





HOLLAND

# DUTCH MASTERS

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**Holland**

# THE LAND OF CLOGS, CLOGS AND YET MORE CLOGS?

# THE NETHERLANDS IN BRIEF



**Beatrix of Orange - Nassau** | Queen of the Netherlands



**Form of government** | Constitutional monarchy, parliamentary democracy

**Head of state** | Queen Beatrix

**Prime Minister** | Jan Peter Balkenende

**Capital city** | Amsterdam

**Seat of the government** | The Hague

**Composition of the country** | 12 provinces, overseas territories of Aruba and the Netherlands Antilles

**Monetary unit** | Euro

**Languages** | Dutch (official language), Frisian

**Location** | Western Europe, bordering on the North Sea, between Belgium and Germany

**Population** | 16,372,715 (June 2007)

**Gross Domestic Product** | EUR 534.3 billion (2006)

**Economic growth** | 2.4% (2nd quarter of 2007)

**Unemployment** | 4.7% (July 2007)

**Workforce** | 7.6 million (2006)

**Inflation** | 1.1% (August 2007)

**Imports** | Machinery and equipment, chemicals, fuels, foodstuffs

**Exports** | Machinery and transport equipment, chemicals, fuels, foodstuffs, clothing

**Natural resources** | Natural gas, petroleum, peat, limestone, salt, sand and gravel, arable land

### **Famous Dutch icons**

Michiel de Ruyter, Abel Tasman (trade, exploration), Vincent van Gogh, Rembrandt van Rijn (painting), Johan Cruyff, Marco van Basten (football), Jan de Bont, Paul Verhoeven (film), Anne Frank (history), Benedict de Spinoza, Desiderius Erasmus (philosophy)

Sources: CBS, CIA World Fact Book

# THE INTERNET HOLDS A WEALTH OF INFORMATION ON OTHER DUTCH MASTERPIECES

IN TOTAL, THIS PUBLICATION ABOUT DUTCH MASTERS OFFERS AN OVERVIEW OF 45 INGENUOUS PRODUCTS AND INVENTIONS, AND MAYBE AN EVEN GREATER NUMBER OF INSPIRING ENTREPRENEURS, INVENTORS AND OTHER BRILLIANT MINDS, TOO. THEY ALL CREATED OR DEVISED SOMETHING THAT CAN BENEFIT THE NETHERLANDS AND THE REST OF THE WORLD AS WELL. HOWEVER, THAT IS OBVIOUSLY NOT THE END OF THE STORY. GO TO THE WEBSITE [WWW.HOLLANDTRADE.COM](http://WWW.HOLLANDTRADE.COM) FOR EVEN MORE INSPIRATION AND INFORMATION ABOUT WHERE THE DUTCH AND THEIR PRODUCTS AND SOLUTIONS CAN BE EXTREMELY USEFUL.

**General information** | Did you know that the Netherlands has the highest concentration of museums in the world? Any idea how many tourists visit the Netherlands annually? And did you know that Amsterdam is home to more nationalities than any other city in the world? All this and more general information about the Netherlands can be found on our website about Dutch commerce.

**Business information** | The gateway to where to find Dutch businesses, which events to attend to rub shoulders with such inventive people, and the contact information for Dutch embassies and other economic representatives.

**An index of businesses for international organisations** | Which Dutch consultants specialise in infrastructure projects? Which companies are potential partners for responding to calls for tenders issued by international organisations? The business index helps buyers from international organisations to quickly find the services, goods and other projects that they need from Dutch providers. Other parties can also use the index to find potential Dutch partners.

**Market information** | The website provides a wealth of information on Dutch markets from the general to the specific, from sector outlines, an overview of sector publications (the 'Made in Holland' sector specials and the year book) and the Dutch government's innovation programmes, to news reports and updates on new products.

**Sector analyses** | Here you will find general and very detailed information about the main Dutch sectors, such as how many businesses are active in the sector, what do they specialise in, how much do they export, what are the future prospects for the sector, and especially, who can provide you with more information.

**New products** | What is made in the Netherlands? Which new technologies were developed by Philips? Which Dutch dredging company is working in the United Arab Emirates? All this and more can be found in the news section.

[www.hollandtrade.com](http://www.hollandtrade.com)



# RANKED EIGHTH WITH ONLY 0.267% OF THE WORLD'S POPULATION

MENTION THE NETHERLANDS AND MANY PEOPLE WILL THINK OF CLOGS AND WINDMILLS.

The Dutch do not mind, but if truth be told, the Netherlands is traditionally a country of commerce and transport. By the 17th century, Amsterdam was already the largest combined storage area and port in the world. Grain, fish, textiles, precious metals and spices from all over the world were bought and sold there. Amsterdam also boasted the world's first stock exchange: only a stone's throw from the harbour where vessels from all corners of the world were moored, people were busily trading shares.

The 17th century has long since passed, but the Netherlands' leading position as a transshipment country is still alive and well. To give you an idea of just how large the Dutch logistics sector is, consider the following. The earth is home to 6.4 billion people, making the Dutch population of 16 million seem miniscule by comparison. These 16 million are only 0.267 percent of the world's population, and yet the Netherlands is still the world's eighth largest exporting country. Of course, such a small country cannot produce all the goods that it exports on its own. Put simply, that means that countless foreign companies opt to distribute their goods via the Netherlands.

The Netherlands has been called "The Gateway to Europe", and with good reason. With 1.48 million tons of goods transhipped in 2005, Schiphol Airport was the third largest cargo airport in Europe. The Port of Rotterdam handled 348 million tons of goods, making it Europe's largest port by far, as well as the most modern. The brand new railway line for transporting freight to Germany also makes Rotterdam the gateway to Central Europe. In addition, the Netherlands boasts one of the highest penetration levels of broadband Internet anywhere, as well as very attractive tax benefits for foreign companies.

NONE OF THIS SHOULD COME AS A SURPRISE. AFTER ALL, IF WE DID NOT ENJOY GETTING YOUR GOODS TO THEIR DESTINATION, WE WOULD NOT HAVE BEEN DOING IT FOR THE LAST FOUR HUNDRED YEARS. [WWW.NDL.NL](http://WWW.NDL.NL)



# WHY INVEST IN THE NETHERLANDS?

The Dutch do not really like to boast about their strong points.

“Not bad” was definitely considered quite a compliment until not that long ago. Unfortunately, although this kind of level-headed mentality is very nice, it also causes problems because it makes it difficult for you to convey your strong points. That is why we decided to set aside our scruples just this once, in order to name six reasons why you should invest in the Netherlands:

- 1 Many Dutch people speak English. In the European Cities Monitor 2006 Amsterdam is second only to London in the “most languages spoken” category.
- 2 The logistics facilities – both the “traditional” ones such as ports, airports and roads and the “new” ones such as broadband Internet access – are first-rate.
- 3 The corporate tax and wage tax rates are very low at 25.5 and 15.5 percent, respectively, and earnings from innovative products and services are subject to an even lower rate of 10 percent.
- 4 The quality of the public services and infrastructure and the standard of living are all high.
- 5 The workforce is flexible and well educated.
- 6 We would like to offer you one more reason to invest, but instead of a plus point, we prefer to name a few companies whose European headquarters are located in the Netherlands: GE Plastics, Starbucks, Gucci, NCR Corp, Hitachi, LG, as well as Sony’s European distribution centre. Maybe we will eventually be able to add your company to this list.

THE CHINESE CONGLOMERATE HAIER CHOSE THE NETHERLANDS AS THE LOCATION FOR ITS NEW IT DIVISION. DIRECTOR OF HAIER IT EUROPE, WILLIAM SHIH, EXPLAINS WHY: ‘GENERALLY SPEAKING, THE DUTCH ARE WELL EDUCATED, FLEXIBLE AND DEPENDABLE AND SPEAK MANY LANGUAGES. THE PORT OF ROTTERDAM AND THE GOOD AIRPORTS HAVE CONVINCED MANY LOGISTICS COMPANIES TO OPEN BRANCHES IN THE NETHERLANDS. WHAT’S MORE, THERE’S A SYSTEM THAT ALLOWS YOU TO POSTPONE PAYMENT OF VAT FOR IMPORTED GOODS. IF YOU THEN EXPORT THEM, YOU DON’T HAVE TO PAY ANY VAT AT ALL. THIS SAVES US MANY MILLIONS OF EUROS.’ [WWW.NFIA.COM](http://WWW.NFIA.COM)



# “DUTCH CULTURE”

HERE ARE JUST A FEW REASONS WHY THE NETHERLANDS MAY BE ONE OF THE BEST PLACES IN THE WORLD TO DO BUSINESS: **THE DUTCH ARE OPEN** > It is not necessary to personally shake the mayor’s hand before you do business with a municipality in the Netherlands | **THE DUTCH ARE ACHIEVEMENT AND RESULTS-ORIENTED** > There is no need to first spend hours flattering a director before the work gets done | **THE DUTCH ARE PUNCTUAL** > When you meet with clients, you can rest assured that they will not unexpectedly keep you waiting for hours | **THE DUTCH KEEP THEIR PROMISES** > In the Netherlands, you can be sure that your supplier will deliver at the designated time and not show up unannounced a few days before or after | **IN NEGOTIATIONS, THE DUTCH ARE FIRM, BUT FAIR** > They will not try to trick you into something | **THE DUTCH SPEAK ENGLISH AND ARE OFTEN PROFICIENT IN OTHER LANGUAGES AS WELL** > Communication is not a problem in the Netherlands | **THE DUTCH ARE KEEN ON NEW IDEAS, SO NEW TECHNOLOGIES ARE WELL RECEIVED** > The Dutch take a broad view and therefore love all things foreign.

TIM BETT (UK), DSM SUPPLY CHAIN DIRECTOR IN THE NETHERLANDS, ON THE DUTCH BUSINESS CULTURE: ‘THE DUTCH ARE OPEN-MINDED AND HAVE A HIGH STANDARD OF LIVING. I CAN RELATE TO THE PREVAILING SOCIAL CONVENTIONS. THE SPORTS FACILITIES ARE FANTASTIC. PEOPLE HAVE A REAL TENDENCY TO ASSOCIATE THE NETHERLANDS WITH AMSTERDAM’S RED LIGHT DISTRICT, BUT THE PEOPLE ARE ACTUALLY FAIRLY CONSERVATIVE AND CEREBRAL. AND UNDERNEATH THEIR DIRECT MANNER, THEY ARE CARING AND FRIENDLY. I HAD TO GET USED TO THE DESIRE TO REACH CONSENSUS. SOMETIMES THAT SLOWS THINGS DOWN, BECAUSE EVERYONE HAS AN EQUAL SAY.’ SOURCE: SUPPLY CHAIN MAGAZINE JUNE 2007, SPECIAL EDITION: “DUTCH SPLENDOR”



# A FEW PLACES TO VISIT IN THE NETHERLANDS:



**International Wooden Shoe Museum** | The International Wooden Shoe Museum in Eelde provides an overview of the wooden shoe's development from its humble beginnings as a simple wooden sandal to the often exquisitely ornate footwear with the typical shape known to young and old alike. The museum holds an extensive collection of wooden shoes, all of which were made by Dutch wooden shoe makers. The process involved in crafting the shoes, as well as the tools used in traditional and modern-day wooden shoe making, are also shown in a fully equipped workshop. The Dutch name of the museum bears the surname of Eelde's last two wooden shoe makers: the Wietzes brothers.  
> [www.klompemuseum.nl](http://www.klompemuseum.nl)

**De Buitenplaats Museum** | De Buitenplaats Museum (Museum De Buitenplaats) in Eelde displays and collects figurative art made after 1945. Special attention is given to artists who live (or lived) in the Netherlands. Exhibitions are organised in the museum's pavilion and in the garden, which is open in the summer and consists of an organic and a formal component. The organic part is consistent with the architecture of the museum pavilion and extends onto its roof. De Buitenplaats houses contemporary figurative art of museum-level quality.  
> [www.museumdebuitenplaats.nl](http://www.museumdebuitenplaats.nl)





**Jewish Historical Museum** | Amsterdam's Jewish Historical Museum (JHM) collects artefacts and artworks relating to the religion, culture and history of the Jews in the Netherlands and its former colonies. The collection consists of over 11,000 artworks, ceremonial items and historical artefacts, only five percent of which are permanently on display. The rest of the collection is stored in the repository and is only shown occasionally in exhibitions at JHM or other museums. The pieces in this "hidden" collection can be viewed online on the JHM website.

> [www.jhm.nl](http://www.jhm.nl)



**Dutch Photographic Museum** | Located in the "Las Palmas" building, which was the former workshop of the Holland America Line in Rotterdam, the Dutch Photographic Museum (Nederlands Fotomuseum) displays various forms of photography found in the Netherlands. Exhibitions are organised on a regular basis and are the talk of the town. The museum's repositories hold 129 archives, consisting of nearly 3 million negatives, slides and prints, which together represent over a century of Dutch history in pictures. These include images by famous Dutch photographers such as Ed van der Elsken.

> [www.nederlandsfotomuseum.nl](http://www.nederlandsfotomuseum.nl)



**Panorama Tulipland** | While the bulb fields behind the Netherlands' sand dunes have been steadily disappearing over the last 30 years, an impressive tribute to this colourful landscape is taking root in the village of Voorhout. Though not an actual field, the enormous painting, which is similar to the famous Panorama Mesdag in The Hague, will provide an idea of how it feels to stand in a bulb field. One major difference compared to the Mesdag is also that visitors often have the opportunity to watch landscape painter Leo van den Ende at work as he completes the panorama that will soon be on display in all its 360-degree glory. The painting is a true work of art, not a "ready made" production. > [www.tulipland.nl](http://www.tulipland.nl)



# DUTCH COMPETITIVE SPIRIT BECOMES AN EXPORT PRODUCT



## LORNAH KIPLAGAT, ATHLETE

Originally from Kenya, long-distance runner Lornah Kiplagat began competing at international athletics meetings as a member of the Dutch team in 2003, and so embodies what is commonly known as the “Dutch competitive spirit” because sporting events are by far the best opportunity to express pride in Dutch achievements. Over the last few years, the Dutch flag has been raised many times for Kiplagat, including when she came in first at the European Cross Country Championships, the World Road Running Championships and the World Cross Country Championships, and in 2006 she was the world’s best road runner. In the meantime, Kiplagat has been called an athlete ‘with more Dutch spirit than many other Dutch people’, and she feels that way as well: ‘I feel like a real “ambassador” for the Netherlands, and with good reason because the sporting environment in the Netherlands has played an essential role in improving my performance. Things are clear in this country: you qualify for an event and then you focus on the most important thing, namely training. That gives you real peace of mind. That sense of security isn’t a given for Kenyan sports people. I am thrilled to act as an ambassador when I am abroad because I have the opportunity to further the positive image of my home country. I actively promote the Dutch mentality via a training centre in Kenya, where underprivileged, but gifted girls, for example, can participate in a four-year training programme.’

LOCATED IN THE NETHERLANDS, THE LORNAH KIPLAGAT FOUNDATION FOCUSES MAINLY ON EDUCATION. ‘FOR INSTANCE, WE ARE BUILDING A BOARDING SCHOOL FOR GIRLS NEAR ITEN (KENYA) BY THE HIGH ALTITUDE TRAINING CENTRE THAT WAS SET UP IN 1999,’ SAYS THE FOUNDATION’S CHAIRMAN, CEES PRONK. ‘LORNAH’S REPUTATION HAS A TREMENDOUS ADDED VALUE, PARTICULARLY IN GREAT BRITAIN, AMERICA AND JAPAN, WHERE SHE IS QUICKLY BECOMING A CELEBRITY, NOT ONLY FOR HER ATHLETIC ACCOMPLISHMENTS, BUT ALSO FOR HER AMBITION TO OFFER WOMEN IN KENYA A BETTER FUTURE, DESPITE ALL THE RESTRICTIVE CULTURAL NORMS.’ [WWW.LORNAHKIPLAGATFOUNDATION.NL](http://WWW.LORNAHKIPLAGATFOUNDATION.NL)

**DON'T JUST DREAM IT, BE IT!**





### MARLIES DEKKERS, LINGERIE DESIGNER

Have you ever noticed that the Dutch have a real flair for business? Look at any Dutch entrepreneur and you will always see something reminiscent of the business instinct and pioneering spirit of the Golden Age, including among modern-day entrepreneurs. The lingerie designer Marlies Dekkers is an excellent example; she is intelligent, gutsy and is not afraid to chart new territory. Her accomplishments were recognised when she was awarded the Prix Veuve Clicquot as businesswoman of the year in 2007. Female managers from 15 countries compete for this award, the purpose of which is to promote opportunities for women in management. 'When I heard the news, I actually wasn't really that surprised. Sometimes it feels like I'm always making huge strides forward and taking the world by storm. Whereas the working mothers of my generation (I was born in 1965) used to get sacked when they got pregnant, I've now been voted businesswoman of the year for 2007!' Marlies Dekkers employs over 140 people and her products can be found in 1000 sales outlets worldwide. Her company has offices in Rotterdam, Beverwijk and Hong Kong and owns four shops in the Netherlands, Belgium, France and Thailand.

'I'M AN ADVOCATE OF DOING BUSINESS IN A MORE FEMININE AND INTUITIVE WAY. BUT THE QUESTION IS, HOW? HOW DO YOU DEAL CREATIVELY WITH WOMEN'S DESIRES AND AMBITIONS AND HOW DO YOU KEEP THEM AS EMPLOYEES? THE ANSWER IS THAT YOU LEARN TO LISTEN TO THEM AND TAKE THEM SERIOUSLY, RECOGNISE THEIR STRENGTHS, COACH THEM, REJECT MACHO SOCIAL CONVENTIONS AND TAKE SERIOUSLY YOUR EMPLOYEES' RIGHT TO EXPRESS THEIR CURIOSITY AND AMAZEMENT. I'VE SEEN IT FIRST-HAND IN MY OWN COMPANY WHERE I COACH AND CARE FOR MY EMPLOYEES AND UNCOVER THEIR TALENTS. MY STAFF IS GROWING AND FACING THE WORLD WITH GREAT CONFIDENCE, RIGHT BEFORE MY EYES. SO I SEE THIS AWARD AS A GREAT HONOUR IN RECOGNITION OF MY APPROACH TO BUSINESS. MY MESSAGE TO ALL THOSE WOMEN OUT THERE IS, DON'T JUST DREAM IT, BE IT!' [WWW.MARLIESDEKKERS.NL](http://WWW.MARLIESDEKKERS.NL)

# ACQUIRING KNOWLEDGE IN THE NETHERLANDS



## HANS VAN LUIJK, CHAIRMAN OF THE TU DELFT EXECUTIVE BOARD

Hans van Luijk, who for years did research at Shell, is now the Chairman of the Executive Board at Delft University of Technology (TU Delft). If anyone knows how the level of knowledge in the Netherlands compares to the rest of the world, it is Van Luijk. 'There is objective proof that scientific resources in the Netherlands are high-calibre because the Times Higher Education Supplement ranked seven Dutch universities among the top 100 universities in the world. The Netherlands is especially strong in the astronomy, medical research, water management, aerospace and nanotechnology sectors. There are plenty of examples of these strengths. Take the Delta project, for instance, which is an enormous flood barrier in the Province of Zeeland that the Americans came over to study after the 2005 flood in New Orleans. And designers at Boeing and Airbus visit Delft to try out our flight simulator, which is the most advanced in the world. TU Delft was also the only non-American university to receive an endowment from the American Kavli family for nanotechnology research. The evaluation procedure included a very thorough screening so simply receiving the endowment is in fact an implicit form of recognition. TU Delft happens to be the largest, but is by no means the only technical university in the Netherlands. It forms the "3TU knowledge network" together with the University of Twente and Eindhoven University of Technology. And of course we also have partners all over the world.'

DR ANDREAS SCHMIDT-OTT, SWISS, PROFESSOR OF NANOSTRUCTURED MATERIALS IN THE FACULTY OF APPLIED SCIENCES AT TU DELFT: 'I CAME TO THE NETHERLANDS SIX YEARS AGO BECAUSE THIS UNIVERSITY HAS A GOOD REPUTATION AND THE COUNTRY HAS A FAVOURABLE FINANCIAL CLIMATE FOR APPLIED SCIENCES. THE NETHERLANDS IS CALLED A "KNOWLEDGE COUNTRY" WITH GOOD REASON BECAUSE PEOPLE FROM MANY COUNTRIES ARE INVOLVED IN REVOLUTIONARY TECHNOLOGICAL DEVELOPMENTS HERE. I FIND THAT A VERY STIMULATING ATMOSPHERE TO BE IN.' [WWW.NUFFIC.NL](http://WWW.NUFFIC.NL)

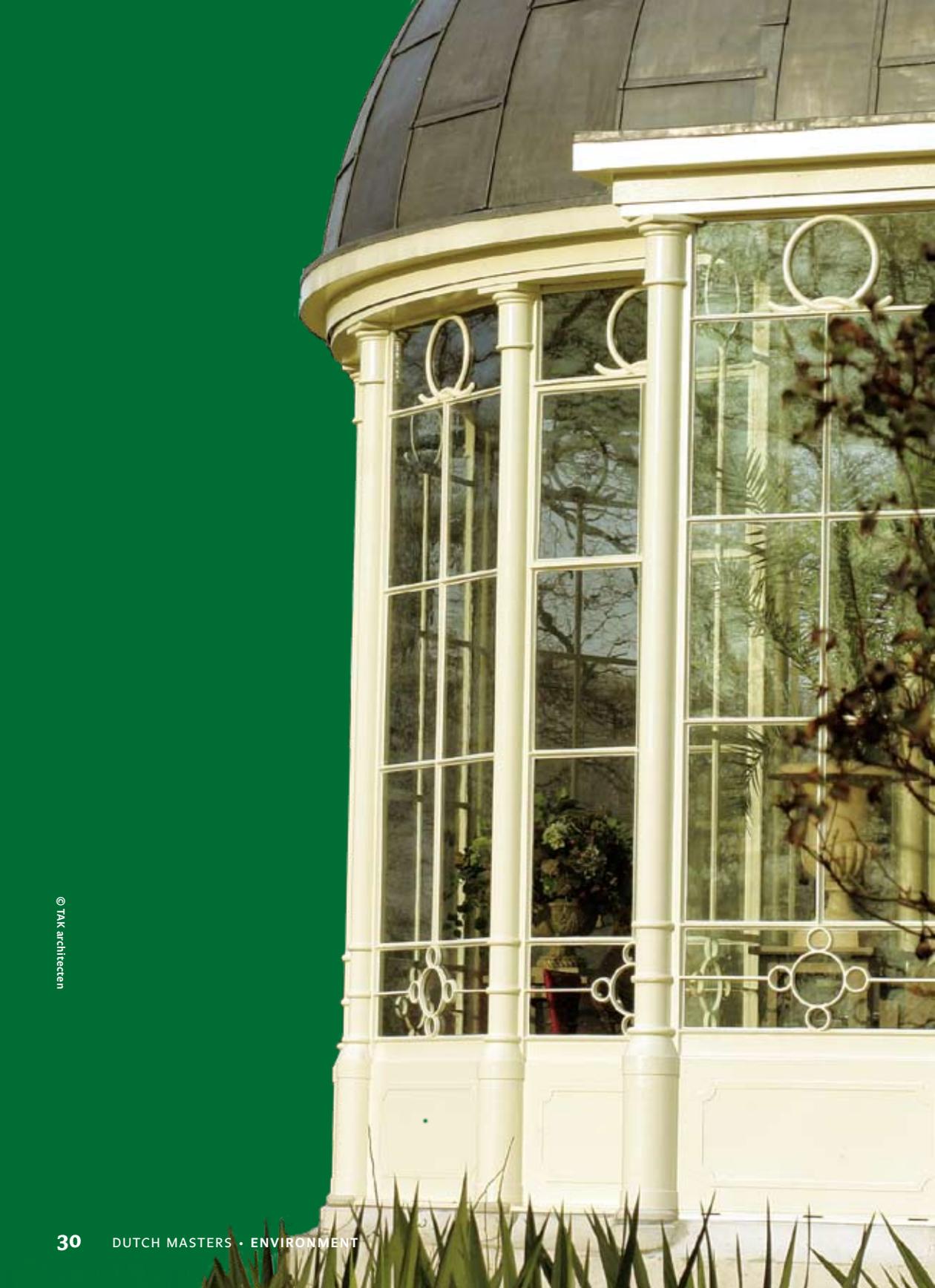




**Environment**

**GRAZING COWS  
ARE HEALTHIER AND  
BETTER FOR THE  
ENVIRONMENT.**





© TAK architecten

# A NEW SPIN ON OLD WINDOWS



## MICHEL TROMPERT, INVENTOR OF A NEW TYPE OF SINGLE GLAZING

Double-glazed windows provide better thermal and sound insulation and are safer than single-glazed windows. And yet, it bothered Michel Trompert when a neighbour of his once installed double-glazed windows throughout his Art Nouveau home, because the thick double-glazing does ruin the look of the delicate window frames and does not match the irregular quality of the old-fashioned glass. So Trompert thought, 'We ought to combine the look of "old glass" with insulating and safety features.' He set about analysing the light and thermal reflecting properties in glass and added metal particles in the glass. Then he created a narrow vacuum between two glass plates. The result was a thin glass plate with even more advantages than modern double-glazed glass. Now, Trompert is Director of the Van Ruysdael company in Delft and his single-glazed glass is a hit because it is often considered unjustifiable these days to install double-glazed windows in listed buildings and other historic and ancient monuments. 'You can hardly see the difference between Van Ruysdael glass and the original classic glass windows. It is more expensive, but it lasts longer and you can keep using the old window frames, so in the end, it's less expensive and... it looks much better.'

THE MUSÉE DES BEAUX ARTS IN DIJON, FRANCE HAS OVER 600 WINDOWS, ALL OF WHICH MUST NOW BE INSULATED IN ORDER TO BETTER CONTROL THE HUMIDITY LEVEL IN THE MUSEUM GALLERIES. 'THE WINDOW FRAMES DATE BACK TO THE 18TH CENTURY AND WE WOULD LIKE TO KEEP THEM,' SAYS RENOVATION ARCHITECT ERIC PALLOT. 'IT WAS DIFFICULT TO FIND A GOOD SOLUTION, BUT THEN WE DISCOVERED VAN RUYSDAEL GLASS. IT LOOKS LIKE 18TH CENTURY GLASS, BUT SATISFIES 21ST CENTURY REQUIREMENTS.' [WWW.VANRUYSDAEL.COM](http://WWW.VANRUYSDAEL.COM)

# FILTHY PETROLEUM IS A CLEAN BUILDING MATERIAL



## WILLEM VAN DER HORST, TECHNICAL ENGINEER

Breakwater blocks and the stone revetment used on dikes are generally made of concrete. However, producing the cement to make the concrete is a major source of CO<sub>2</sub> emissions. Fortunately, an excellent alternative to cement concrete recently became available, which is equally strong, but also flexible and much more environmentally friendly: C-Fix carbon concrete. ‘The process of refining petroleum generates a carbon-rich residue,’ says Willem van der Horst, Technical Manager at C-Fix BV. ‘This residue is used as a fuel for sea-going vessels and power stations, for example, but this gives off tremendous amounts of CO<sub>2</sub> and sulphur. In looking for a more environmentally friendly application, Shell Research discovered the thermoplastic binding agent C-Fix (Carbon Fixation), which can be used to produce high-grade building materials for such as breakwater blocks and dike revetment, as well as stable (including liquid tight) industrial paving that can bear heavy loads. A particular advantage of C-Fix building materials is that they can be used without any CO<sub>2</sub> emissions. In addition, C-Fix materials are fully recyclable and exceptionally strong. We tested two-metre, ribbed cubic C-Fix breakwater blocks on the Zuidpier jetty in the Dutch coastal town of IJmuiden. After two years, they showed much less wear than the “control” cement blocks that were put in place at the same time.’

MARIËLLE VAN DIJK IS A PROJECT MANAGER AT THE INNOVATION TEST CENTRE OF THE DIRECTORATE-GENERAL FOR PUBLIC WORKS AND WATER MANAGEMENT. SHE IS POSITIVE ABOUT THE RESULTS OF THE IJMUIDEN PILOT: ‘THE C-FIX BLOCKS COMBINE THE FLEXIBILITY OF ASPHALT WITH THE STRENGTH OF CONCRETE, AND FLEXIBILITY IS A KEY ISSUE FOR BREAKWATER BLOCKS, AS THEY HAVE TO WITHSTAND EXPOSURE TO SUBSTANTIAL FORCES WITHOUT BEING DAMAGED. IN ADDITION, IT’S OBVIOUSLY ALSO TERRIFIC THAT USING THIS MATERIAL HELPS TO REDUCE CO<sub>2</sub> EMISSIONS.’ [WWW.C-FIX.COM](http://WWW.C-FIX.COM)





# THE TURBY TRIMS ITS SAILS ACCORDING TO THE WIND



## DICK SIDLER, ELECTRICAL ENGINEER/WIND TURBINE DEVELOPER

Together with his son, Dick Sidler designed a miniature wind turbine resembling an inverted egg whisk. Demand is already healthy in the Netherlands and the rest of the world is beginning to warm to the idea, too. 'Turby is a small wind turbine for urban environments, does not require a lot of maintenance but does offer a high return: we expect it to generate 2,500 to 3,000 kWh of power annually. Providing the location is good, a Turby can meet the electricity needs of an average household. We developed the technology ourselves with the support of organisations such as Shell and Delft University of Technology. Turby is specifically designed to handle the variable flow of air between buildings, taking advantage of currents coming from all directions, including from below. The design is very quiet and there are no resonance problems. The wind turbine has been piloted at more than 20 locations in the Netherlands. We are doing all we can to iron out the last remaining technical imperfections. The commercial model was completed in 2007 and there has already been a great deal of interest. Turby has featured on both Australian and American television, resulting in thousands of telephone enquiries, and there is tremendous interest from the rest of the world, too. It seems as if the Turby is known throughout the entire world.'

MEIKE BARETTA, GREENPEACE CAMPAIGNER: 'IN SEPTEMBER, WE INSTALLED A TURBY ON OUR ACTION AND AWARENESS SHIP, THE SIRIUS, IN AMSTERDAM. THIS IS A WONDERFUL OPPORTUNITY TO MEET OUR OWN ENERGY NEEDS IN AS GREEN A MANNER AS POSSIBLE. IN ADDITION TO MORE EFFICIENT USE OF ENERGY ON BOARD SHIP, THIS ALSO DEMONSTRATES THAT WE ARE WORKING TOGETHER TO STOP CLIMATE CHANGE. WITH ITS LONG-STANDING HISTORY OF WINDMILLS, THE NETHERLANDS IS TRADITIONALLY VERY ADEPT WHEN IT COMES TO USING WIND ENERGY, AND NEW TECHNOLOGIES SUCH AS THE TURBY CAN PLAY A MAJOR ROLE IN EXPORTING THAT KNOWLEDGE.' [WWW.TURBY.NL](http://WWW.TURBY.NL)

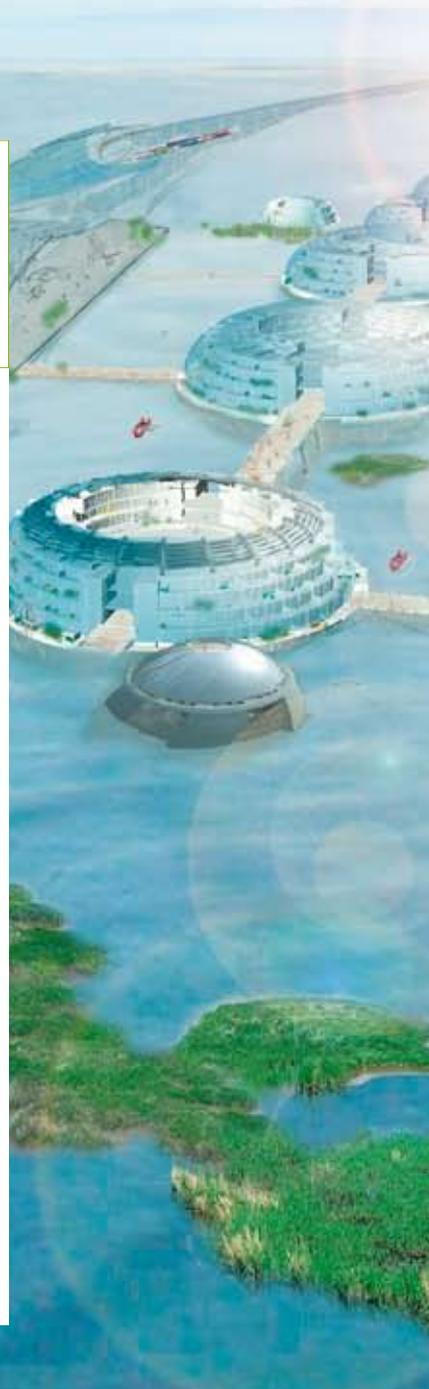
# A FLOATING CITY TO COMBAT CLIMATE CHANGE



## RUTGER DE GRAAF, RESEARCHER

According to researcher Rutger de Graaf of Delft University of Technology (TU Delft), a floating city linked to the mainland by a floating road offers a sustainable solution to enable us to continue to live in low-lying delta areas in the future. Together with several TU Delft students, De Graaf won the international Delta Competition 2006 with an idea for a floating city on the IJmeer between Amsterdam and Almere. The competition was organised by the engineering firm Royal Haskoning. De Graaf: 'Floating homes are already a reality in the Netherlands and there are also plans to build large floating glasshouses in the Zuidplaspolder area near Gouda. Our idea goes a step further because we are proposing building a floating city comprising an interconnected network of floating blocks. The city will have a local drinking water and wastewater treatment system, as well as a local energy supply system using the surface water as a solar collector. This not only responds to the consequences of climate change, but also addresses the underlying causes.'

'CLIMATE CHANGE DEMANDS NEW AND CREATIVE SOLUTIONS, AND THE FLOATING CITY IS AN EXCELLENT EXAMPLE,' SAYS JAN BOUT, CEO OF ROYAL HASKONING. 'FLOATING STRUCTURES ARE ALREADY A REALITY IN THE NETHERLANDS, BUT THERE ARE ALSO OPPORTUNITIES ABROAD, TOO. FOR EXAMPLE, AS PART OF THE PROJECT CALLED "THE WORLD" IN DUBAI WE ARE WORKING ON SPECIFIC, LARGE-SCALE PLANS FOR FLOATING HOMES, HOTELS AND CONFERENCE VENUES, AND CLIENTS IN OTHER COUNTRIES ARE INCREASINGLY ASKING US TO BUILD VARIOUS TYPES OF FLOATING HOMES AS WELL.' [WWW.ROYALHASKONING.COM](http://WWW.ROYALHASKONING.COM) - [WWW.TUDELFT.NL](http://WWW.TUDELFT.NL)





© TU Delft / Deltasync.nl



# SPARKLING CLEAN DRINKING WATER IN SHANGHAI



## MARC VAN EEKEREN, DRINKING WATER TECHNOLOGIST

The Shibeï drinking water company in Shanghai aims to produce mains water of outstanding quality – with the help of the Dutch organisation Kiwa Water Research. ‘The quality of drinking water in the Netherlands is excellent,’ says Marc van Eekeren of Kiwa Water Research, ‘and the best part is that we achieve that level of quality without chlorination because we are constantly coming up with new innovations.’ This is what makes Kiwa an attractive partner for foreign organisations like Shibeï. ‘We have the capacity to devise smart solutions for complex problems. For example, together with Shibeï, we are investigating whether it would be possible to use energy-efficient UV lights in the water purification process, because the results achieved so far have been very promising and definitely better than the results achieved by using ozone.’ However, this is a two-way process, of course: ‘Foreign partners gain access to innovative technology, enabling them to produce high-quality drinking water, and we are able to pursue our own knowledge development in an effective manner, which benefits the Netherlands because we develop technology abroad that we can ultimately apply at home.’

‘WE REALLY APPRECIATE THE TREMENDOUS VALUE OF COLLABORATING WITH KIWA WATER RESEARCH,’ SAYS TINA CHEN OF THE SHANGHAI REPRESENTATIVE OFFICE. ‘WE STAND TO LEARN A GREAT DEAL FROM KIWA’S SPECIALIST KNOWLEDGE OF PURIFICATION TECHNOLOGIES, WATER MANAGEMENT, WATER TREATMENT AND WATER QUALITY CONTROL - BOTH IN RESEARCH AND IN MANAGEMENT. THE DISCUSSIONS WITH OUR DUTCH COUNTERPARTS IN PARTICULAR HELP BOTH SIDES TO REACH NEW HEIGHTS.’ [WWW.KIWA.NL](http://WWW.KIWA.NL)

# HOT-WATER ISLAND



## ROBERT CRABBENDAM, ENGINEER

The Solar Island (Zoneiland) in Almere's new Noorderplassen-West district is not a place for local residents to roll out their beach towels and top up their tans. Instead, the sun that shines on the 1.5-hectare "island" will be used to provide hot water to 2,700 homes from 2009 onwards. This project allows the energy company Nuon to satisfy the local municipal authority's condition that 10% of the district's energy needs should be met using renewable sources. 'Solar collectors are ideal,' says Robert Crabbendam of Nuon. 'The hot water that they generate is pumped into the district's municipal heating system and is used to heat the homes in the area and to provide hot bathing and tap water.'

Does this mean that it will only be possible to heat the homes in the summer, when the sun shines? 'The sun doesn't stop shining in the winter,' says Crabbendam, reassuringly. 'The system will produce hot water in winter as well. With 2,700 homes in the district, there will always be a need for hot water and a collective system is more effective than individual solar heaters.'

ALEX VAN OOST OF THE MUNICIPALITY OF ALMERE APPRECIATES THE SOLAR ISLAND'S COMBINATION OF FUNCTIONAL QUALITIES AND BEAUTY. 'A LOT OF WORK WENT INTO INCORPORATING IT INTO THE DISTRICT BOTH SPATIALLY AND AESTHETICALLY. THE DISTRICT CONSISTS OF VARIOUS RESIDENTIAL ISLANDS SET AMONG THE WATERWAYS AND THE REST OF THE NATURAL LANDSCAPE, WHICH IS WHY AN INDEPENDENT, OVAL-SHAPED ISLAND WAS CHOSEN. THERE IS A VISITOR INFORMATION CENTRE, AND THE LOCAL BUS SERVICE RUNS THROUGH THE ISLAND. THE SOLAR ISLAND COMBINES THE NEED FOR A RENEWABLE SUPPLY OF ENERGY WITH A PROGRESSIVE STEP FORWARD IN URBAN DESIGN.' [WWW.NUON.NL](http://WWW.NUON.NL)



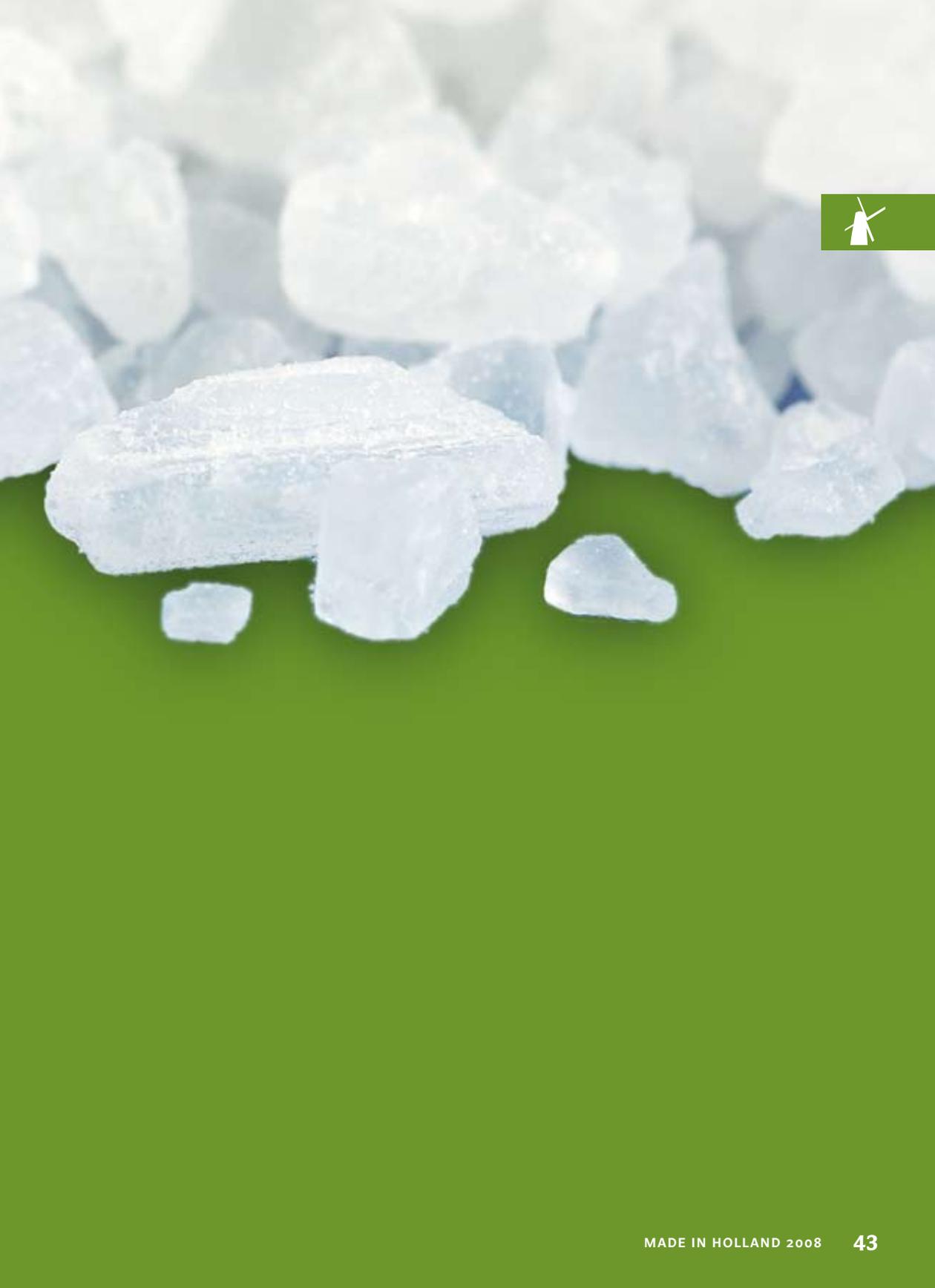
# SUN AND SEAWATER ARE ALL THAT'S NEEDED FOR SAFE DRINKING WATER



## JAN-HENK HANEMAAIJER, RESEARCHER

Clean water is already being produced on a large scale from seawater, and even from wastewater, and production will skyrocket in response to the growing shortage of freshwater. However, the desalination process is extremely expensive because a great deal of energy is required to evaporate (distil) the water. Jan-Henk Hanemaaijer has therefore developed the much more energy-efficient Memstill method (the name “Memstill” is a combination of the words “membrane” and “distillation”). Hanemaaijer: ‘There are two hollow plates, which we refer to as “the modules”. One is surrounded by a membrane, which water vapour can pass through, but water droplets cannot. The water vapour condenses on the condenser (which is the second module), thus producing distilled water. The heat of evaporation is used to heat the cold seawater flowing through the condenser.’ Due to its extremely compact size, the system requires only a very small amount of energy to maintain the evaporation process. Hanemaaijer: ‘You can use the residual heat produced by industry. My dream, however, is to develop a small-scale system for which you only need the sun to distil safe drinking water from salt water or polluted water. That will ensure that clean drinking water is always within everyone’s reach.’

RON BIEMANS OF THE WATER COMPANY EVIDES: ‘IN ADDITION TO DRINKING WATER, WE ALSO PROVIDE THE MANUFACTURING SECTOR IN THE SOUTHWESTERN PART OF THE NETHERLANDS WITH SERVICE WATER, WHICH IS MAINLY COOLING WATER AND ESPECIALLY DEMINERALISED WATER FOR FEEDING THE BOILER AND FOR DILUTING PRODUCTS. AT THE SAME TIME, THOSE COMPANIES ALSO PRODUCE RESIDUAL HEAT, AND IT’S THIS COMBINATION THAT MAKES USING THE MEMSTILL PROCESS ESPECIALLY INTERESTING.’ [WWW.TNO.NL](http://WWW.TNO.NL) – [WWW.EVIDES.NL](http://WWW.EVIDES.NL)



# HAPPY SHRIMP



## GILBERT CURTESSI, SHRIMP FARMER

A few years ago, Gilbert Curtessi and his colleague Bas Greiner were commissioned by the Port of Rotterdam to explore possible sustainable uses of waste flows from companies in the Rotterdam port area. One very substantial residual flow consists of low-temperature heat. ‘The idea suddenly came to us,’ says Curtessi. ‘That heat would be ideal for cultivating tropical shrimp. In Europe, tropical shrimp are only available frozen, but leading chefs much prefer fresh shrimp.’

As a result, shrimp larvae are now being cultivated in large tanks in the Maasvlakte industrial area. The salt water originates from a source and is heated using the residual heat from a power station. The company cultivates the algae that are transported along with the shrimp. The residual waste (i.e. shrimp defecate) produced by the Happy Shrimp Farm is used to cultivate briny vegetables, such as sea lavender and glasswort. This is yet another illustration of how industrial ecosystems can function without producing waste.

MARCEL VAN BREDA, MANAGING DIRECTOR OF SCHMIDT ZEEVIS, ROTTERDAM: ‘HAPPY SHRIMP IS A UNIQUE CONCEPT. YOU CAN FIND FROZEN SHRIMP IN THIS PART OF THE WORLD, BUT NOT FRESH SHRIMP. THE AVAILABILITY OF FRESH SHRIMP WILL ENABLE RESTAURATEURS TO OFFER TRADITIONAL ASIAN DISHES ONCE AGAIN. WE ARE EAGER TO HANDLE MARKETING AND SALES FOR HAPPY SHRIMP, AS FRESH SHRIMP ARE A HIGH-END PRODUCT, WHICH IS THE PART OF THE MARKET THAT WE FOCUS ON.’ [WWW.HAPPYSHRIMP.NL](http://WWW.HAPPYSHRIMP.NL)



# LOW-NOISE, CLEAN AND EFFICIENT POWER STATIONS





**ERIK MIDDELMAN, FUEL CELL DEVELOPER**

NedStack manufactures “stacks”, which are fuel cells that are used in vehicle propulsion systems or as generators to produce electricity. Using hydrogen as a fuel, the stacks are the technological breakthrough that is needed to develop a fully hydrogen-based economy. The costs are the only remaining obstacle. Erik Middelman, CEO of NedStack: ‘Our Proton Exchange Membrane (PEM) fuel cell stacks convert hydrogen into electricity. They are quiet, clean and exceptionally efficient. This year, we installed a small pilot unit for the chemical company Akzo Nobel in one of its factories. The unit has a relatively small capacity of 120 kW, but it yields more than a conventional 1-GW power station. In addition, we have succeeded in halving the production costs of the stacks every year since 1998. Within five years, they will be competing with diesel and petrol engines. A large proportion of the stacks currently goes to Japan, where they are used in micro cogeneration systems, for example. Japan has few fossil fuel resources, which makes using fuel cells that much more interesting because twice the amount of energy is generated using the same amount of fossil fuel. We also use the fuel cells in lorries. Because the fuel cells are powered by hydrogen, they don’t emit any harmful substances, such as CO<sub>2</sub>, and the engine is silent, as there are no moving parts.’

HARRY JASKEN, AKZO NOBEL: ‘IN OUR FACTORY, WE USE ELECTROLYSIS TO EXTRACT CHLORINE FROM BRINE. IT IS AN ENERGY-INTENSIVE PROCESS, WHICH ALSO PRODUCES HYDROGEN. NEDSTACK’S TECHNOLOGY ALLOWS US TO USE THE HYDROGEN TO GENERATE ELECTRICITY. IN THEORY, THIS WILL HELP US TO REDUCE OUR ENERGY COSTS IN DUE COURSE BY 20%.’

[WWW.NEDSTACK.COM](http://WWW.NEDSTACK.COM)





**Mobility**

**BY CAR OR  
TRAIN, OR  
PERHAPS BY BOAT?**

# FLYING DUTCHMAN



## JOHN BAKKER, INVENTOR OF THE FLYING CAR

‘Many of the gadgets from the early James Bond films have since become reality, like the mobile phone and navigation systems in cars.’ John Bakker believes that a prototype of his Bond-like flying car - the Personal Air and Land Vehicle (PAL-V) - will be in use as early as 2009 because the car chiefly uses proven technologies: a three-wheeled motor vehicle with a special tilting suspension system already exists, as does safe gyrocopter technology; only the foldable rotor and slidable tail are new.

Bakker explains, ‘Checking in and waiting at an airport before starting your journey will be a thing of the past for distances under 600 kilometres. Our PAL-V, which is a hybrid of a motorcycle and a very light rotocraft, operates within the existing regulations for ground and air traffic.’ The two-seater vehicle is also energy-efficient, doing 30 kilometres to the litre on the ground and 12 kilometres in the air when fuelled by regular petrol, diesel or LPG. Bakker: ‘It is safe to fly even in force 8 and 9 winds, but whether you’re still very comfortable in those conditions may be a different matter...’

The PAL-V is popular; the company’s phones never stop ringing. Business people are willing to do a lot for a transformer that can reach such considerable speeds on the road and will take to the air at the push of a button to reach heights of between 500 and 4000 feet. However, they will have to wait until 2011, because only then will the first mass-produced PAL-V be available for purchase.

EDITOR-IN-CHIEF AT DAMNINTERESTING.COM, ALAN BELLOWS (US):  
‘DESPITE MANY TECHNOLOGICAL INNOVATIONS, THE TWENTY-FIRST CENTURY HAS SO FAR COMPLETELY FAILED US IN TWO KEY DEPARTMENTS: FLYING CARS, AND TRANSFORMERS. FORTUNATELY, WE HAVE THE DUTCH, WHO DO NOT ALLOW SUCH OVERSIGHTS TO CONTINUE UNCHECKED.’  
SOURCE: [WWW.DAMNINTERESTING.COM](http://WWW.DAMNINTERESTING.COM). [WWW.PAL-V.COM](http://WWW.PAL-V.COM)





# FROM ROTTERDAM TO THE REST OF EUROPE



## PATRICK BUCK, DIRECTOR OF THE BETUWE LINE PROJECT ORGANISATION

The Betuwe railway line, which was completed in 2007, is the ideal way to quickly access the European hinterland from Rotterdam. Naturally, it takes years to complete a project of this magnitude. In the words of Patrick Buck, 'From the start, the Betuwe line met with a great deal of resistance from local residents. That's why we invested heavily in building a good relationship with the municipal authorities involved and with the local residents, which greatly reduced the opposition. Technically speaking, too, it was a very challenging project. We installed fully automatic fire extinguisher systems in five tunnels, which had never been done before. The ERTMS safety and control system, which is the new European standard, was used for the first time in the Netherlands in this project. We built a 25kV AC overhead line system to accommodate both heavy goods and high-speed trains. The Betuwe line does not have a single level junction; instead, we built 130 flyovers. Boring three of the five tunnels through the swampy Dutch soil was the greatest challenge. The technology is now used much more frequently thanks to our innovations and the Netherlands has become a front-runner in this field.'

CEES TOMMEL, DIRECTOR OF KEYRAIL, THE OPERATOR OF THE BETUWE LINE: 'WITHOUT THE BETUWE LINE, THE FUTURE OF THE NETHERLANDS WOULD LOOK VERY DIFFERENT. THE LINE PROVIDES ACCESS TO THE PORTS OF ROTTERDAM AND AMSTERDAM AND RELIEVES CONGESTION ON THE ROADS AND INLAND WATERWAYS. IT STRETCHES 160 KILOMETRES AND RUNS RIGHT THROUGH TO THE GERMAN BORDER. NOWHERE IN THE WORLD WILL YOU FIND SUCH A LONG RAILWAY LINE BUILT ESPECIALLY FOR GOODS TRANSPORT. HAVING SUCH A DEDICATED LINE MEANS SHORT WAITING PERIODS, FEW STOPS, A HIGH LEVEL OF AVAILABILITY, PUNCTUALITY AND THEREFORE RELIABILITY.' [WWW.BETUWEROUTE.NL](http://WWW.BETUWEROUTE.NL) - [WWW.KEYRAIL.NL](http://WWW.KEYRAIL.NL)



# THE MAKINGS OF A GREAT AIRPORT: PEOPLE, MONEY, KNOWLEDGE AND CULTURE



## GERLACH CERFONTAINE, PRESIDENT AND CEO OF THE SCHIPHOL GROUP

Gerlach Cerfontaine, the man behind Amsterdam's Schiphol Airport, explains that an airport is not just a transport hub, but also an economic centre: 'Schiphol is a lot more than a place for departing and arriving passengers; it's like the old Hanseatic towns of yesteryear, but without permanent residents. It functions as a hot spot in the international economy and as an engine for the regional economy. Schiphol is a point where streams of people, money, knowledge and culture converge and that makes it an ideal place to make money. This forms the basis for our "Airport City" concept. We try to ensure that travellers have a pleasant stay by providing clear signs and good restaurants and shops, as well as a smooth journey through the airport in a safe and secure environment. We invest in retail and property and work with knowledge institutes and businesses to find solutions to improve the traveller's experience at Schiphol Airport. For example, we introduced Privium, which is an iris-recognition system that allows travellers to enter the country both quickly and safely. In terms of infrastructure, Schiphol is not in the same league as the newest airports, so we have to rely on innovative processes and technologies to remain competitive. We also export the results. For example, Stockholm's airport introduced our retail concept and the airport in Jakarta uses our iris-recognition technology.'

PETER BOHMAN, TERMINAL BUSINESS MANAGER AT STOCKHOLM-ARLANDA AIRPORT, SWEDEN: 'AIRPORT RETAIL IS A MARKET ON ITS OWN. WE CAN LEARN MORE FROM OTHER AIRPORTS THAN FROM, SAY, THE RETAIL IN DOWNTOWN STOCKHOLM. AS A MID-SIZE AIRPORT WE NEED A STRONG PARTNER. SCHIPHOL IS VERY CONSUMER ORIENTED AND KNOWS HOW TO IMPROVE THE PASSENGER'S EXPERIENCE THROUGH A BIGGER AND WIDER OFFERING OF STORES AND NEW CONCEPTS. THE COOPERATION WILL HELP US TO REACH 10 TO 15 PERCENT MORE CONSUMER SPENDING THIS YEAR, COMPARED TO 2006.' [WWW.SCHIPHOL.NL](http://WWW.SCHIPHOL.NL)



# ROTTERDAM IS EXPANDING



## HANS SMITS – CHAIRMAN OF MAINPORT ROTTERDAM

Mainport Rotterdam, which is the largest logistical transshipment hub in Europe, is about to undergo a spectacular expansion. Work will begin on building the Maasvlakte 2 industrial area in 2008, with the first containers scheduled to be unloaded there by 2013 at the latest. According to the Chairman of Mainport Rotterdam, Hans Smits, 'This 75-year-old organisation couldn't wish for a better present. The new harbour and industrial area is not only good for the Netherlands, but also for the rest of Europe as well because of its role as a transshipment hub. We are still the largest logistical and industrial hub on this continent. Maasvlakte 2 will allow us to offer consortia an ideal location to set up container terminals that are located right next to a deep waterway.' With Smits as the main driving force, the Port of Rotterdam is continually investing in expansion, better service and accessibility. Smits: 'Our motto is "working on a world class port" and when I look at all the projects that have been completed or are currently in progress, I see every reason to look to the future with great confidence. As a port, we are doing reasonably well, but there is still a great deal of work to do. So we are certainly not resting on our laurels; we will continue to focus on maintaining a future that is "healthy" in all respects.'

PAUL VAN POECKE, MEMBER OF THE BOARD OF THE OIL AND GAS GROUP OF THE COMMERCIAL COMPANY PETROPLUS INTERNATIONAL, EMPHASISES HOW ESSENTIAL ROTTERDAM'S GOOD LOCATION IS FOR THE NETHERLANDS' ROLE AS A TRANSHIPMENT COUNTRY: 'SITUATED ON THE NORTH SEA COAST AND ACCESSIBLE FROM ALL CORNERS OF THE WORLD, THE CENTRAL LOCATION OF THE PORT OF ROTTERDAM WAS THE DECIDING FACTOR FOR US IN CHOOSING A LOCATION FOR A NEW LNG TERMINAL, WHICH IS DUE TO BE OPERATIONAL BY THE END OF 2009.'

[WWW.PORTOFROTTERDAM.COM](http://WWW.PORTOFROTTERDAM.COM)



# CAPTAIN TURNED SHIPBUILDER



## PETER VERSLUIS, MARITIME PROJECT DEVELOPER

In 1995, Peter Versluis radically changed direction when he hung up his captain's hat and he and his brother Jan took over their parents' commercial maritime company VeKa (a transport business). The inland navigation fleet had just been reorganised and the demand for new vessels was picking up again. Peter Versluis could see opportunities, in spite of the fact that the expensive Dutch shipyards were still in a difficult position. He therefore devised a creative solution, came up with a good marketing plan and offered his services as a maritime project developer. His formula for success was to have the hulls built quickly in low-wage countries and leave the sophisticated finishing work to specialists in the Netherlands. Using that method, the resourceful shipbuilder is then constantly looking for a good combination of price and quality. What's more, Versluis is not afraid to have his own company pay for vessels to be built and to run the risks involved himself. Fortunately, his vision and daring in the maritime new build sector have paid off: twelve years after Versluis managed to obtain an initial loan as a young man of 20, the VeKa Group now has an annual turnover of 250 million euros. The company builds hulls at three of its own shipyards in China, Romania and the Czech Republic. The remainder of the work is done in Werkendam and at Bijlsma Shipyard in Lemmer and the former Verolme Shipyard in Heusden (both of which were rescued from bankruptcy).

IN 2006, PETER VERSLUIS WAS VOTED ENTREPRENEUR OF THE YEAR BY THE BUSINESS MAGAZINE BIZZ. THE JURY WERE UNANIMOUS IN VOTING FOR VERSLUIS BECAUSE OF HIS ENTHUSIASM, BUSINESS INSTINCT AND PURE PASSION FOR HIS PROFESSION. ACCORDING TO THE JURY, 'WHEN YOU HEAR THE STORY OF PETER VERSLUIS AND HIS VEKA GROUP, YOU KNOW THAT THE DUTCH ECONOMY WILL FARE VERY WELL. PETER VERSLUIS SIMPLY OOZES ENTHUSIASM. HE STILL KNOWS EXACTLY HOW MUCH ONE SHIP'S ENGINE COSTS AND CONTINUES TO WORK WITH PEOPLE THAT HE WAS ALREADY DOING BUSINESS WITH TEN YEARS AGO.' [WWW.VEKA-GROUP.NL](http://WWW.VEKA-GROUP.NL)

# MEGA YACHTS THAT SPELL DUTCH PRIDE





### CHRIS VAN HOOREN, YACHT DESIGNER

Having a yacht custom-built by Feadship of Haarlem will easily cost you several tens of millions of euros. Few of us can afford to spend that kind of money, so it is entirely understandable that yacht builders cherish every current and potential customer. However, times change and so do target groups. As the demand changes, the classic designs are making way for the completely unorthodox. Designers already have to be ahead of trends that will be in vogue in five years' time. Research has shown that the new generation of yacht enthusiasts are still heavily involved in the business world, are progressive and enjoy a fast ride. This formed the basis for the futuristic X-Stream concept, which varies in length from 40 to 100 metres. The design's sharp lines are stunning and the use of innovative technologies is spectacular. Chris van Hooren, who is a design manager at Feadship, says, 'The X-Stream has two striking features: the axe bow and the three-dimensional glass atrium.' The yacht can travel at fast or slow speeds and comes equipped with dynamic positioning. In the near future, a hybrid diesel/electric propulsion unit with "azipods" (outboard motors hanging down from the bottom of the vessel) that can rotate through 360° will complete this "3 in 1" package. These electric motors allow the yacht to travel at speeds of up to 12 knots and two diesel direct-drive thrusters raise the maximum speed to 20 knots.

THE X-STREAM MET WITH WIDESPREAD INTERNATIONAL ENTHUSIASM WHEN IT WAS INTRODUCED IN SEPTEMBER 2006, AND FEADSHIP IMMEDIATELY RECEIVED THREE SERIOUS REQUESTS FOR QUOTATIONS. FOR THE TIME BEING, THE COMPANY WILL NOT DISCLOSE THE NAMES OF THE INTERESTED PARTIES. IN THE MEANTIME, FEADSHIP HAS ANNOUNCED THAT THE SUCCESS OF THE X-STREAM HAS PROMPTED IT TO DEVELOP THE REVOLUTIONARY F-STREAM CONCEPT FOR YACHTS MEASURING UP TO 55 METRES IN LENGTH.

[WWW.FEADSHIP.NL](http://WWW.FEADSHIP.NL)

# FORMULA 1 SAILING



Volvo Ocean Race



#### ROY HEINER, TOP-CLASS SAILOR

In the Netherlands, Roy Heiner is the poster boy of the Volvo Ocean Race and the current Technical Sailing Director of the successful ABN AMRO Team. In 1996, he founded the Team Heiner company, whose mission is to sell the sailing experience. In collaboration with Juan Kouyoumdian, Roy Heiner drew on his experience to design the Team Heiner 38: a groundbreaking, high-tech racer with an extremely reliable third generation 36° canting keel system, two rudders and an electric propulsion system. The introduction of this exciting yacht heralds a new era in international sailing circles. In the words of Roy Heiner, ‘Above all, the TH38 provides private individuals with speed and knowledge. We want to show them what it feels like to be a top-class sailor. Many people think that you always sail slower than the wind speed, but thanks to the canting keel on this boat, you will suddenly be sailing much faster than the wind is blowing. It is a very exciting, amazing experience.’ Instead of hanging down vertically under a yacht, canting keels extend sideways below the surface of the water, which greatly improves the boat’s stability, as well as increasing its speed considerably. According to Heiner, the TH38 experience is the sailing equivalent of racing in a Formula 1 car.

HEINER IS CONVINCED THAT HALF OF ALL NEW YACHTS BUILT WORLDWIDE WILL HAVE A CANTING KEEL WITHIN 10 YEARS ONCE SAILING ENTHUSIASTS HAVE EXPERIENCED THE “SUPERSONIC” SPEED AND SURRENDERED TO THE THRILL OF THE RACE ON BOARD THE TH38. [WWW.TEAMHEINER.COM](http://WWW.TEAMHEINER.COM)

# TRAM ON AUTOPILOT



**RUUD BOUWMAN, DIRECTOR OF APTS**

‘The Phileas is actually a tram on tired wheels. It’s a very innovative concept that we continue to build on. We’ve made a conscious decision to keep the team small, because the size of a company is often inversely proportional to its innovative capacity. The Phileas is a bus without a driver and has the advantages of a tram, such as a large passenger capacity, a low floor, an automatic guidance unit and an electric propulsion system, but it is much more economical and flexible. In principle, there is no need for a driver: the computer follows the programmed route and checks whether the Phileas is on course using small magnets that are located in the road at five-metre intervals. The Phileas is lightweight because of the synthetic and aluminium materials used to construct the vehicle, and the hybrid drive system means that it is 20 percent more energy-efficient than a regular bus. The first Phileas I buses were put into service in Eindhoven in the Netherlands in 2004. In the meantime, orders have been received from France, Italy, Turkey and South Korea for a total of 68 Phileas II vehicles. We expect to be able to produce one every week from 2008 onwards.’

## THE TECHNOLOGY

THE PHILEAS’ GUIDANCE SYSTEM IS BASED ON THE TECHNOLOGY USED BY FROG NAVIGATION SYSTEMS IN AUTOMATICALLY GUIDED VEHICLES. THE MODEL IN USE IN EINDHOVEN IS THE PHILEAS I, WHICH HAS A HYBRID PROPULSION SYSTEM. THE NEW MODEL - THE PHILEAS II - HAS A PARALLEL HYBRID SYSTEM MADE BY GM ALLISON THAT IS MORE DEPENDABLE AND OVER ONE THOUSAND KILOGRAMS LIGHTER. THERE ARE THREE DIFFERENT LENGTHS OF PHILEAS BUS: 18.5, 24.5 AND 26 METRES. THE BUS HAS ALL-WHEEL STEERING, WHICH MEANS THAT IT HAS A SMALL TURNING CIRCLE AND CAN ALSO MOVE SIDEWAYS TO A BUS STOP.

[WWW.APTS-PHILEAS.COM](http://WWW.APTS-PHILEAS.COM)







# PROVIDING A STRATEGIC VISION



## HARALD KOKELKOREN, ENTREPRENEUR

Rather than being a consultant that conducts months of research to produce a report that simply disappears into a filing cabinet, Harald Kokelkoren offers customised models that businesses can quickly put into practice. The founders of Visionwaves used their years of experience in the air force to compile an effective “Enterprise Management System” (EMS) for implementing new business strategies. According to founder Harald Kokelkoren, ‘The EMS very quickly makes it clear who needs to do what to achieve the desired goals.’ VisionWaves uses the EMS when working for a number of different clients, one of which has been the Chilean Air Force since the Netherlands sold 18 Dutch F-16 fighter planes to Chile. The core aim is to ‘accumulate as many flying hours as possible, for as little money as possible.’ Lockheed Martin, which delivered ten new aircraft to Chile, also opted for VisionWaves’ approach. Based on EMS, VisionWaves is implementing the logistical management information system ILIAS for the Chilean air force for the entire F-16 series. ‘The implementation therefore covers everything from operations, maintenance and supplies to contracts with industry’, says Kokelkoren. ‘Everything is geared to successful missions, which ensures cost effectiveness.’

COLONEL LEOPOLDO PORRAS OF THE CHILEAN AIR FORCE: ‘OUR OLD LOGISTICAL SOFTWARE SYSTEM WAS OUTDATED AND WE HAD BEEN LOOKING FOR AN EFFICIENT NEW SOLUTION FOR SEVERAL YEARS. THERE WERE MANY DIFFERENT POSSIBILITIES, BUT NEARLY ALL OF THEM REQUIRED A SIGNIFICANT AMOUNT OF CUSTOMISATION ACCORDING TO OUR NEEDS, WHICH IS EXPENSIVE AND TIME-CONSUMING. HOWEVER, ILIAS/EMS WAS ALREADY A PROVEN SYSTEM AND WAS MUCH EASIER TO IMPLEMENT. WE EXPECT A LOT FROM THE SYSTEM AND THE CONTRIBUTION THAT IT WILL MAKE TO THE MANAGEMENT OF OUR FLEET.’ [WWW.VISIONWAVES.NL](http://WWW.VISIONWAVES.NL)

**Creativity**

**WITHOUT CREATIVITY  
WE WOULD NEVER  
GET ANYWHERE.**





# A MAGIC LANTERN BURSTING WITH AUDIOVISUAL DATA





### MICHEL RIEDIJK, ARCHITECT

Queen Beatrix opened the Netherlands Institute for Sound and Vision in the Media Park in Hilversum at the push of a button in 2006. This colourful building, which was designed by Rotterdam architectural firm Neutelings Riedijk, houses over 700,000 hours of radio, film and television footage. According to architect Michiel Riedijk, 'The building is made up of several parts. Entering the building, you find yourself in a gigantic atrium. When you look up, you see a kind of silver spaceship - which is reminiscent of the glitter and glamour of the world of television - where the exhibition rooms can be found. Downstairs is the repository, which was inspired by the wall graves in classic Southern European cemeteries. In fact, you might call the archive a kind of "necropolis". Half of the building is located below ground level, and since sunlight and frost have little effect on the underground temperature, this means lower energy bills.' The façade is made of 2200 embossed stained glass panes depicting images from the archive. 'You don't recognise the images until you get closer to them because of the interplay of the colours and relief in the glass. It's just like a magic lantern, in which you keep seeing images that then disappear again, which is exactly what the institute is all about. The architecture of a public building should convey a message like that - it increases the stature of the city.'

EDWIN VAN HUIS, DIRECTOR OF THE DUTCH INSTITUTE FOR SOUND AND VISION CALLS IT 'A FANTASTIC BUILDING', STATING, 'WE WANTED A BUILDING THAT MAKES YOU HAPPY AND THAT YOU ENJOY BEING IN, AND THAT'S DEFINITELY WHAT WE GOT. WHEN PEOPLE ENTER THE BUILDING, THEY ARE SURPRISED AT THE TREMENDOUS DEPTH. THE STAINED GLASS ALSO GIVES THE NATURAL LIGHT A GORGEOUS HUE, CREATING A UNIQUE EFFECT AS IT SHINES INTO THE BUILDING. I LEAVE THE INSTITUTE EVERY DAY WITH A SMILE ON MY FACE.' [WWW.NEUTELINGS-RIEDIJK.COM](http://WWW.NEUTELINGS-RIEDIJK.COM)

# “SUBTROPICAL” THEATRE DESIGN



## FRANCINE HOUBEN, ARCHITECT

In 2007, the design by Delft architectural firm Mecanoo was declared the winner in the international competition to find the best design for a new giant theatre in the Wei-Wu-Ying Metropolitan Park in Kaohsiung, Taiwan. Architect Francine Houben explains, ‘The National Performing Arts Center was designed for a subtropical climate and was inspired by the banyan trees that grow there. The typical broad top of the tree blocks out sunlight and provides cool shade. We took this subtropical tree design and transformed it into a building. An enormous roof keeps the inside cool and holes in the roof provide extra ventilation.’ A concert hall, an opera house, two theatres and an open-air theatre will be housed under the building’s arched roof. In addition to the distinctive trees, the well-loved parks were also a source of inspiration for the design. Houben: ‘Half a million people live in Kaohsiung, often very tightly packed into small flats, which is why everyone goes to the park to socialise, meditate or practise tai chi. Soon, people will be able to do these things under that big roof as well.’ In the evening the building is lit by the latest in theatre lighting technology. ‘That was our way of taking advantage of the fact that it gets dark early in Kaohsiung. The building’s appearance is constantly changing because of the ever-changing light patterns. The building itself is almost like a theatre because you are kept guessing what it is going to look like each evening when you go there.’

MEMBER OF THE JURY HSU PO-YUN (GENERAL DIRECTOR OF THE INTERNATIONAL NEW ASPECT CULTURAL AND EDUCATIONAL FOUNDATION): ‘THE LINES, CURVES AND ANGLES OF MECANOO’S DESIGN INTERFUSE BEAUTIFULLY WITH THE LOCATION’S SURROUNDINGS. THAT HAS RARELY BEEN SEEN BEFORE. THE BUILDING, ESPECIALLY WHERE THE ROOFING SLIDES DOWN AND TURNS INTO THE OUTDOOR VENUE, IS VERY INGENIOUS. THEIR INTRICATE DESIGN FOR THE VENTILATION AND PROFESSIONAL KNOWLEDGE OF THE ACOUSTICS OF THEATRE VENUES WERE ALSO VERY IMPRESSIVE.’ [WWW.MECANOO.COM](http://WWW.MECANOO.COM)





# G-STAR: REFUSING TO CONFORM



## JOS VAN TILBURG, FOUNDER OF G-STAR

According to Jos van Tilburg, Director of G-Star, 'A good pair of jeans is stylish and tough and gives the wearer self-confidence and a feeling that he or she refuses to conform'. And he certainly knows what makes a good pair of jeans, because, within the space of a few years, the Dutch clothing company G-Star has evolved into an empire boasting 28 offices, 80 showrooms and 4900 outlets in 51 countries.

'A lot of brands confine themselves to a certain image, whereas at G-Star we have made a conscious effort from day one to create a brand that cannot be pinned down to any one specific image. The only thing we wanted to stand for was denim: jeans with a unique status. That's why G-Star has continued to focus on the most important things – namely the product and product innovation – ever since it was founded in 1989. The essential thing is to listen carefully to what your customers are saying.' Van Tilburg believes that G-Star's success is due in particular to this rapport between customers and suppliers, which is 'based on mutual respect'. 'These days, people of all social classes wear denim, all over the world. The universal allure of jeans means that our products appeal to people of all ages and different cultures. We don't follow fads, but rather chart our own course, without losing ourselves in passing trends. Every month, we come up with collections that are new and surprising, but still recognisably G-Star. That's how you develop a distinctive image and brand.'

JINESH ALWANI, FASHION EDITOR FOR THE INTERNATIONAL FASHION MAGAZINE ARENA: 'IT MUST BE SOMETHING IN THE WATER IN THE NETHERLANDS, THE LAND OF VERMEER AND REMBRANDT. DRINKING FROM THE SAME CHALICE IS DENIM BRAND G-STAR. NOW WHILE NOT QUITE ICONOCLASTS YET, THOSE FINE ARTISTS OF DESIGNER JEANS (THAT FIT JESSICA SIMPSON'S DERRIÈRE LIKE A SECOND SKIN) ARE ALREADY DUTCH MASTERS IN ARENA'S BOOKS... PREPARE FOR G-STAR'S INVASION'. SOURCE: ARENA. [WWW.G-STAR.COM](http://WWW.G-STAR.COM)





# DUTCH CAR DESIGN



## MAARTEN DE BRUIJN, CAR DESIGNER

Dutch design is much more than furniture and fashion; it also works beautifully in combination with state-of-the-art technology, as is proven by Adriaan van Hooydonk at BMW and other Dutch chief designers working for the key players in the car industry. In addition, in the 1970s, a few designs by Harm Lagaay put Porsche back on the map. One Dutch designer who has caused quite a stir in recent years is Maarten de Bruijn, who breathed new life into the legendary Dutch car known as the “Spyker” with his fresh and functional designs. ‘To me, a beautiful car is a work of art with the added dimension of technology. The technology determines the shape of the vehicle – it’s not all about a look that is aesthetically pleasing – but the car does have to appeal to all of the senses: it has to look good, smell good and sound good because only then can you achieve true satisfaction. Craftsmanship is important and handiwork gives the car an authentic feel. At my new company Silvestris, we make technological haute couture, what one might call “haute-omotive concepts”. Our current projects include an aluminium speedboat, as well as an innovative flying machine. And there will also be another car. I am far from finished yet.’

NICHOLAS RUFFORD DESCRIBED THE SPYKER C8 LAVIOLETTE AS FOLLOWS IN THE SUNDAY TIMES: ‘ON MY DRIVE AROUND SOME WELL-HEELED LONDON STREETS (...), THE SPYKER WAS A HIT. (...) IF YOU WANT TO BE NOTICED BUT DON’T WANT TO ARRIVE IN A FERRARI OR A PHANTOM, THEN A SPYKER IS THE RADICAL ALTERNATIVE.’

# BACKGROUND MUSIC



## HANS BROUWER, MUSIC ENTREPRENEUR

Massive Music is a young company that produces music for commercials and television programmes, as well as for TV stations and the Internet. The company's music can be heard in Adidas and SEAT commercials, and it is also part of the new branding of Swedish channel TV4. Massive Music founder Hans Brouwer relates, 'Background music has to fit like a glove, but it must also catch people off guard – it has to have that extra edge to it. That's what we're really good at. You can give a commercial a totally different spin by using something out-of-the-ordinary.'

In this business, everyone follows the trend, so suddenly all you can hear is background music by Moby, and as a result nothing really stands out. Our challenge is to make commercials with that little bit extra that separates one commercial from the rest, perhaps because it features Finish folk music or a large Russian Cossack choir, for example.

Massive Music is all about creativity and speed. We are currently one of the top ten companies in our sector; the other nine are all either American or British. Having talent alone is not enough in our business: you have to be able to hit the ground running because sometimes a project comes in one day and airs somewhere in the world the next, so you have to be quick at finding the perfect fit.'

## MARCEL DIJKHUIZEN, EXECUTIVE PRODUCER AT CELLUSION FILMS:

'MASSIVE MUSIC REALLY PUTS ITSELF IN THE CLIENT'S SHOES. THEY PICK UP QUICKLY ON SUBTLETIES – IT IS MIND-BOGGLING WHAT THEY ARE CAPABLE OF AFTER ONLY A VERBAL BRIEFING. THEY'RE TRUE CHAMELEONS. BESIDES COMMERCIALS, ONE OF OUR DIRECTORS ONCE MADE A LONG DOCUMENTARY ABOUT THE COMEBACK OF DUTCH BOXER REGILIO TUUR. MASSIVE MUSIC WROTE THE SCORE, WHICH WAS PHENOMENAL. THE DIRECTOR SAID, "IT WAS LIKE THEY WERE STANDING NEXT TO ME DURING THE FILMING".'

[WWW.MASSIVEMUSIC.COM](http://WWW.MASSIVEMUSIC.COM)



# THE BEAUTY OF THE PASSAGE OF TIME



## JAN TAMINIAU, FASHION DESIGNER

Fresh from his debut at the Paris couture week, fashion designer Jan Taminiau is smiling broadly. There he was, the only Dutchman, showing his latest collection. Taminiau graduated with honours from the Arnhem branch (HKA) of the ArtEZ Institute of the Arts in 2001, won the prestigious Roos Geesink prize for the most talented designer and became an apprentice to Olivier Theyskens, Oscar Süleyman and Hubert Barrere. He completed his Master's degree at the Fashion Institute in 2003.

Taminiau relates, 'In Paris, I had to start from square one again – like a school boy showing his work for the first time. But it worked out well. I especially wanted to show the workmanship that had gone into my collection, such as manoeuvring a dress into a two-dimensional plane, so that it could be made on the loom in one go. Romance and nostalgia form the inspiration for my work, so I combine silk chiffon with fabric from old postbags and beach chairs, for example. Exposure to light causes the colours of old fabrics to become more intense, as if they've passed through a time filter, which I see as romantic in its own way. Fabrics become more beautiful with age, especially in a world where almost everything revolves around being new. However, as far as I'm concerned, not everything has to shine. It's alright to show that the passage of time can also be beautiful.'

[WWW.JANTAMINIAU.COM](http://WWW.JANTAMINIAU.COM)

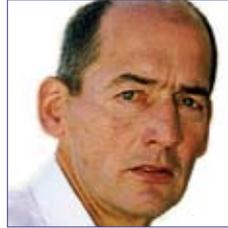


Photography | Wijnand de Bie - Dress | Jan Taminiau - Styling | Roel Schagen - Model | Sylvia van der Klooster



“Prada skirts” in a typical presentation in a shop designed for Prada by Rem Koolhaas

# AN ENDLESS PLAYGROUND



## REM KOOLHAAS, ARCHITECT

Architect Rem Koolhaas is a partner at the Office for Metropolitan Architecture, which designs not only shops, but also catwalks, websites, fashion shows, events and even T-shirts for Italian fashion house Prada. 'In 1999, Prada asked Koolhaas for his input regarding their identity and presentation', says architect Alexander Reichert, who is responsible for all Prada projects. 'Koolhaas is known for devising architectural solutions that are always surprising and for his ability to think outside the box.' In a rush of enthusiasm, he shows the model of the first joint venture: the Prada store in New York, which comes complete with stage screens, mobile locker rooms and space for concerts. 'Today's issues, such as events in Asia, will alternate along a 15-metre-long wall using wallpaper and films as media. The store will be a dynamic epicentre from which to observe what's happening in the world, acting as a place to gather ideas and pass them on. Being a modern architect means more than just designing buildings. It's all about having a vision and giving it shape. It doesn't really matter whether you work with bricks or a website. The partnership is truly inspiring. We have all the freedom in the world, which makes Prada like an endless playground.'

RAUL BARRANCHE, JOURNALIST AND ARCHITECTURE CRITIC: 'A STORE IS A REALLY IMPORTANT FACTOR IN HELPING TO ESTABLISH A COMPLETE BRAND. AN EFFECTIVE STORE ANSWERS THE QUESTION, "IS A STORE A BASTION OF GOOD TASTE, OR IS IT HIP, COOL, AND OPEN-MINDED?" THE PRADA STORE IN LA, BY KOOLHAAS, IS AN INTERESTING MIX OF BOTH. THAT STORE HAS NO FRONT DOOR, NO FAÇADE. FOR PRACTICALITY'S SAKE, OF COURSE, IT HAS GUARDS AND SECURITY. BUT THE FACT THAT THERE'S NO FAÇADE SAYS SOMETHING ABOUT THE TYPE OF CUSTOMER IT WANTS TO ATTRACT.' SOURCE: BUSINESS WEEK, 2005. [WWW.OMA.NL](http://WWW.OMA.NL)



# EXPERIENCE DUTCH DESIGN IN THE BATH



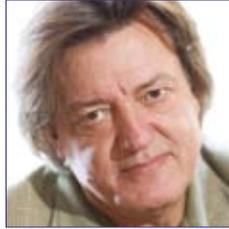
## FLORIS SCHOONDERBEEK, INDUSTRIAL DESIGNER

The very essence of a product is how people experience it, and anyone who is both able and in a position to make the best possible use of this experience can strike it rich, not only in the Netherlands, but also internationally. In 2002, industrial designer Floris Schoonderbeek (28) designed the Dutch Tub, which is a polyester outdoor bath filled with water heated by a wooden stove. The bath, which is available in a wide variety of colours, won the Dutch Design Award that same year in the “consumer products” category. Now that the product had been recognised, it just had to be marketed. ‘You’d miss out on the unique feeling of bobbing around in 800 litres of lovely warm water in a regular shop,’ says Floris, ‘which is why I decided to sell the Dutch Tub in an experience centre. One free session soaking in the lightweight tub causes anyone wanting to buy or lease to go weak at the knees and they immediately sign on the dotted line. Allowing customers to experience the tub for themselves proved to be extremely effective and generated a lot of international publicity. The experience centres have helped to make the Dutch Tub a tremendous success in Switzerland, Sweden and America. The organisation behind the Dutch Tub also acts as the springboard for marketing other products worldwide that focus specifically on the experience of the product, always according to the motto ‘Act global. Think local.’

TODD SMITH (US), DISTRIBUTOR: ‘I THINK “JUST DO IT” IS A TYPICALLY DUTCH IDEA. FOR EXAMPLE, EVEN THOUGH THE UNION ABSOLUTELY WOULDN’T ALLOW IT, FLORIS AND HIS BUSINESS PARTNER JOCHEM KARSTANJE WENT AHEAD AND BUILT THEIR OWN STAND AT THE INTERNATIONAL FURNITURE FAIR IN NEW YORK. IN THE END, THE UNION TURNED A BLIND EYE. I’VE LEARNED A LOT FROM THAT DUTCH MENTALITY WHILE WORKING AS A DUTCH TUB DISTRIBUTOR. I’VE EXPERIENCED HOW EFFECTIVE IT CAN BE TO “JUST DO IT”, BOTH IN THE SENSE OF “GOING FOR IT” AND “ACTING NORMALLY”.’

[WWW.DUTCHTUB.COM](http://WWW.DUTCHTUB.COM) – [WWW.WELTEVREE.INFO](http://WWW.WELTEVREE.INFO)

# THE IDEAL CROSS-POLLINATION IN ARTISTIC AMSTERDAM



## CHRISTOPHER CLARKE, JEWELLERY DESIGNER

The American jewellery designer Christopher Clarke knows how to generate international exposure for his jewellery by showcasing it on catwalks, in films and in the Cirque du Soleil. Famous people such as Bette Midler and Carrie Fisher have purchased his designs, in addition to a host of loyal collectors, who in many cases own in excess of 200 unique pieces of his jewellery. Clarke chose to base his business in Amsterdam back in 1982, so his designs can rightfully be claimed as a source of Dutch pride. 'Everyone immediately recognises my handmade aluminium jewellery when they see it because of the unique style. I draw inspiration from nature in particular, both for my designs and the use of colour. I don't see the designs as typically "Dutch", but rather typically "Clarke" and my international clientele feel the same way. My jewellery is shipped all over the world, especially to online customers. Since the early days of my career, the Dutch have been some of my most loyal fans. I have a lot of customers here, but most of all, being based in Amsterdam has given me the opportunity to express my creativity.

I think it's because of the open-minded and innovative atmosphere in this cosmopolitan city, which attracts a lot of artists, resulting in ideal cross-pollination between them. In addition, the Dutch are always open to new ideas and that promotes enterprise.'

IN THE WORDS OF COLLECTOR AND OWNER OF WISEWOMANSWORKOUTS.COM, MARY FUGLE, 'IN THE TEN YEARS THAT I HAVE BEEN COLLECTING CHRISTOPHER CLARKE'S JEWELLERY I HAVE ALWAYS REALLY APPRECIATED THE FACT THAT HE TAKES ACCOUNT OF MY COLOUR AND DESIGN PREFERENCES. THEREFORE I CAN HAVE MY FAVOURITE DESIGNER PUT TOGETHER A UNIQUE PIECE THAT IDEALLY MATCHES MY FAVOURITE OUTFIT. I ALWAYS SAY, "CHRISTOPHER'S JEWELLERY IS LIKE EATING OYSTERS - ONCE YOU BECOME ACCUSTOMED, IT'S ALL YOU'LL EVER WANT".'



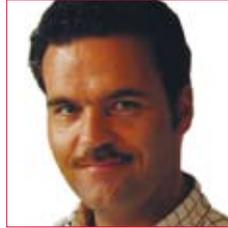




**Lifestyle**

**EVERYONE ASPIRES  
TO A HEALTHY  
LIFESTYLE; AS LONG  
AS IT'S EFFORTLESS.**

# OCTOPUS TENTACLES INSPIRE NEW SURGICAL INSTRUMENT



## PAUL BREEDVELD, RESEARCHER/INVENTOR

‘Octopus tentacles were the inspiration for my cable ring’, says Paul Breedveld, who is a researcher at Delft University of Technology. ‘The tentacles are extremely flexible organs whose structure is actually very simple, at least from a mechanical standpoint, because they are made up of a series of circular and longitudinal muscles that allow the octopus to move in any direction by contracting and relaxing them.’ Breedveld was looking for a remote control mechanical for medical instruments that are used in operations where incisions are kept to a minimum (usually, two or three small incisions suffice). The disadvantage of the traditional instruments is that movement is limited. Drawing inspiration from the octopus, Breedveld developed the “cable ring mechanism”, which is a kind of mechanical tentacle that can move in any direction. The cable ring consists of two springs and a few small cables, so it is not only inexpensive, but also very effective. According to Breedveld, ‘By attaching a camera to the mechanism, the surgeon can see what he’s doing much more easily. He can also manoeuvre his instruments with a great deal more precision thanks to the cable ring mechanism.’

JULES SCHELTES, DEAM: ‘WE USE THE CABLE RING MECHANISM TO MAKE INSTRUMENTS SUCH AS ENDOSCOPES (SMALL CAMERAS), SMALL FORCEPS AND TUBES, FOR USE IN MINIMALLY INVASIVE SURGICAL PROCEDURES. WE ARE IN THE PROCESS OF DEVELOPING A SURGICAL GRASPER FOR MICROLIN-PENTAX, WHO ARE A MAJOR MARKET PLAYER, AND WE DEVELOPED A STEERABLE CATHETER IN HOUSE AS WELL. INTERNATIONALLY, THERE IS A LOT OF INTEREST IN THE MECHANISM BECAUSE STEERABLE INSTRUMENTS MAKE A SURGEON’S WORK EASIER, MAKING IT POSSIBLE TO CARRY OUT COMPLEX SURGERY USING MINIMALLY INVASIVE PROCEDURES.’

[WWW.DEAMCORPORATION.COM](http://WWW.DEAMCORPORATION.COM)





# FRUIT JUICE FOR HEALTHY INTESTINAL FLORA



## PIET HAASEN, FOOD PRODUCT DEVELOPER

The large intestine contains about a kilogram and a half of microorganisms, therefore creating a complex ecosystem that not only aids digestion, but also plays a key role in maintaining the immune system. More and more evidence has been gathered in recent years to indicate that certain substances called prebiotics help stimulate the growth of these intestinal bacteria. In the words of Piet Haasen, Product Development Manager at Friesland Foods, ‘The good bacteria in the intestines feed on prebiotics – they need them in order to function’. These nutrients, the prebiotics, have to pass through both the stomach and the small intestine before reaching the good bacteria in the large intestine. However, the stomach acid and enzymes found in these regions form a difficult obstacle for many nutrients. Therefore, you need to add fibres with specific properties, and there are several of these so-called “non-digestible fibres” on the market. Vivinal GOS is one, and Domo, a sister company of Friesland Foods, makes these fibres – which are otherwise known as oligosaccharides – from lactose. The flavour and characteristics of these fibres combine perfectly with Friesland Foods’ new fruit juice, CoolBest Vitaday. Haasen relates, ‘These oligosaccharides are not destroyed in the stomach or small intestine but instead remain stable, even when the fruit juice is pasteurised. What’s more, they don’t affect the taste. We think this is the ideal nutrient for the intestinal flora: the juices are delicious and they strengthen the immune system to boot.’

A NUMBER OF DUTCH SUPERMARKET CHAINS AND FOODSTUFFS MANUFACTURERS, INCLUDING FRIESLAND FOODS, HAVE INTRODUCED THE “MY CHOICE” LOGO (“IK KIES BEWUST” IN THE NETHERLANDS) ON DUTCH GROCERY SHELVES. THE PARTNERS HOPE THAT THIS LOGO WILL HELP CONSUMERS MAKE CONSCIOUS DECISIONS TO PURCHASE PRODUCTS WITH HEALTHIER INGREDIENTS, WHICH MEANS PRODUCTS THAT ARE LOW OR LOWER IN SATURATED FATS, TRANS FATS, SUGAR AND SALT. OF COURSE, COOLBEST VITADAY IS ONE OF THE PRODUCTS THAT BEAR THE “MY CHOICE” LOGO. [WWW.FRIESLANDFOODS.NL](http://WWW.FRIESLANDFOODS.NL)

# ALL FLOWERS PASS THROUGH DUTCH HANDS



## TIMO HUGES, CHAIRMAN OF BLOEMENVEILING AALSMEER

The Bloemenveiling Aalsmeer complex lies about 15 kilometres south of Amsterdam. Covering a million square metres, it is the worldwide hub of the flower industry. Arriving and departing aircraft from nearby Schiphol Airport can be heard flying over the complex and it is entirely possible that one of those aircraft has a hold full of flowers that were sold only three hours before at this international marketplace. Twenty-four hours later, somewhere in Mexico City, Johannesburg or Shanghai, just to name a few destinations, they will be standing on a table, neatly arranged in a vase.

Timo Huges says, 'Aalsmeer is the largest marketplace in the world for flowers and plants. Dealers and exporters know that they're assured of the largest assortment in the world and plant breeders can showcase their products for an international clientele. Both parties benefit from transparent pricing, whether in the traditional fashion using the auction clock in one of our auction halls, or digitally, which is becoming more and more commonplace. Once they have logged on, customers all over the world can make purchases in real time on the auction clocks. One form of trading that is becoming increasingly popular is intermediation. Thanks to our finely tuned array of services, supported by sophisticated logistics, Bloemenveiling Aalsmeer continues to be the most popular marketplace, including for up-and-coming markets. The planned merger with FloraHolland, which is also a Dutch company, will only add to our range of services.'

MARCO VAN ZIJVERDEN, CEO DUTCH FLOWER GROUP: 'FOR US, BLOEMENVEILING AALSMEER IS A PLACE WHERE WE CAN CHOOSE FROM THOUSANDS OF DIFFERENT KINDS OF FLOWERS. WITHIN AN HOUR, YOU SEE ALL THE FLOWERS THE WORLD HAS TO OFFER PASS BEFORE YOUR EYES. WHAT'S MORE, THE FLOWERS YOU BUY AT THE AUCTION ARE DELIVERED TO YOU STRAIGHT AWAY.' [WWW.VBA-AALSMEER.NL](http://WWW.VBA-AALSMEER.NL)



AIR MAIL  
航 PAR AVION 空

SHANGHAI  
[Floral icons]





# SHELLS WITHOUT THE BUGS



## JACO VAN LEENEN, DAFFODIL GROWER

If you have ever flown into the Netherlands in the spring from across the North Sea, you will have witnessed that quintessential Dutch view of rugged dunes that suddenly give way to a tapestry of bright red, purple, yellow and blue strips. Dutch flower fields are like a giant carpet that is rolled out to welcome you to Holland. That carpet is also home to some very extraordinary daffodils, because somewhere down there, in the coastal region just north of the university town of Leiden, is the home and business of flower cultivator Jaco van Leenen. Van Leenen is the only person in the world who uses shells as a substrate for daffodils. Shells have a number of advantages over regular soil, the most important being that they keep the plants entirely free from disease. ‘What’s more, the flowers stay completely clean and you are assured that there are no unwanted bugs on them’, says Van Leenen. ‘That’s really important to the U.S. and Japan, in particular.’ Van Leenen’s grandfather started the company in the late 1950s. Van Leenen explains, ‘I’m now selling the species that he created using new crossbreeding methods’. At least 20 years of development are invested in each new flower before it is launched, but the company continues to introduce new daffodils every year. ‘You don’t just decide one day to cultivate flowers; it’s something that’s passed down from generation to generation.’

JAN DE MOOIJ, A BUYER AT DINGEMAN HOEK IN RIJNSBURG, THE NETHERLANDS: ‘WHY DO WE BUY 60 PERCENT OF JACO’S OUTPUT? THE ANSWER IS THAT HE IS THE ONLY GROWER IN THE WORLD THAT USES A SHELL SUBSTRATE, SO THE BULBS ARE TOTALLY CLEAN. HE ALWAYS PROVIDES EXCELLENT QUALITY – IT’S AS SIMPLE AS THAT. I CAN ALWAYS COUNT ON HIM FOR FANTASTIC PRODUCTS, WHICH IS TRUE OF ONLY ABOUT THREE IN EVERY TEN BUSINESSES.’ [WWW.WFLEENEN.COM](http://WWW.WFLEENEN.COM)

# HARM AND THE CHOCOLATE FACTORY





### HARM VAN OUDENHOVEN, FORMER DIPLOMAT/ENTREPRENEUR

Harm van Oudenhoven is living proof that even dissatisfaction can provide fertile ground for enterprise. For years, he worked for the United Nations in developing countries. With the motivation of an anthropologist, he had long been active in welfare and employment projects. ‘But I often thought, “It should be possible to do this better and faster”.’ So Van Oudenhoven made a career change and became a pioneering entrepreneur, setting up the first chocolate factory in Nicaragua together with a Chilean and a Dutch partner. ‘The people here had absolutely no idea how to make chocolate, despite the fact that the cocoa beans literally grow on trees in this country.’ Following a few setbacks, which quite simply go with the territory when you take on a project of this kind, El Castillo del Cacao is now operating at full capacity and the 11-strong workforce produces 500 kilograms of chocolate every month. The fact that ordinary Nicaraguans can afford the chocolate bars is just as important. Van Oudenhoven relates, ‘With an air of contentment, they say that the taste reminds them of the past. I take that as a compliment.’ Van Oudenhoven’s aim was to show people that it is possible – with modest means – to set up a factory that satisfies a local demand and creates jobs. ‘Sometimes you just have to make a start.’ In the near future, Van Oudenhoven will leave the company, but thanks to him, there is a chocolate factory in Nicaragua that otherwise would not have existed. And the taste from the past is back, too.

HARM VAN OUDENHOVEN WON THE HIVOS PRIZE IN 2006 IN A COMPETITION FOR ENTREPRENEURS ORGANISED BY THE NETHERLANDS-BASED INTERNATIONAL BROADCASTER RADIO NEDERLAND WERELDOMROEP. CAROLINE DE GRUYTER (NL), JOURNALIST AND CHAIR OF THE JURY: ‘YOU CAN FIND “DO-GOODERS” ALL OVER THE THIRD WORLD AND HARM VAN OUDENHOVEN WAS ONE OF THEM. HOWEVER, HE LEARNED THAT DEVELOPMENT PROJECTS HAVE THE MOST LASTING EFFECT IF BENEFACTORS ALSO CONTRIBUTE TO CARRYING OUT THEIR NOBLE INTENTIONS. HIS COMPANY IS PROOF OF THE OLD SAYING THAT IF YOU GIVE A MAN A FISH, YOU FEED HIM FOR A DAY, BUT IF YOU TEACH A MAN TO FISH, YOU FEED HIM FOR A LIFETIME.’ [WWW.ELCASTILLODELCAAO.COM](http://WWW.ELCASTILLODELCAAO.COM)

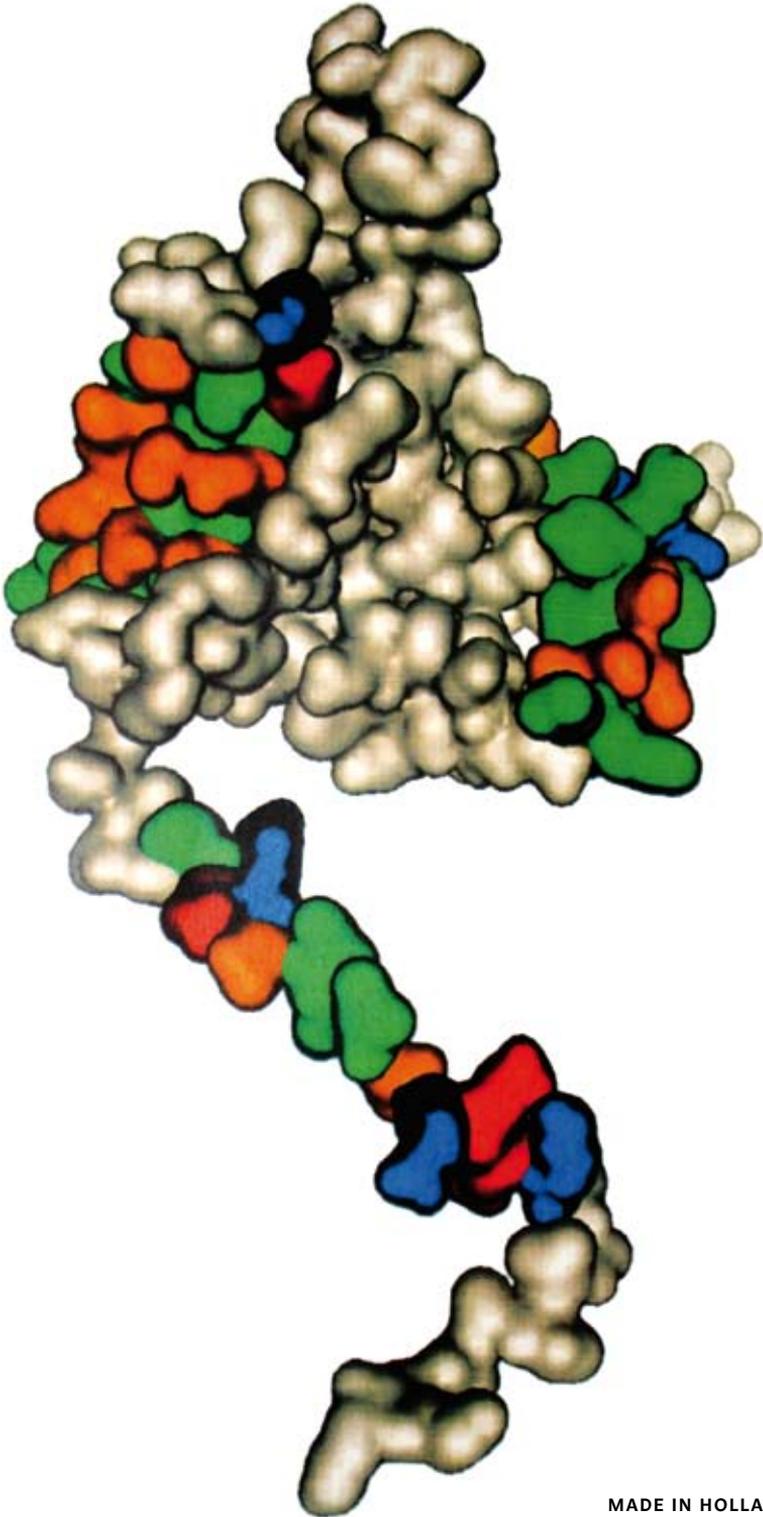
# MS PATIENT'S WORST ENEMY IS ALSO A POSSIBLE TREATMENT

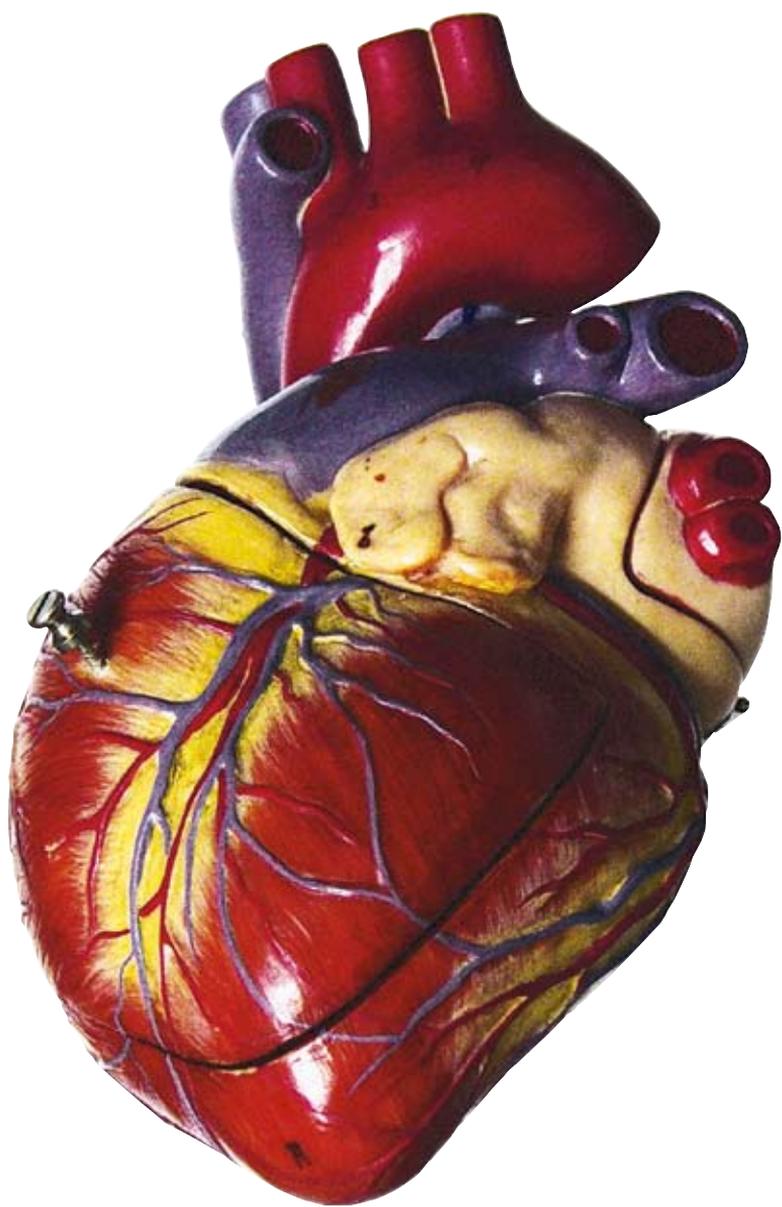


HANS VAN NOORT, TNO RESEARCHER

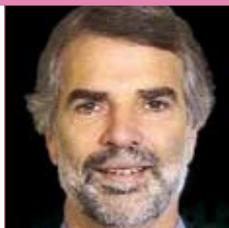
The protein alpha-B-crystallin, which was discovered by the Netherlands Organisation for Applied Scientific Research (TNO), is involved in the development of multiple sclerosis (MS), but it can also be used to treat this serious neurological disorder. MS is caused when immune cells – the so-called “T cells” – attack the myelin, which is the layer that protects the nerve cells. This attack is induced by the presence of the alpha-B-crystallin protein, which the immune cells fail to recognise as protein that is naturally present in the body. In healthy people, the attack does not cause any problems, because the protein is largely invisible to the T cells. According to TNO researcher Van Noort, ‘The problem in MS patients is that the protein builds up outside the brain cells. We don’t know exactly why this happens – maybe it is due to a previous infection. But the result is that the T cells keep attacking the myelin cells.’ However, although alpha-B-crystallin causes these attacks, it is also the key to a possible solution. Van Noort: ‘By administering it into the bloodstream, we can “teach” the T cells to stop attacking the protein. American researchers recently demonstrated that the technique works in mice and we have the fabulous challenge of coming up with a medicine that is suitable for use in humans.’

TNO SET UP THE COMPANY DELTA CRYSTALLON TO DEVELOP AN MS MEDICINE FROM ALPHA-B-CRYSTALLIN. THE PROTEIN IS NOW BEING TESTED IN ITS PURE FORM TO DETERMINE ITS PHARMACOLOGICAL AND TOXICOLOGICAL PROPERTIES. IT WILL BE TESTED ON HEALTHY VOLUNTEERS IN LATE 2008, AFTER WHICH CLINICAL TRIALS WILL BE CONDUCTED. AFTER THAT, IT WILL TAKE ABOUT TWO YEARS BEFORE THE MEDICINE’S EFFECT ON MS PATIENTS HAS BEEN DETERMINED. [WWW.TNO.NL](http://WWW.TNO.NL)





# PACEMAKER MAINTAINS IDEAL HEART RATE



## WIM BOUTE, INVENTOR OF THE SMART PACEMAKER

Invented and manufactured by Dutch company Vitatron, which is a subsidiary of Medtronic, it is officially called the Rate Responsive Pacemaker (RRP). Informally, it is known as “the smart pacemaker”. Whereas the “old” pacemakers always maintain a fixed heart rate, the RRP determines your optimum heart rate automatically, whether you are sitting down or exercising. Thanks to Wim Boute and his colleagues, who were nominated by the European Commission for the European Inventor of the Year Award for their invention, there are some 300,000 people worldwide walking round with the RRP inside them. According to Boute, ‘We were nominated for our emphasis on the patients’ quality of life and because of the RRP’s state-of-the-art technology: a tiny sensor system and a microcomputer monitor and interpret changes in the body and automatically modify the heart rate. The RRP also has a lifetime of eight years. We have established a name for ourselves internationally because of the large number of “world firsts” achieved with our pacemakers. People recognise and acknowledge this, which is one of the reasons why we have doubled our international sales of pacemakers over the last decade. We are currently also using the RRP’s advanced technology in another product that monitors vital signs. International positioning remains crucial, because the world of medical products is not constrained by national borders.’

DR R.G. CHARLES OF THE CARDIOTHORACIC CENTRE AT BROAD GREEN HOSPITAL IN LIVERPOOL DESCRIBES VITATRON AS A MODEL OF INNOVATION AND RELIABILITY: ‘THROUGH MY 28 YEARS IN CARDIAC PACING, VITATRON HAS EXEMPLIFIED INNOVATION AND RELIABILITY, PROFESSIONALISM AND FRIENDSHIP, EDUCATION AND SERVICE, ALL OF THE HIGHEST ORDER. VITATRON QUALITY HAS BEEN INTEGRAL TO MY OWN PROFESSIONAL SATISFACTION AND ENJOYMENT OF A CAREER IN CARDIAC PACING, AND MOST IMPORTANTLY, TO THE QUALITY OF LIFE OF MANY OF MY PATIENTS.’ [WWW.VITATRON.NL](http://WWW.VITATRON.NL)



# MINIATURE PLANTS FOR HAUTE CUISINE



## ROB BAAN, CRESS GROWER

The Japanese Daikon cress, or “Kaiware” is a wonderful little plant. A few leaves barely weigh a gram, but when you taste one, your whole mouth is filled with an extremely fresh flavour. Rob Baan grows them, along with 14 other unusually powerful micro-vegetables. They are called “cress” and Baan became familiar with them during the years he spent travelling the world for a seed producer. He was so impressed with the quality of the diminutive plants that he decided to grow them himself. Now he is the proud owner of Koppert Cress, which is the world’s largest cress producer. Exclusive restaurants use his products as a garnish or to add flavour to dishes. His clients include Spain’s El Bulli, which was again voted the world’s best restaurant in 2007. Jamie Oliver also likes to use Baan’s cress. Baan credits his success to his employees: ‘Without their know-how, acquired through generations of experience in horticulture, I could never make this happen. I am building on an age-old Dutch tradition.’

FERRAN ADRIÀ, OWNER OF EL BULLI, WHICH IN 2007 WAS VOTED BEST RESTAURANT IN THE WORLD FOR THE SECOND TIME BY THE LEADING BRITISH MAGAZINE RESTAURANT: ‘WE’VE BEEN USING KOPPERT CRESS SINCE 2003, BECAUSE IT WAS VERY CLEAR THAT ROB WAS NOT AFRAID TO USE HIS CRESS TO BREAK NEW GROUND IN WORKING WITH VEGETABLES. WE BELIEVE IN HIS COMPANY AND HIS PRODUCTS. FOR EXAMPLE, LAST YEAR WE USED A DELICIOUS TYPE OF CRESS THAT TASTES LIKE OYSTERS IN OUR DISHES. WE HOPE THAT KOPPERT CRESS WILL CONTINUE TO OFFER US SUCH INTERESTING PRODUCTS FOR A LONG TIME TO COME.’  
[WWW.KOPPERTCRESS.COM](http://WWW.KOPPERTCRESS.COM)

# NO MORE PUTTING UP WITH ARTIFICIAL GRASS

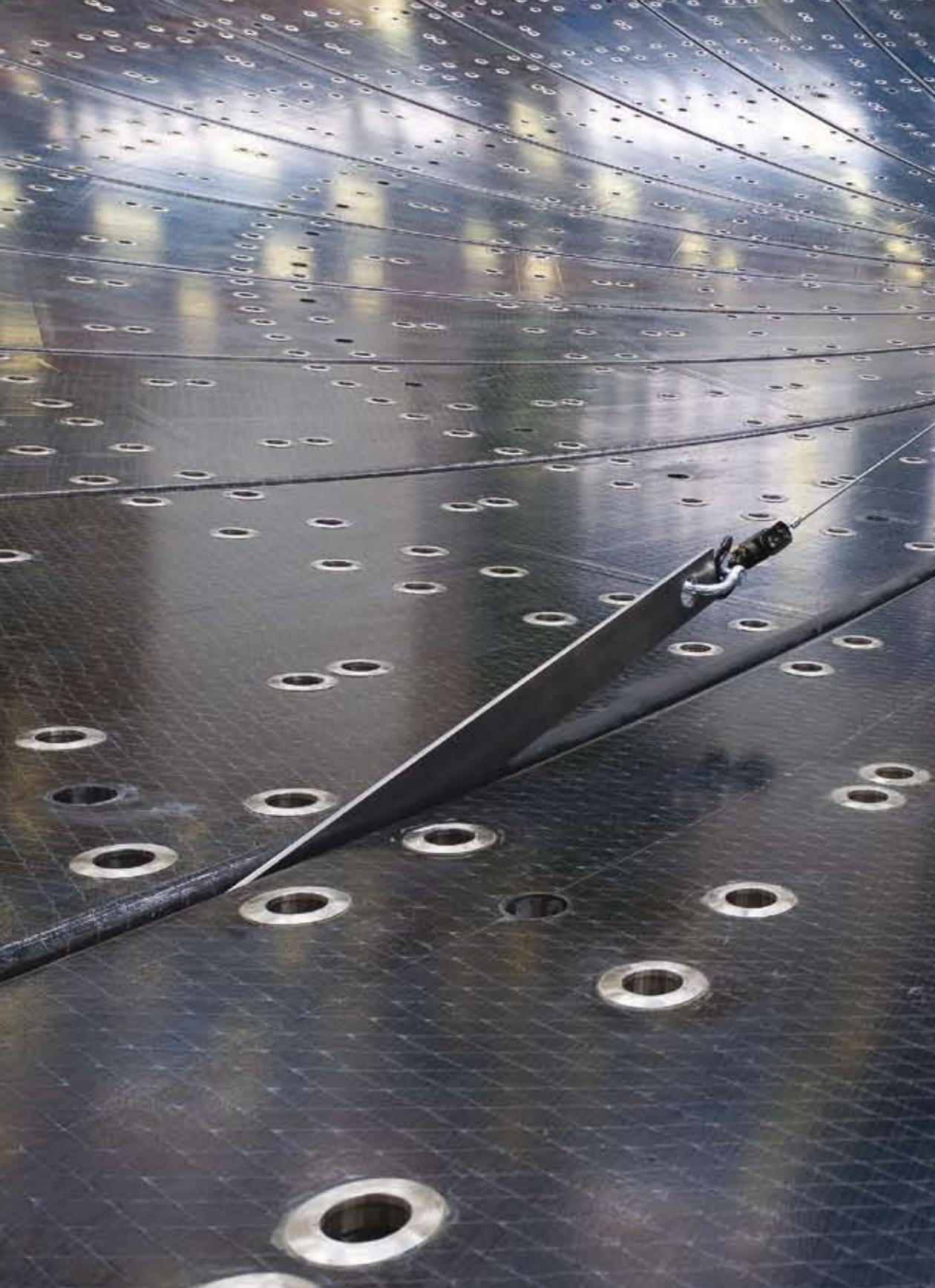




### NICO VAN VUUREN, GROWER

As a rose grower, Nico Van Vuuren is no stranger to growth and development. ‘It’s all about knowing how to create the proper growth conditions, whether you are growing first rate roses or grass on a football pitch.’ He put his money where his mouth was and demonstrated, to everyone’s surprise, that it actually is possible to grow a perfect, natural grass football pitch. Even the penalty area stayed green. Van Vuuren explains, ‘Light is important, which is why I used Stadium Grow Lighting (SGL), but you have to keep a close eye on the other growth factors like CO<sub>2</sub>, water, and nutrients, as well.’ Various parties were interested – and even enthusiastic – about SGL, including parties from the United Kingdom. However, the clubs’ groundsmen didn’t manage to convince their bosses to buy the product, that is, not until Van Vuuren got a call from Eindhoven: Guus Hiddink, who was coach at PSV Eindhoven at the time, wanted to drop by. As Van Vuuren tells it, ‘Hiddink came, saw and put his full weight behind our approach. After PSV, Arsenal, Liverpool, Chelsea and other English clubs followed suit, which should come as no surprise because there is nothing more beautiful than football played on real grass.’

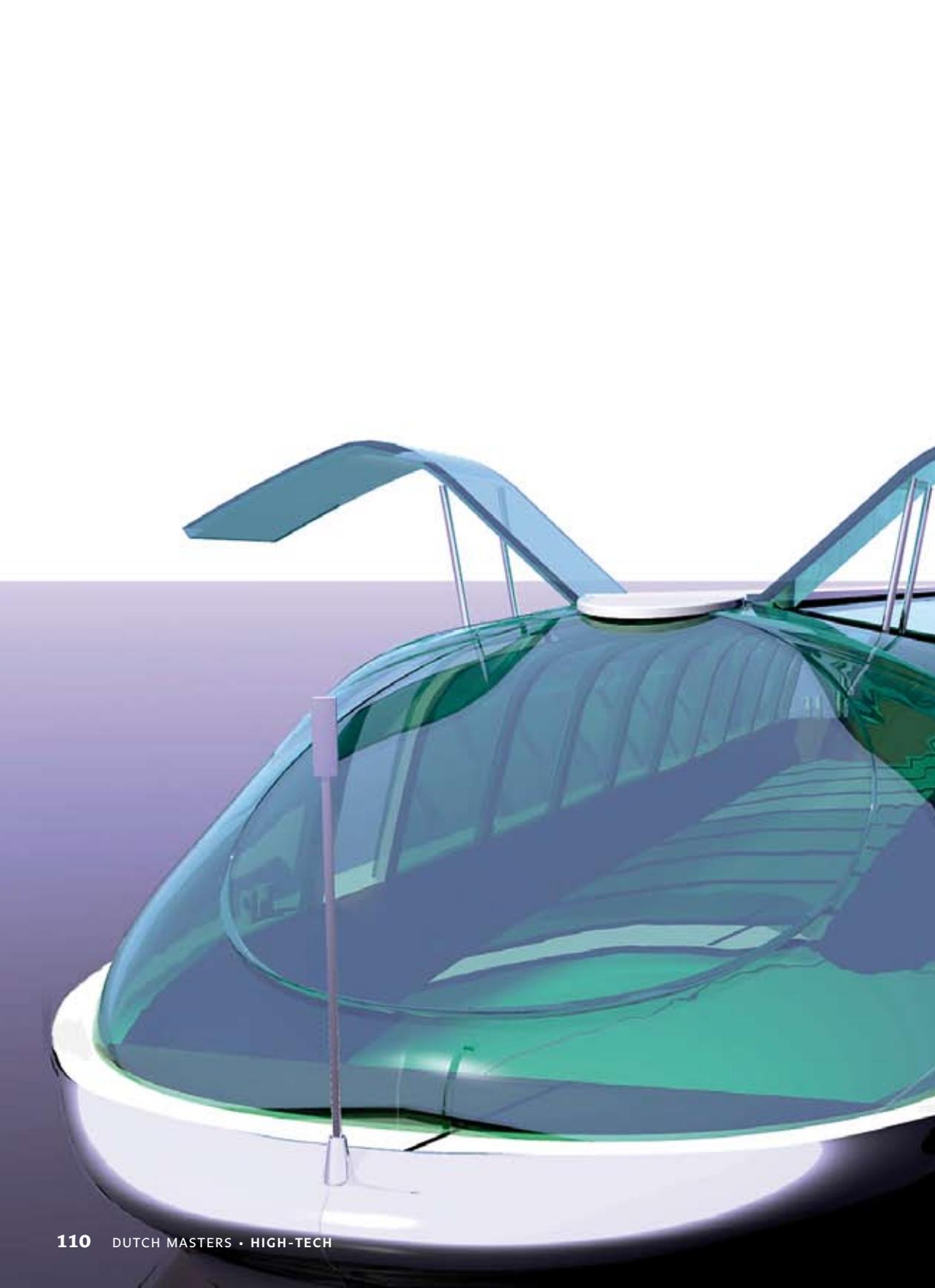
TOM PLOEGSMA, PSV STADIUM MANAGER, EINDHOVEN, THE NETHERLANDS: ‘THE QUALITY OF THE PITCH HAS IMPROVED GREATLY, THANKS TO SGL. THE GRASS RECOVERS QUICKER AND WE EVEN HAVE TO MOW THE PITCH IN THE WINTER. SGL ENSURES SUCH HIGH QUALITY THAT WE CAN NOW USE THE STADIUM AS A CONCERT VENUE, TOO, AND THE CLUB CAN REST ASSURED THAT THE PITCH WILL BE IN PERFECT CONDITION AGAIN FOR THE NEXT MATCH.’ [WWW.SGLCONCEPT.COM](http://WWW.SGLCONCEPT.COM)





**High-tech**

**THE HUMAN RACE  
IS THE MEASURE OF  
TECHNOLOGY AND**



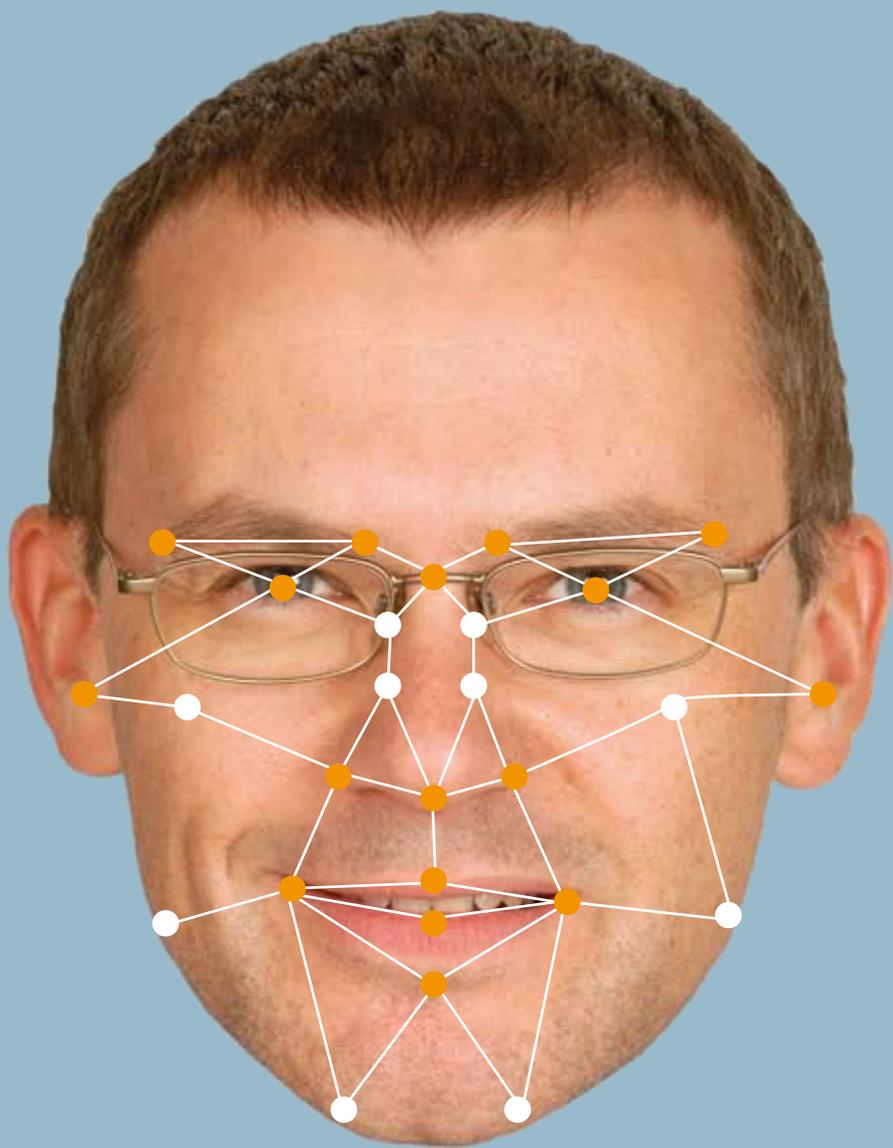
# BOATS WITHOUT THE FUMES



## HAUKE SIE, ENGINEER

Fuel Cell Boat B.V. set itself the aim of producing an ultra-clean boat, and in 2008 that aim will become reality when their hydrogen boat travels through the canals of Amsterdam as the first boat in the world in commercial use that does not emit any toxic substances. The fuel cells are the secret, because they are fed by hydrogen that is generated using green electricity. 'Five partners have invested in the experiment. The aim is to demonstrate that the boat can be operated economically', says Hauke Sie, the initiator behind Fuel Cell Boat. For the time being, a hydrogen boat costs half as much again to buy as a diesel round-trip boat, but it appears to be cheaper to operate the hydrogen boat. During the rush hour, the hydrogen boat will take people who work in the busy city of Amsterdam across the river IJ to the city centre. The rest of the time, the boat will be available to tourists. After years of research and development, fuel cells are now ready for use. Questions such as how the fuel cells will behave in practice and how easy it will be to refuel with hydrogen are part of the experiment. According to Sie, 'Everyone is concerned about the environment, but many businesses and government agencies are waiting for each other to take the initiative. That's why a commercial project involving a hydrogen boat is such a good idea.'

'ONE OF OUR OBJECTIVES IS TO COME UP WITH SUSTAINABLE ENERGY SOLUTIONS', SAYS ANDRIES BOON OF SHELL, WHICH WANTS TO BE THE FIRST COMPANY TO TRANSPORT ITS EMPLOYEES IN THE FUEL CELL BOAT. 'WE HAVE A GREEN SHELL LABORATORY NEXT TO THE RIVER IJ, WHERE 1,250 PEOPLE WORK, AS WELL AS A GREEN ELECTRICITY NETWORK, AND WE ENCOURAGE THE USE OF PUBLIC TRANSPORT. THAT'S WHY WE WANT TO BE THE FIRST CUSTOMER TO USE AMSTERDAM'S COMMERCIAL HYDROGEN BOAT AND WE INTEND TO BUILD A GREEN HYDROGEN FILLING STATION ON OUR SITE STRAIGHT AWAY. THIS IS IN LINE WITH OUR ENVIRONMENTAL VISION AND WE CAN ALSO LEARN SOMETHING FROM IT OURSELVES.' [WWW.FUELCELLBOAT.NL](http://WWW.FUELCELLBOAT.NL)



# SMART CAMERAS THAT RECOGNISE FACES



## MARCEL VAN KERSBERGEN, PRODUCT DEVELOPER

Computers and cameras are perfectly capable of recognising faces, but as soon as you try to integrate them into existing security systems, the glut of information causes the system to crash. That is why VDG Security BV decided to let the camera do the processing rather than the computer. 'Our DIVA system (Digital Intelligent Video Architecture) can process data from dozens of smart security cameras at once in a fraction of the usual time required by a computer', says Marcel van Kersbergen of VDG. The smart VDG camera can quickly analyse a face and break it down into a number of features, such as the shape and position of the ears, eyes, nose, mouth, chin and forehead. The result is an almost unique, small data file for each face, which can easily be compared to a central database of facial features. Van Kersbergen explains, 'The system only presents the corresponding photographic and video images to the doorman or to security for verification if the facial data is identical to a file that was previously saved. This allows a quicker and more effective response to the camera's images. It is then possible to determine whether someone is allowed to be in a certain area or has been in a certain place before, for example.'

THE HAGUE FOOTBALL CLUB ADO DEN HAAG INSTALLED THE DIVA FACIAL RECOGNITION SYSTEM IN ITS NEW STADIUM. KOOS VAN WOERDEN OF ADO: 'WE WANT TO KNOW FOR SURE WHO WE ARE LETTING INTO THE STADIUM. THAT'S WHY THERE ARE OVER A HUNDRED CAMERAS FACING THE STANDS AND ENTRANCES. THE SYSTEM DETERMINES WHETHER PEOPLE ARE ALLOWED TO ENTER WITHIN NO MORE THAN SIX SECONDS WHEN CLUB MEMBERSHIP CARDS ARE CHECKED AT THE ENTRANCE. AN ATTENDANT MIGHT BE ABLE TO DO IT MORE QUICKLY, BUT HE OR SHE WOULD MAKE CONSIDERABLY MORE MISTAKES.' [WWW.VDG-SECURITY.COM](http://WWW.VDG-SECURITY.COM)

# MINIATURE INVENTORS





PETER LANGENDAM, INVENTOR/ENGINEER

‘We are a company of inventors’, says Peter Langendam of ItoM - Ideas to the Market. ‘We specialise in products such as high-frequency receivers for analogue and digital radio and television.’ One of the uses for these receivers is to add functions to existing devices, such as TV on a chip for your mobile or PDA. The objectives of the 30-strong workforce include integrating as many high-calibre receiver components as possible into a small piece of silicon with a surface area of less than two square millimetres. However, although the receiver may be small, it is far from inferior, because ItoM sees it as a challenge to incorporate high-quality performance into inexpensive, energy-efficient, miniature products. These are the kinds of products that interest the clients and that have brought this company of inventors over 80 patents in the last ten years.

Langendam: ‘For example, we invented a radio that keeps playing when you drive through a tunnel, and we can combine a number of advanced functionalities on a single chip, such as a selective radio transmitter/receiver with a low-noise amplifier, special oscillators and other components to demodulate the signal.’

MASAYA TANNO, SANYO SEMICONDUCTORS, JAPAN: ‘WHEN WE STARTED LOOKING FOR INTEGRATED CIRCUITS FOR RADIO RECEIVERS FIVE YEARS AGO, ITOM WAS THE ONLY ONE THAT COULD OFFER US AN ENTIRE RADIO ON A CHIP THAT DID NOT REQUIRE ANY EXTERNAL COMPONENTS. THAT WAS A VERY APPEALING PROSPECT FOR US.’ ITOM AND SANYO ARE NOW COLLABORATING TO DEVELOP CHIPS WITH SPECIAL PROPERTIES AND TECHNOLOGY FOR MOBILE PHONES AND MP3 PLAYERS, FOR EXAMPLE.  
[WWW.ITOM.NL](http://WWW.ITOM.NL)

# ELECTRONIC PAPER CONQUERS THE WORLD





#### HANS BRONS, INVENTOR OF ELECTRONIC PAPER

Let us say you are travelling by train and want to take all of your books along, because you cannot decide which one to read. They only weigh 400 grams, so there is no need to choose. Imagine also receiving your newspaper and documents via the Internet and reading them on “electronic paper”. All this is possible, thanks to the iLiad. This ultralight screen is the brainchild of six inventors, including Willem Endhoven and Hans Brons of iRex Technologies, which is a spin-off of Royal Philips Electronics. Even in bright sunlight, reading on the iLiad is just as easy as reading from a normal piece of paper. In addition, power consumption is very low. The iLiad is the only “electronic paper” in the world that is interactive, allows you to write in the document shown on the screen and has a WIFI connection, while also offering the possibility of uploading content via the USB port and by using flashcards. With its keen eye for business opportunities, iRex Technologies is conquering the international market. According to Endhoven and Brons, ‘We are a young and unconventional company that maintains direct and intensive contacts with user communities. The iLiad is also highly regarded internationally as a very environmentally friendly product that greatly reduces paper consumption. For example, instead of their usual seven kilograms of paperwork, American pilots now use the 390-gram iLiad.’

ACCORDING TO PHILIPPE JANET, MANAGING DIRECTOR OF ELECTRONIC PUBLISHING AT THE DAILY FRENCH FINANCIAL NEWSPAPER LES ECHOS, ‘WE’VE BEEN OFFERING E-PAPER SUBSCRIPTIONS TO LES ECHOS FOR MANY YEARS. RECENTLY, WE ALSO STARTED PUBLISHING A MOBILE VERSION THAT YOU CAN READ ON IREX TECHNOLOGIES’ ILIAD BY ESTABLISHING A WIFI CONNECTION TO THE IREX SERVER AND THEN DOWNLOADING THE DIGITAL VERSION WHEREVER YOU ARE IN THE WORLD. WE HAVE NOTICED THAT THERE IS A DEMAND FOR E-PAPER SUBSCRIPTIONS AND WILL DEFINITELY CONTINUE TO EXPAND THIS SEGMENT IN THE FUTURE.’ [WWW.IREXTECHNOLOGIES.COM](http://WWW.IREXTECHNOLOGIES.COM)

# IDENTIFYING DISEASES AT THE MOLECULAR LEVEL



HANS HOFSTRAAT, PROFESSOR AND DIRECTOR OF CTMM

Cancer and cardiovascular diseases are the two most common killers in the Netherlands. Neurodegenerative diseases like Alzheimer's significantly undermine the patient's quality of life and presently are incurable. Molecular medicine can be used to identify these three disease types, long before the symptoms occur, thus making effective treatment possible. In the words of Hans Hofstraat, 'Molecular medicine allows us to detect changes at the molecular level, which enables early diagnosis and therefore administration of the best possible treatment tailored to the individual patient.' Hofstraat is Vice President at Philips Research Europe, where his responsibilities include Strategic Partnerships in Healthcare. He is also a professor at the University of Amsterdam (UvA) and Acting Director of the Center for Translational Molecular Medicine (CTMM). 'The knowledge in the Netherlands with regard to molecular medicine is very advanced, and so is the strength in the key enabling technologies, in-vivo and in-vitro diagnostics. CTMM is a centre of excellence that serves as a catalyst for translating this knowledge so that it can be used in clinical applications. The Center employs people from various disciplines, and in so doing combines the strengths of universities of technology, academic medical centres, pharmaceutical companies and medical equipment manufacturers, to name but a few of the parties involved.'

MEDICAL IMAGING TECHNIQUES COMBINED WITH TARGETED CONTRAST MEDIA MAKE IT POSSIBLE TO DETECT DISEASES IN THE BODY AT THE MOLECULAR LEVEL, WITHOUT ANY PHYSICAL INTERFERENCE. POSITRON EMISSION TOMOGRAPHY (PET) IS A HIGHLY SENSITIVE NUCLEAR IMAGING TECHNIQUE THAT ALREADY HAS THIS CAPABILITY. ONE OF THE MOST ADVANCED INSTRUMENTS IN THIS AREA IS THE GEMINI PET/CT SCANNER SHOWN HERE, WHICH IS MADE BY PHILIPS MEDICAL SYSTEMS. PROFESSOR ROLAND HUSTINX, WHO IS AFFILIATED WITH THE CHU HOSPITAL IN LIÈGE, BELGIUM, SAYS, 'GEMINI SATISFIED ALL OUR REQUIREMENTS: STATE-OF-THE-ART PET COMBINED WITH CUTTING-EDGE TIME-OF-FLIGHT DETECTOR TECHNOLOGY.' [WWW.CTMM.NL](http://WWW.CTMM.NL)





# SUPER FIBRE FOR BULLET-PROOF VESTS



CHRISTOPHE DARDEL, PRESIDENT OF DSM DYNEEMA

‘The Dyneema® fibre made by DSM is 15 times stronger than steel, but ten times lighter. Initially, Dyneema® was only used for fishing lines, rigging and anchor ropes, but after a somewhat slow start, the number of new products has skyrocketed’, says the President of DSM Dyneema, Christophe Dardel. ‘Generally speaking, the applications are developed in collaboration with our customers.’ Dyneema® is increasingly commonplace and can be found in anything from armour plating for cars or aeroplane cockpit doors – because of its strength – to bullet-proof vests and helmets because the material is also very lightweight. According to Dardel, ‘The secret behind the strength of Dyneema® fibre lies in the production method. Synthetics are made up of long molecules (polymers) that are entwined together like strings of spaghetti. In the late 1970s, chemists at DSM developed a technique for stretching long molecules of polythene and spinning them into a strong cord. They called this technique “gel spinning”. The product that they spun ultimately became the ultra-strong Dyneema® fibre, which has since become one of DSM’s showpieces’.

YANG ZHI DONG, GENERAL MANAGER OF ZHONG TIAN FENG, WHICH MANUFACTURES PROTECTIVE EQUIPMENT IN CHINA: ‘WITH THE 2008 OLYMPIC GAMES APPROACHING, THE BEIJING BUREAU OF PUBLIC SECURITY IS LOOKING FOR THE BEST POSSIBLE PROTECTIVE EQUIPMENT. THE EXCEPTIONAL PROPERTIES OF DYNEEMA® WERE A CRITICAL FACTOR IN OUR SUCCESSFUL BID TO PROVIDE THEM WITH BULLET-RESISTANT VESTS.’

[WWW.DSM.COM](http://WWW.DSM.COM)

# CHIPS FROM A PRINTER



RUBEN SHARPE, INNOVATOR/RESEARCHER

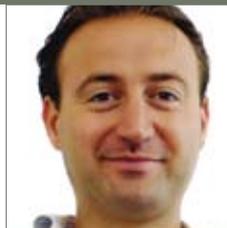
Ruben Sharpe designs miniature laboratories: at the Holst Centre in Eindhoven, he develops 'laboratories and sensors on chips', that is, miniscule structures where chemical reactions take place and reactions in the body are measured, for example. He also designs light sources made of a foil-like material.

According to Sharpe, 'We develop methods that allow these types of structures to be manufactured inexpensively. Instead of etching them out of a silicon sheet, we assemble them from tiny layers of polymer material on flexible foil, by using a kind of ink jet printer, to give one example'. The so-called "system-in-foil" is flexible and economical and highly suitable for making disposable products. For instance, Sharpe is working on a sensor that can detect whether someone who has been bitten by a tick has been infected with Lyme's Disease. 'I come up with applications for our basic system: for instance, I have developed an arrangement in which a tiny lamp and a light detector are placed close to each other. In between the light source and the detector you can then place a system of your choice that responds to its surroundings and alters the amount of light shining through.'

HOLST CENTRE SENSORS CAN EASILY BE USED IN COMBINATION WITH TEXTILES, SUCH AS IN BANDAGES USED ON BURN VICTIMS. THE BANDAGE THEN MONITORS WHETHER ENOUGH BLOOD VESSELS ARE FORMING IN THE PATIENT'S NEW SKIN: THERE IS A FIELD OF TINY RED LIGHTS AND ADJACENT SENSORS THAT MEASURE WHETHER THE LIGHT IS BEING ABSORBED BY THE RED PIGMENT IN THE PATIENT'S BLOOD. IF IT IS NOT, THE BANDAGE SENDS A SIGNAL TO ALERT THE SURGEON THAT THE PATIENT'S CIRCULATION IS INADEQUATE. [WWW.HOLSTCENTRE.COM](http://WWW.HOLSTCENTRE.COM)



# LET YOUR MOBILE DO THE TALKING



SANDER MUNSTERMAN, ENTREPRENEUR

In 2006, Sander Munsterman and Jan-Willem Vaartjes investigated the possibilities for doing business in China. Communication proved to be a major obstacle, as the Chinese mainly speak only their own language. Luckily, the two men had used a mobile phone to record a Chinese friend saying the addresses of hotels and restaurants, so they could always play the recording back to the taxi driver to make sure that he knew where they wanted to go. This is where the idea for XS2China was born! Munsterman: 'It started as a travel guide application for mobile phones providing useful addresses and the Chinese translation of a great many phrases. Phrases and addresses not only appear on the screen, both phonetically and in Chinese characters, but are also spoken: let your mobile do the talking!' The success of XS2China then became the inspiration for XS2The World, which is a Chinese version of the mobile travel guide for Beijing, Honk Kong, Shanghai, Xian and Guangzhou. A version for Barcelona, Buenos Aires, Bangkok and Amsterdam was launched recently, too. The two-man team also makes customised mobile applications for businesses, including the Hilton Hotel in Shanghai. When asked what makes the Netherlands the ideal place for creating such a fantastic invention, Munsterman answers, 'The Dutch are innovative, avid travellers and enterprising. You have to keep an eye out for opportunities worldwide and then give it your all. We saw how people often have problems communicating in other countries and were convinced that there was a gap in the market for a mobile interpreter. The invention has since turned out to be a goldmine.'

ENGLISH BUSINESSMAN PAUL DORAN IS TAKING A CHINESE COURSE SO THAT HE CAN LEARN TO COMMUNICATE MORE EFFECTIVELY IN CHINA, BUT HE CURRENTLY RELIES PARTICULARLY ON XS2CHINA: 'THIS PROGRAM IS THE BEST I HAVE SEEN SO FAR. THE SOFTWARE IS GREAT BECAUSE IT'S NOT ONLY TALKING, IT ALSO GIVES YOU THE POSSIBILITIES TO LEARN THE CHARACTERS AND SPEAK. BESIDES A BRILLIANT ONLINE ENVIRONMENT, IT IS EASY TO FIND THINGS, EFFICIENT TO WORK YOUR WAY THROUGH IT AND INSTALL. IT TOOK ME FIVE MINUTES TO GET IT ON MY MOBILE.' [WWW.XS2THEWORLD.COM](http://WWW.XS2THEWORLD.COM)

您可以送我到长城吗??\*

[ Nin ke yi song wo dao Chang Cheng ma ?? ] \*



\* "Could you take me to the Great Wall of China please?"





# SUPERINTEGRATION THANKS TO THE ‘POLDER MODEL’



MARC LANKHORST, ICT DEVELOPER

Mergers, joint ventures and takeovers are everyday occurrences, but how do you coordinate all the different business organisations that are involved? What you need is ArchiMate! ArchiMate was an effective means of combining products, services, business processes and IT systems to quickly form a single design for a number of municipalities working together in the Province of Twente. ArchiMate is unique among design languages because it allows you to combine the various aspects of a business in a single design drawing, whereas other design languages use sub-areas, which means that the user never gets to see the overall picture. ArchiMate can play an important role for organisations that want to respond quickly and flexibly to the changing needs of their clients and to business innovations, or that want to integrate systems efficiently in the case of mergers. Dr Marc Lankhorst, who heads the Service Architectures Research Group at the Telematica Institute, is one of the developers. ‘Similar developments are happening elsewhere, but those are mostly dependent upon specific suppliers, or are directed at a more limited part of the problem area than ArchiMate is capable of handling,’ says Lankhorst. ‘This product was developed in collaboration with the parties that use it, so it’s a typical example of all-party consensus-based development, or what the Dutch call the “polder model”. A number of foreign companies and educational institutions are already using ArchiMate and we are aiming for further international expansion.’

ACCORDING TO SACO BEKIUS OF THE DUTCH TAX AND CUSTOMS ADMINISTRATION, ‘WHAT MAKES ARCHIMATE DIFFERENT IS THAT IT GIVES YOU THE POWER TO CREATE A STRONG CONNECTION BETWEEN YOUR ORGANISATION AND YOUR IT SYSTEM. A LANGUAGE/ CONCEPT FRAMEWORK SUCH AS THE ONE SUPPORTED BY ARCHIMATE IS INDISPENSABLE GIVEN THE ROLE OF ICT IN THE DEVELOPMENTAL PHASES THAT ORGANISATIONS ARE CURRENTLY GOING THROUGH. THERE IS A GREAT DEAL OF TALK ABOUT THE NEED FOR SERVICE ORIENTED ARCHITECTURES, BUT NO ONE TELLS YOU HOW TO BUILD SUCH AN ARCHITECTURE. IN PRACTICE, ARCHIMATE IS AN EFFECTIVE INSTRUMENT FOR ACHIEVING PRECISELY THAT GOAL.’ ARCHIMATE.TELIN.NL

#### ABOUT THIS PUBLICATION

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