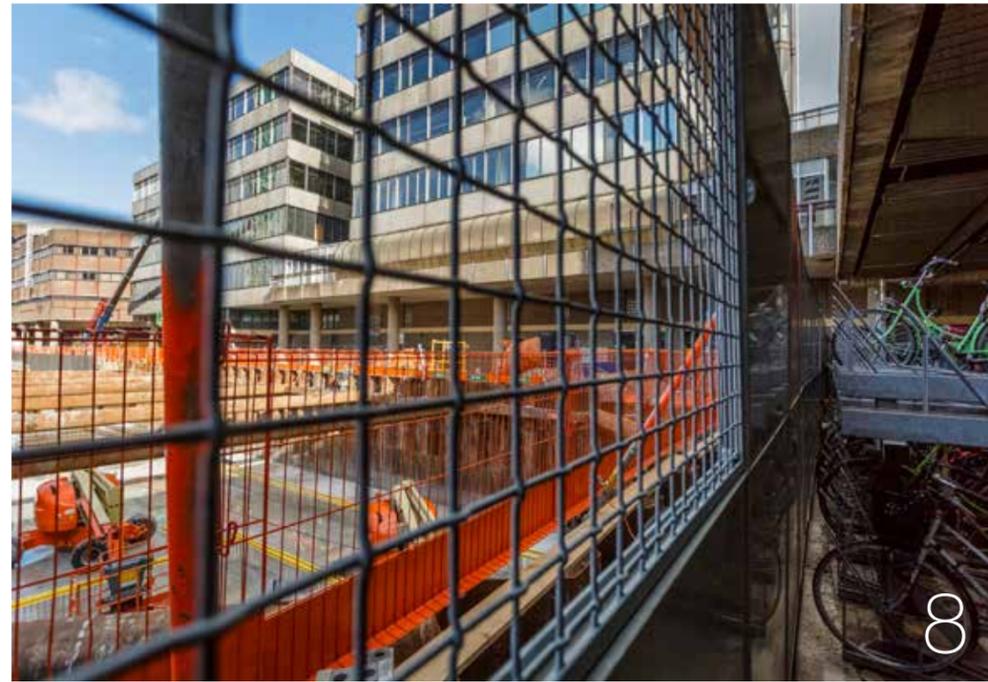
Witteveen+Bos can strengthen its narrative by also looking ahead to the future. The materiality analysis can serve as an important tool in this regard. The panel would like to see information about key trends and developments external to Witteveen+Bos, and how these play a role in defining the objectives and formulating the associated KPIs. This feedback has been partially incorporated into the final chapter of this Annual Report.

### Stakeholder panel

Florian Andriessen, Terre des Hommes  
André Nijhof, Nyenrode Business University  
Bianca Peters, Deltares  
Margriet Rouhof, TenneT  
Ruud Sprock, C2N

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## MISSION AND VISION

**We have a clear mission statement: 'Witteveen+Bos offers its clients value-added consultancy and top-quality designs for water, infrastructure, environment and construction projects. We use our high-end expertise to resolve complex issues and are a committed partner for our clients. We attach great importance to our independence and to our corporate culture, which allows all our employees to excel, utilise their talents to the full, and maximise value for clients.'**

### Vision

Witteveen+Bos is an engineering consultancy that seeks to offer the very highest level of quality, because we believe that a commitment to excellence is key to developing sustainable solutions for today's challenges. We aim to be very good at what we do. Our staff are experts in their respective disciplines and pursue ongoing innovation. We work with expert partners and maintain a culture of entrepreneurship and trust. We consider it essential that our actions are guided by our key quality attributes: expertise, reliability and commitment.

### Knowledge and innovation

At the core, our work is about knowledge: bringing together the right expertise to help solve challenging issues in water, infrastructure, environment and construction projects. We set high standards. At Witteveen+Bos, state-of-the-art expertise is based on passion for the profession. Our employees want to know everything there is to know in their field, from geotechnical engineering to mechanical engineering and from water management to environmental law. By sharing and developing knowledge and deploying it worldwide, we can devise the most effective solution for each client project.

### Sustainable collaboration

The issues we tackle are becoming increasingly complex. To develop sustainable solutions, our staff work in multidisciplinary project teams alongside colleagues from various backgrounds. We always try to assemble the best possible team. We therefore regularly collaborate with external partners, either on specific projects or in formal strategic alliances and joint ventures with other leading consultancies and complementary organisations.

### Entrepreneurship and trust

Our corporate culture is characterised by trust and scope for entrepreneurship. We work in an informal atmosphere and employees feel engaged with the organisation. Together we are Witteveen+Bos – connected worldwide. It is essential that everyone is enabled to excel at what he or she does, and that we offer an environment that promotes creativity and innovation. By pursuing mainly organic growth, we can retain our identity and safeguard our corporate culture.

### Clients

Both public- and private-sector clients call on us to help resolve the challenges they face. We provide advice to contractors, engineering and architectural firms, energy and water companies, railway and port authorities, and industry. In the public sector, we work for national governments, water boards, and provincial and local authorities. Our activities cover the entire chain, from policy-making and design to contracting and supervising the performance of work. We aim to establish long-term relationships with our clients that enable us to meet their needs and expectations as effectively as possible while delivering maximum added value.



## Organisation

The Board of Directors is charged with the day-to-day management of Witteveen+Bos N.V., overseen by the Supervisory Board. With over 1,000 colleagues, we operate close to our clients, projects, partners and the employment market. Our offices are located in eleven countries worldwide, with six offices in the Netherlands. The Works Council represents the interests of all staff employed in the Netherlands. In other countries we have appointed employee representatives to look after staff members' interests.

Over 30 small organisational units – the Product-Market Combinations or PMCs – are responsible for contract management and acquisition. These PMCs are clustered into four business lines focusing on the following areas of expertise: Built Environment; Deltas, Coasts and Rivers; Energy, Water and Environment; and Infrastructure and Mobility. Worldwide, the business lines and regions form a matrix structure (see the organisation chart on page 10). This organisational structure enables employees from various disciplines and different countries to collaborate on projects in a network, ensuring that we bring together the required knowledge and experience from all over the world in order to devise the best solution.

## Company Code

Worldwide, we work for and with a wide range of stakeholders: society as a whole, our clients and business relations, our company, and our colleagues. Collectively, all Witteveen+Bos employees are committed to fulfilling their responsibilities to our stakeholders. Together we can realise our mission and vision. The behaviour of every individual Witteveen+Bos employee can make the difference. The Company Code describes our principles and how we do business at Witteveen+Bos, including our individual and collective responsibilities to all our stakeholders. In addition to our own values and convictions, the Company Code is also based on the Ten Principles of the United Nations Global Compact and the OECD Guidelines for Multinational Enterprises.

## Ownership

Witteveen+Bos has a noteworthy ownership structure. In 1992 an employee share ownership system was introduced whereby the company is wholly owned by its staff. This arrangement provides a major incentive for staff engagement and entrepreneurship. We aim to maintain a sound financial basis and stable profit levels. Each year, 100 % of the net profit is disbursed through a profit-sharing scheme for all employees and dividend distribution to all shareholders. This reflects a central tenet of the Witteveen+Bos philosophy: everyone within the company contributes to our success, and hence everyone should derive the benefits of that success.

Organisation chart 31 December 2016

Board of Directors	The Netherlands	Africa, Europe and the Americas	CIS countries (Commonwealth of Independent States)	Middle East	South East Asia and Australia
Built Environment Business Line	Area Development	Resilient Infrastructures United Kingdom		Water and Urban Development Dubai	
	Buildings				
	Environmental Law and Permits				
	Planning studies and process management				
	Urban development				
Deltas, Coasts and Rivers Business Line	Ecology	Water and Infrastructure Latvia	Water and Infrastructure Russia		Water and Infrastructure Indonesia
	Ports and Waterways				Water and Infrastructure Singapore
	Flood Protections and Land Development				
	International Technical Assistance				
	Coasts, Rivers and Land Reclamation				
	Hydraulic structures and Geotechnical engineering				
	Water Management				
Energy, Water and Environment Business Line	Waste Water	Environmental solutions and Industry Belgium	Water and Environment Kazakhstan		Water and Environment Vietnam
	Assetmanagement				
	Soil Remediation and Sustainable Land Management				
	Drinking Water				
	Industry and Energy				
	Information Technology				
Infrastructure and Mobility Business Line	Integrated Contracts	Infrastructure and Environment Belgium			
	Infrastructural Engineering				
	Civil Structures for Railways				
	Underground Infrastructure				
	Smart Infra Systems				
	Traffic and Roads				
	Product-Market Combination (PMC)				



## OBJECTIVES

**Witteveen+Bos has a dual mission: we devise sustainable solutions to complex challenges in the field of water, infrastructure, the environment and construction, and we want to enable all our employees to excel. Together with our internal and external stakeholders, we investigated which concrete objectives we should set to fulfil our mission.**

### Materiality analysis

We performed a materiality analysis in early 2016 in order to define our objectives. Together with internal and external stakeholders, we investigated the key societal challenges that Witteveen+Bos can help to address and the current contributions made by the company. The internal stakeholders are Witteveen+Bos employees: over 50 staff members were surveyed worldwide and we conducted several interviews. Key external stakeholders include clients, project partners and civil-society organisations. We conducted seven interviews with external stakeholders in total (G4-18\*).

### United Nations Sustainable Development Goals

We have translated the findings of the materiality analysis to reflect the United Nations Sustainable Development Goals (SDGs). The SDGs constitute a global call to action to create a sustainable world by 2030. This exercise resulted in a materiality matrix that indicates the potential impact of our activities according to our internal and external stakeholders, as well as our current impact (see page 14 and 15).

### Four main objectives

The materiality matrix has resulted in four main objectives for Witteveen+Bos: adding value through projects, developing talent, adding value through our business operations, and creating economic value (G4-19\*).

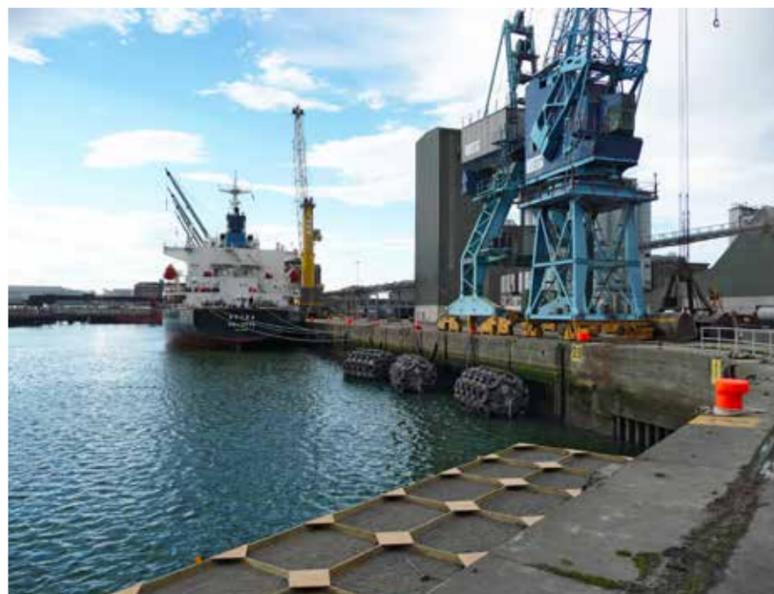
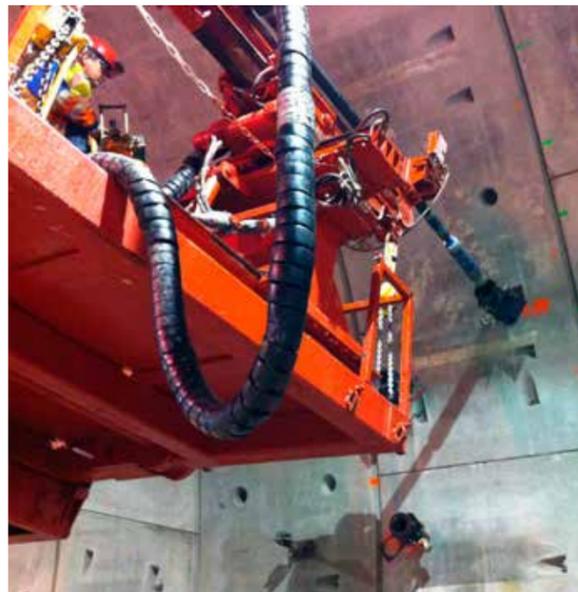
#### Objective 1: Adding value through projects

Executing projects is our core business. All stakeholders agree that Witteveen+Bos can achieve the greatest impact by providing sustainable solutions in its projects (G4-20 and G4-21\*). Through our projects we can contribute towards SDGs like good health and well-being, clean drinking water and sanitation, affordable and clean energy, resilient infrastructure, sustainable cities and communities, responsible consumption and production, conserving life below water, conserving life on land, and partnerships for the goals.

One notable outcome of the materiality analysis is the potential for improvement with respect to our projects: the difference between our maximum contribution to the relevant UN Sustainable Development Goals and our current contribution is considerable (on the order of magnitude of a factor of 2).

Our sustainable design principles are an important tool enabling us to maximise our contribution and truly embed sustainability in our projects. In 2016 we therefore included a requirement in our Quality Manual that the application of these principles must be considered in all projects. Our sustainable design principles are explained in detail on page 25 and may be summarised as follows:

- Nature-based design
- Trias
- Circular design
- Multi-functional design
- Flexible design
- Participatory design
- Societal design



#### Objective 2: Developing talent

The materiality analysis also showed that Witteveen+Bos can contribute to goals like quality education, decent work and economic growth, and reducing inequalities (G4-20 and G4-21\*). We can do this by encouraging young people to study technical subjects and contributing to high-quality technical education. Witteveen+Bos aims to be a good employer by promoting diversity and enabling our employees to utilise their talents to the full.

The materiality analysis showed that we effectively fulfil our role as employer and that our contribution in this area is close to the maximum. We remain committed to training and developing top talent. We recognise that room for improvement remains in the area of diversity, with respect to gender as well as nationality.

#### Objective 3: Adding value through our business operations

As a company, we can contribute to the SDGs of responsible consumption and production, climate action, and partnerships for the goals by improving our own operational processes (G4-20 and G4-21\*). Supporting sustainable business travel, reducing our CO2 emissions and promoting Corporate Social Responsibility in the supply chain are important ways to achieve these aims.

The materiality analysis showed room for improvement with respect to business travel (both by car and by airplane).

#### Objective 4: Creating economic value

As an international engineering and consultancy firm, we play a role in promoting economic growth (G4-20 and G4-21\*). Good financial results are not a goal in themselves, but are necessary to ensure sufficient scope for innovation and other new developments and to invest in people. We therefore aim to realise a healthy net profit margin of at least 8% and an annual workforce and revenue growth of 3 to 5%.

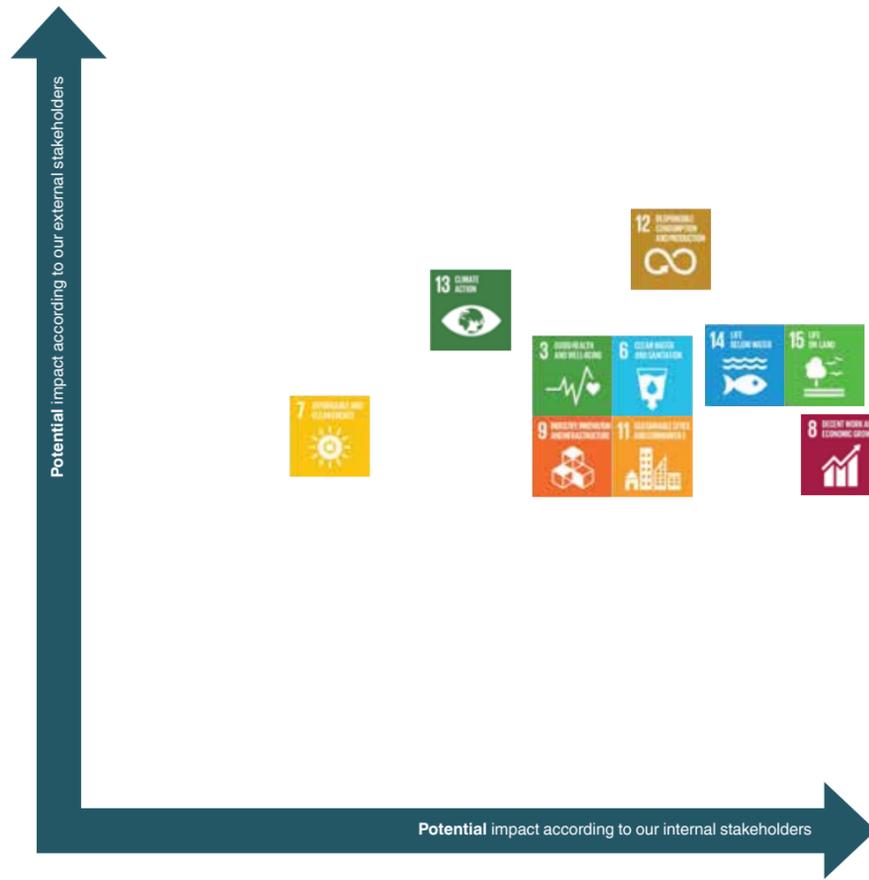
Internal and external stakeholders agree that Witteveen+Bos is already making close to its maximum contribution to this goal. The challenge is to maintain our financial results at this level.

#### Measuring and reporting on progress

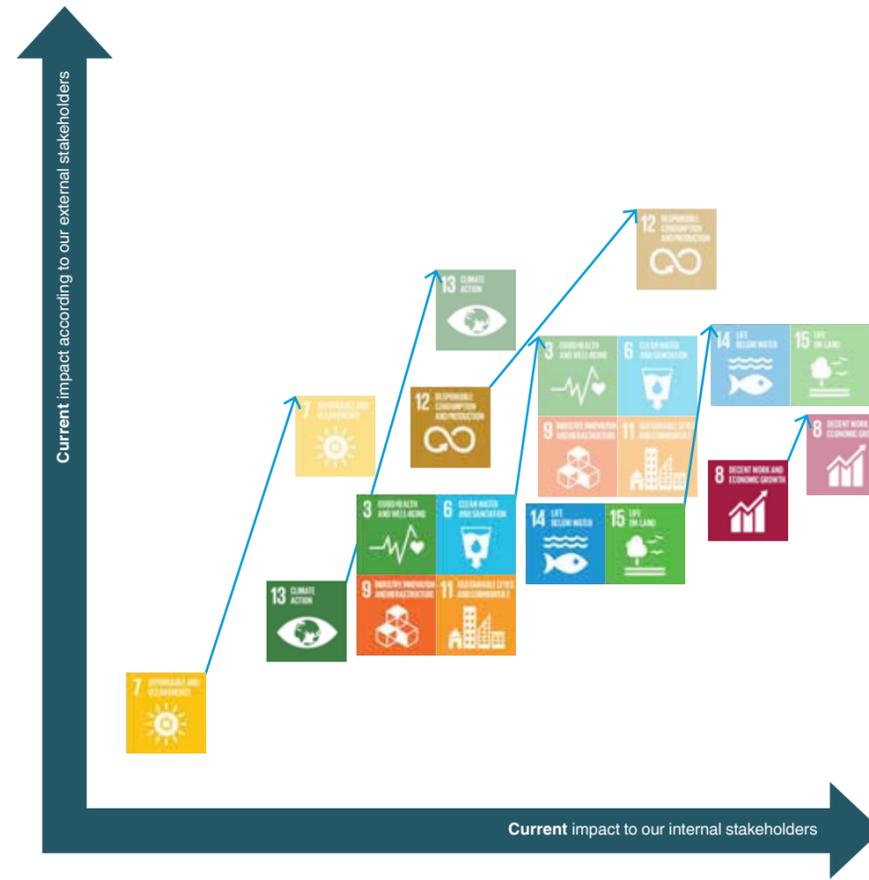
In the four chapters that follow, we report on our progress in realising these four objectives. In order to measure the progress achieved, we have identified Key Performance Indicators (KPIs) for each objective.

\* To ensure transparency, we have prepared our Annual Report in accordance with the GRI G4 guidelines of the Global Reporting Initiative. The main GRI indicators are stated in parentheses (G4-22). The information concerning the involvement of stakeholders (G4-24, G4-25, G4-26, and G4-27) is displayed on page 5. The full GRI index is available on our website at [www.witteveenbos.com/CR](http://www.witteveenbos.com/CR).

Witteveen+Bos potential impact on United Nations Sustainable Development Goals



Witteveen+Bos current impact on United Nations Sustainable Development Goals



Our contribution to the 17 United Nations Sustainable Development Goals



Objective 1:  
Adding value  
through  
projects

Taking human  
well-being as the  
starting point for  
designs

Providing clean  
water and  
sanitation

Encouraging  
access to  
affordable  
and reliable  
renewable  
energy



Promoting  
innovation and  
contributing  
to sustainable  
industry and  
infrastructure

Contributing to  
sustainable cities  
and communities

Efficient and  
sustainable use  
of materials and  
designs aimed at  
re-use

Combating  
climate change  
(mitigation)  
and producing  
adaptive designs

Protecting the  
environment and  
biodiversity and  
restoring natural  
habitats

Protecting the  
environment and  
biodiversity and  
restoring natural  
habitats

Promoting public  
participation and  
co-creation

Objective 2:  
Developing  
talent

Training and  
developing top  
talent

Ensuring equal  
rights and  
opportunities for  
men and women  
at Witteveen+Bos

Ensuring  
good working  
conditions and  
social security

Ensuring equal  
rights and  
opportunities for  
our employees  
worldwide

Objective 3:  
Adding value  
through  
business  
operations

Responsible  
supply chain  
management

Reducing CO<sub>2</sub>  
emissions resulting  
from our own  
operations and in  
the supply chain

Promoting CSR  
throughout the  
supply chain

Objective 4:  
Creating  
economic value

Ensuring a healthy  
profit margin and  
workforce and  
revenue growth

PROJECTS IN 2016

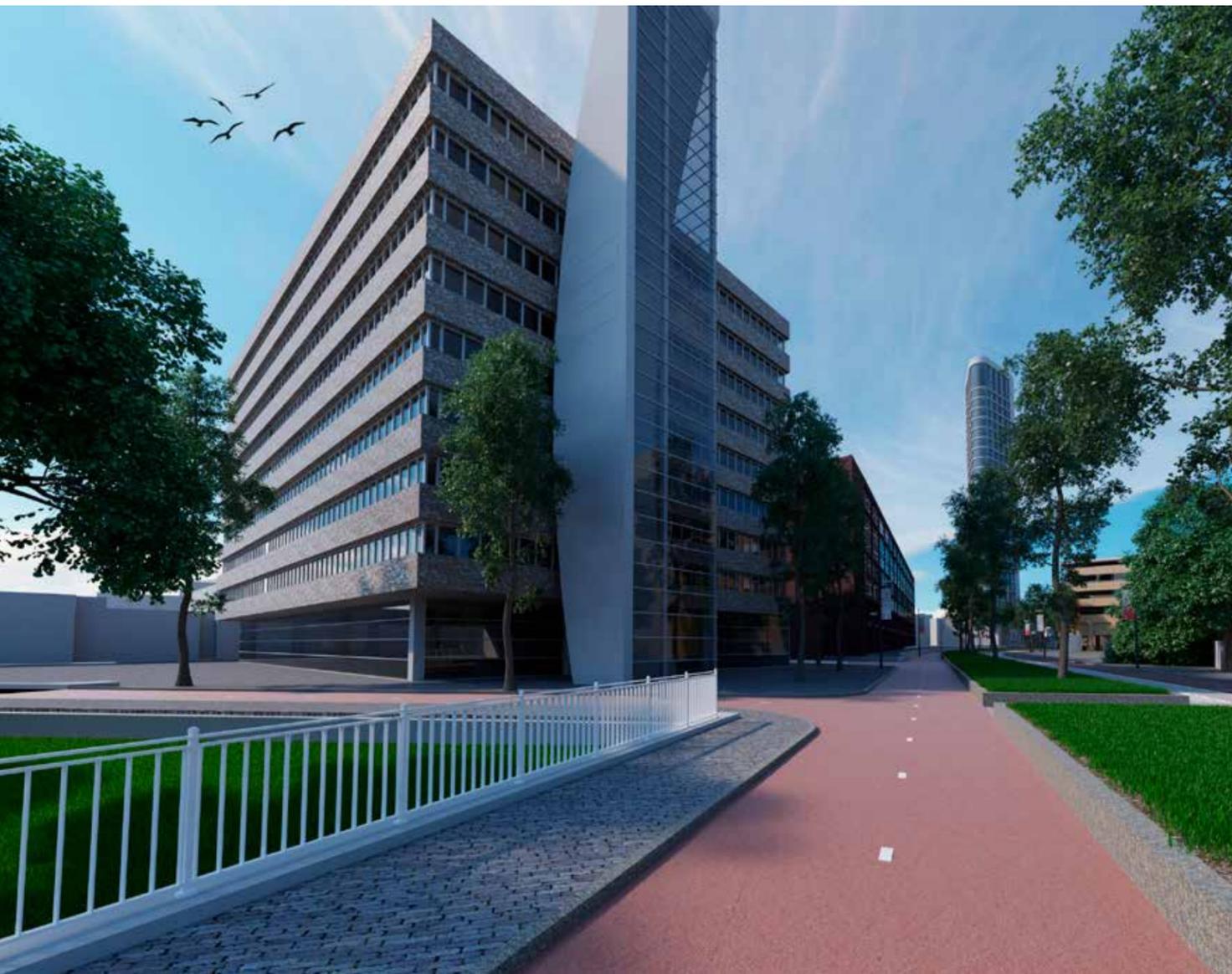


The Netherlands 3,085 projects  
 Africa, Europe and the Americas 279 projects  
 CIS countries 33 projects  
 Middle East 21 projects  
 South East Asia and Australia 102 projects



● Witteveen+Bos projects  
 ● Witteveen+Bos offices (19)  
 --- Region classification

INTERVIEW



# Vestdijk Eindhoven The Netherlands

Vestdijk is a major traffic artery which runs through the centre of Eindhoven, connecting the city with the outlying region. The local road infrastructure is now to be updated, partly with a view to meeting air quality standards and partly in line with the local authority's vision for the future of the city centre. Some very complex choices must be made. After all, there are many stakeholders: residents, businesses and visitors, all with diverse and sometimes divergent interests. The Municipal Executive has announced that it will not finalise any decisions until all parties have been given an opportunity to present their views. In association with partners GriDD and TRIMM, Witteveen+Bos has designed and implemented an interactive 'experiential' website which provides information about the various alternatives and enables visitors to give their feedback.

'Online consultation gives us a direct line to our stakeholders'



## ‘With this approach we are continually working on maximising value for our clients’

Edgar Rijdsdijk is a Witteveen+Bos consultant specialising in strategic stakeholder management. ‘Various ideas have been proposed for the redesign of the city centre,’ he explains. ‘Some people favour closing Vestdijk to through traffic, which will be rerouted around the periphery. Others suggest reducing the number of lanes and introducing a 30 kph speed limit. Both options entail restructuring public spaces. We have launched an online information platform at [www.beleefvestdijk.nl](http://www.beleefvestdijk.nl) which presents all the options and collects feedback so that the local authority is aware of stakeholders’ opinions.’ Pieter-Bas de Visser is the project leader who oversaw the development of the website and

its virtual reality (VR) model. ‘Residents, business owners and visitors see a very accurate 3D impression of the new situation, which can be viewed from all angles. They can then appreciate the likely impact of the proposals and can offer their feedback. This new form of digital stakeholder consultation supports two-way communication and allows information to be exchanged quickly and easily.’ The public responses submitted through the website are collated in a ‘requirements database’ which forms the starting point of the design process. ‘Because the website has a direct interface with our design systems, we are able to adapt the online presentation to incorporate

stakeholders’ comments and suggestions,’ states Edgar. ‘We have far more input than we could possibly obtain during a traditional consultation meeting, and we can act upon it more quickly. This allows us to substantiate our recommendations. Because so many stakeholders have had their say, the project is likely to enjoy broader support. The municipal authority’s original objective was to improve air quality and the quality of the human environment for local residents. However, the online consultation revealed that water management is also a major consideration for many people. The project terms of reference were therefore broadened. The structured process, with a direct coupling of requirements

and objectives at an early stage, results in a far clearer picture of what the project must set out to achieve. The designers then have a specific framework within which to develop the various concepts. This has added value for all concerned.’ As Pieter-Bas adds, ‘In the past, the information gathered for this type of project did not always address the problems that stakeholders were experiencing in practice. This is bound to happen if you can only reach out to a limited number of stakeholders. Consultation meetings are often poorly attended. Our online platform for Vestdijk demonstrates that we now understand the integrated process of consultation and design

far better. That is an excellent outcome.’ Jan Josten, project manager for the City of Eindhoven, agrees. ‘Everyone is extremely satisfied. I speak not only on behalf of the city authority but also for the stakeholders who live or work along Vestdijk and those in the neighbouring districts. I gather that the people at Witteveen+Bos are equally satisfied. The website has given us an extremely valuable new communication channel through which we can maintain much more direct contacts with our stakeholders. We hope to use this innovative approach to support future projects.’ Edgar and Pieter-Bas are pleased with the results. ‘It is of course marvellous to work with such a satisfied client. This project has not

only drawn on our technical expertise and our consultancy skills, but also focused on allowing stakeholders to truly experience the future situation in a 3D environment. We intend to use virtual reality as a regular component of our public consultation processes in future. An interactive website allows us to engage with all stakeholders and conduct a direct discussion about the impact of our designs and solutions. Those solutions will of course be based on sound technical expertise. More dynamic images and fewer long reports: this is how we are continually working on maximising value for our clients.’

## OBJECTIVE 1: ADDING VALUE THROUGH PROJECTS

According to our internal and external stakeholders, Witteveen+Bos can achieve the greatest impact by providing sustainable solutions in its projects. Our sustainable design principles are an important tool in that regard. The materiality analysis we performed showed that we can substantially increase our contribution to realising the UN's Sustainable Development Goals (SDGs). We therefore named our sustainable design principles as a company-wide spearhead for 2016. We also identified a number of Key Performance Indicators (KPIs) to promote application of these principles.

### Project portfolio

In 2016, Witteveen+Bos was involved in over 3,500 projects worldwide. In the beginning of the year there was a slight decrease in the 'work in hand' as a number of larger projects neared completion. Efforts to acquire new contracts were made and by the second half of the year we were once again engaged in several high-profile projects in various parts of the world. There was an upturn in both consultancy and engineering work in relation to the circular economy, the energy transition, and climate adaptation. In addition, throughout 2016 many colleagues worked on ongoing projects such as the NCOC water treatment plant in Kazakhstan, the Oosterweel Link in Belgium, 'Room for the River' in Kampen, Zuidasdok in Amsterdam, and the Cargo Transportation Route in Kazakhstan.

### Measuring progress

Our sustainable design principles help us to truly embed sustainability in projects. Using the KPIs listed in the table below, we measure the extent to which we have succeeded in embedding these principles in our organisation and applying them in projects.

KPI 2016	Result
A properly substantiated discussion of the Witteveen+Bos sustainable design principles must be included in all project plans, in accordance with the Quality Manual.	A survey held at the end of 2016 revealed that 90 % of project leaders are aware of the sustainable design principles, an increase of 55 % compared to the 2015 figure. Moreover, 50 % of project leaders have actually applied those principles in one or more projects (an increase of 32 %).
Fifty project leaders are to attend at least one internal 'garage session'. These sessions are held at least five times per year, and focus on fleshing out the design principles and putting them into practice in our projects.	Several meetings were held in 2016 to discuss the application of the principles within projects. In addition to the 'garage sessions', there were lunchtime lectures, courses and presentations on the principles. Approximately 350 project leaders attended one or more of these events.
At least 50 external client assessments of project results must be conducted, focusing on the extent to which application of the sustainable design principles in projects has added value for society. We aim for an average score of at least 'satisfactory'.	Only a small number of client assessments which expressly considered the sustainable design principles were held in 2016. It is therefore not possible to determine whether satisfactory progress is being made.
At least one 'garage session' is to be organised where our main subcontractors and partners are informed about and involved in the application of the sustainable design principles by Witteveen+Bos.	A meeting was held in October 2016 at which subcontractors discussed opportunities to incorporate these principles at various points in the project chain.



We can conclude that good results are achieved: awareness of the sustainable design principles among our project leaders has increased substantially and the principles are more frequently applied in projects. In 2016 we devoted less attention to discussions of the principles elsewhere in the chain.

This chapter describes different projects Witteveen+Bos worked on in 2016. Besides these projects we worked on the following innovations and initiatives.

### Innovation

Throughout 2016, we continued to pursue innovation in numerous areas. In hydraulic engineering and water management, positive results can be seen in the form of the Coastal Design Tool, several contributions to the 'Building with Nature' programme (including the Markerwadden project), and studies of primary flood defences conducted together with Deltares. In the field of energy, we worked on innovations such as the Energy & Raw Materials Factory, the hydrogen bromide flow battery, and the absorption of kinetic energy from bollards. Innovations in the field of safety include earthquake-resistant design principles, fire safety measures for use in buildings, and the Climada system for flood-related risk analysis. We are making ever greater use of digital technology and of 3D computer simulations in all disciplines. We applied virtual reality to support planning and consultation procedures, and we are actively involved in a research project examining 3D concrete printing at Eindhoven University of Technology.

### Initiatives

As part of our anniversary, we organised a symposium on climate in which we explored how to expand our collective contribution together with stakeholders and the value chain. Witteveen+Bos is among the contributors to the Sustainability Tool ('D-Tool') platform. We are also represented on the administrative committee of the UN Global Compact Netherlands Network, and a partner in the Human Cities Coalition. In January 2017 our Managing Director Karin Sluis signed the 'Green Deal 2.0' of the Sustainable Infrastructure Project ('Green Deal Duurzaam GWW'), confirming the company's commitment to making a substantial contribution to sustainable innovation. Since 2015 our director Henk Nieboer has also been the director of EcoShape, the foundation which coordinates the 'Building with Nature' innovation programme. He is concerned with the dissemination and practical application of relevant knowledge. As a member of the northern Netherlands section of the Dutch Association of Consulting Engineers, Witteveen+Bos supports proposals to introduce a long-term innovation programme for this region of the country.

### Awards

Our 'Building with Nature' mangrove project, which is carried out within the consortium EcoShape, won the prestigious 'De Vernufteling' innovation award for 2016. It is concerned with the restoration of mangrove forests along the coast of the Demak region of Java, Indonesia, which is achieved by constructing semi-permeable dams. The jury's report described the project as 'an innovative new use of an established concept, and one with great economic and societal impact. This natural form of breakwater could well prove valuable elsewhere. There are countless locations throughout the tropics where mangrove forests are under threat or have already disappeared.'



## SUSTAINABLE DESIGN PRINCIPLES



Nature-based  
design

### Building with nature

Natural processes that can have an impact on a project can be used to improve the design. Using a system analysis, we consider the project in a broader context. We determine the dominant processes, identify key factors that can influence these processes and identify effective measures.



TRIAS

### Get the most from your resource

Within the Trias principle we limit and optimise the consumption of resources and energy. Together with the supply chain we aim to limit the need, to use renewable resources and to use non-renewable ones wisely.



Circular  
design

### Waste = resource

We choose a circular approach to projects by closing energy and material cycles. Both within the project and within its surroundings. We draw up material recycling plans and design recycling- and upgrading routes based on the whole lifecycle.



Multi-functional  
design

### Fulfil multiple functions with one design

With the multifunctional design principle we are looking for additional functions and optimal combination of functions that offer additional benefits. We enlarge the social added value by identifying these additional functions and provide insight into how these functions can be achieved optimally.



Flexible  
design

### Designing for today and tomorrow

A future-proof design is a design for today that can easily be adapted to the future, to meet the changing needs of people and different climatological circumstances. Life cycle analyses and future function analyses identify these conditions and make it possible to easily adapt the design later.



Participatory  
design

### Working with the environment

We include all stakeholders in working together on designing and improving our living environment. Because they bring in their knowledge and experience, the problem-solving ability and support to the plan and the process increases.



Societal  
design

### Combine technical and societal measures

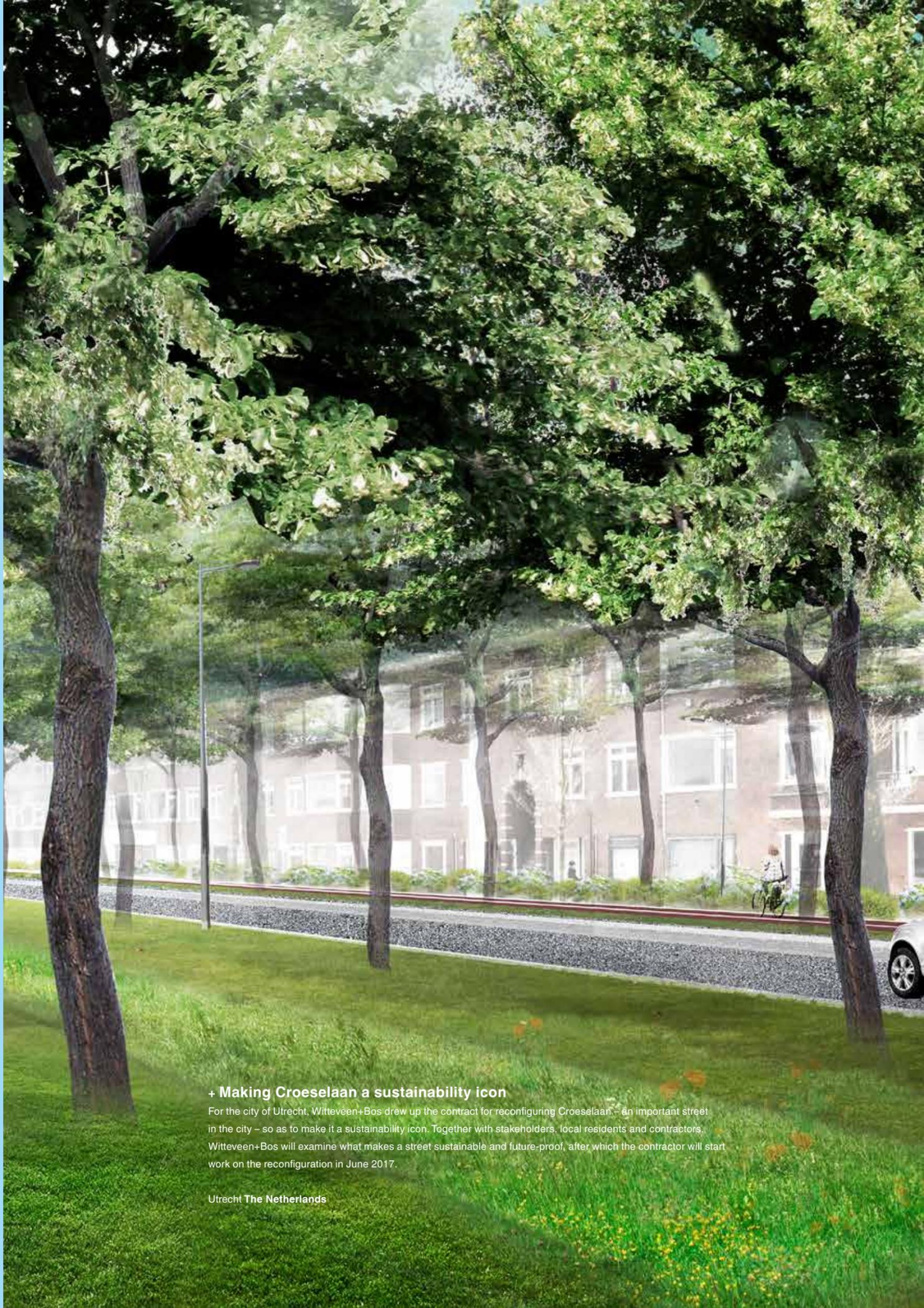
Designing for society is about combining technical en societal measures to achieve the project goals. We look for behavioural measures which are a supplement or alternative to realising the project goal or for socioeconomic barriers that interfere with the project goal.



Contributing to #globalgoals with our sustainable design principles

Scan the QR code and watch the movie

[www.witteveenbos.com/CR](http://www.witteveenbos.com/CR)



#### + Making Croeselaan a sustainability icon

For the city of Utrecht, Witteveen+Bos drew up the contract for reconfiguring Croeselaan – an important street in the city – so as to make it a sustainability icon. Together with stakeholders, local residents and contractors, Witteveen+Bos will examine what makes a street sustainable and future-proof, after which the contractor will start work on the reconfiguration in June 2017.

Utrecht The Netherlands



**+ Creating the Eemshaven-West wind farm**

The Netherlands is working on a low-CO<sub>2</sub> energy supply that is safe, reliable and affordable. Wind energy plays a pivotal role in the transition to renewable energy. The national and provincial governments have agreed a wind energy target of 6,000 megawatts (MW) for 2020. The province of Groningen has decided to develop wind farms within three concentration areas, including Eemshaven-West. Initiators have developed several plans for the embodiment of this area. The plans overlap so they cannot all be carried out at the same time. To move the planning for the Eemshaven-West wind farm a step further, the possibilities for wind energy are being examined in more detail. Witteveen+Bos conducted an environmental impact assessment for the national government, the Groningen provincial government and the municipality of Eemsmund to explore various alternatives.

Eemsmund **The Netherlands**

**+ Reinforcing the coastline by sand supplementation**

The Union of Water Authorities commissioned Witteveen+Bos to carry out a feasibility study for the city of Pekalongan on the northern coast of Java in Indonesia. The city is dogged by coastal erosion and parts of the city experience daily flooding. Both are caused by soil subsidence and poor management of water defences. Following the feasibility study, Witteveen+Bos recommended strengthening the coastline by means of sand supplementation. Witteveen+Bos further recommended creating polders to hold back floods. Both solutions will increase the safety and welfare of the city's residents. Additionally, they will create opportunities for productivity in the area. The solutions are based on understanding the system and on using natural processes efficiently in accordance with the Building with Nature concept.

Pekalongan **Indonesia**

**+ Improving the use of PCLake/PCDitch models**

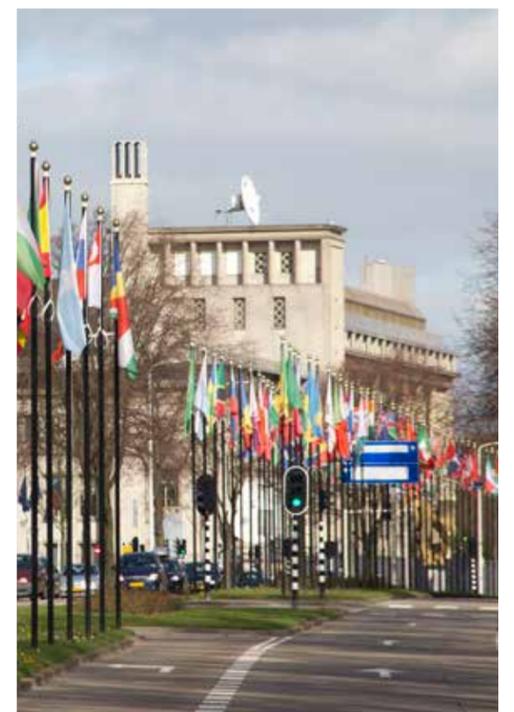
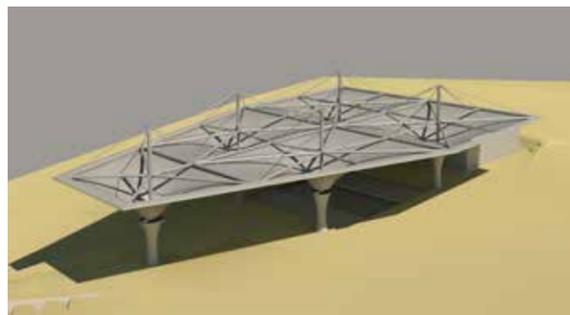
The ecological models called PCLake (for lakes) and PCDitch (for ditches and canals) define the most important ecological processes that occur in surface water. Use of the models yields an insight into natural processes. Using this insight makes it possible to take effective measures to improve water quality. So PCLake and PCDitch have great potential for both Dutch and international water management. Even so, the models were being used only on a limited scale. Witteveen+Bos identified the principal questions and barriers for using the models and subsequently improved them based on case studies and scientific research. To do this Witteveen+Bos cooperated intensively with the academic field (Netherlands Institute of Ecology, Wageningen University and PBL Netherlands Environmental Assessment Agency) and parties in the field (water managers). The result is that the models have been scientifically accepted and are being used far more often.

Various locations **The Netherlands**

**+ On-site 3D concrete printing**

In 2016 Witteveen+Bos was commissioned to help engineer the world's first on-site 3D printed building: a laboratory for the Dubai Electricity and Water Authority. In addition a partnership with Dubox, a contractor based in Dubai, was started. We are investing in the development and application of 3D printing in the construction industry, and want to gain insight into innovative production methods and put them to use in our projects. Witteveen+Bos has therefore decided to take part in a large-scale study of 3D concrete printing at Eindhoven University of Technology. Several other interesting initiatives and collaborative projects in this area were set up in 2016. We expect that these will result in a wide range of international 3D concrete printing projects in 2017.

Dubai **United Arab Emirates**



**+ Covering a waste collection station**

The municipality of Nissewaard has brought together waste collection, waste processing and other public space tasks in a company called N.V. Reinis. The existing site of Reinis is in an area earmarked for future housing construction and needs to be relocated soon. As part of the establishment of the new waste collection station, Witteveen+Bos put forward proposals for an iconic and recognisable membrane covering of the entrance and the small chemical waste depot. The covering consists of a number of roof elements made up of a steel frame with a tensioned membrane in between. This allows the use of a relatively light roof with large spans, thus limiting usage of materials and transportation. The design further made allowance for the building method: the steel structure can be erected in its entirety before the membranes are installed.

Spijkensisse **The Netherlands**

**+ Improving soil by using river sludge**

River sludge is often regarded as waste and is dumped in landfills or used for low-quality applications such as making lakes shallower. However, sludge contains raw materials that may be valuable for improving the soil quality of agricultural land. Therefore, Rijkswaterstaat (the Directorate-General for Public Works and Water Management) initiated a project to explore opportunities for using river sludge as a soil improver. In cooperation with the Nutrient Management Institute, Witteveen+Bos compiled a picture of the present market for soil improvers. A workshop held with water managers, dredgers, agricultural cooperatives and fertiliser suppliers examined the opportunities that exist for marketing river sludge. A business canvas was drawn up to serve as a basis for further product and market development aimed at using river sludge as a raw material for improving soil.

Various locations **The Netherlands**

**+ Emerging contaminants in soil and groundwater**

It is becoming increasingly clear that Belgium's soil and groundwater contain a wide range of so called 'emerging contaminants'. For several of these substances, there is insufficient information about the scope of the problem and the associated risks. In 2016, a consortium of Witteveen+Bos, MAVA and EnISSA was therefore commissioned by the Flanders Public Waste Agency (OVAM) to conduct an exploratory study of the presence of 1,4-dioxane and Perfluorinated Alkylated Substances (PFAS) in Flanders. Both types of contaminants are environmentally persistent and difficult to clean up. Based on the study results, 1,4-dioxane was included in a number of OVAM's existing standard procedures. In 2017, a follow-up research study will be performed that will also devote attention to decontamination, policy and legal aspects. The PFAS project was set up in cooperation with Arcadis. In 2017, extensive field work and measurement campaigns will be performed as part of this project.

Various locations **Flanders**

**+ Rezoning The Hague's international zone**

The Creative Industry Stimulation Fund engaged Witteveen+Bos, Braaksma & Roos and The Cloud Collective to develop a working method for a rezoning plan for vacant buildings in the international zone in The Hague. Rezoning is often about physical restoration measures. In this plan, Witteveen+Bos explicitly devoted attention to socio-economic measures, such as responding to market scope to prevent cannibalisation. This was reflected in the plan. Instead of opting for yet another hotel, for example, it was decided to go for a food safety tribunal with societal gains for the city. The new purpose was selected based on interaction between building and area qualities. By using this working method the societal gains for the city proved far higher compared with 'ordinary' rezoning.

The Hague **The Netherlands**



**+ Installing autonomous port electricity supplies**

The Port of Rotterdam Authority manages mooring facilities that enable ships to load and unload safely. The mooring facilities are equipped with systems for lighting, capstans and data communication. The Port of Rotterdam Authority has a sustainability ambition and wants to create mooring facilities with renewable energy without any connections to the grid. Witteveen+Bos produced design specifications for more than thirty autonomous electricity supplies. This was done according to the 'trias' principle: reduce demand for energy, use a renewable source and utilise finite sources efficiently. This resulted in stand-alone systems powered by solar energy. Over the past two years, these autonomous electricity supplies have been fitted to hawser and fender piles in the port.

Rotterdam **The Netherlands**

**+ Supplying drinking water in a rural area**

The Virunga National Park is situated on the dividing line between the Democratic Republic of Congo, Rwanda and Uganda. Local people live in poverty and have only limited access to clean drinking water, because there is little surface water and wells are scarce. What's more, there are numerous regional conflicts, some stemming from the shortage of water. In a project called Water4Virunga, Witteveen+Bos is working on improving the water infrastructure in a consortium made up of Dutch and local companies, non-governmental organisations and universities. We are taking stock of the difficulties in the current drinking water supply and, based on an inventory of the hydrology, are producing a design that will complement the existing infrastructure. The goal is to offer the entire rural area access to clean drinking water in the future. One of the benefits of collaboration with local organisations is that they will acquire knowledge of water management.

Virunga National Park **Rwanda**

**+ Improving traffic flow in Antwerp**

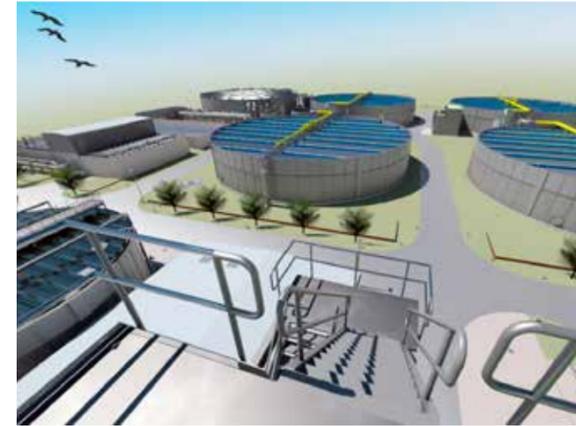
The Oosterweel Link is a large infrastructure project aimed at completing the Antwerp ring road and thereby improving traffic flow in Belgium's largest port city. It comprises works on the left and right bank of the River Scheldt, as well as a tunnel beneath the river. In 2016 work continued on the final designs, permit applications and specifications for all three route sections of this long-term project. The tender for the Scheldt Tunnel was prepared last year. A call for tenders has now been issued for the works on the left bank. Calls for tenders for the Scheldt Tunnel and the right bank will follow in 2017. Preparatory works on the right bank already started in 2016. Together with SWECO, Witteveen+Bos supervised works including the installation of the IJzerlaan Bridge, the construction of a number of deep shafts, and pipe-jacking works underneath the future expanded R1 ring road.

Antwerp **Belgium**

**+ Strengthening Markermeer dikes**

The national government and water authorities in the Netherlands are cooperating intensively in the Flood Protection Programme to get the country's water defences back into good shape. The new Design Tools were used to develop methods to ensure that primary water defences satisfy new legal safety requirements introduced on 1 January 2017. This new standardisation had already been applied in 2016 to strengthen the Markermeer dikes. Large sections of the Markermeer dikes between Hoorn and Amsterdam do not meet safety requirements. Together with partners and local residents, a tailor-made solution was sought in which there was input from local residents as well as consideration of such matters as cultural history and flora and fauna. This collaboration yielded numerous innovations, including a Dikes on Peat method and the Bank Dike concept.

Hoorn **The Netherlands**



**+ Utilising tie-in opportunities when strengthening dikes**

The Limburg Water Authority is accelerating completion of the flood protection programme in the Northern Meuse Valley. Arcadis and Witteveen+Bos were engaged to support the water authority in reinforcing fourteen dike sections in Northern and Central Limburg. We are performing explorations, providing support in managing the surroundings, drawing up plans/designs and preparing the work necessary to carry them out. Customer wishes of stakeholders were sought at various meetings and there was an examination of tie-in opportunities, i.e. other projects that could be undertaken together with the strengthening of the dikes. Sustainability has been placed on the agenda by applying a sector-wide approach called 'Sustainable Civil Engineering'. An example of a tie-in opportunity is the simultaneous tackling of brook restoration projects. There are also projects concerning cultural history, water management and ecology and recreation.

Northern Meuse Valley **The Netherlands**

**+ Improving cycling and pedestrian infrastructure**

The Highland Council wants to turn Inverness into the 'Green Capital' of Scotland. Dutch and British Witteveen+Bos experts supported the local authority in preparing a bid document to apply for a subsidy from UK charity Sustrans for improving the cycling and pedestrian network. For this purpose we deployed our expertise in network planning, traffic design, landscape architecture, and communication strategies. In addition, Witteveen+Bos organised a two-day workshop on participatory design as well as a workshop on 'Smart(er) Travel'. We also drew up a signage vision document based on the Celtic Ogham alphabet, with the names of trees playing a central role. Dutch cycling expertise is reflected in the design of a turbo roundabout and the application of bicycle boulevard profiles.

Inverness **Scotland**

**+ Sewage station with maximum flexibility**

The ageing Utrecht sewage station is being replaced. Witteveen+Bos is supporting the Heijmans/GMB consortium with the design of the new station. Besides stringent future discharge requirements, the station's inner-city location means there will be very tough requirements concerning odour and noise, so a maximum effort is being made to come up with a flexible and future-proof design. An innovative robust design has been drawn up, with maximum flexibility for coping with future changes. The new station will be equipped with innovative modular phosphate-removing sand filters that can be upgraded to a 1-STEP®Filter for more far-reaching removal of nitrogen and micro contaminants. Facilities have also been included to enable removal in future of a significant amount of suspended matter and smells. This will allow the sewage station to produce clean water both now and in the years ahead.

Utrecht **The Netherlands**

**+ Storing fresh water in rear banks**

The Netherlands has a lot of fresh water in the IJsselmeer and Markermeer lakes. When the water level rises or becomes excessively high, we discharge valuable fresh water into the sea, even though we could need the water at times of shortage. To address this situation, Rijkswaterstaat (Directorate-General for Public Works and Water Management) developed together with Deltares a concept known as 'Rear Banks', which involves flexibly managing the water level behind the dike in order to distribute water in a smarter way spatially and temporarily. We were engaged to examine the effects of different water level regimes on water safety, water storage, water quality and flora and fauna. By using Building with Nature solutions, more space has been created for water and nature. At the same time the quality of the surroundings and climate-proofing were improved.

IJsselmeer and Markermeer **The Netherlands**

INTERVIEW



# Cargo Transportation Route Kazakhstan

The Tengiz oilfield lies in a remote region of north-western Kazakhstan on the shores of the Caspian Sea. It is run by Tengizchevroil LLP (TCO), which wishes to increase the field's capacity. New facilities must therefore be built. Prefabricated modules weighing up to approximately 2,000 tonnes each are to be transported to the region from all over the world. Witteveen+Bos has been commissioned to design the Cargo Transportation Route (CaTRo) which allows the modules to pass through the relatively shallow Caspian Sea on their way to the oilfield. This is a large and complex project with many challenges.

'We can ensure that people are aware of the consequences of their decisions'



'This is a project with a promising future for my country'

**Aigul Mussakanova**



'This is a unique and challenging project for all colleagues involved. I learned a lot'

**Tatyana Li**

'We have the knowledge, the tools and the moral obligation to work on sustainability in this project'

**Rob Nieuwkamer**

'We must work hard and sometimes. Nevertheless, it is important to help and support each other'

At present, the region has limited infrastructure and facilities. The CaTRo project will change all that. The vessels carrying the modules have a draft of up to 3.5 metres. To allow them to make land as close to the Tengiz oilfield as possible, a 71-kilometre-long navigation channel is to be constructed. The channel will be 62 metres in width and bordered by 32 large artificial islands. A new port covering an area of some 15 hectares is to be built on the north-eastern coast of the Caspian Sea. It will have all the dockside facilities needed to unload the heavy modules safely. The final part of the journey is made overland, for which new roads with a total

length of 32 kilometres are to be built. For part of the route, the roads will pass along a new embankment of over 14 kilometres in length. A large terminal complex with water production and treatment facilities will also be built, as well as accommodation for over 500 workers. Egbert Teunissen, project leader for Witteveen+Bos, is proud of the project team's achievements to date. 'There is so much to be done,' he says. 'This is an enormous project which involves rigid planning, complex organisation and numerous permit application procedures. We have to remain flexible because there are frequent modifications to the plans.'

Over two hundred Witteveen+Bos professionals are working on this mammoth task, both in the Netherlands and in Kazakhstan. Egbert spends four weeks at a time on site and four weeks in the Netherlands, alternating with his colleague Johan Lijftogt. The two men have a very close working relationship. 'When you're involved in such a demanding and challenging project, you really need a good partner,' says Egbert. 'Johan and I have agreed that we can call each other at any time, day or night. Sometimes you need a second opinion or perhaps you just want to talk things over.' The challenge is not only to complete the

project on time and within budget, but also to ensure that the result is as sustainable as possible. Dirk de Kramer, one of the Witteveen+Bos experts working on the project, cites several design aspects intended to maximise sustainability. 'We decided to modify the shape and dimensions of the 32 artificial islands to facilitate fish migration, for example. We have also proposed solutions which will support 'zero discharge policies', and all material choices take account of the transport distances.' Making responsible choices on a project of this size will have an immediate impact, but Dirk sounds a note of caution. 'You can't really say that a project is

either sustainable or it is not. That is a black-and-white approach yet there are many shades of grey in between. The context is important. As engineers, we are not always in a position to decide exactly how the project will take shape. We can, however, ensure that people are aware of the consequences of their decisions. We can suggest alternatives, and we can give clear, valuable advice.' The size and complexity of the project and the various challenges involved demand close cooperation and excellent communication. Alongside the huge Witteveen+Bos presence, the project involves fifteen subcontractors from no fewer than six different countries, and

all are working for two principal clients. Teamwork is an essential success factor, Egbert Teunissen stresses. 'We must work hard and sometimes we must also apply a tough, no-nonsense approach. Nevertheless, it is important to help and support each other as much as possible. I find it inspiring to see how team members are developing in terms of professional skills and ability. Working on a large and complex project such as CaTRo supports personal development as well.'

## OBJECTIVE 2: DEVELOPING TALENT

Developing top talent is a key objective of Witteveen+Bos. In its role as employer, Witteveen+Bos provides jobs and contributes to economic growth. We are committed to training and developing top talent, promoting diversity, and ensuring an adequate inflow of technical professionals. According to our stakeholders we can increase our contribution, particularly in the area of diversity. We are already recognised as a good employer and aim to maintain that status.

### Workforce

On 31 December 2016, Witteveen+Bos had 1,029 employees worldwide (2016 average: 973 FTEs worldwide). The average length of service in the Netherlands was 10.8 years (2015: 7.6 years). These and other personnel key figures may be found on pages 43 and 44.

### Measuring progress

Employee development occurs mainly through 'learning and coaching on the job'. Conducting job performance interviews is an important way to discuss talent development with all employees. We support career development opportunities for female employees and aim to realise an appropriate male/female ratio. We involve young people in our company and ensure an adequate inflow of technical professionals by hosting interns and final-year students.

The Key Performance Indicators (KPIs) listed in the table below have been carefully selected to measure our progress in achieving our objective of developing talent.

KPI 2016	Result
Job performance interviews are to be held with at least 80 % of all employees who have been with the company for one to two years, and with at least 50 % of all employees who have worked at Witteveen+Bos for two to ten years.	In 2016, 66 % of all employees in the Netherlands had a job performance interview in the past two years. In addition, 15 % of all employees in the Netherlands had a career interview with their line manager in the past five years. We have achieved a good result for this KPI, although room for improvement remains.
A 'Talent Development Score' is to be included in all job performance reviews. Employees can use this metric to indicate whether they have been given every opportunity to utilise and develop their talents. We aim for an average score of at least 'satisfactory'.	A survey among Witteveen+Bos project leaders worldwide (with a response rate of 53 %) yielded an average Talent Development Score of 7.7. The target for this KPI has therefore been achieved.
We aim for female employees to account for 25 % of future partner nominations, a male-female ratio that corresponds to the ratio among new colleagues joining the company.	In 2016 Witteveen+Bos appointed four new partners at the annual General Meeting of Shareholders: three men and one woman. The overall male-female ratio in the company was therefore reflected in our partner nominations in 2016.
The increase in the number of interns and final-year students must at least keep step with the growth of our company.	In 2016 Witteveen+Bos hosted more interns and final-year students (191) than in 2015 (174). We have therefore more than realised our target for this KPI.
Witteveen+Bos is to organise at least five business courses for students every year. Every year, Witteveen+Bos is to organise at least three events aimed at the general public.	In 2016 we organised six business courses in total: two for university students and four for students at institutes of higher vocational education. The target for this KPI has therefore been achieved. The company participated in various activities and events aimed at raising awareness and involving the public in engineering as a discipline and profession: <ul style="list-style-type: none"> <li>- 'Engineering Week' for primary school pupils</li> <li>- Careers guidance evening for secondary school pupils at Etty Hillesum Lyceum</li> <li>- 'Girls Day' for secondary school pupils</li> <li>- Zabuki Science Café for children</li> </ul>



In 2016 we achieved good scores on all KPIs. The average Talent Development Score of 7.7 indicates that we make an effective contribution to the development of our employees' talents. Two-thirds of our staff have had a job performance interview in the past two years, a figure that leaves room for improvement.

In this chapter provide several colleagues show how they work on talent development. Besides the KPIs we also pay attention to (internal) training activities outside the regular work and employee participation.

### Knowledge development and training

Witteveen+Bos hires talented employees who continue their professional and personal development within our company and become experts in their field, ensuring that the firm remains a dynamic and constantly learning organization. Management positions are filled by means of internal promotion. We aim to apply this policy worldwide, and have now appointed local staff to all group leader positions in Indonesia, for instance. Witteveen+Bos has a system of in-company training courses for its employees. The company also contributes financially to relevant external courses of study undertaken by employees and to external seminars, workshops and training sessions. In 2016 Witteveen+Bos spent 511,375 euros on leadership and employee development.

### Activities

Having fun both on and off the job is important at Witteveen+Bos. We therefore organise various activities where employees can get to know each other outside work. Special extracurricular activities are provided for employees who have been with Witteveen+Bos for less than three years (known as 'neWBies'), such as a weekend trip to Paris to offer advice on the redevelopment of a former industrial estate. We are a sports-minded organisation and company teams regularly participate in running and rowing events. As in previous years, we set up an outdoor café during 'Deventer op Stelten', an international outdoor theatre festival held every summer in Deventer. Nearly one thousand employees and business relations and their family members visited the outdoor café, with drinks and refreshments provided by local start-up companies. The Witteveen+Bos Art+Technology Award is presented every year to honour creativity, which plays such a key role in the work of engineers as well as artists. In 2016 fashion designer Iris van Herpen won the prize for her innovative oeuvre. The opening of the accompanying exhibition of her work was attended by over 300 employees and business relations, while the exhibition itself was visited by approximately 9,500 people.

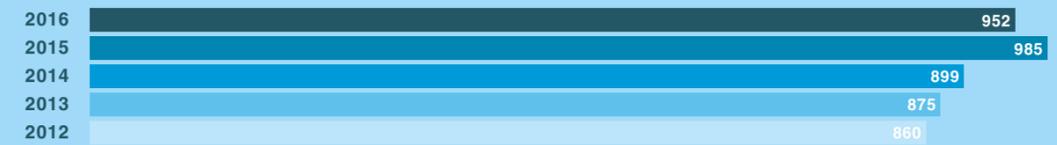
### Works Council

In 2016 the Council made some changes to its communication arrangements, for instance by making reports available via the intranet and organising walk-in days at all offices. In addition, the Works Council offered advice in early 2016 on the appointment of the Supervisory Board and reviewed the Witteveen+Bos Employee Regulations.

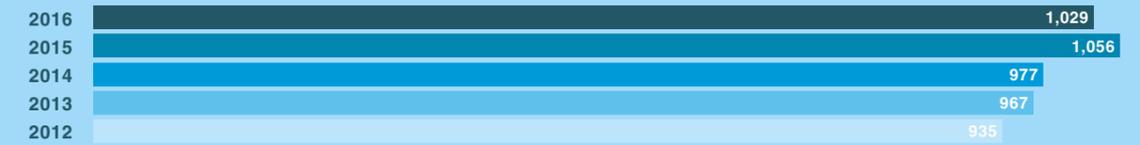


## PERSONNEL KEY FIGURES

Number of employees in Full-Time Equivalents (FTEs) (as of 31 December 2016)



Number of employees (as of 31 December 2016)

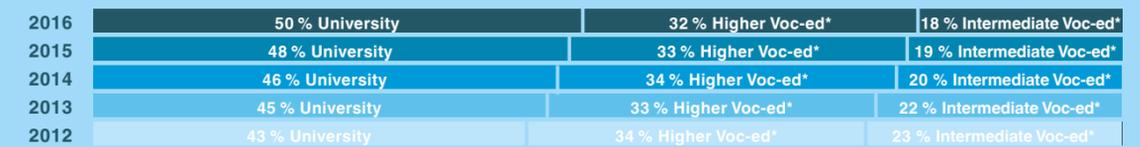


Male/female ratio\* (as of 31 December 2016)



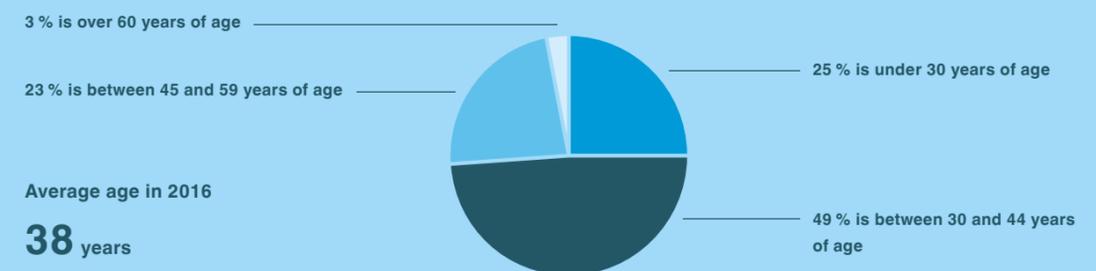
\* This is the male/female ratio from the number of employees worldwide (2012-2013: male/female ratio in the Netherlands only)

Level of education (The Netherlands)



\* Voc-ed = vocational education

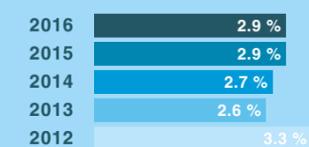
Staff age distribution in 2016



Average age in 2016

**38** years

Sick leave rate (The Netherlands)



#### In-company training and education and number of interns / final-year students (The Nederland)

	2016	2015	2014
Number of employees who received in-company training or education	652	489	457
Money spent on training and education per employee (in euros)	607	559	544
Number of interns and final-year students*	191	174	112

\* Measurements of 2014 are based on the numbers available until 31 December 2014. Measurements of 2015 and 2016 are based on the number of interns and final-year students in those years.

#### Employee turnover by age group and gender

	2016 (worldwide)	2015 (worldwide)	2015 (NL)	2014 (NL)
Employees leaving	125	100	69	77
Male employees leaving	79	59	48	47
Female employees leaving	46	41	21	30
Employees below the age of 30 leaving	30	24	12	17
Employees in the age of 30 to 45 leaving	71	58	43	48
Employees over the age of 45 leaving	24	18	14	12
Average number of years with the company	7.9	5.7	7.6	8.7

#### Total workforce by employment type (full-time and part-time), employment contract (temporary and permanent), and country (31 December 2016)

	2016 (worldwide)	2015	2014
Full-time	664	548	529
Part-time	365	321	325
Fixed-term contract	111	93	91
Indefinite-term contract	918	776	763
The Netherlands	842	869	854
Belgium (including MAVA AES N.V. as of 2015)	61	66	13
Dubai	5	7	1
Ghana	5	-	-
Indonesia	31	37	28
Kazakhstan	67	71	67
Latvia	6	8	8
Russia	1	3	2
Singapore	6	6	2
United Kingdom	3	2	-
Vietnam	2	2	2
Total number of employees worldwide	1,029	1,056	977
Total workforce in The Netherlands (FTEs)	766	809	780
Total workforce worldwide (FTEs)	952	985	899

#### + Tackling the Southern Ring Road in Groningen

The city of Groningen has grown significantly in recent years and is expected to continue growing for the time being. This is clearly noticeable on the southern ring road, an important traffic artery to and from the city and for traffic bypassing Groningen. Traffic flow and road safety have deteriorated because of the increased traffic. The result is traffic congestion, more accidents and less mobility for local offices, districts and industrial sites.

The Southern Ring Plan of Action is designed to make the city and region more accessible in the years ahead, ensure a liveable environment and increase road safety. The work is being carried out by the Herepoort group and is scheduled to take place between 2016 and 2021. Witteveen+Bos is acting as the consultant of the contracting group.

Groningen The Netherlands





# Room to plan your own career Hannie Dierx

**Hannie Dierx is location head of the Witteveen+Bos office in The Hague, where she also leads the Environment and Industry group. She also has a busy home life as the mother of two young children, and is currently expecting two more: twins! Hannie enjoys her work because it allows her to contribute to important and interesting projects. She has allowed her career to develop almost organically, without a rigid plan.**

Hannie studied Aerospace Engineering at Delft University of Technology, graduating in 2003. She then joined a small, specialist engineering consultancy. She worked here with much pleasure for five years. The move to Witteveen+Bos was prompted by a desire to broaden her horizons. 'I had already heard quite a lot about the company. I found its informal culture and strong connection with its 'roots' particularly appealing. I have since worked at several PMCs and groups. Everyone here has the opportunity to explore their talents and interests, but career development is also a personal responsibility. You have to be proactive. There have been occasions on which I applied to join a different department, but sometimes I was transferred by the organisation as part of its own development processes. I know that I am always among friends, regardless of where I am actually working. My colleagues are people I can rely on. They are willing to help and are a pleasure to be around. I feel even more engaged with the company as a result. We do everything as a team!'

Witteveen+Bos staff are all co-owners of the company. In 2016, Hannie was invited to become a partner and to increase her shareholding. She did not hesitate for a moment. 'I really believe in this company and I believe that working together enables us to overcome any difficulty. Being a partner brings greater responsibility, both to the company and to myself. Rather than

focusing exclusively on the current project, I now tend to look ahead as well.'

It is during actual projects that most knowledge development, and indeed most personal development, takes place. Hannie regards 'learning on the job' as an intrinsic aspect of project work and of the Witteveen+Bos culture. 'The most effective way to learn something is by doing it,' she contends. 'No child learns to walk by reading a book. You can expect to stumble occasionally. However, there is a complex field of clients and colleagues, and projects often have tight budgetary and scheduling requirements. It is therefore not ideal if you fall over too often.'

As group leader, Hannie prefers to coach her team members from the sidelines. 'Again, most coaching takes place in the context of actual projects. I hold a performance appraisal interview with every member of the group at least once a year. I consider this important. I also think it is necessary because everything changes so quickly these days. You will start to lose people if you don't keep up.'

Hannie sees the company's sustainability objectives as very high ideals. She prefers to focus on a lower level of scale. 'Everyone has their own natural talents. You owe it to yourself and others to use those talents to contribute to society. I like to help the people around me. In a professional capacity, I find it particularly gratifying to advise small family companies. If a small company flourishes

and wishes to expand, it is likely to find itself facing all sorts of government rules and regulations. I can really make the difference. I think it is marvellous that Witteveen+Bos doesn't restrict itself to huge mega-projects but will also work for the SME sector.'

'The invitation to take over as location head in The Hague came as something of a surprise to me, but apparently not to one of my former colleagues. She recalled the first staff barbecue I attended, at which I questioned our then location head Matthew about how one gets the job. By discussing things you sow the seed of an idea and eventually something may grow out of it. That is how the 'innovation hub' meetings at our office started. Six students visit every Wednesday afternoon for six months to discuss various themes and topics with staff. It all began with a brainwave I had while cycling past the Parade festival site and wondering how something like this could support the circular economy. A few weeks earlier I had been at Delft University of Technology to explore whether there was any opportunity for interaction with the students. Sharing thoughts and ideas with colleagues spawned a new initiative. The innovation hub is our way of actively exploring new ideas and sharing our knowledge with the next generation. When something comes together like this, you know it's a good thing, and that makes me happy.'

'I think conducting job performance interviews is important and necessary'



Freedom and personal responsibility  
Robert de Boer

'I was introduced to Witteveen+Bos while still studying hydraulic engineering at university. I took part in various activities including a business course. Once I had finished my graduation thesis, for which I won the Hydraulic Engineering Prize 2016, I applied to join Witteveen+Bos in the Netherlands. I am now involved in the design and assessment of water defences such as dykes. I really like this company's no-nonsense approach and the fact that it is such a level organisation. Even though I am only starting out on my engineering career, I am given quite a lot of freedom and I already have considerable personal responsibility. I appreciate the career development opportunities, and the fact that I can decide for myself which direction I want my career to take. I am currently part of a team which is developing a Virtual Reality tool. It will allow stakeholders such as local residents and policy-makers to be involved in the dyke design process and to influence the decisions made by designers. I find it very motivating to be involved in developing innovations such as this.'

Developing the talent of team members  
Daniyar Kaliyev

'In 2013, I successfully applied to join Witteveen+Bos in Kazakhstan. I wanted to expand my knowledge of design engineering, and I was keen to become part of a large, professional and successful organisation. I have learned much from my colleagues and have earned several certificates issued by clients. I am now a group leader. I think it is very important for everyone in the team to have opportunities for development. For me, working in a team is like being part of a family: everyone supports and motivates each other, and they ensure that the members of the family can grow as they wish. At Witteveen+Bos, we are able to gain experience working on major international projects. I think that is a huge advantage. We are aware of each other's talents and we think about ways in which to develop those talents to the full.'

Developing and transferring knowledge  
Leonie Koops

'Do what you enjoy and do it with conviction, I always say. That way, you will inspire others and maximise your own value. I like to work in a challenging environment, and at Witteveen+Bos I have been able to do just that in various positions, at various offices and on various projects. The sheer diversity of my work has allowed me to develop an extensive network of contacts, both internal and external. I am currently working towards a doctorate at Delft University of Technology. I really enjoy developing and sharing knowledge, and I think it is very important to do so. This is why I frequently lecture on 'project complexity' and I also supervise students' graduation projects. Together with a colleague, I have set up a research programme in which we collate various initiatives throughout the company, share knowledge, and link that knowledge to the actual requirements of our clients.'

Sustainable entrepreneurship  
Maarten Schäffner

'The CSR team has done so much to embed sustainable enterprise into the organisation in recent years, and I am very proud to have been part of it. This is the perfect time to develop methods which will maximise the sustainability of all projects. There is increasing support for such methods, which bodes well for the future. I really appreciate being allowed to develop my personal ideas. I joined various partners in creating the 'D-Tool' sustainability platform. It offers a set of instruments which make sustainability tangible and measurable. It was a huge honour to be named Employee of the Year in recognition of my efforts in this area. I see the title as an incentive to continue the process of embedding Corporate Social Responsibility in our projects and in our own business operations. Particular attention is devoted to the projects, because it is here that the societal impact of our work is most evident.'

### OBJECTIVE 3: ADDING VALUE THROUGH OUR BUSINESS OPERATIONS

Witteveen+Bos can also contribute to the realisation of the United Nations Sustainable Development Goals by reducing the environmental impact of our own business operations and operational processes. We seek to achieve this aim through measures such as promoting sustainable business travel and the reduction of CO<sub>2</sub> emissions throughout the supply chain.

#### CO<sub>2</sub> footprint

Every year we calculate our CO<sub>2</sub> footprint in order to gain insight into the CO<sub>2</sub> emissions resulting from our company's activities. The footprint for 2016 has been calculated using the standard conversion factors provided on the website [www.co2emissiefactoren.nl](http://www.co2emissiefactoren.nl). Since 2014, we have also included the emissions of our international offices (in accordance with GRI disclosure requirement G4-23). Values relating to offices outside the Netherlands have been extrapolated from the data collected in Jakarta and the Netherlands itself. The reported CO<sub>2</sub> footprint per FTE relates to all Witteveen+Bos employees worldwide.

#### Measuring progress

Progress in reducing our environmental impact is measured based on the Key Performance Indicators (KPIs) listed in the table below.

KPI 2016	Result
Our CO <sub>2</sub> emissions reduction is in line with the overall target of a 30 % reduction by 2020 (compared to the reference year 2007).	In 2016, a per capita reduction of 25 % was achieved (compared to the reference year 2007). We are therefore on track to meet the target of a 30 % reduction by 2020.
Engage in dialogue with our five main suppliers about achieving CO <sub>2</sub> emissions reduction throughout the supply chain.	In 2016, three meetings were held with suppliers to discuss the reduction of CO <sub>2</sub> emissions at various points in the chain.
Maintain our CO <sub>2</sub> Awareness Certificate at Level 5 of the SKAO CO <sub>2</sub> Performance Ladder, and obtain certification in accordance with the new Quality Manual.	Our certification at Level 5 of the CO <sub>2</sub> Performance Ladder was renewed in 2016.

We conclude that we are on track to achieve our emissions reduction. Further reduction measures were introduced in 2016, including the implementation of flexible project-based working arrangements in Breda and active encouragement of videoconferencing to reduce the travel requirement. Witteveen+Bos has adopted the company-wide use of laptop computers in preference to desktop PCs. Staff are more mobile as a result and no longer need to attend the office every day, which also reduces the travel requirement.

Unfortunately, it has not yet been possible to schedule meetings with all five of our main suppliers to discuss CO<sub>2</sub> emissions reduction at various points in the chain. Three such meetings were held during the year under review. We nevertheless recognise the importance of dialogue and will therefore strive to hold five meetings in 2017.

The CO<sub>2</sub> Performance Ladder is an instrument which encourages environmental awareness on the part of private-sector companies, both in their own business operations and their projects on behalf of clients. We are proud to have retained full certification (in the form of the CO<sub>2</sub> Awareness Certificate) at Level 5 of the Performance Ladder. The underlying key figures may be found on pages 53 and 54 of this Annual Report.

Besides the activities of KPIs, we have launched several initiatives in 2016 for a sustainable business and we have mapped out the measures that should lead us to achieve the desired reduction in CO<sub>2</sub> emissions by 2020.



#### Initiatives

In 2016, a pilot project involving the hydrogen bromide flow battery was officially launched. This new type of battery offers a relatively inexpensive means of storing electricity, thus enabling renewable energy from solar panels and wind turbines to compete favourably with that generated from the combustion of fossil fuels. We also worked on ongoing initiatives intended to reduce the adverse environmental impact of our regular business operations. At the Witteveen+Bos office in The Hague, for example, staff have introduced their own waste separation arrangements. In Amsterdam, 'Meatless Monday' has been introduced with a view to reducing the CO<sub>2</sub> footprint.

#### Measures

In 2016 work continued on concrete measures to further reduce CO<sub>2</sub> emissions (G4-19). These measures to reduce greenhouse gases as detailed in a separately published footprint (see [www.witteveenbos.nl/mvo](http://www.witteveenbos.nl/mvo)). Some of these are explained below.

In 2017, the office location in Deventer on Leeuwenbrug is being renovated. During the preparatory building work, all staff will use the Stationsplein location. Once the Leeuwenbrug office is completed in 2018, staff will relocate here. During the modernisation of the Leeuwenbrug office, particular attention will be devoted to energy efficiency. Insulation of both the roof and the floors is to be improved, and double glazing will be installed where not already in place. This will reduce gas consumption for heating. The installation of 'smart' lighting will also reduce electricity consumption for lighting by over 50 %.

The 'PLUSwerken' concept is to be rolled out to the Leeuwenbrug location in Deventer as well. The offices in Rotterdam and The Hague will follow in due course. For this purpose, preparations will be made in 2017. We shall continue to actively promote the use of videoconferencing for meetings in order to reduce the travel requirement. Facilities are to be expanded accordingly.

Each year, some of the company's vehicles will be replaced by electric or hybrid models. Charging points have been installed in the car park of the Leeuwenbrug office in Deventer.

To encourage the use of public transport and hence reduce reliance on employees' own cars, Witteveen+Bos offered NS (Rail) Business Cards to a number of staff in 2016. The intention is that all staff should be able to avail themselves of this opportunity by 2018.



### + The Healthy City

Ensuring a healthy environment in times of population growth is one of the challenges facing world cities like Singapore. 'Healthy City' is a concept designed to improve factors that influence health, such as air quality, noise nuisance, safety, inspiration and happiness. Among other things, a healthy city encourages its residents to adopt an active lifestyle. This requires a shift from the current, car-dominated urban infrastructure to an infrastructure that is geared more to pedestrians and cyclists. In Singapore we are working to achieve such a transformation in the district of Ang Mo Kio, which has approx. 175,000 residents. We are developing a cycling network that will turn the district into Singapore's first 'Walking and Cycling Town'.

Ang Mo Kio Singapore

## BUSINESS OPERATIONS KEY FIGURES 2016

### Energy consumption \*

	2016	2015
District heating (hot water in gigajoule)	88	143
Gas consumption in office buildings (m³)	279,350	250,977
Electricity consumption (kWh)	1,572,423	1,591,193
Air travel (km)	6,468,977	8,705,177
Paper use (kg)**	28,778	33,081
Use of private cars for business purposes (km)***	3,745,015	3,240,101
Use of company cars for business purposes (km)***	20,722	20,281
Use of company cars for business purposes (litres of fuel)	261,808	282,995
Use of company cars for commuting purposes (km)***	363,389	332,180
Use of private cars for commuting purposes (km)***	2,873,840	2,633,642
Use of public transport (km)	7,718,199	7,125,765
- Use of public transport for business purposes	2,432,059	-
- Use of public transport for commuting purposes	5,286,140	-

\* This is the total energy consumption of all Witteveen+Bos offices worldwide. The figures were calculated based on data collected for our offices in the Netherlands and Jakarta, Indonesia. The figures for the other offices have been extrapolated based on the data for the offices in the Netherlands and Jakarta.

\*\* This category only includes office paper; printed books and brochures are excluded.

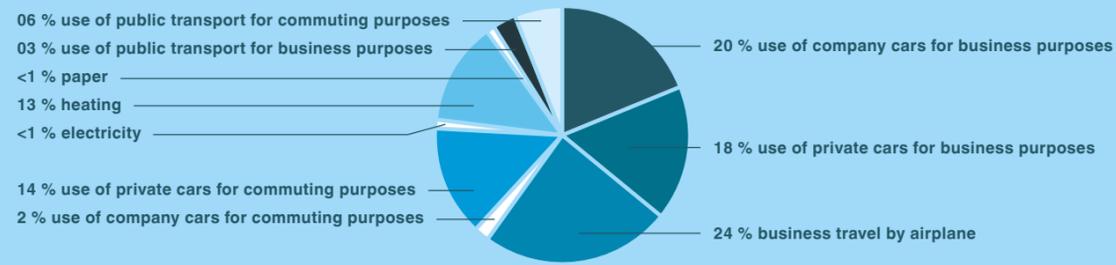
\*\*\* For our carbon emissions inventory, we use the following units: litres of fuel for the use of company cars for business purposes, kilometres for the use of hybrid cars for business purposes, and kilometres for the use of private cars for business and commuting purposes.

### Emissions per scope in tonnes of CO<sub>2</sub>

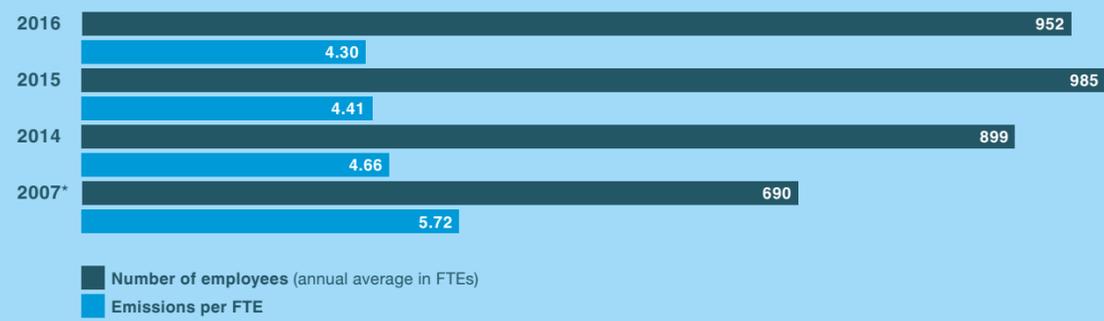
	2016	2015	2007*
<b>Scope 1</b>			
Use of company cars for business purposes	809	861	628
Gas consumption	527	473	266
Subtotal for scope 1	1,336	1,334	894
<b>Scope 2</b>			
Electricity consumption	11	10	981
Air travel	978	1,430	645
District heating	1	2	-
Use of private cars for business purposes	749	656	657
Use of public transport for business purposes	107	74	66
Subtotal for scope 2	1,846	2,171	2,349
<b>Scope 3</b>			
Paper use	3	3	4
Use of private cars for commuting purposes	573	532	392
Use of public transport for commuting purposes	261	240	214
Use of company cars for commuting purposes	69	64	91
Subtotal for scope 3	906	839	701
Total for scope 1, 2, 3	4,089	4,345	3,944

\* This footprint was calculated based on data for the Netherlands

Emissions per activity in tonnes of CO<sub>2</sub>

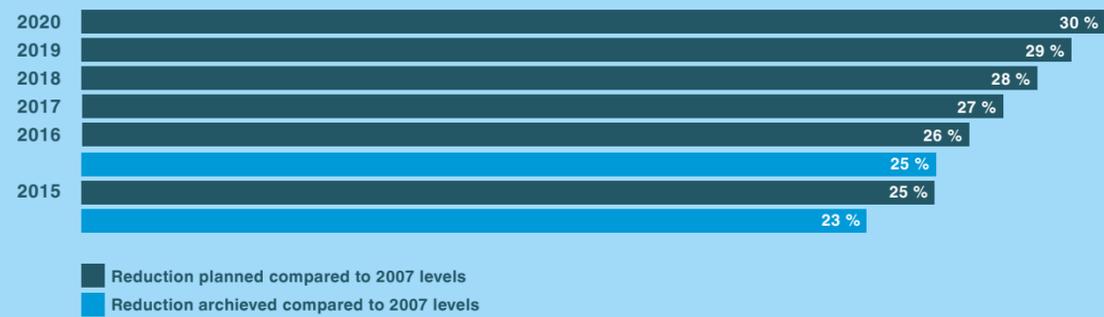


Emissions per FTE in tonnes of CO<sub>2</sub>



\* This concerns emissions per FTE in tonnes CO<sub>2</sub> based on national FTE data.

CO<sub>2</sub>-emissions reduction schedule up to 2020



## OBJECTIVE 4: CREATING ECONOMIC VALUE

Witteveen+Bos aims to realise healthy financial results. A sound financial basis is an important precondition that enables the company to create value for our stakeholders in the long term and contribute to economic growth.

### Measuring progress

Our stakeholders indicate that Witteveen+Bos is already making close to its maximum contribution to this goal. In order to maintain our contribution at the present level, we have set the target of a net profit margin of at least 8 % per year and an annual workforce and revenue growth of 3 to 5 %.

KPI 2016	Result
Annual revenue growth of 3 to 5 %	In financial year 2016, Witteveen+Bos N.V. realised a revenue of 137.1 million euros, an increase of 5.8 % compared to 2015 (2015: 129.6 million euros).
Annual workforce growth of 3 to 5 %	The workforce contracted slightly from 1,056 to 1,029 employees. This decrease occurred in the Netherlands.
Annual net profit margin of at least 8 %	The net result in 2016 amounted to 15.7 million euros, yielding a net profit margin of 11.5 %. This means that the quality of our profits improved compared to 2015 (when the net result amounted to 14.3 million euros and the net profit margin was 11.1 %).

We are satisfied with these KPI results. Revenue was slightly below target in the first six months of the year due to a decreasing work portfolio and declining productivity. The size of the workforce reflected these developments and therefore contracted in the first half of 2016. With our work portfolio and productivity once again increasing in the third quarter, workforce and revenue growth resumed. The financial key figures may be found on page 59 and 60.

### Price of Witteveen+Bos N.V. share

The Witteveen+Bos N.V. share price increased during the year under review, and amounted to 6.33 euro on 1 July 2016 (up from 5.99 euro on 1 July 2015). Stable profits and therefore stable dividends are important for the financing of the shares. In the longer term this allows Witteveen+Bos to finance its growth partly by issuing shares, in addition to taking out bank loans.

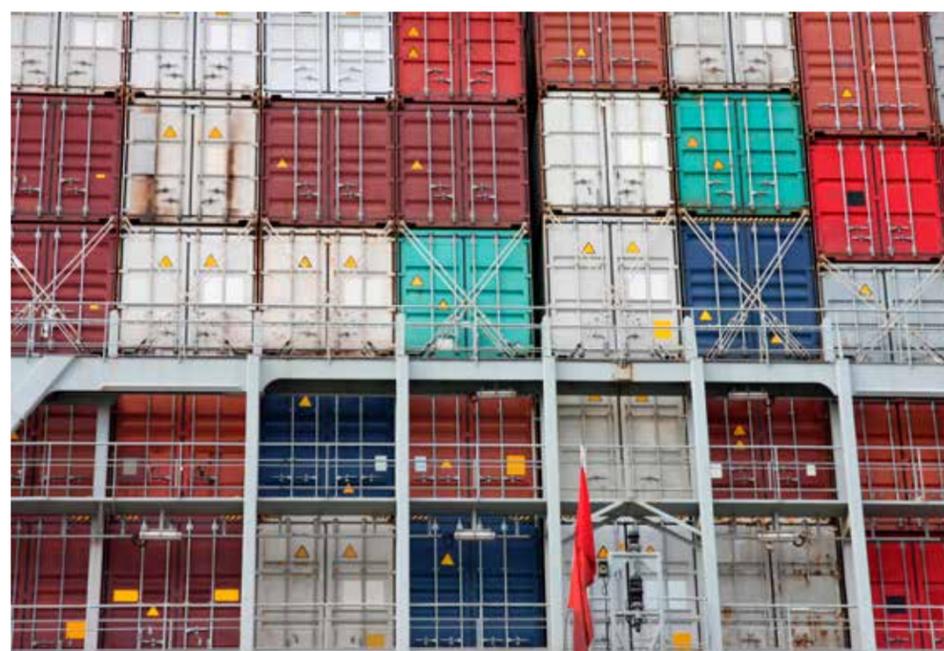
### Financial ratios

The balance sheet total increased compared to 2015, mainly as a result of an increase in cash and cash equivalents and short-term liabilities. On balance, the solvency rate decreased from 46.6 % in 2015 to 44.4 % in 2016.

Integrated projects (particularly large-scale projects) are still having a significant impact on our working capital. The total of non-invoiced expenditure (less provisions) and outstanding receivables amounted to 32.5 million euros, accounting for approximately 23 % of expenditure in the financial year under review.

### Risk management

Witteveen+Bos is involved in a wide range of small- and large-scale integrated projects all over the world. These projects have a substantial impact on the organisation and on our financial ratios, and result in a number of specific risks and points for attention. Overall, Witteveen+Bos takes a cautious approach to risk management. In our projects, we aim to limit our liability towards our clients to a reasonable extent. Continuous monitoring of projects and contracts helps us to comply with our risk mitigation policy. To limit foreign currency risks, contracts are concluded in euros or US dollars as far as possible. Furthermore, contracts with subcontractors are concluded in the same currency whenever possible. The shareholders' equity includes a reserve of approximately 3.3 million euros for translation differences as a result of currency devaluation in the previous financial year in countries where Witteveen+Bos is active. Most of these negative translation differences have been eliminated in 2015 and 2016 by post-calculating any outstanding amounts in local currencies, based on the exchange rate applicable at the time the contract was concluded. To optimise control of our financial risks, we worked with BST Global in 2016 to develop an entirely new financial management and project accounting system. The new system, known as BST10, was successfully implemented in mid-February 2017. Colleagues all over the world can now collaborate and use this integrated system to perform project accounting and financial administration tasks for the various entities.



## AUDITOR'S REPORT

The annual results for 2016 presented on page 59 and 61, which comprise the consolidated balance sheet as at 31 December 2016, the consolidated profit-and-loss account and the accompanying notes, are derived from the audited financial statements of Witteveen+Bos N.V. for 2016. We expressed an unqualified audit opinion on those financial statements in our report dated 15 March 2017. Those financial statements, and the summarised annual results, do not reflect the effects of events that occurred subsequent to the date of our report on those financial statements (15 March 2017).

The summarised annual results for 2016 do not contain all the disclosures required by Part 9 of Book 2 of the Dutch Civil Code. Reading the summary financial statements for 2016, therefore, is not a substitute for reading the audited financial statements for 2016 of Witteveen+Bos N.V.

### Responsibility of the Board of Directors

The Board of Directors is responsible for the preparation of a summary of the audited financial statements on the basis of the principles described in the notes to the consolidated annual results for 2016.

### Auditor's responsibility

Our responsibility is to express an opinion on the summarised annual results based on our procedures, which were conducted in accordance with Dutch law, including the Dutch Standard on Auditing 810 'Engagements to report on summary financial statements'.

### Opinion

In our opinion, the summarised annual results for 2016 derived from the audited financial statements of Witteveen+Bos N.V. for the year ended 31 December 2016 are consistent, in all material respects, with those financial statements, in accordance with the principles described in the notes to the consolidated annual results.

Zwolle, the Netherlands, 3 April 2017

Deloitte Accountants B.V.  
M.H.J. Klein Haarhuis RA

### + Building a movable cycle bridge for an industrial port

The city of Haarlem is creating a fast and safe cycling route between the city centre and the Waarderpolder across the industrial port in order to increase the polder's accessibility and attractiveness. A new movable cycling bridge will interconnect the areas known as Nieuwe Energie and Figeeterrein. The configuration of Hendrik Figeeweg will also be modernised and the cycling route will be connected to the existing infrastructure. As some companies at the industrial port rely on waterborne transport, it was decided to build a movable bridge. When preparing the design, Witteveen+Bos also drew up the contract and sought a balanced bridge, with the least possible energy consumption and the best possible use of gravity as an infinite source of energy. The movable cycling bridge looks impressive and has a clear silhouette excellently suited to the surrounding area.

Haarlem The Netherlands



## SUMMARISED ANNUAL RESULTS 2016

### CONSOLIDATED BALANCE SHEET (before profit appropriation)

	31 December 2016	31 December 2015
<b>Assets</b>		
Intangible fixed assets	2,830	1,448
Tangible fixed assets	14,250	14,818
Financial fixed assets	+ 3,967	3,807
<b>Fixed assets</b>	<b>21,047</b>	<b>20,073</b>
Work in progress	4,838	8,762
Accounts receivable	30,246	26,972
Cash and cash equivalents	+ 16,524	6,429
<b>Current assets</b>	<b>+ 51,608</b>	<b>42,163</b>
	<b>72,655</b>	<b>62,236</b>
<b>Liabilities</b>		
<b>Group equity</b>	<b>32,280</b>	<b>29,002</b>
<b>Provisions</b>	<b>4,825</b>	<b>4,755</b>
Long-term liabilities	5,469	5,844
Current liabilities	+ 30,081	22,635
<b>Total liabilities</b>	<b>+ 35,550</b>	<b>28,479</b>
	<b>72,655</b>	<b>62,236</b>

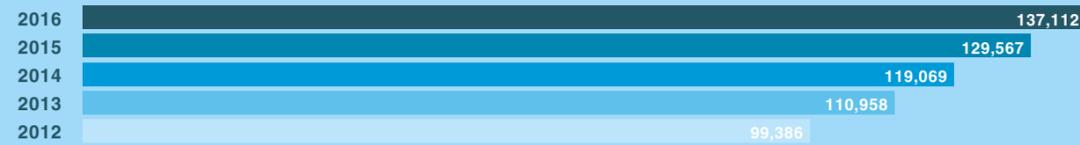
### CONSOLIDATED PROFIT-AND-LOSS ACCOUNT

	2016	2015
<b>Net turnover</b>		
Net turnover including changes in work in progress	137,112	129,567
<b>Costs</b>		
Subcontracted work	32,406	34,006
Salaries and wages	48,878	46,797
Social security and pension premiums	11,510	11,544
Depreciation of (in)tangible fixed assets	1,871	1,780
Other changes in the value of (in)tangible fixed assets	510	0
Other operating costs	+ 20,957	15,897
	<b>- 116,132</b>	<b>110,024</b>
<b>Operating result</b>	<b>20,980</b>	<b>19,543</b>
Interest paid (on balance)	- 257	284
<b>Result before taxation</b>	<b>20,723</b>	<b>19,259</b>
Results of other participations	+ 95	- 7
<b>Result before taxation (including other participations)</b>	<b>20,818</b>	<b>19,252</b>
Taxation	- 5,068	4,904
<b>Net profit</b>	<b>15,750</b>	<b>14,348</b>

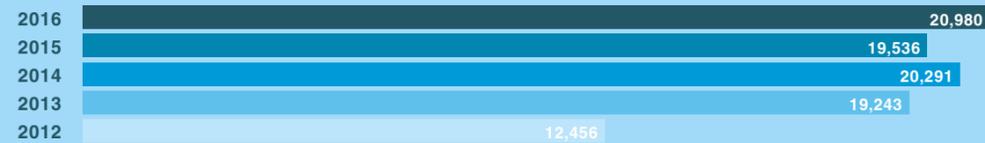
(amounts in thousands of euros)

## FINANCIAL KEY FIGURES

**Turnover** (in thousands of euros)



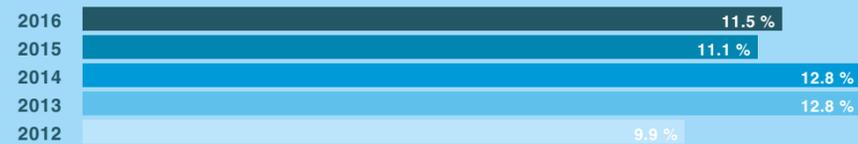
**Operating result before interest and taxes** (in thousands of euros)



**Net profit** (in thousands of euros)



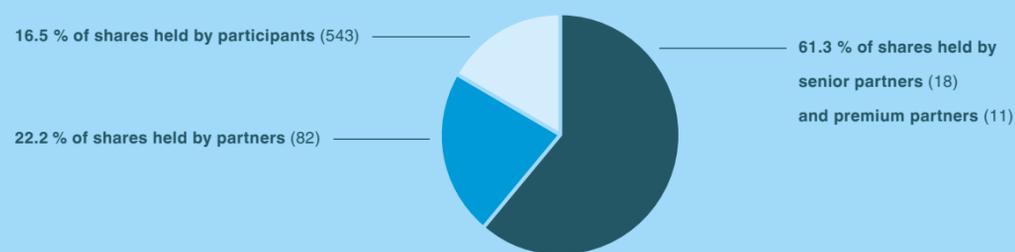
**Net profit margin** (in %)



**EBITDA** (in thousands of euros)



**Participation in employee share ownership scheme at 1 July 2016** (number of persons)



**Internal price of Witteveen+Bos N.V. share at 1 July 2016**

**6.33** euro

(5.99 euro at 1 July 2015)

## NOTES TO THE ANNUAL RESULTS 2016

This Integrated Annual Report contains the balance sheet and the profit-and-loss account of Witteveen+Bos N.V., and sets out the general principles for preparing the consolidated annual results (G4-17). To obtain a complete insight into the assets and the results of Witteveen+Bos N.V., the reader is advised to inspect the consolidated annual results for 2016 filed at the Trade Register of the Enschede Chamber of Commerce.

### Preparation of the consolidated annual results

The financial statements have been prepared in accordance with Part 9 of Book 2 of the Dutch Civil Code. They are based on historical costs, with the exception of buildings and land, which are valued at current cost (i.e. current purchase price).

### Consolidation

Insofar as actual policy-making influence exists, subsidiaries have been included in the consolidated annual accounts. Joint ventures have been consolidated in proportion to the share held in the company.

### Principles for the valuation of assets and liabilities

Land and buildings are valued at current cost (i.e. current purchase price). The current purchase price is based on the amount that would be paid to acquire the building on the revaluation date if the building had the same age as it did at the time of the original acquisition, plus the estimated current additional costs of acquisition. The current purchase price is determined on the basis of periodic valuations. Depreciation of fixed assets is based on the estimated economic life. Financial fixed assets include unconsolidated interests in participations and partnership firms. Participating interests are valued according to the equity method. Projects in progress for third parties are valued based on incurred costs, plus the profit assignable to the performed projects, minus losses foreseeable at the balance sheet date. Profits for projects in progress are recognised based on the percentage of completion of the projects at the balance sheet date. Invoiced instalments for projects in progress are deducted from the projects in progress. Trade accounts receivable included in receivables are recognised less a provision for doubtful accounts. Provisions are created for deferred tax liabilities, tax risks, warranties and claims, deferred employee remuneration, and liabilities in respect of participating interests.

### Principles for determination of the consolidated financial result

Net turnover and changes in work in progress include the services invoiced excluding value-added tax, and include the changes in work in progress. Revenues of projects are presented in proportion to the work completed. Salaries include remuneration paid to the Board of Directors. The pension obligations are valued according to the 'valuation to the pension fund' approach.

## OUTLOOK FOR 2017

The year under review was a good one for Witteveen+Bos: in 2016 we added value through our projects, enabled people to develop their talents, and rendered our operations more sustainable. We also realised good financial results. In 2017 we aim to continue adding value while maintaining the company's financial health. This outlook explains how we plan to achieve those goals.

### Objective 1: Adding value through our projects

In 2016 we devoted extensive attention to raising awareness of our sustainable design principles within the company, and applying these principles in practice. We will continue to do so in 2017 in order to further embed sustainability in our projects. Promoting and discussing the sustainable design principles with our chain partners is an important objective for 2017. We plan to evaluate the experiences gained by clients and subcontractors in applying the principles, so that we can jointly increase our added value.

The Netherlands is and remains our 'home base' where we continue to work on projects of all sizes to gain valuable experience and develop our knowledge yet further. We have therefore identified innovation and the Dutch market as company-wide spearheads for 2017.

### Objective 2: Developing talent

In 2016 we made significant progress in developing top talent. By conducting job performance and career interviews and monitoring the 'fulfilment score', we will continue to focus on the wishes and requirements of our staff in 2017. Promoting diversity and ensuring an adequate inflow of technical professionals remain important points for attention in the coming year. In the past few years much of our work has been performed at project offices and at the sites of clients and partners. This means that there are fewer opportunities for informal interactions between employees in the company's own offices. To ensure that we continue to collaborate effectively within the organisation, we have also named 'leadership in line management' and 'connection' as company-wide spearheads for 2017.

### Objective 3: Adding value through our business operations

In 2016 we succeeded in further reducing the environmental impact of our operations, in line with our general target of 30 % emissions reduction by 2020 compared to the reference year 2007. In 2017 we will further decrease our CO2 footprint through measures including promotion of the use of electric vehicles. We will encourage emissions reduction in the chain by engaging in dialogue with our key suppliers, and we aim to retain the CO2 Awareness Certificate at Level 5 of the CO2 Performance Ladder in 2017. In 2016 we made preparations for the sustainable renovation of our Leeuwenbrug office in Deventer. The renovation contract was awarded toward the end of the first quarter of 2017 and the work is scheduled for completion in early 2018. This project is being financed by means of a mortgage loan and a share issue. No further major changes are expected in the financing of the company in 2017.

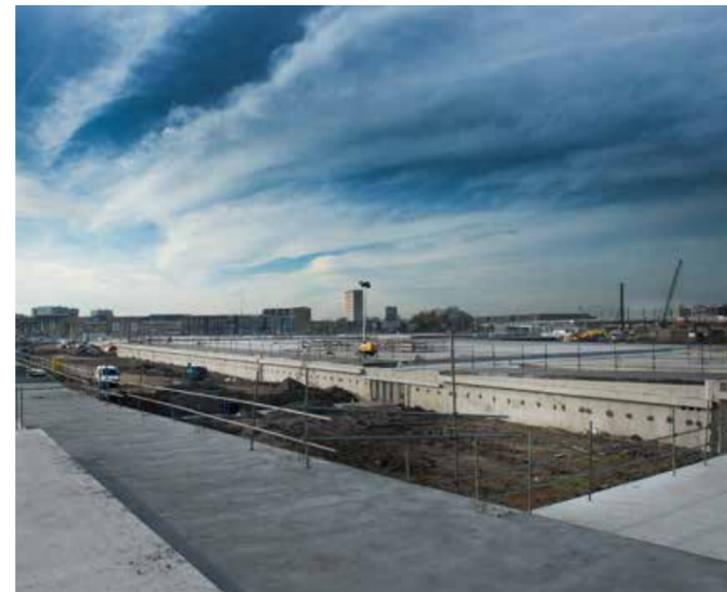
### Objective 4: Creating economic value

Our main financial KPI is the net profit margin. For 2017 we have once again set ourselves the target of achieving a profit margin of at least 8 %, with particular attention devoted to the staff utilisation rate. In addition, we aim to achieve an organic growth in revenue and workforce of 3 to 5 % per year. In 2017 we expect to realise this growth through expansion of our existing offices. In 2016 we developed an entirely new project accounting and financial management system together with our supplier BST Global. The conversion and 'go-live' operation proceeded without a hitch, and staff will familiarise themselves with the new BST10 system in the course of 2017. Project leaders worldwide will gain greater insight and have more tools at their disposal to manage their projects and reduce working capital. The system will also facilitate integrated financial reporting.

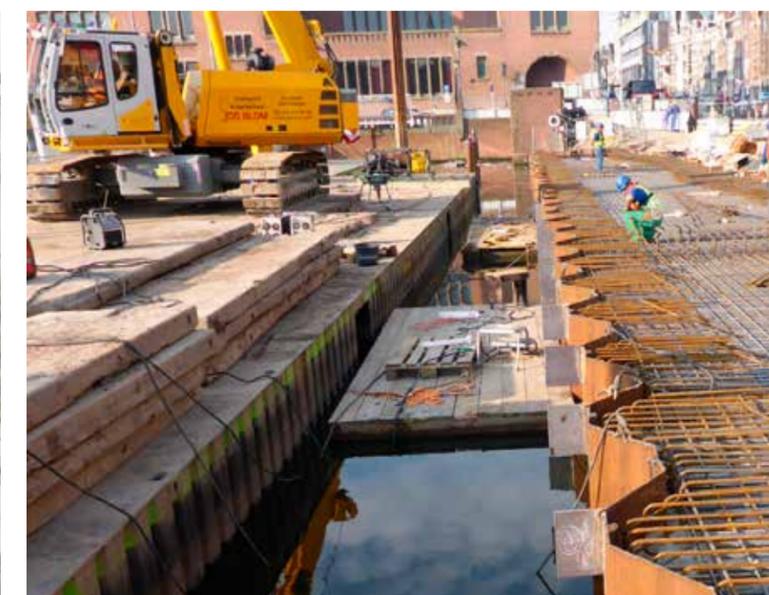
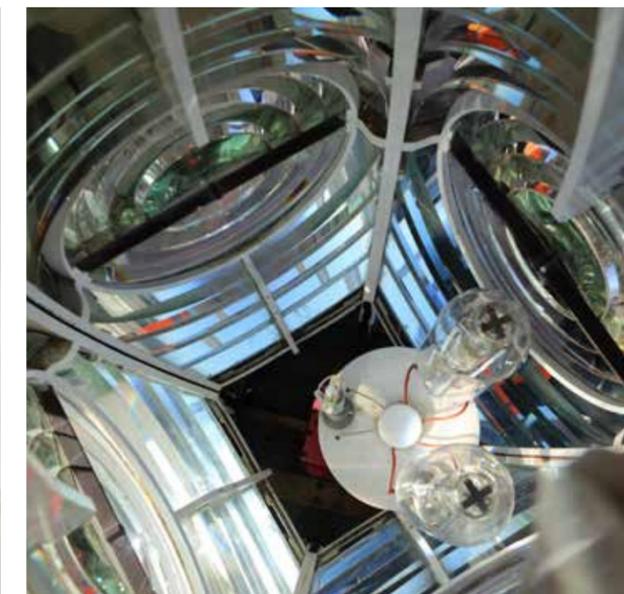
In 2017 we will continue working towards achieving the above goals. To measure progress in achieving the goals we have strengthened the KPIs and formulated goals. These are shown in the table on page 64.

### In conclusion

A new member of the Board of Directors was appointed at the General Meeting of Shareholders on 5 April 2017. Director Henk Nieboer stepped down because he will turn 55 in 2017, the age at which members of the Board of Directors are required to resign according to the company's articles of association. He is succeeded by Stephan van der Biezen, whose nomination was also endorsed by the Supervisory Board and the Works Council.



Objective	KPI and objectives for 2017
Adding value through projects	The percentage of projects in which sustainable design principles are considered and/or applied. Objective for 2017: - 100 % of projects (requirement included in Quality Manual) - 35 audits (corresponding to 1 % of all projects, based on a total of 3,500 projects per year)
	The percentage of design leaders that attended a (refresher) course or expert session on the sustainable design principles in the past two years. Objective for 2017: 100 % in two years.
	The average mark given by clients for the added value for society provided by the project results, thanks to the application of the sustainable design principles. Objective for 2017: - At least one external client assessment per PMC that explicitly addresses this question and where a mark is given - Minimum score: 7 out of 10.
	The average mark given by subcontractors (to whom the sustainable design principles are relevant) for the role played by the sustainable design principles in the project results delivered by them. Objective for 2017: - Organising two work sessions for subcontractors - Conducting assessments; one per business line.
Developing talent	The percentage of employees that has had a job performance interview in the past two years. Objective for 2017: 80 %.
	The average mark given by employees as their 'Fulfilment Score'. Objective for 2017: a score of at least 8 out of 10 on all three components.
	The number events organised by Witteveen+Bos that focus on engineering work and/or devote (indirect) attention to diversity and the development of human potential. Objective for 2017: three events.
	The percentage of women invited to take part in the employee share ownership scheme as partners, premium partners or senior partners. Objective for 2017: 25 %, equal to the average male/female ratio among new employees joining Witteveen+Bos.
Adding value through our business operations	The percentage of interns and final-year students in the total Witteveen+Bos workforce. Objective for 2017: 20 %.
	Preparing a CO <sub>2</sub> footprint for Witteveen+Bos. Objective for 2017: reduction of 27 % in CO <sub>2</sub> emissions per capita compared to reference year 2007 (in line with our general target of 30 % emissions reduction by 2020).
	Number of conversations and number of conversation partners (i.e. suppliers in the chain) addressing the reduction of the individual and joint CO <sub>2</sub> footprint. Objective for 2017: - Determining the ten most important suppliers - Holding conversations with the top ten suppliers
	CO <sub>2</sub> Performance Ladder certification. Objective for 2017: maintain certification on level 5.
Creating economic value	Annual revenue and workforce growth. Objective for 2017: 3 to 5 %.
	Annual net profit margin. Objective for 2017: at least 8 %.





#### + Preventing floods

The megalopolis of Jakarta is sinking. North Jakarta is up to three metres below sea level and the city is subsiding by 7.5 centimetres every year. In the past the thirteen rivers were easily able to drain away their water, but it has now become more difficult because of the subsiding soil and the rising sea level. Both the sea and the rivers are threatening the city. A sustainable strategy has been developed in the National Capital Integrated Coastal Development Project (NCICD). The strategy includes a large enclosing dike behind which there will be a new lake with a lower level, enabling rivers to discharge their water. The second phase of this project got underway in 2016, with further elaboration of the plans and a start on the most urgent work. This project is a collaborative venture between Korea, Indonesia and the Netherlands. Witteveen+Bos is heading the Dutch consortium which further includes RoyalHaskoningDHV and Sweco.

Jakarta Indonesia

#### + Installing solar panels for Waternet

Waternet manages water, provides drinking water and processes wastewater for the city of Amsterdam and the Amstel, Gooi en Vecht water authority. To operate climate-neutral and energy-neutral as far as possible in 2020, Waternet has drawn up an ambitious programme called K2020. An important part of the programme is the installation of 100,000 solar panels (photovoltaic) at drinking water and wastewater plants. They will be able to meet 25 to 30 % of Waternet's need for electricity. The plans are among the largest PV projects ever to be undertaken in the Netherlands. The first phase will develop the PV systems for the Horstermeer and Westpoort sewage stations. For this purpose Witteveen+Bos developed a call for tenders strategy and drew up contractual documents. The objective is to achieve the optimum combination of energy yield, costs/benefits, management and maintenance for Waternet.

Amsterdam The Netherlands



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Cynthia Boll

Chensiyuan

Combinatie Herepoort

Viorica Cernica

Robert Gieling

OKRA Landschapsarchitecten

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Ian Smits

ipv Delft

Hilko Visser

Evert van de Worp

Zwarts & Jansma Architects

Witteveen+Bos

### Visual Singapore front-cover

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Witteveen+Bos N.V

Van Twickelostraat 2

P.O. Box 233

7400 AE Deventer

The Netherlands

t +31 570 69 79 11

f +31 570 69 73 44

e [info@witteveenbos.com](mailto:info@witteveenbos.com)

i [www.witteveenbos.com](http://www.witteveenbos.com)

Enschede Trade Register no. 55094503



