Discover the world of Zuid-Holland From the greenhouse DOSSIER WATER to the White House Keeping the delta dry by working together CULTURE 24 hours in The Hague





# **WIDE VARIETY**Discover the landscapes of

Zuid-Holland



18 DOSSIER WATER
KEEPING THE DELTA
DRY BY WORKING
TOGETHER



24 INTERVIEW MADE IN DELFT With Francine Houben



36 INTERVIEW DON'T JUST LOOK: SEE!

With Auke de Vries



CULTURE
VERMEER,
MYSTERIOUS
OLD MASTER



THE PORT OF ROTTERDAM
A leading seaport





# **STORY**

# Discovering Rotterdam A GUIDED TOUR **WITH MAYOR ABOUTALEB**



38 **INNOVATION FROM THE GREENHOUSE TO THE WHITE HOUSE** 



**CULTURE EXPLORING** THE **DUTCH DUNES** 



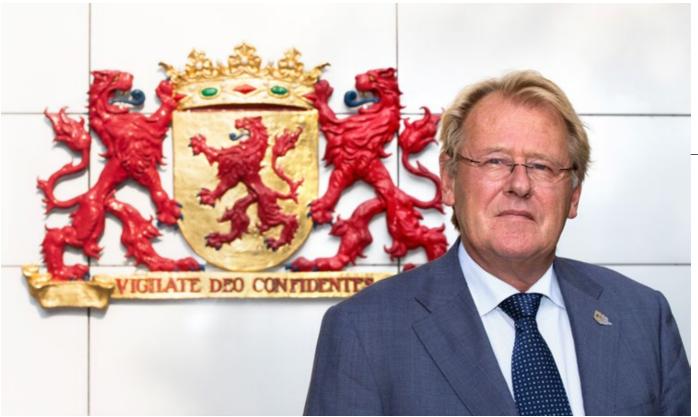


**DISCOVER RELAXING ON THE WATER** 

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# Zuid-Holland innovates

The people of Zuid-Holland are born innovators, always on the lookout for the best new solutions. It has been that way for centuries, ever since our ancestors first fought to reclaim land from the sea. Our province lies in a delta, beneath sea level, yet through cooperation, creativity and innovation we have managed to keep our feet dry all these years.

Dynamic cities - metropolises of trade and industry, culture and science - have had the opportunity to develop in this geographically favourable location. Zuid-Holland not only possesses attractive natural areas and characteristic landscapes, it also drives economic and cultural development. Here, life is good.

Since the  $17^{th}$  century, international business has been an integral part of our daily lives. Tradition and innovation go hand in hand in our province. We offer a real-life testing ground for new ideas. We love to share our knowledge and find new ways of cooperating with partners worldwide: vital in this age of climate change and technology breakthroughs. Innovation is the answer to the global challenges we face this century. Consider this an invitation to take them on together.

In this magazine, we aim to demonstrate the diversity of our delta region. I wish you a pleasant read and hope you will find your visit to Zuid-Holland an inspirational one.

Jaap Smit King's Commissioner

# The World o

**Sharing our delta** experience around the globe

# **CLIMATE RESILIENT NEW YORK**

The BIG U project, New York (Rebuild by Design) aims to protect Manhattan from floodwater, storms and other effects of climate change.

www.rebuildbydesign.org

### THE OCEAN CLEANUP

The Ocean Cleanup (headquartered in Delft) develops advanced technologies for removing plastic from the world's oceans.

www.theoceancleanup.com

© Erwin Zwart - The Ocean Cleanup



# **PALM JUMEIRAH ISLAND, DUBAI**

Van Oord (Rotterdam) created the palm-shaped Palm Jumeirah island in Dubai, a noteworthy megaproject that received worldwide attention.

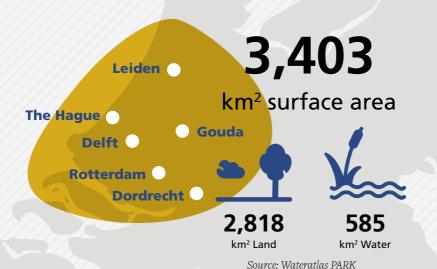
www.vanoord.com/activities/dubai



# Zuid-Holland



# **Facts & Figures**



The dynamic province of Zuid-Holland lies on the west coast of the Netherlands. What sets this region apart? How does it relate to other areas? This magazine offers you facts, figures and an impression of Zuid-Holland's geography, demographics and international reputation.

### **WORLD HERITAGE**

### **POPULATION**



3,654,863

residents in Zuid-Holland
Source: CBS

# **GROSS DOMESTIC PRODUCT**



Zuid-Holland contributes 21% to The Netherlands' GDP

Source: Staat van Zuid-Holland



Van Nellefabriek



Kinderdijk



# NUMBER OF TOURISTS EACH YEAR

# 2.4 million

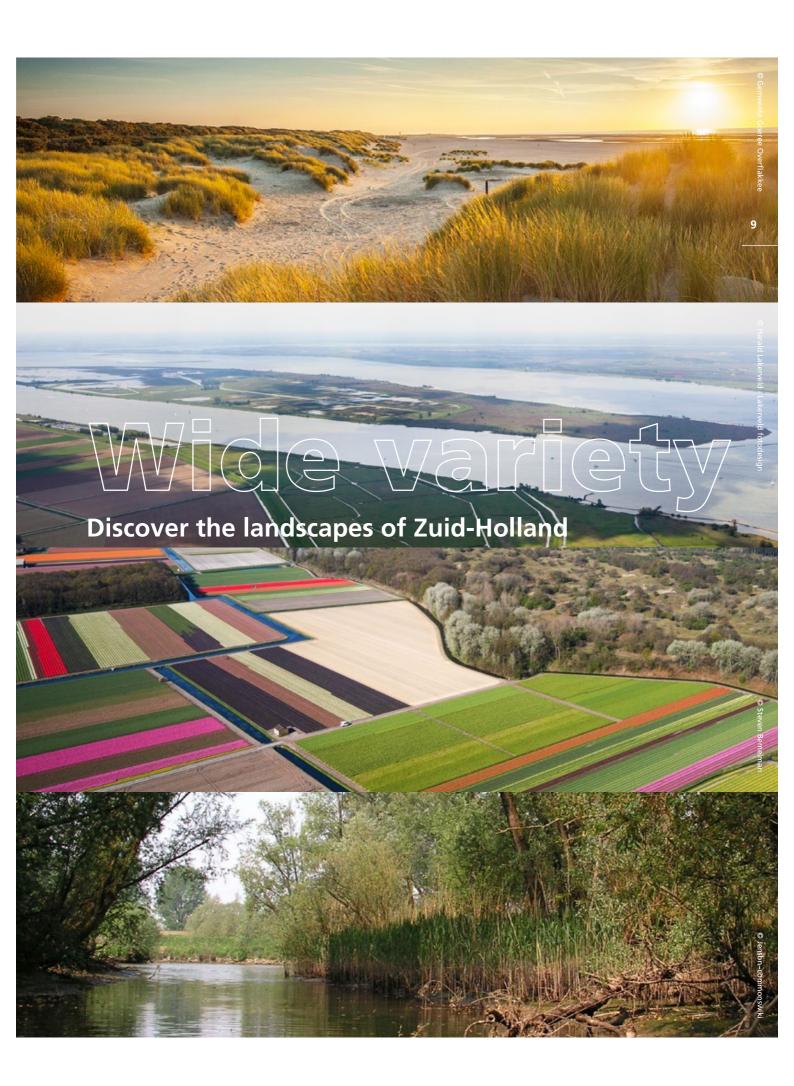
1.4 million of which are from outside the Netherlands

Source: Staat van Zuid-Holland

# **3 TOP UNIVERSITIES IN ZUID-HOLLAND**



Leiden: **27,000** Delft: **21,000** Rotterdam: **26,000**Source: university websites



# Biesbosch

One of Europe's few freshwater tidal areas, the Biesbosch was created by water, nature and human intervention. Once, reed cutters, hunters and fishermen made their living here. Today, however, the Biesbosch is a nature reserve where people can take long walks and go on bicycle tours, sailing trips and fishing expeditions. In 2016, the decision was made to merge the Biesbosch and the Haringvliet into a new National Park: NLDelta.





Goeree, with the West-Nieuwland polder, a drained dune valley, in the background. There is a marked contrast between the small, hilly, wooded dune area and the large flat, open, polder landscape. The striking lighthouse, standing at over 50 metres tall, is a protected national heritage site.



# The world's first multinational

Asian trading played an essential part in bringing about the Dutch Golden Age. The country's addiction to tea, coffee and spices such as cinnamon, cloves and nutmeg in the 17<sup>th</sup> century can be traced back to the Dutch East India Company (VOC): the world's first multinational company. Today, many traces of this renowned company can still be found throughout Zuid-Holland.



Tea trade with China VOC Collection Rijksmuseum



VOC duit (copper coin) KOG Collection Riiksmuseum

### **Innovative cooperation**

The Dutch East India Company (VOC) is a perfect example of how cooperation helps multiple parties get ahead. In 1602, the government of the Dutch Republic began promoting cooperation between numerous small, highly competitive businesses that were trading with Asia. The state granted the resulting 'United Company' a monopoly on Asian trade. The Dutch East India Company - an extremely modern organisation for its time - was one of the first companies to issue transferable shares. Some of these shares had low nominal values, and could be purchased by small investors such as

servants and craftsmen. The Dutch East India Company traded all over the world, from South Africa to Japan, but its Asian headquarters were based in Batavia (present-day Jakarta).

# **Dutch East India Company** in Zuid-Holland

The Company had six subsections, or 'chambers', based in different cities. Each chamber owned a wharf, where the large ships known as East Indiamen and other vessels could be built. There were two chambers in present-day Zuid-Holland: one in Delft and one in Rotterdam-Delfshaven. Here, various buildings and

warehouses, such as the East India House, the Sea arsenal and the Armamentarium, are a reminder of the VOC era. Unfortunately, many other buildings from these times were destroyed during the bombing of Rotterdam in May of 1940.

### Spices, tea, porcelain

At first, the company was mainly involved in trading pepper and spices such as mace and cinnamon. After 1700, other products such as tea, porcelain and dyed cotton fabrics also became popular. In addition, the Dutch East India Company owned and operated several plantations, such as the nutmeg plantations on the Banda Islands. It would be an understatement to say that the local population was not always treated fairly: violence and exploitation are a black page in the history of the Dutch East India Company.

### Golden Age and decline

The Dutch East India Company's profits significantly contributed to the flourishing economy of the Dutch republic. Demand for ships and manpower was enormous, and people from many different countries flocked to the Netherlands. The 17th century truly became a Golden Age for the Netherlands, as the arts and sciences flourished alongside the economy. However, the Dutch East India Company came to an end in 1799. By this time, the organisation had incurred huge debts and was plagued by internal difficulties. Slow to innovate and adopt modern business practices, the Company went bankrupt and closed down its chambers. The state bought up all shares in the Dutch East India Company, eventually resulting in colonial rule and the founding of the 'Dutch East Indies'.

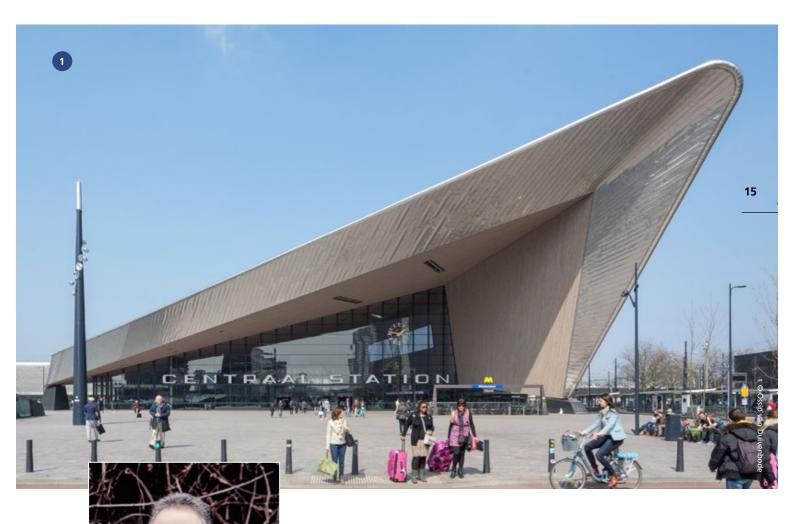
### Heritage

The Dutch East India Company had a marked influence on the economy and culture of the Netherlands, with the spoils of these prosperous times still visible in the shape of monumental canal houses. The VOC archives, distributed across The Hague, Jakarta, Cape Town, Colombo, Chennai (Madras) and London contain invaluable material and were placed on the UNESCO World heritage list of historical documents. Speaking of the Dutch East India Company's legacy: the 'rijsttafel', quite possibly the nation's favourite food, deserves a special mention. This 19th century combination of the Dutch-Indonesian dishes was recently added to the National Inventory of Intangible Cultural Heritage. A must-try for anyone visiting Zuid-Holland. ■

Replica VOC ship Batavia







With over 600,000 inhabitants,
Rotterdam is the Netherlands' second
largest city, after the capital of
Amsterdam. Ahmed Aboutaleb, who
became mayor in 2009, welcomes us
to Rotterdam **Central Station** 1.
"The architects responsible for
redesigning the station retained several
key features of the former building, which

Rotterdam is always on the move. The port city, with its industrious residents, innovative architecture and quirky cultural scene is an increasingly popular travel destination. Ahmed Aboutaleb, Mayor of Rotterdam, takes pride in showing us around his city, a vibrant breeding ground for exciting new ideas.

is great," says Aboutaleb. "The vast clock face on the façade, for example, and the distinctive lettering of the words 'CENTRAAL STATION'. If you look around Rotterdam carefully you will often see the old and the new side by side."

We pass by the skyscrapers on the Weena on our way to the **West-Kruiskade**. "Rotterdam is home to 174 nationalities, which is perfectly exemplified by this shopping area", explains Aboutaleb.

The Schell family butcher's shop, for example, has been passed down from father to son ever since it was established in 1796. Every imaginable type of meat is sold there, from traditional Dutch fare to halal dishes. The Havenaar bakery proudly advertises its specialty: filled bread rolls from Surinam. Here on the West-Kruiskade, people of all descriptions live together.

Moments later, we find ourselves walking along the **Binnenweg**, one of the



Netherlands' longest shopping streets. Roughly halfway down the road, Aboutaleb points to a line of poetry inscribed on one of the façades: 'De omgeving van de mens is de medemens', which roughly translates to 'No man is an island'. "I often quote these words in my speeches. They are beautiful because they are true. Now and again, I will walk the streets wearing a baseball cap to avoid being recognised. On these occasions, it strikes me that the people of Rotterdam are always ready to chat."

"De omgeving van de mens is de medemens." (No man is an island).

J.A. Deelder

Our next stop is **Veerhaven.** Aboutaleb relates the story of how he ended up in the Netherlands as the son of Moroccan immigrants. "Back in October 1976, my parents, my sisters and I walked from the station to this spot, taking practically the same route we have taken today. After precisely one day in the Netherlands, we needed to get our paperwork in order at the Moroccan embassy in the Calandstraat, not far from here."

Looking out over the Veerhaven harbour, a beautiful, historical part of Rotterdam, we see sailing vessels old and new.

Moments later, we find ourselves walking along the **Wilhelmina pier 2**. Between 1880 and 1925, people from all over Northwestern Europe embarked on their transatlantic voyage from here.

Throughout the 1960s, Dutch emigrants left for Canada and New Zealand, to make

a fresh start there. "Whenever I speak to people who had set out on that particular adventure, I recognise many of the stories told by my own family: there is a constant need to strike a balance between the culture you have taken with you and the customs of your new home," the mayor says. As we reach the water's edge, we are greeted by a surprising sight: dozens of brightly-coloured buoys float by, topped with trees. Aboutaleb grins: "This is our **Floating Forest** 3: an artist planted trees in huge buoys typically used at sea. Fun, isn't it?"

We take the metro to Maashaven, which brings us to the Afrikaandermarkt. "Wednesdays and Saturdays are extremely busy here. This is a truly international market with products from all over the world", the mayor explains, with pride. "This is where I buy herbs, spices and mint leaves for making tea. The surrounding Afrikaanderwijk is home to some 9000 people and in a phase of rapid development. Here, you might find a Moroccan bakery next to an Italian ice cream parlour or a store selling locallysourced organic jam. Let's explore!" We enter sweet shop, beckoned by delicious donuts, dates and macaroons. We walk back to the subway nibbling Moroccan honey biscuits.

Next stop: Rotterdam **Blaak** 4. This is where Rotterdam originated in the 13<sup>th</sup> century with the construction of a 300-metre dam. We pass a striking architectural landmark: 38 houses that look like tilted cubes on sticks.



"These cube houses were built in the early 80s in an attempt to break free from the expansive, monotonous building style of the time. Architect Piet Blom envisioned each house as a tree and the neighbourhood as a forest", Aboutaleb remarks.

"Allow me to show you one more iconic building," says the mayor as we draw close to a vast portal. "This is the Markthal 3: a market square surrounded by apartments. You will find food from the whole world here, all the flavours the planet has to offer. What's more, there is some incredible artwork covering the ceiling of the enormous hall." We marvel at what we see all around us.

Unfortunately, the mayor has to leave: Rotterdam is always on the move. Before we say goodbye, Aboutaleb suggests we take the water taxi to the **Aloha bar 6**. After a spectacular boat trip we find ourselves sipping drinks whilst enjoying a view of the river Meuse. The bar is built into the water slide of what was once a tropical swimming pool. Today, this is part of BlueCity, a collective of new businesses in the former Tropicana swimming pool. An old, remarkable location put to new, trendy use.

Typically Rotterdam. **■** 







# Keeping the delta dry by working together

Being situated in a low-lying delta, with three large rivers running through it, helped the Netherlands become Europe's maritime hub. This location, however, also brings a considerable risk of flooding. This is especially true for Zuid-Holland, where the country's lowest point lies at 6.76 metres below sea level. Through the ages, the people of Zuid-Holland have developed specialist knowledge and experience which is shared with the rest of the world every day. Working together, we have been fighting against flooding with hydraulic engineering, flood prevention and water management, from as far back as 1255.

1255

# The world's first official water management organisation

Build a wall around your house and the water will flow towards your neighbours. Based on this principle, the Dutch established the world's first water board in 1255, in the Leiden region.

A water board is a formal organisation that handles water management in a certain area. The first water board was named 'Riinland'









# 1421

### The St. Elizabeth's floods

In the early 15<sup>th</sup> century, part of the west coast of the Netherlands saw heavy flooding: the first, second and third Elizabeth's floods. The second flood in 1421 turned vast stretches of farmland into an inland sea. At least 16 entire villages were swallowed up. Over the following centuries, the efforts of locals and mother nature restored the farmland. The land was gradually elevated and turned into fields and pastures. Today, this area is known as the Biesbosch, which is part National Park and home to fish, fish-eating birds, beavers and thousands of geese and ducks.

# 1953

### The Flood of 1953

In 1953, the southwest of the Netherlands was caught off guard by a treacherous, unexpected combination of spring tide and storm surge. The dikes, incapable of holding back the water that had been agitated by fierce gusts of wind, broke in great numbers. Over 1800 people lost their lives. Many families were evacuated from the flooded areas. Various organisations, including Dutch and foreign military units, sped towards the area in boats, planes, helicopters and amphibious vehicles. Volunteers came from all over the Netherlands to help those affected by the disaster.



# 1958

### **Delta act**

The 1958 Delta act was geared towards preventing another disaster like the widespread flooding of 1953. This was to be achieved by raising dikes and closing off estuaries. A large part of the Netherlands lies below sea level, requiring ongoing work to keep our country safe. The Delta programme was set up to protect us from the water and to guarantee a supply of fresh water to last the next 100 years.



# 1970

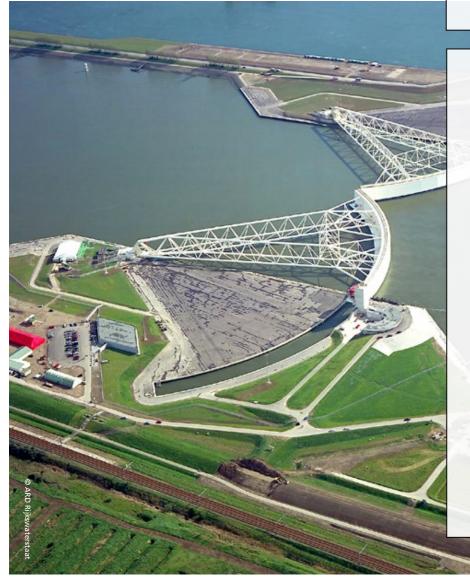
### **Europe's water taps**

The Haringvliet sluices, part of the Delta Works, manage water levels and are referred to as 'Europe's water taps', as they discharge a great deal of the water transported by the Rhine and the Meuse into the North Sea.

# 1997

# Maeslantkering: two tumbled Eiffel towers

The Delta plan was complete once the world's largest movable storm surge barrier had been built: the Maeslantkering. An ingenious structure: two enormous hollow doors float on the water. When the barrier closes and the doors (almost) touch, they fill up with water and sink to the bottom of the waterway, practically closing off the Nieuwe Waterweg and keeping the people of Zuid-Holland dry. It is expected that the Maeslantkering will need to be closed once every 10 years. However, the doors are tested annually, an event that is greeted with considerable interest from the general public.



# NOW AND TOMORROW

# Sea level and knowledge sharing

Water management is and always will be essential to the Netherlands. It is, therefore, no surprise that rising sea levels remain an important topic. In 2007, a new Delta committee was appointed to develop new shore defense plans and combat fresh water shortages in periods of drought. The Netherlands is happy to share its water management knowledge with the rest of the world.

# 'Kierbesluit' Haringvliet

After the Haringvliet sluices were completed, it became evident that keeping them completely shut would adversely affect ecology. From 2018, the sluices will be kept ajar ('Kierbesluit'), creating a transition zone between fresh and salt water. This allows migrating fish, such as salmon and trout, to pass through the sluices once again.

# Flood Proof Holland



Flood Proof Holland, an experimental site for testing flooding solutions, welcomes visitors from all over the world. However, there is more to the Delft-based facility, explains programme director Marjan Kreijns. The facilities are part of VPdelta, a programme that helps businesses in the water and delta technology sector market successful solutions.

Kreijns: "Zuid-Holland, currently a water management pioneer, wants to keep innovating. Startups and SMBs are developing interesting water management concepts, but often lack access to proper test facilities. Once these entrepreneurs start working

together with knowledge partners and local authorities, such as government agencies and water boards, truly successful solutions can be developed. To this end, VPdelta has set up multiple test facilities in the area, as a way to promote innovations."

# Government, entrepreneurs and researchers

"Local governments require solutions for a variety of water-related issues, such as rainwater drainage 2 during torrential rainfall and cybersecurity for sluices. Entrepreneurs can develop such solutions, but will need to test them first. However, you can't simply simulate a full-scale flood in your back garden. At VPdelta, we offer test facilities and advice. We connect researchers, government and entrepreneurs, help businesses meet the right people and find financial backing to further develop their concepts. After working with us, startups and SMBs can go to market to sell and implement their solutions. Some have even ventured abroad, implementing their solutions in England, Germany and Asia."

### **Urban Delta**

"In addition to flexible water barriers 1 and intelligent water level sensors, we are seeing an increase in novel Urban Delta solutions. These are developed at our 'climate adaptation' test site. Think of intelligent water tanks which collect rainwater and are automatically drained when they detect an imminent torrent. This protects sewers from overflowing. Or tiles made of a unique, free-draining material that can temporarily store rainwater. This mix of science, government and business simply produces the best ideas and the best results." ■

www.vpdelta.nl/en





# Smart water management worldwide

The Bridging Berm at East River Park



The Netherlands has always been a wet country. Located in a delta, it is the end point of several rivers. For centuries, dry feet, fertile land and clean drinking water have been national priorities. As a result water-related knowledge

management, innovation and cooperation are essential. Henk Ovink travels around the world on behalf of the Dutch government to exchange knowledge with local experts in other deltas and problem areas. His five key lessons in water management:

# Lesson 1

# Don't just rebuild - work towards the future

President Obama drafted in Ovink's help in the wake of hurricane Sandy. "After a disaster on that scale, you need to get to work as quickly and as well-organised as possible. The Task Force had three main jobs: provide first aid and clean up as soon as possible, restore critical infrastructure and start the rebuilding process. However, rebuilding does not have to mean recreating the exact same thing. You can't solve today's problems with yesterday's thinking - let alone the problems of the future. Proper water management requires a balance between completing projects and planning for the future. In the Netherlands, the Delta programme consists of various short-term and long-term measures linked to the Delta Fund. The Netherlands is a laboratory for the rest of the world, a place where we can experiment and innovate to inspire. Together with our Dutch partners in government, business and knowledge institutes, I aim to convey our knowledge and expertise, our culture of 'living with water' to vulnerable areas all over the world. Together we can provide water safety and security for everyone."

# Lesson 2

# Really work together instead of just negotiating

The most important task of the Special Envoy for International Water Affairs is connecting aid to trade, making water security accessible to everyone through smart economic diplomacy. Henk Ovink manages to facilitate effective cooperation between different parties. "Water management can only be successful when everyone is involved, from central and local governments to businessmen, from engineers, designers and scientists to civilians and NGOs. Everyone wants a dry place to live, fertile land and safe drinking water, now and in the future. However, different parties still have the tendency to prioritise their interests, even when working in coalitions. You can only make progress, though, when every party feels they are facing the same problem and starts making decisions based on the common good. We want to go beyond negotiating towards real collaboration and a transparent process.

In this way, everyone will feel involved and will come to a better understanding of their own vulnerabilities and opportunities. At the same time, all parties will have better insight into the local situation and the task at hand. You have to challenge everyone to participate in an integral, inclusive and design-driven process and join forces in coalitions to build the best plans together."

The province of Zuid-Holland cooperates with cities, water boards, businesses and knowledge partners to increase water awareness and promote innovative solutions

# Lesson 3

# Challenge people (Rebuild by Design)

Ovink's 'Rebuild by Design' approach has been highly successful in the USA. This was set up as a design challenge prepare, develop, execute and market innovative solutions for rebuilding the region hit by hurricane Sandy. Solutions had to do more than react to the disaster - they were to be designed with the future in mind, and aimed at true climate resilience. Ovink: "Given nine months to develop their proposals, talented people around the world were challenged to match their expertise and knowledge in the fields of water management, urban development, climate change, social and socio-economic developments to the experience and insights of civilians, government officials and business owners from the area struck by Sandy. This ultimately led to 41 pioneering proposals. The six best proposals are currently being executed with financial backing from the federal government worth one billion dollars.

# Lesson 4

# More awareness: water as a source of misery and happiness

As the ambassador for the Netherlands' water management ambitions, Ovink works with everyone, from professionals to children. This includes increasing water awareness at educational institutions. "Ninety percent of all disasters is water-related. The World Economic Forum (WEF) called global water crises this decade's biggest threat to our world for good reason. Water crises are a root cause of global hunger, cause droughts and limit

access to clean drinking water. Other crises, such as extreme weather events, international conflicts, outbreaks of infectious diseases through poor hygiene and insufficient adaptation to climate change, are also water-related. On the other hand, water also brings us health, prosperity and a sustainable ecosystem. According to the WEF, the link between water, food, energy and climate change will determine what the world looks like in 2030, making water management more important than ever before. That is why the sixth United Nations sustainable development goal is: Ensure availability and sustainable management of water and sanitation for all. No other goal is so closely connected to the remaining goals: social, cultural, economic, ecological and so on.

# Lesson 5

### Understand the complexity of the future

The future is complex and may be very uncertain, but it can also be inspiring! The Netherlands have come a long way when it comes to cooperating on water-related matters in the Netherlands. The OECD (Organisation for Economic Cooperation and Development) has rated our water governance 8+, making us an example for the rest of the world. We should celebrate our effective cooperation, but also introduce it to the rest of the world. The Netherlands has an amazing water sector consisting of knowledge institutes, government agencies and businesses working together to arrive at intelligent solutions. Together, we can really make the world a better place.

One of the winning entries for Rebuild by Design: The BIG U. This U-shaped park on the shores of Manhattan, can be used to store excess water on wet days and serves as a public recreation space on dry days.





"A building is as good as its client and its architect"

The renovation of New York's Public Library began in Delft. Architect Francine Houben landed this prestigious job thanks to her 'renowned humanistic and accessible designs'. In 1984, she founded architectural firm Mecanoo in the centre of Delft. Today, over 100 Mecanoo architects are working on projects worldwide. "We don't have one particular style, but all our designs do share a common vocabulary."

# Today, Mecanoo designs buildings all over the world, from New York to Taiwan to Chile. Have you outgrown Delft yet?

"Not at all! We are still in the building where we started out and proud to be based in Delft. We are closely affiliated to TU Delft, a leading University of Technology, with one of the world's finest Architecture faculties. The Zuid-Holland province is an inspiring region, in our opinion. Our overseas clients think so, too. Leiden, The Hague, Rotterdam and Delft are home to a concentration of knowledge, science, history and visions for the future. That's why we love working on projects in the Netherlands. Right now, we are finalising work on Delft train station and its new city offices."

# The station's ceiling is a real eye-catcher. What exactly does it depict?

"A historical city plan of Delft, dating back to 1877. The transparent façade offers travellers a glimpse of what Delft looked like in the past. We design according to our senses. Our main focus is on people, then place and, finally, purpose. You feel at home in a building when its dimensions correspond with those of your body. We sized the station with this principle in mind. Rounded pillars lit









from below fill the building with atmospheric light, and the glass façades allow the building to integrate into its surroundings. The station itself was designed to accommodate the vast numbers of people that pass through it, but the waiting areas have the atmosphere of a theatre lobby."

# In recent years, Mecanoo has designed a large number of public buildings, including libraries. What makes designing a library so interesting?

"To engage in global competition, we need to shape the knowledge economy. Ongoing learning and personal growth have become economic necessities. University and public libraries play an important role in this. This is where freelancers meet up, for example, and where people learn to work with computers or apply for jobs. Libraries are the cathedrals of our time, changing from large public book repositories to learning landscapes. We based the design of the new TU Delft library, built in 1993, on this concept."

# Mecanoo is known for designing homes, housing projects, campuses and public buildings. What comes next?

"Difficult to predict, because we always react to what society needs. We are visionaries and service providers, which means we need to consider the challenges posed by the knowledge economy. There will be other challenges in the future. Architecture is not an autonomous art form. It is a form of cooperation between client and architect: our designs are based on analysis and intuition, but we always work together closely with the client. If a city or country is aiming to improve public health, we will ensure there is ample scope for public transport and nature in our designs. We don't have one particular style, but all our designs share a common vocabulary: we create welcoming spaces."

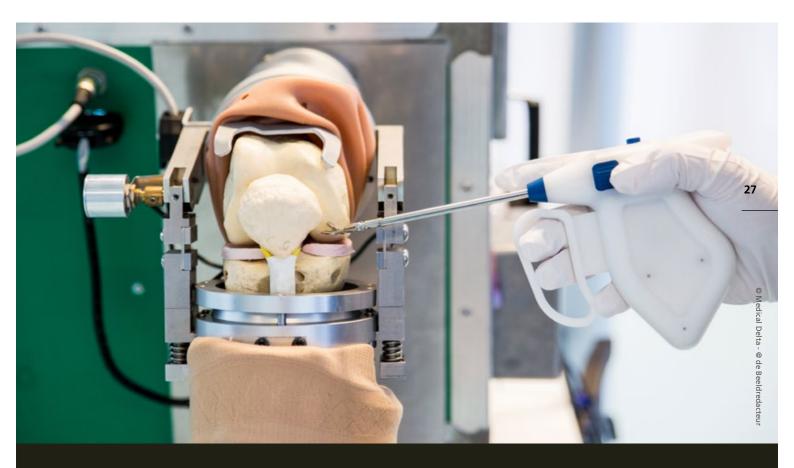
- 1 Delft train station 2 Library TU Delft, exterior 3 Library TU Delft, interior 4 Birmingham Library
- 5 Wei Wu Ying Centre for the Arts

### **MECANOO**

Together with the Kaohsiung Center for the Arts in Taiwan, Mecanoo has won various international awards, including the Cityscape Architectural Award.

# Medical Delta: best of both worlds

Medical Delta, founded in 2006, demonstrates how Zuid-Holland is making headway in science. This field lab for life sciences, healthcare and technology brings together knowledge and experience from various fields.



### **Dynamic network**

Medical Delta brings together TU Delft, the Leiden University Medical Center and Erasmus University Medical Center, various government agencies and science parks and 150 companies. By promoting collaboration within this network, Medical Delta acts as a catalyst for the development of practical, innovative and economically feasible tools and healthcare solutions. These solutions focus on prevention rather than cure. They are geared toward patients as individuals, rather than rather than generic groups. The network has also identified opportunities for monitoring patients in their homes, using remote technologies. These innovations not only make life easier for patients, but are also commercially attractive for healthcare providers, as they can help realise considerable savings.

www.medicaldelta.nl/createdsofar

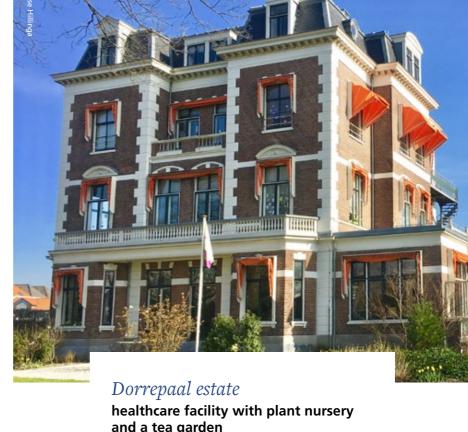
For decades, Zuid-Holland has been a breeding ground for developments in healthcare, (medical) technology and science and life sciences

### Minimally invasive surgery

The innovative Medical Delta initiative did not originate in Zuid-Holland by chance. The Rotterdam - Delft - Leiden region has been a breeding ground for developments in healthcare, (medical) technology and science and life sciences for decades. Medical Delta has consistently proven its worth by structurally contributing to the field of medical technology. Innovations include minimally invasive surgery, which results in less pain, less scarring, faster recovery and lower costs. Medical Delta is also developing 3D-prints of the human body, allowing doctors to hone their skills by performing complicated operations on 3D-prints of body parts that feel thoroughly lifelike.  $\blacksquare$ 

# **Amazing Estates**

The Estate zone, a strip of land between The Hague and Haarlem, may well have the world's highest density of stately homes. Visit this green oasis to experience ancient grandeur and enjoy a little peace and quiet. Monumental buildings, green heritage and the stories that go with them may capture your imagination, but if you look carefully, you will see the Estate Zone is not only focused on the past. Some estates are now used as museums, conference halls or healthcare facilities. For other locations, new initiatives are being developed, often led by enthusiastic neighbours who often feel a strong connection to the heritage around them.



# and a tea garden

This attractive estate, dating back to the 17th century, is situated on the Vliet between Voorburg and Rijswijk. Heavy fighting took place in this strategic stronghold during the German invasion of the Netherlands in May 1940, for which young Dutch lieutenant George Maduro, who did not survive World War II, was posthumously awarded the highest military decoration. Today, the estate is home to the Middin healthcare facility, where people with intellectual disabilities work in the plant nursery, the shop and the tea house. Enjoy a lovely walk in the park - with a variety of animals -, take tea or coffee in the tea house or look for unique gifts and plants in the garden shop and plant nursery. In summertime, the estate sells home-grown vegetables.





Each season brings its own special activities, including tours, lectures, and Halloween and Christmas events. The original 19<sup>th</sup> century design in the English landscape style - featuring sightlines, paths and contours - has recently been renovated and new paths and bridges have been built. ■



# **HISTORY**

The Estate Zone reflects the story of the Golden Age. In the 17th and 18th century, wealthy town merchants and regents built numerous 'buitens', or country estates, along the old coastline. These estates were seen as the rural equivalent of the stately canal belts, built around the same time. These residences allowed their owners to spend the summer in beautiful areas that were not too far away from Haarlem, The Hague and Leiden. Although many estates have disappeared, there is still plenty to explore.



23 leading Dutch scientists named Christiaan Huygens the greatest Dutch scientist of all time.

# He moved the boundaries of

science. In 1655, Huygens was the first to discover one of Saturn's moons, using a telescope with lenses he had cut himself. A year later, he came up with an explanation for Saturn's rings. Astronaut André Kuipers, whose childhood bedroom was decorated with Huygens' drawings: "We can move the boundaries

of science once again, even though it may take years, inspired by Huygens' inventive and determined mind."

2 If something was unavailable, he would make it himself. In order to examine the universe properly, Huygens needed a reliable method of measuring time. However, most 17<sup>th</sup> century clocks

only gave the time with a 15-minute error margin. Galileo had taught Huygens that the oscillation of a pendulum is practically constant, irrespective of its angle. With this principle in mind, Huygens developed a mathematical framework for a pendulum clock. He could not produce the results required using algebra, so Huygens developed new mathematical insights to reach to the right conclusion. Finally, he asked an instrument maker to build a device according to his exact specifications. Of course, it ran like clockwork.

3 He was slightly chaotic. Other scientists would work according to a set programme, but Huygens was led by his curiosity. Throwing pebbles into a pond, he wondered what caused the water to ripple. He spent months working incessantly on a mathematical explanation for this phenomenon - until something else piqued his curiosity.













The countryside is easily reached from The Hague, Rotterdam,
Leiden and Delft. Varied polder landscapes and peat moors give
this area its uniquely spacious, calming atmosphere. The province
of Zuid-Holland is investing in connecting the city to the
countryside, promoting recreational walking and cycling
- a preferred mode of transport - with a smart system
of networked nodes.

www.fietsknoop.nl/talen/english

Unique: on average, every Dutch person owns 1.3 bikes.



3,200 km

of recreational cycling paths in Zuid-Holland, divided over 12 regions

42 million

recreational cycling tours in Zuid-Holland every year



In Zuid-Holland, nature is never far away. Just outside of Rotterdam, The Hague and Leiden, you can find perfect peace and quiet.

# Networked cycling and walking nodes

Recreational cycling in Zuid-Holland is safe and easy. Bicycle paths routes through natural surroundings are mapped out with clearly recognisable signs. The nodes connecting these cycling paths are part of a network of regional and national cycling routes. Cyclists can plan trips by mapping routes from node to node, using a map of the network or the special 'Fietsknoop' app. Zuid-Holland has done pioneering work in this field and is currently developing a similar system for recreational walkers, together with regional partners.

### **Opportunities for entrepreneurs**

The province has laid the foundations by creating beautiful routes along existing walking and cycling paths. Local entrepreneurs benefit from the business opportunities these routes have to offer. Farmers might give cheesemaking demonstrations, for example, or sell fresh local produce, and B&B and restaurant owners can offer arrangements.  $\blacksquare$ 



RECREATIONAL WALKING IN ZUID-HOLLAND

2,800 km

total length of Zuid-Holland's network of recreational walking routes

82 million

recreational walking tours are undertaken every year in Zuid-Holland

# Don't Just lo



Auke de Vries (80) is living proof that age is just a number. Speaking with him, you feel an energy you might normally associate with a young adult. Proof that doing what you love pays off. Born in the northern province of Friesland, Auke left for Zuid-Holland at an early age, where he became an internationally-renowned sculptor. He has remained in The Hague ever since, citing its central location and proximity to the sea. "All I need is a beautiful city, the seaside close by and a cat in the window. Zuid-Holland offers everything I could wish for: cities, forests and the sea."



### Sum of the parts

Although Auke started off drawing and painting, his work has moved into new areas over the years. "Whenever I'm asked to create something, I need plenty of time to produce the initial design. However, the actual execution of my designs can be very time-consuming: we need to apply for the right permits, for example, and organise transport. My works can be up to 20 metres in height, so everything needs to be thoroughly calculated, checked and rechecked. Of course, the designs in my mind need to be practically feasible. The object has to be constructed in a way that makes it climate-proof - virtually impossible given the extreme weather we have in the Netherlands", Auke jokes.

### Don't just look: see!

"My work is all about space", Auke continues enthusiastically. "My sculptures should become part of their surroundings and highlight the space they occupy. That can be tricky. An object can't be too small or too large - it should subtly ask for attention, turning 'looking' into 'seeing'. In order to retain that delicate balance, I always create scale models of my sculptures first and scrutinise their intended location. Doing so throughout my career has allowed me to develop my own understanding of

space." Auke's expertise in this area is illustrated by the fact that he is frequently asked to think along with other artists. His original approach to spatial organisation and challenging gravity is widely praised. His works have crossed many borders, reaching Aberdeen, Magdeburg, Barcelona and Berlin, among other places.

## 'Chapeau'

Auke's intriguing sculptures can be found all around The Hague, from the Dutch Parliament and House of Commons (Tweede Kamer), Noordeinde Palace and the square in front of the Ministry of Foreign Affairs. He points out a work entitled 'Chapeau', created in 2005. "I created this hanging sculpture in the Palace gardens to commemorate Queen Beatrix silver jubilee." The sculpture, which references Her Majesty's famous hats, is also reminiscent of a family tree, referring to the lineage of the House of Orange.

### **Contented artist**

"Yes, I am a contented artist." Having been awarded the Wilhelminaring (Dutch life-time achievement award) and with a series of new artworks in the making, Auke is a busy man. "That's how I like it. I feel incredibly fortunate to be here doing this. It keeps me feeling young! Age is just a number, right?" ■

# From the greenhouse to the White House

The Westland, Zuid-Holland's greenhouse region, is one of the world's biggest producers of vegetables. Or, in the words of Koppert Cress CEO Rob Baan: "85% of our produce is exported to countries worldwide." Baan succeeded in turning horticultural company Koppert Cress into a successful million-dollar business, which now delivers to more than 70,000 restaurants worldwide. His next mission: a food revolution. "Everything comes together on your plate."

In the Westland region between The Hague, Rotterdam and Delft horticultural companies grow vegetables that feed millions. Crops produced in enormous greenhouses are shipped all around the world. Westland growers have always been ahead of the curve. "Our greenhouses, for example, steps ahead of other companies when it comes to carbon neutrality", explains Rob Baan. His company, Koppert Cress, is a prime example.



### **CARBON NEGATIVE**

Heating a greenhouse requires a significant amount of energy. Horticultural companies were quick to realise they needed to become more sustainable in order to provide the world with crops in the future. Baan: "Koppert Cress has reduced energy spending from 20% of its total costs to 2%. During the summer, we store solar energy in a heat storage tank, which we were able to build with support from the province of Zuid-Holland. We use this energy to heat up our greenhouses in wintertime. We are not just carbon neutral, we are carbon negative, as we use our excess energy to heat up a number of homes in the area."



## Turning the gastronomic supply chain on its head

Koppert Cress grows cresses: tiny savoury plants sought after by chefs all over the world for their ability to deliver an explosion of taste. There are many different flavours of cress to choose from: from truffles to mustard, from liquorice and oysters to cheese, corn and sambuca. Although this may sound like the result of genetic engineering, all cresses are 100% natural. These 'micro-vegetables', offer a completely new way of creating delicious, healthy dishes. Baan: "Koppert Cress's turnover increased by a factor 15 in only 5000 days. How? By reversing the chain. We started off by organising tasting sessions for chefs at shows, attempting to seduce them with intense flavours. Chefs can translate flavours into dishes for consumers. These new flavours are a hit, so we have seen restaurants' demand for cress grow. We want Dutch traders to export more cresses, so that we can manage the chain." Getting restaurants to buy our cresses was almost too easy, Baan admits. "We started at El Bulli, the best restaurant in the world,

owned by chef Ferran Adrià. He tried our cress and became a customer within three weeks! Now, we even supply to the White House and the emperor of Japan."

## **Food revolution**

Chefs also have an important role to play in Baan's latest mission, which goes beyond Koppert Cress: a true food revolution. Together with the Dutch Cuisine movement, supported by a large number of chefs, he is fighting for the production and consumption of healthier, more sustainable food. His philosophy: everything comes together on your plate. "The human diet should be 80% plant-based. This is better for the earth and better for our health. Instead of eating processed foods, we need to go back to basics: pure, delicious vegetables with small servings of meat or fish.

The chefs at Dutch Cuisine create tasty dishes consisting of 80% vegetables and 20% meat or fish. Fresh, in season, without additives. They source their meat from the less popular parts of the cow and pig and use it to create culinary masterpieces. With the help of ambassadors such as producers, culturemakers and innovators, the Dutch Cuisine chefs will also be able to export their know-how. Baan: "We would like to have as many people in the Netherlands as possible taste Dutch Cuisine. In restaurants, of course, but also in hospitals. After all, people who eat a lot of vegetables in hospital are healthier when going into surgery, and recover more quickly post-operation." ■

Food is an essential part of socially responsible entrepreneurship.

The coastline of The Hague and the Port of Rotterdam open up onto a vast agricultural area: Greenport Westland/Oostland, one of the pillars of the regional economy. Its ambition: to bring 'health and happiness' to megacities in Europe and beyond. In 1880, a handful of farmers began growing vegetables in greenhouses, which became increasingly popular, thanks to the relatively mild Dutch winters. The huge demand for vegetables in the major cities allowed the number of greenhouses to increase rapidly. Today, they are found throughout the area.

Vegetables and flowers destined for global export are currently grown in greenhouses and local authorities, businesses and knowledge centres have united to ensure the agricultural sector remains healthy and thrives. 'This cooperative venture, known as Greenport, relies on a strategy named 'Feeding and greening the megacities'. In order to achieve this objective, they are involved in various developments in energy, innovation and bio-based products. The greenhouse area is best explored by bike. Get in touch with Demokwekerij Westland or Tomatoworld for a fascinating demonstration.

## GREENPORT WESTLAND/ OOSTLAND BY NUMBERS



**1,700** agricultural companies

## 7,4 billion euros



**85%** of vegetables, fruits, flowers and agricultural services are destined for export





70,000 people

are employed in the greenhouse agricultural sector in Greenport Westland/Oostland













Beside the North Sea, between beaches and beach ridges, lie the dunes of Zuid-Holland. This coastal landscape is characterised by estates, dunes, seaside towns and cities that make up the National Park Hollandse Duinen. Georgette Leltz, programme director of the National Park Hollandse Duinen and employee at the Dunea drinking water company, has invited us for a day of nature and recreation.

## **1** Fresh water from the dunes

"This area is characterised by enormous variety", Leltz tells us. "See for yourself." A little later, we leave the centre of The Hague and pedal through a residential area, onto a cycling path and into the dunes. "It's not uncommon to see rabbits, or even foxes, darting from side to side here", remarks Leltz. "The dune paths are a firm favourite with hikers and cyclists." Each dune offers its own surprises and the reward for our efforts is an expansive view over the North Sea. Georgette's employer, Dunea, relies on the dunes to harvest water. Dunea also manages the nature in the area together with Staatsbosbeheer and provincial foundation Zuid-Hollands Landschap.

coastline maintenance. An artificial sand bank, consisting of 21.5 million cubic metres of sand, is built in the shape of a hook with an inland lake. Tides, wind and waves allow the sand to disperse naturally. Over the next 20 years, the area will slowly change shape and become integrated into the coastline, leaving the beach wider and safer. In the five years since it was built, a variety of plants, birds and other animals have made the sandbank their habitat. The area is ideal for nature lovers and active athletes, as the coastline is widened. The Sand Motor was developed by Rijkswaterstaat and the province of Zuid-Holland in cooperation with the Delfland Hoogheemraadschap. (Source: www.dezandmotor.nl/en)

## 2 Fresh breeze

We turn left, head for the beach, and order a cup of coffee in a beach café. "Look, kite surfers!" Leltz points out. "Further away, you can see the Sand Motor (see insert), an artificial sandbank with an inland lake." The ideal place to experience the power of the water and fresh air, National Park Hollandse Duinen spans the 43 kilometres of coastline from Hoek van Holland to the province's northern border. "This is not so much a new natural reserve as a combination of several dune areas and their hinterland."







## 3 Scheveningen and Meijendel

In the distance we see Scheveningen, The Hague's famous beach. We cycle in its direction, passing the harbour with its beautiful boats. Quite a ride, but once we arrive at one of the restaurants in the harbour we are rewarded with a luxurious lunch of fresh fish. "Behind Scheveningen's North beach lies the Meijendel dune area. Here, you will find blossoming maythorns in spring and bountiful mushrooms in autumn. As evening falls, you can see the local deer, and you will never find this many nightingales singing elsewhere. There are fantastic walking routes that take you through valleys, over the tops of the dunes and past the sea. The area is so big that you could easily get lost. Parents enjoy taking their children to the 'Monkey Forest' play area, where they can climb, build tree houses, walk through enormous water pipes, and much more."

## • New nature and art experience

We continue our bicycle ride past the beaches of Scheveningen, through Meijendel and towards Wassenaar. Amongst gorgeous gardens lies a modern building with a remarkable roof. We dismount. "Welcome to Voorlinden, our museum surrounded by nature. You see modern art in a whole new light here - literally. The building was designed with openings in the roof which allow the works to be lit naturally."

## 5 Full of variety

A little later, we find ourselves cycling past green pastures, estates and forests. We end the day in a beach café in Wassenaar. Leltz was right: we have enjoyed a varied day. "National Park Hollandse Duinen stretches even further", says Leltz, pointing into the distance. "On the other side of that beach you can cycle to Voorschoten and the beautiful Duivenvoorde estate. By Dutch standards, this is a sizeable National Park. The institutions that manage the park get along well, which allows us to maintain its quality and provide even greater enjoyment for nature lovers and our recreational visitors." We are certainly enjoying ourselves, as we watch the sun set slowly on a perfect day.

## Vermeer, mysterious old master

17<sup>th</sup> century painter Johannes Vermeer is renowned for his imagination and the humanity of his works. Every year, over 400,000 people visit the Mauritshuis in The Hague to admire masterpieces such as 'Girl with a Pearl Earring' and 'View of Delft.' Yet Vermeer was not always this popular. In the 18<sup>th</sup> and 19<sup>th</sup> century, his 'Girl' was gathering dust in in the archives. Director Emilie Gordenker tells us how this wonderful piece of art was rediscovered.



Mauritshuis interior

The Mauritshuis is the only museum in the world to exhibit works of such high quality by Vermeer and other 17<sup>th</sup> century painters. **Gordenker:** "Vermeer is one of the most enigmatic artists of all time. We know he lived in Delft, had many children and had a patron, judging by the quality of his materials. More interesting than his life, however, is his work."

The **Girl with a Pearl Earring** is, in fact, not a portrait, but a 'tronie': a head-and-shoulders study made to practise the painting of facial expressions. Tronies always depict specific types or stock characters, in this case a girl wearing exotic clothes, an oriental turban and an exceptionally large pearl in her ear. Vermeer was a master of light. You can see this in the girl's soft features and the light playing on her moist lips. And, of course, the shimmering pearl.

Gordenker: "After the 17<sup>th</sup> century, Vermeer's works were forgotten. It was not until 1888 that the Girl with a Pearl Earring resurfaced at an auction. Despite being covered by a layer of grime, it was identified by French art historians. A collector bought the work for a fraction of its current worth, restored it and donated it to the Mauritshuis."

Tip: visit Delft and experience what Vermeer saw when sketching 'View of Delft'

Opposite the Girl with a Pearl Earring you can find the 'View of Delft'. Gordenker: "Marcel Proust was one of the many people to adore this painting. This city view deserves more attention that it is usually given - you notice something new every time you look at it. A universal image that transcends culture and language. Even though Delft would have been a very busy city at that time, the painting exudes a sense of calm. It really draws you in, as it were."



www.vermeerdelft.nl/en | www.mauritshuis.nl/en

Johannes Vermeer, View of Delft, c. 1660 - 1661



The 'trekschuit' ('canal barge'), also known as 'the Golden Age intercity', was the main mode of transport in the 17<sup>th</sup> and 18<sup>th</sup> century. Relying on a fixed timetable, this precursor to modern public transport brought hundreds of thousands of people to their destinations each year.



## Although the 'trekschuiten' were not particularly fast, averaging seven kilometres per hour, they offered far more comfort than travelling by road

Travelling by trekschuit

A trekschuit is a long, narrow boat drawn by horses walking along a path beside the water. These horses were connected to the boat by a long rope. Trekschuiten had fixed routes, fixed departure times and fixed prices. The most popular routes were those connecting Rotterdam, Delft and The Hague, and The Hague and Leiden. An hourly barge ferried between Delft and Rotterdam, from early morning until late evening, and there was even a night boat. This trip, which takes 15 minutes by train today, would have taken some two hours back then.

Although the trekschuiten were not particularly fast, averaging seven kilometres per hour, they offered greater comfort than travelling by road. 35 people could board a single trekschuit and the system was very reliable. In summer or winter, regardless of weather conditions, the trekschuit would always drop passengers off in the centre of town completely unique at the time. Foreign visitors were impressed by this remarkable mode of transport with its regular schedule. They were surprised by the fact that trekschuiten were used by the upper and lower classes alike. For over 200 years, the canals in Zuid-Holland were the backbone of public life. It will come as no surprise that they feature frequently in paintings, prints and literature.

### Canal network

The infrastructure, purpose-built to allow this type of transport, was also remarkable. Many canals were specially dug to extend the network. Beside these, there would be a towpath for the horses, and special rollers allowed boats to easily navigate bends in the river. There were dedicated waiting rooms and specially adjusted bridges. Dutch cities jointly founded an organisation to ensure tow canal traffic ran smoothly (and profitably!). Canal barges provided many jobs, including skippers, boatsmen, supervisors and maintenance staff.

## Railroads take over

Around 1800, the advent of faster modes of transport, such as the stagecoach, caused the popularity of the trekschuit to wane. The introduction of trains in the 19<sup>th</sup> century heralded the end of the trekschuit, but the old routes were never forgotten. Railways were usually constructed along the routes followed by the trekschuit, the most efficient connection between

two cities. Train stations were also built near the old trekschuit terminals. It would be fair to say that today's transport infrastructure has its roots in the Golden Age.

Along certain routes, between Leiden and Haarlem for example, you can still see the canals from the train as you speed past. Most canals remain accessible and are a great way to experience both the past and present of public transport. Zuid-Holland cherishes its canals and aims to keep this heritage alive, together with local municipalities, heritage institutions and businesses.

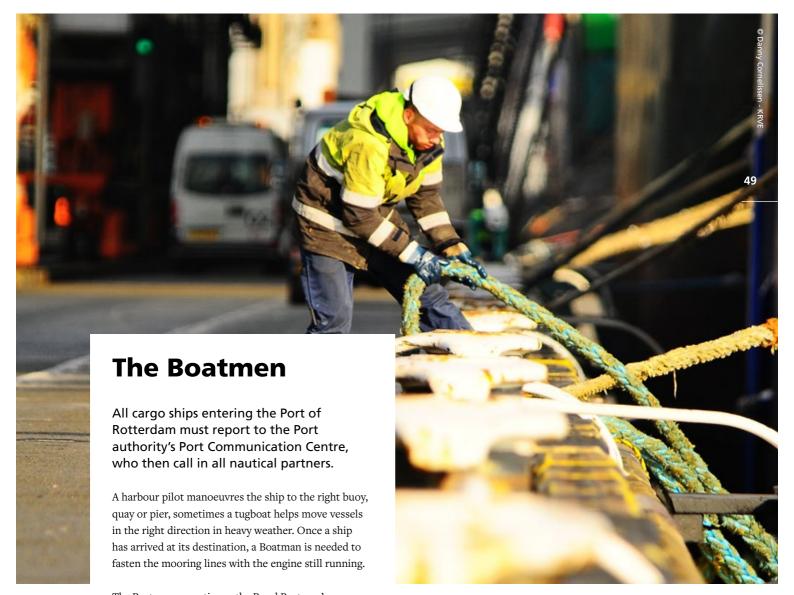


Rotterdam has been Europe's biggest seaport since 1948, thanks to a favourable location, excellent connections to the hinterland and close cooperation between the private and public sector.

Of course, the port plans to retain its unique position. A closer look at the latest developments in carbon reduction, mooring and 3D printing of ships' parts.

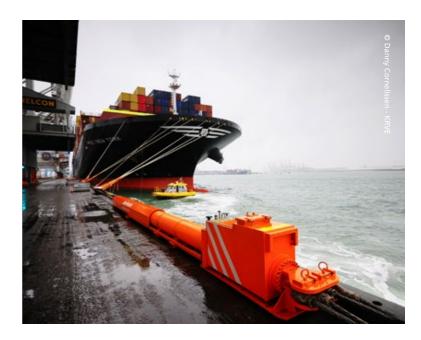
## The Port of Rotterdam: an introduction

The Port of Rotterdam is comprised of various terminals and industrial zones, from which goods are shipped to and from its refineries and factories. Other goods are warehoused or transshipped here, ready for further transport. The port has grown so large thanks to its location on the mouth of the Rhine, granting access to a hinterland inhabited by some 500 million. From Rotterdam, cargo is shipped to Germany, Belgium and the rest of Europe. The Port of Rotterdam Authority is responsible for industry, safety and order on the water.



The Boatmen, operating as the Royal Boatmen's Association Eendracht (KRVE), are a mainstay of the Port of Rotterdam. They help moor ships more than an hour faster than in other ports across the world, thanks to close cooperation with their nautical partners. Departures are just as fast. The Boatman, harbour pilots and the Port authority help ships smoothly resume their passage. Their latest invention, ShoreTension, is attracting considerable interest from abroad, including countries such as Oman, Australia and New Zealand. The ShoreTension system is a hydraulic shock absorber that helps stabilise large vessels, allowing them to be moored to the port regardless of weather conditions. The ShoreTension system uses no external energy, making it a carbon neutral solution.

www.shoretension.com



## **Practice what you preach**

## Carbon reduction in the Port of Rotterdam



The Port authority would like Rotterdam to be a 100% sustainable port by 2050. This may well be achievable, given the hard-working attitude of Rotterdam's people. Carbon reduction is an important aspect of the vision and strategy for the future of the port area, explains Huibert van Rossum, Energy Transition Advisor with the Rotterdam Port Authority.

## The Port authority aims to cut carbon emissions to virtually zero. Why is this so important?

"The Port of Rotterdam is a driver of the Dutch economy, but we are also responsible for approximately 20% of all carbon emissions in the Netherlands. When it became clear that we would have to drastically cut our carbon emissions, we immediately took action. This actually offers new business opportunities."

## A carbon neutral port by 2050: quite an ambition. How will you realise this?

"There is no blueprint for this sort of thing, but we do have a good starting position. Rotterdam has the world's best port infrastructure. There is a wealth of knowledge about energy issues and a favourable climate for innovation here. We are investigating how we can employ the best projects in various scenarios for carbon reduction. The projects most likely to be successful are heat infrastructure, carbon infrastructure and Waste 2 Chemicals, a factory that turns waste into synthetic gas to produce methanol."

## What are you doing with regard to heat infrastructure?

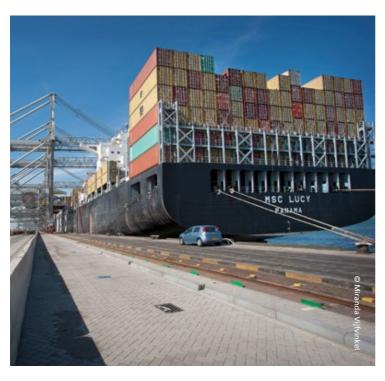
"We are working with the province of Zuid-Holland, the Gasunie gas company, the Eneco energy company and Warmtebedrijf Rotterdam to create a heat network. Heat transported through this network is used in private homes, greenhouses and production processes. Theoretically, we can use the warmth generated by the Port of Rotterdam to heat up over 500,000 households every year.

## And with regard to biochemistry?

"Rotterdam is already home to Europe's largest bio-based cluster, consisting of four bio-oil refineries, four biofuel factories and two biochemistry factories. We are stimulating these companies to keep making their activities more sustainable and welcome new companies that can make current biochemical processes more sustainable."







Imagine you could simply 3D-print ships' parts in the port and didn't have to wait for them to be sent from abroad? Jacqueline Schardijn, Senior Business Developer Smart Industry at InnovationQuarter, is making this a reality. There is one problem, though: most maritime parts are made of metal, and 3D-printing metal is a lot more complicated than 3D-printing plastic - though not impossible.

Schardijn: "In my job at InnovationQuarter, the Regional Economic Development Agency for Zuid-Holland, I constantly look for new opportunities to innovate. I came across a business case for a 3D-printing application that could create maritime parts on location. Typical delivery time for maritime parts can be up to four weeks. We can save a lot of time by reducing that to one or two weeks. Of course, several obstacles need to be overcome.



A great deal of engineering and software knowledge is required to print complex metal structures, partly because the material tends to sag when heated. What's more, 3D-printing metal parts is still relatively expensive. However, it can still be worth 3D-printing parts that are difficult to mil. Complex parts with many interior pathways, for example, or parts that can typically only be ordered in bulk. Having the technology to print such parts individually means you no longer need to keep large stocks.

In a pilot project involving 3D experts, materials specialists, knowledge institutes, programmers and end users, the maritime industry has succeeded in producing the first propeller using a metal robot printer. All new parts were subjected to extensive testing, and all in all, the pilot managed to produce a large number of high-quality parts. Based on this pilot, we established the open innovation centre RAMlab, which stands for Rotterdam Additive Manufacturing lab. Within a few years, RAMlab wants to start bringing certified parts to market, as well as scouting opportunities to open a second RAMlab in Singapore."

RAMlab is one of the Fieldlabs supported by the province of Zuid-Holland. A Fieldlab is a 'real-life testing ground', an environment that provides (physical) space to develop, test, demonstrate and validate new technologies, products and innovations. A Fieldlab runs on intensive cooperation between regional businesses and knowledge institutes.

## THE PORT OF ROTTERDAM BY NUMBERS

## 12,500 acres

of port area and growing (Maasvlakte 2)

## 600 million

turnover

## 460 million

tons of goods each year (2016)

1,600

companies are situated in or near the port of Rotterdam

175,000

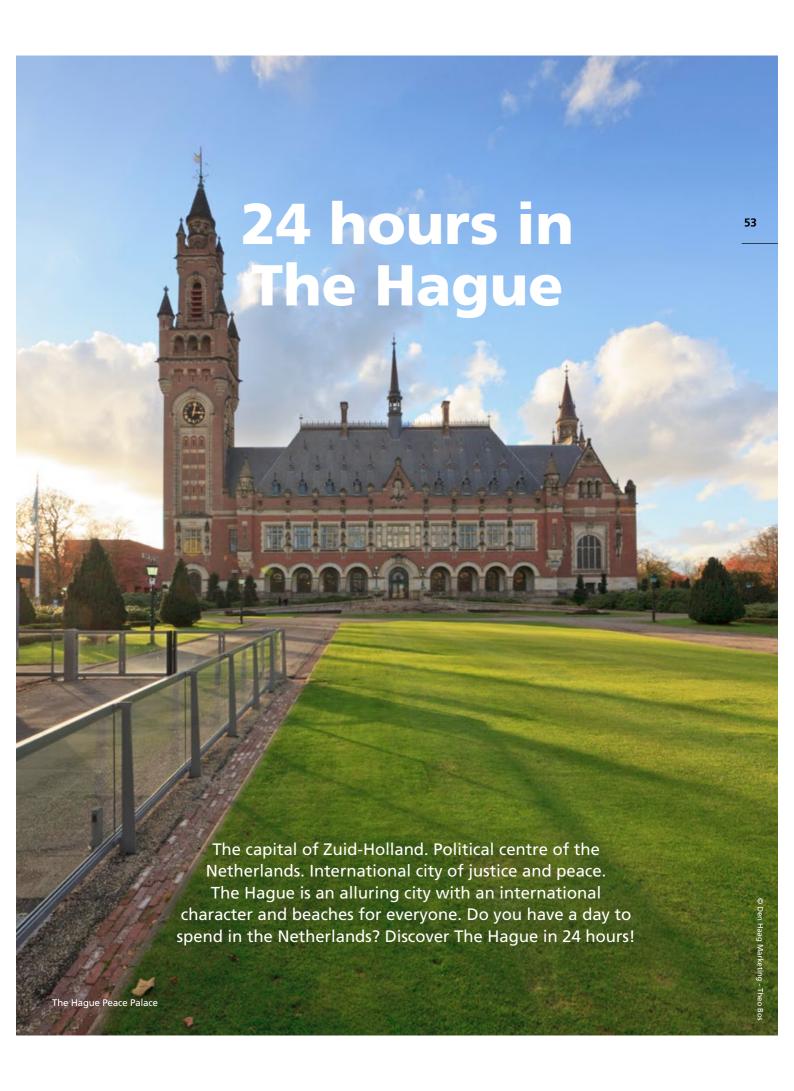
people working in or near the port every day

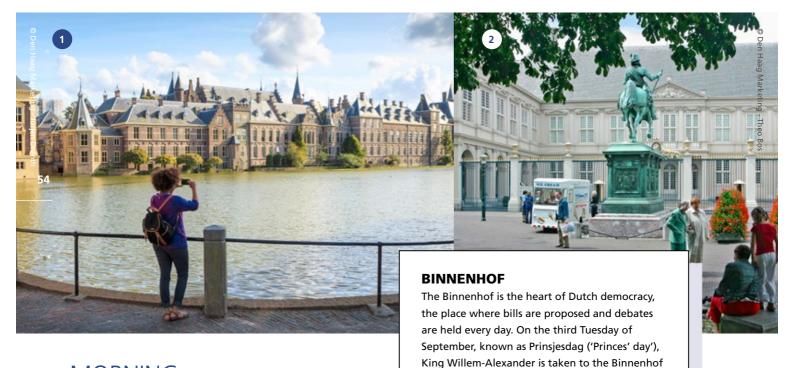
30,000

seagoing vessels each year

110,000

inland vessels each year





## **MORNING**

## Discover The Hague's political and royal areas

Start at the **Binnenhof**, the seat of government, the centre of Dutch politics. Amid the parliament buildings, you can find the Ridderzaal, the venue for King Willem-Allexander's annual speech. Apart from politicians and media professionals, you will encounter large numbers of 'Hagenaars' - residents of the Hague - as they cycle to work. The outdoor cafés on the Plein, situated behind the Binnenhof, are great places to enjoy a drink. Be quick, though, as they fill up at even the slightest hint of sunlight. Here, you will also find the Mauritshuis museum.

Continue past the **Hofvijver** 1, sample a typically Dutch herring or head straight for the Buitenhof. This square is flanked by a monumental gate that houses a chilling exhibit: the Prison Gate museum. Discover how prisoners were locked up, tried and punished up to the early 19<sup>th</sup> century. Listen to stories about famous prisoners, escapes and executions.

Walking further, you will reach **Noordeinde 2**, an elegant shopping street, as well as the location of Noordeinde Palace, the official workplace of King Willem-Alexander. A flag blowing in the wind announces the King's presence. The King and his family live on an estate in Wassenaar, in the forests outside The Hague. Browse one of the many galleries on Noordeinde or sit down for a cup of coffee in one of the many establishments such as Lola Bikes&Coffee. Cross the street and enter the Zeestraat to see **Panorama Mesdag**: a unique cylindrical painting offering a panoramic view of old Scheveningen.

## **AFTERNOON**

this day.

## **Lunch and shopping**

A long time ago, The Hague was the centre of former Dutch colony East India. This colonial past has brought The Hague a number of excellent Indonesian restaurants, such as Garoeda, a stone's throw from Noordeinde. For other culinary marvels head towards the Prinsestraat in the Hofkwartier, behind Noordeinde. The <code>Hofkwartier</code> is also a shopper's paradise for anyone with a taste for original stores. The network of little streets behind the palace is full of charming boutiques and modern concept stores.

in the Golden Coach, drawing large crowds.

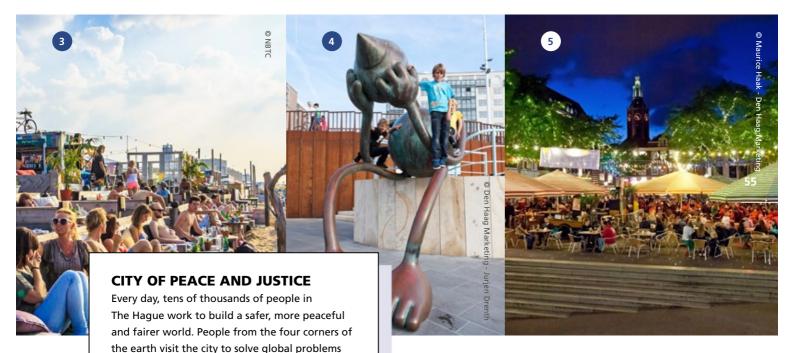
This historical building, built in the gothic style,

houses a throne from which the King reads the

government budget, traditionally presented on

'Troonrede'. This speech addresses the annual

If the weather is good, why not enjoy a drink on the Anna Paulownaplein? Or you could head straight for the **Peace Palace.** There could not have been a better location for this beautiful palace than The Hague: city of peace and justice. The Peace Palace is still used by the International Court of Justice and the Permanent Court of Arbitration. International lawsuits held in this palace often make headlines all over the world. Find out more about the building and the international organisations it houses by taking a free tour, which can be booked at <a href="https://www.vredespaleis.nl/visit/guided-tours">https://www.vredespaleis.nl/visit/guided-tours</a>.



## that work together to create a better, safer and enjoy some world. One of these is OPCW, the Organisation beautiful boats

With 11 kilometres of coastline The Hague offers something that other Dutch cities do not. Take a trip to Scheveningen harbour and enjoy some excellent fresh fish as you look out over the beautiful boats. Or visit **Museum Beelden aan Zee 4** to marvel at international modern sculptures with a view of the sea in the background. Its various rooms and terraces contain changing collections of sculptures in a wide variety of materials and styles.

Continue your walk along the boulevard to find a local favourite: the **Noorderstrand** 3. Every beach café has its own unique character, from trendy beach clubs to beach terraces with rugged wooden furniture and regular performances by singersongwriters. Take a seat, have a bite and enjoy a drink wherever you feel most at home.

## **GEMEENTEMUSEUM**

attended by 53 world leaders.

The Gemeentemuseum is certainly worth a visit. Its characteristic art deco building is an oasis for art lovers and the museum houses works by Monet, Kandinsky, Van Gogh, Picasso and Bacon as well as the world's largest collection of works by Mondriaan.

together. The most famous example is the

International Criminal Court of the United Nations (ICC). Since World War II, the court has

hosted lawsuits against suspects of crimes against

humanity or war crimes. The Hague is also home to knowledge institutes, NGOs and companies

for the Prohibition of Chemical Weapons, which

conferences, such as the Nuclear Security Summit

was awarded the Nobel Peace Prize in 2013.

The city is an obvious spot for international



## NIGHT

**EVENING** 

Relaxing on the beach

## **Nightlife in The Hague**

Fancy exploring some nightlife? Head to Scheveningen boulevard or back to the city centre. The **Grote Markt** ③ has the largest selection of outdoor bars in The Hague and often features live performances by bands in the summer. The vibe here is low-key, but just a little further down, on the **Plein**, you will find a more formal atmosphere. There's drinking and dancing until the early morning - outdoors, if the weather allows. Finish off your night in the Hague like the locals do: with chips and mayonaise or a shawarma roll. The city's many hotels are perfect places to process all the impressions of the 'Hofstad'. ■

## Historic cities, ancient crafts



Certain cities in Zuid-Holland have been shaped by their most famous exports. Delft's famous pottery, for example, or Schoonhoven's silver, Schiedam's jenever and Leiden's broadcloth. Find out how old crafts are bringing new impulses to these picturesque towns.



## 1 Old and new Delftware

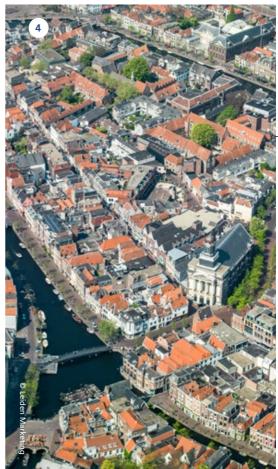
Royal Delft has been painting pottery since 1653 and still uses the same techniques. Prospective pottery painters are given thorough training. Helen Taylor, Royal Delft: "We teach all our pottery painters in-house with a 10-year programme. One of the greatest challenges when painting Delftware is the fact that the paint is immediately absorbed by the porous earthenware. Once the brush has touched the surface, the design cannot be changed. Concentration is key. What's more, our 'The Original Blue' collection consists of 17th century decorations that must remain unchanged! Our traditional pieces are especially popular with Asian and American visitors, but we are also constantly innovating by introducing modern collections, such as BlueD1653, and finding new people to collaborate with, such as fashion designer Tess van Zalinge, who launched a collection inspired by Royal Delft at the 2016 Amsterdam Fashion Week."

## 2 Idyllic Schoonhoven, city of silver

Schoonhoven has 12,000 inhabitants and 50 silversmiths. On entering the city, you see two enormous silver wedding rings - the biggest in the world. "Silver is embedded in our town's DNA", says city marketer Michiel van der Schaaf. "During the heyday of the silver industry, half the city made its living with silver. It's all around you: there are 30 small silver shops and some 20 factories that make silver rattles and other objects. Gifts are even wrapped in silver paper. We organise the Schoonhoven Silver Award, an international silversmithing competition, and there is even a special wedding ring route that takes you past all silversmiths in the city. Silversmithing used to be a very time-consuming craft, but with the invention of the friction press, moulding silver plates into the right shape became easier. Nowadays, visitors come here to see the art and craft of silversmithing, but they also come here to admire the city itself. Visitors from abroad describe it as a hidden gem: a typically Dutch fortified city on a river with a moat, gorgeous gables and green surroundings."







## 3 From old jenever to trendy gin

Schiedam is the Netherlands' jenever city. Martine de Snaijer of Schiedam promotions explains: "At the end of the 19th century, the small city was home to 792 distilleries: everyone worked in the jenever industry. As soon as grain shipment arrived from the port of Rotterdam, a bell would be rung in the so-called 'zakkendragershuisje' ('bag-carrier's house'). The first people to arrive at the house would have an opportunity to work that day. They decided who would ultimately be allowed to unload the grain by rolling dice. The grain would then be traded on the corn market. Approximately 400 distilleries in Schiedam produced millions of litres of malt wine and jenever, 75% of which was exported to West Africa, South Africa, India, the Caribbean, the United States and Canada. The jenever industry has left beautiful traces in Schiedam, such as a characteristic old city centre with warehouses, canal houses and five windmills. This attracts visitors from all over the world. What's more, jenever is making a comeback, with more and more connoisseurs embracing this artisanal liquor. Gin - jenever's more accessible, flavoured cousin - has seen a similar increase in popularity.

## 4 Leiden, prestigious city of textiles

Leiden, Rembrandt's birthplace, is an attractive university city, with many 17<sup>th</sup> century buildings, including the Pieterskerk and the National Museum of Antiquities. Leiden was Europe's biggest textile city in 1650, and has the textile industry to thank for its historical city centre. Museum De Lakenhal, one of Leiden's 13 key museums, is a great example. For centuries the building, constructed in 1640, was used as a test site for fabrics exported all over the world. Leiden was going through its own Golden Age at the time and investing in a good business climate by promoting science and culture. This resulted in the dynamic scientific and cultural innovation that can still be found there to this day. Leiden BioScience Park, for example, is one of the five most successful science parks in Europe and is a direct offshoot of Leiden University, which was founded in 1575. ■

## The world's biggest jazz festival

Jazz aficionados worldwide will be aware of the legendary annual North Sea Jazz Festival, a glorious fusion of the past, present and future of jazz. This festival, has been extremely popular ever since it first started in The Hague in 1976, featuring such legends as Sarah Vaughan, Count Basie, Dizzy Gillespie and Stan Getz. Today, the legends are still coming, including artists such as Usher & The Roots, De La Soul, Jamiroquai, Van Morrison and Erykah Badu. The main difference between then and now? The sheer number of musicians (1,300), stages (14) and visitors. The annual international festival (officially known since 2013 as the Port of Rotterdam North Sea Jazz Festival) moved from The Hague to Rotterdam in 2006 and manages to draw between 65,000 and 70,000 visitors every year.

## Visitors make the vibe

If anyone is capable of explaining the festival's secret, it would have to be Junior van der Stel - North Sea Jazz Marketing & Communication. "Our strength lies in the fact that we have remained true to our core values over the years and always try our hardest to create an intimate, summery atmosphere." That can be challenging, even for the biggest jazz festival in the world.

"Our unique lineup, lovely rooftop terrace, bar areas and decoration elevate the festival to a higher level and make it unique. Our visitors and virtuoso jazz musicians take care of the rest. Whether you are looking for experimental jazz or big names, all music lovers can find something to their liking and create their own festival experience", van der Stel enthusiastically continues. "That's just how it should be. From the moment we publish our lineup, everyone starts mixing and matching acts to create their own ideal musical programme."

## Finding the best lineup

Over the years, the festival has been through several major changes, the move to Rotterdam probably being the one with the biggest impact. "Deciding to leave The Hague, our birthplace, after 30 incredible editions was, of course, a big decision", Van der Stel remembers. "Ultimately, however, this allowed us to produce an even better festival for our visitors and the musicians. The future is bright! We are all focused on the same thing: finding the best possible lineup. A programme based on jazz, but supplemented with the latest developments in blues, soul, funk, hiphop, world and pop. People have high expectations, so we need to stay on top of our game!"





Living and working in Zuid-Holland: what's that like? Expats Yanmin Tao, Marco Musso and Cornelius Wicks share their experiences of the area. Each has different roots, each offers a unique view of Zuid-Holland.

### How would you characterise Zuid-Holland?

**Yanmin Tao:** "Organised to a T. I can remember being awestruck by the neatly renovated buildings and well-kept nature when I just arrived."

Marco Musso: "Progressive. Knowledge sharing is big here. Between universities and businesses, but also from business to business. Entrepreneurs share a progressive vision: if we work together and dare to share our knowledge, we will all be more successful in the long run. A great deal of money is invested in startups and new technology. I took my company to the Yes! Delft tech incubator, a programme that helps entrepreneurs turn their startups into successful businesses."

**Cornelius Wicks:** "I developed an inspection drone in a comparable incubator, ESA-BIC. They offered advice on starting a company in the Netherlands and helped me meet lots of new people. I learned a lot there, like how to get subsidies and loans."

## What do you think of the work culture here?

**Musso:** "Companies here are open minded, not as worried about competition but focused on collaboration and progress. For knowledge-based businesses like ours, that's crucial. Tech companies are offered help in finding good employees. Everything has been thought of."

**Tao:** "The work culture is a breath of fresh air for me. It's not about who you know, it's about what you can deliver. That's what counts, and that's how I like it. People here are open and direct and appreciate a hard-working attitude."

**Wicks:** "I'd say that openness is very typical of the Netherlands. Dutch people are used to discussing their ideas and will never say that something's impossible straight away. They are always open to hearing your arguments. In general, that's great - although discussing everything can sometimes also slow down the process."

### Was meeting new people easy for you?

**Wicks:** "It was for me. I met at least fifty new people during my first two years here. On my street, at the WTC where I have my office, at the gym or in bars. It's not difficult to meet Dutch people, but you should learn to speak the language. If you know the language and you can watch Dutch TV, you will quickly learn how people here think and understand their jokes."

**Musso:** "True. English can get you quite far, but you need to speak Dutch as well. A bit of an obstacle for many Italians, because it isn't the easiest language."

**Tao:** "The most important thing you can do to integrate into society is have a job. Learning Dutch is a part of contributing to and adjusting to society. When I was still working at TU Delft, I tried to promote contact between Chinese expats and the local community. In the late 90s, Chinese students at TU Delft were primarily focused on their studies, but now they are also active in their local communities: each year they celebrate Chinese New Year together with the people of Delft."

### What do you like most about Zuid-Holland?

**Tao:** "I really enjoy how varied the Netherlands is, especially Zuid-Holland. You can find modern architecture here, like the new central station in Delft, but also outdoor recreation areas such as the Delftse Hout."

Musso: "There are many highly educated people on the job market here. Not just because we are so close to TU Delft, but also because an office in a city like Delft can make a business very attractive for prospective employees. Delft is situated between two major, vibrant cities: The Hague and Rotterdam." Wicks: "Scheveningen is my favourite place, but the unique private automobile collection at the Louwman Museum is also well worth visiting. I can also recommend 'King's day': a sea of orange and typically Dutch 'gezelligheid' ('cosy togetherness'). Very special." ■

## Say cheese!

What would a magazine about Zuid-Holland be without cheese? The province is a huge supplier of cheese, with the area around Gouda making the lion's share. One reason Gouda cheeses are so popular is the fact that they are made from full-fat milk, resulting in a creamy flavour and a pleasant yellow colour. Cheesemaking and the city of Gouda are historically interconnected: there have been cheese markets in the city since 1400.

### Maurice Koster, owner of Gouds Kaashuis

"We welcome Germans, French, Spaniards, Italians, Asians and even Brazilians to our shop. Most tourists ask for our traditional 'boerenkaas' ('farmers' cheese'), which is made with raw milk, using traditional methods. I sell 500 to 600 kilos of Gouda each week. That's 25,000 kilos of cheese per year." As with other Dutch hard cheeses, several variations of Gouda are available: jong (young), jong belegen (mediummatured), belegen (matured), extra belegen (extra matured), oud (aged) and overjarig (extra aged). These terms indicate how long a cheese has been ripened. The longer the ripening period, the harder, richer and stronger it becomes. All Gouda cheeses ripen on wooden boards for at least four weeks.





1 kg of cheese requires 10 litres of milk



0.5 - 16 kg

A Gouda cheese weighs between 0.5 and 16 kg



Is the minimal ripening period for Gouda ccheese





500,000 tons

Gouda Cheese Production (in the Netherlands)

60% export





The fat content of cheese is indicated by numbers. Gouda cheese usually is 48+ which means that a minimum of 48% of the solids in the cheese consist of fat

100%











The river Rotte, near Rotterdam, is a beautiful spot for rowing. Here, you can watch local rowing clubs' boats glide through the water against a backdrop of green meadows and the city skyline. This is also where Maaike Head, Olympic rowing champion 2016, began her career as a top athlete.

Rotterdam student rowing club Skadi currently has over 600 members. When Maaike Head heard about the club, she had already embarked on a career as a speed skater. "They put me in a boat and we went rowing on the Noorderkanaal - I loved it immediately."

## From student sports to elite sports

In her third year, the Dutch National Rowing Association picked Head for a training camp for lightweight doubles. "Things happened fast from that moment: I came third in the 2009 Dutch Skiff Championships. NAME
Maaike Head (33)
PROFESSION

Doctor
KNOWN FOR

Olympic champion

Rio de Janeiro in the women's double sculls (2016)

REMARKABLE

started her career as a long track speed skater **HOME** 

Skadi Rowing Club in Rotterdam

My clubmate and I qualified for the double sculls in the London Olympics. In 2016, I won the Olympic gold medal in double sculls together with Ilse Paulis from Amsterdam. Preparing for the Olympics, I tried to train in Rotterdam as much as possible so that I could finish my degree in Medicine."



"I have rowed on the world's greatest lakes. I can recommend Bled, a town in Slovenia, to every rowing enthusiast. My favourite place to row, though, is still the Rotte, as it is my home. I find peace there, and get to meet rowers from all the local clubs. Gliding through the picturesque polder landscapes you see Rotterdam's skyline in the distance, which fills me with a sense of pride. The architecture, the no-nonsense mentality and the atmosphere that has come over the city in recent years have made it an amazing place." ■





