

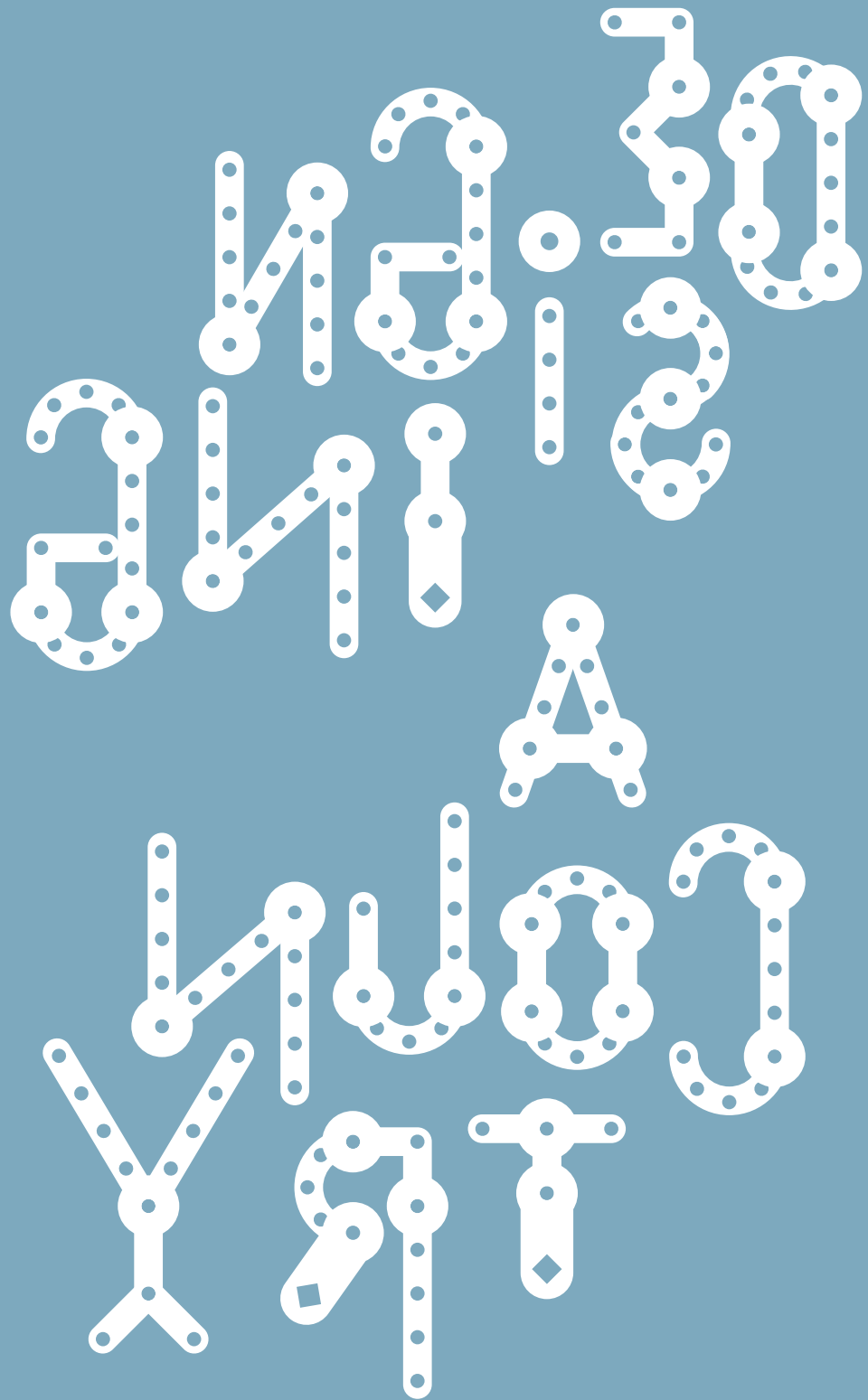
DESIGNING

A

Designing a country

Creative industries in the Netherlands

COUNTRY



Designing a country

Creative industries in
the Netherlands

Table of Contents

Foreword	5
Original and unconventional: The Dutch Creative Industries	7
Creative industries as a Top Sector	15
Who's Who	20
Crossover case #1: The Surgery Game	25
Crossover case #2: Floating Pavilion Rotterdam	27
Crossover case #3: Temstem	29
Crossover case #4: Fairphone	31
Crossover Case #5: Emergency Sanitation Operating System	33
Crossover Case #6: Blendle	35
Rebuild by Design Essay by Henk Ovink	36
More than Fashion Interview with Marina Toeters	43
About this publication	48



Foreword

Societies the world over are facing enormous challenges today. The economic crisis has left its mark on them. Their populations are ageing; and the fossil fuels on which they run are becoming scarcer. Population growth has put pressure on the quality of life, infrastructure and environmental quality of cities worldwide. But there is good news too. The Netherlands is actively helping to face these global challenges.

Innovativeness and creativity – both crucial factors in our response to the issues facing society – are innate to the Dutch. The Netherlands owes its greatness to the water, with cities being built at the junctures of an international network of waterways. Our dikes and flood barriers were once revolutionary tools in our fight against the sea; today, they are tried-and-tested export products. They are Dutch solutions to a global challenge.

Creativity and innovation are superbly combined in the creative industries. Its various sectors are renowned for tackling challenges in innovative ways, for example Rem Koolhaas' architecture, Marcel Wanders' designs, or Ranj's serious games. This is how the creative industries are making an important contribution to the culture, economy and society of the Netherlands - and the world.

As Minister of Education, Culture and Science and Minister of Economic Affairs, we believe in supporting the creative industries, in nurturing creativity. And in encouraging creative talent, business people and researchers to join forces. And not only in the

Netherlands, but even more importantly in cooperation with the international community.

That is why we developed our policy on Top Sectors, which unites research and educational institutions, government and businesses. The creative industries have been identified as one of these Top Sectors. Thanks to the support provided through our policy, economic activity in the creative industries is increasing and the business climate in the Netherlands is one of the best in the world. The creative industries are also playing a growing role in solving the problems facing the international, national and local community.

One of the priority strategies that our policy proposes to address these problems is internationalisation. The Dutch government wants to connect the specific skills and capabilities of the Dutch creative industries with challenges and expertise abroad. Our aim is to export our cultural and economic assets to other countries, but also to join them in tackling the grand challenges facing modern society.

Another focus is the potential for crossovers. The Dutch government supports cross-fertilisation between enterprises in the creative industries and parties normally active outside that industry, for example health care institutions or the energy sector. A good example of this is Temstem, a computer game developed by students, designers and medical specialists that helps people with psychosis manage their illness. Another example is a dress by fashion designer Marina Toeters that converts sunlight into electrical energy. This booklet offers an impression of the Dutch creative industries. It looks at the origins of that industry, the role of government and the most important parties. It also spotlights creative entrepreneurs who are following in the footsteps of Dutch creative industries pioneers with their crossovers and artistry.

We hope you find it inspiring reading.

Jet Bussemaker,
Minister of Education, Culture and Science

Henk Kamp,
Minister of Economic Affairs

Since the start of the twenty-first century, the Netherlands has been putting more effort than ever into the creative industries. Underpinning this industry is the power of imagination combined with entrepreneurship. The creative industries are playing an increasingly valuable role in society. Digitisation and the rise of the Internet have boosted its importance while at the same time changing it dramatically.

Original and unconventional

The Dutch creative industries

The number of creative businesses in the Netherlands has risen sharply in the past few decades. So have employment and added value in the industry, although the recent economic slump has taken its toll. The growing economic importance of the creative industries have caught the attention of the Dutch government, which has identified it as a Top Sector in the Netherlands and crucial to the nation's economic future.

Defining the creative industries

The creative industries consist of three sectors. What these three have in common is that their economic activity depends on the ability to innovate, to imagine, to create meaningful products or services and to subsequently sell these to other businesses or to consumers. Whether or not these sectors receive government support is a secondary matter.

The three sectors that make up the creative industries are the media and entertainment sector, the arts and heritage sector, and the

creative business services sector. The latter differs from the other two in that the relevant firms work mainly for other businesses. Specifically, they specialise in communications and advertising, architecture, and the various design disciplines.

The creative industries are not really a new sector, in other words; what is new is that this specific combination of activities has been identified as a coherent and important sector in the economic and cultural sense.

Imagination, innovation and the creative economy

The ability to turn social and cultural trends into products and services is crucial for innovation and competitiveness in the creative economy. The most successful products and services are those that fit in with users' lifestyles and reflect their values. Creativity and imagination – and the ability to exploit these commercially – are vital to value generation and prosperity. They are building blocks for shaping identity and they also represent economic value. Designers create the products and services that surround us in our everyday lives; architects design the built environment, i.e. our physical surroundings; media professionals use their audio-visual content to influence our view of the world. Artists challenge our perceptions and encourage us to probe our boundaries. The economy is becoming more cultural in nature, and the economic and social significance of creativity is growing.

The power of creativity and the ability to imagine and create designs are also hugely important – perhaps even more important – outside the boundaries of the creative industries. Combined with other types of knowledge and other competencies across the economy, they can lead to appealing products and services that are relevant to consumers. That is the case for the manufacturing industry, for the financial services sector, for the health care and energy sectors, and for the food industry, to name just a few. When the creative industries join with other sectors in new ways, the innovativeness of the creative economy can empower the Netherlands and Europe.

The economy is becoming more cultural in nature, and the economic and social significance of creativity is growing.

The Netherlands has an open, liberal culture that absorbs and integrates influences from the farthest corners of the globe.

The development phase of the creative industries thus becomes a gauge for the power and vitality of the economy.

That is true not only from the economic perspective, however. Given the 'grand challenges' and urgent issues facing society, for example healthy ageing, the circular economy, smart industries and the inclusive society, the power of creativity is absolutely essential. After all, these issues require much more than technological solutions. They are design challenges in which cultural values are at stake and human experience and meaning are the key.

That becomes clear in the internationally acclaimed De Hogewey project, an example of 'design for ageing' in which elderly persons suffering senile dementia are cared for in an environment that matches their lifestyle. Another appealing example is the development of the Energy Island in shallow coastal waters that combines energy storage and recreation. Designers, engineers, energy experts and builders employed by different companies have joined forces in this project.

The Dutch creative industries have been operating from this perspective for many years. It has invested heavily in crossovers with other sectors and domains, convinced that this is the best way to do justice to its own strengths.

The Dutch creative industries

The Netherlands has an open, liberal culture that absorbs and integrates influences from the farthest corners of the globe. The history of the Netherlands as a centre of international trade underpinning a sound financial sector, in particular in Amsterdam, has had an unmistakable influence on the current status of the creative economy. The arts and creativity can thrive in this configuration. Combined with a highly educated and multilingual population, this environment has made the Netherlands an attractive place for foreign creative businesses. Evidence can be found in the large number of advertising agencies located in the country's capital.

Amsterdam has by far the most important geographical concentration of activity in the creative industries. Along with Hilversum, the heart of the broadcasting and media industry, and Utrecht, the country's central transport node, it is part of an axis along which much of the creative economy of the Netherlands is flourishing. Positioned along that corridor are key concentrations of media firms, the gaming industry, design agencies and ICT companies.

A number of Dutch cities have specialist niches within the creative industries that suit their own creative economic profile. Arnhem, for example, is a centre of fashion, in part because it is home to a leading educational programme in that discipline. Rotterdam, the Netherlands' second-largest city, has an architecture cluster that includes several world-famous agencies and a number of associated institutes. The Eindhoven region – recently cited as the most competitive region in the world – is an exceptional centre of design. The design sector operates mainly within the high-tech industry there and is dominated by Eindhoven's Design Academy.

The Netherlands is even more attractive to the international creative industries because it is a portal to the European continent. In fact, it is known as and has claimed the title of Gateway to Europe. The Netherlands is also proving to be a fertile environment for creative products and services that have captured both the Dutch and international market.

An international outlook

The Dutch creative industries are very international in outlook. Underpinning this is the unconventional, original and pioneering nature of Dutch creations and design solutions, which gives the industry a distinct identity. The new combinations that arise in the Netherlands often challenge aesthetic, cultural and even moral conventions.

That is true both of Dutch Design, which is now world famous, and of Dutch architects, who produce plans for locations around the world. Dutch audio-visual companies have developed brand-new television formats, and Dutch deejays and festivals are trendsetting in contemporary dance music. That is also true of the numerous digital media labs located in the Netherlands, which offer an artistic challenge to the dominant technologies.

Creative industry: size and growth

The economic significance of the Dutch creative industries has increased sharply since the turn of the century. In 2012, it accounted for 153.410 jobs in the Netherlands, or 2.0 per cent of total employment. There are 45.440 jobs in the art and heritage sector, 48.440 in the creative business services sector, and 59.520 in media and entertainment. Many of the people working in the creative industries are self-employed.

A creative network economy is taking shape. Turnover in the Dutch creative industries was 12,6 billion euros in 2013, or 2.2 per cent of all turnover generated in the Netherlands that year. Compared to 2010 this is a slight decrease of 0.1 percent. Mainly firms in communications and advertising and in architecture suffered from the economic crisis. The former sector is heavily influenced by fluctuations in the economy, while the latter is the first to feel a downturn in construction. The media industries have been under pressure for some time. Digitisation has led to downsizing in the big media companies. However, some of the job losses there have been compensated by job growth in digital services.

source: statistics Netherlands

This shows that the Netherlands' creative power lies not only within the domain of the creative industries, but in particular in crossovers to other domains, where applied creativity generates value.

One of these institutions developed the Fairphone project, which focuses on making the smartphone production system sustainable and smartphone components recyclable. A relatively new development is serious gaming – i.e. games designed for educational purposes. The Netherlands has many serious gaming firms that are doing pioneering work in this area, including for the international market. A public-private partnership, for example, set up to support the Growing Games project is attempting to take the Dutch serious gaming industry to the next level, with a view to potential export opportunities.

The Netherlands is also active in more traditional cultural sectors. Its Baroque music ensembles and symphony orchestras are world famous. Its museums can draw on the legacy of seventeenth-century Dutch painters and on the creative output of the modern and post-modern eras. Dutch institutions are also in the vanguard when it comes to heritage digitisation projects. That is especially true of the Netherlands Institute for Sound and Vision, which sets an example for many others both as an art centre and as a developer of new services.

Crossovers

Increasingly, the Dutch creative industries are regarded as a partner that works with other sectors and disciplines on the design and development of creative solutions meant to tackle public issues while generating economic returns.

The Netherlands is capable of producing smart combinations, for example urban design and spatial planning, in order to make ingenious, multipurpose use of a restricted amount of land. This is known as the 'Dutch approach'. For example, the country is situated in a delta, which requires water management skills; it is one of the most densely populated regions of the world; but it is also the world's second largest exporter of food.

This shows that the Netherlands' creative power lies not only within the domain of the creative industries, but in particular in crossovers to other domains, where applied creativity generates value. The unconventional and pioneering spirit of Dutch Design and Dutch architecture, for example, has carried over in the search for original, creative solutions to the 'grand challenges'. That is where the value of the Dutch creative industries currently lies.



Government support for the creative industries is of recent date in the Netherlands, but many of the sectors that are regarded as part of that industry have been around much longer. After all, culture and creativity have been sources of economic value and social progress for decades – in some cases for centuries. In the seventeenth-century, patrons called on the

Creative industries as a Top Sector

Government policy for a top ranking by 2020

creativity of the Netherlands' Old Masters, resulting in works of timeless value. The printing press served as a catalyst for literacy and the Reformation, but it also laid the basis for publishing as an economic sector. The electronic media have a much briefer history; they can trace their origins to technological advances at the start of the twentieth century. Digitisation and the arrival of the Internet have given rise to new branches, for example the gaming industry. They have also had a disruptive effect on the traditional sectors of the creative industries.

It has only been in the past two decades that the creative industries have been recognised and identified as a promising in the Netherlands, including by Dutch policymakers. The United Kingdom, Australia and other English-speaking countries preceded

the Netherlands in this respect in the 1990s. The US Government recognised the importance of the film industry for the country's economy many years ago, with various US presidents attempting to influence trade negotiations (for example with China) by raising the problem of copyright infringements abroad.

The Dutch government recognised the economic importance of the creative industries more than ten years ago. Such recognition makes sense at this stage of the country's economic development, with global competition eroding the Netherlands' traditional industrial foundations and with a growing services sector. The rise of the knowledge economy has also placed more emphasis on education and research and, by extension, on innovation. It is a trend that can be seen across Europe.

Recognition of the importance of the creative industries marks a new phase. Alongside knowledge, creativity and imagination are viewed more than ever before as drivers of economic progress. The creative industries are the backbone of this evolving creative economy.

Crossovers and grand challenges

At first, Dutch government policy focused on promoting the sector's growth, expressed in terms of employment, turnover and added value. Gradually, however, the focus is shifting to the broader social and economic significance of the creative industries. The aim now is to encourage partnerships between the creative industries and other sectors, i.e. crossovers.

Viewed from this perspective, the importance of the creative industries lies much more in offering new prospects and encouraging innovation in other sectors than in the industry's own growth. The changing nature of the economy and of society requires this. It is not enough to rely solely on technical knowledge to achieve economic progress, or on social innovation. Increasingly, cultural values are at stake. Creativity is crucial as input, with user experiences offering new perspectives. This approach is compatible with the nature and working methods of the creative industries, with its focus on all-round design. In short, the creative industries leverage innovation for purposes of economic and social progress.

In that guise, it increasingly plays a role in tackling the 'grand challenges' – for example the ageing population and the future of the health care system, climate change, the circular economy and

the inclusive society. Crossovers between the creative industries and other societal domains can generate new prospects and innovative solutions. These and other grand challenges are at the heart of the European Union's various knowledge generation programmes.

The emphasis on the creative industries' leveraging effect on the economy and society is moving creative talent – those who possess competencies drawn from the creative industries – into the limelight. Many of these talents work within the creative industries, but quite a few also work in other domains, for example manufacturing, financial services or logistics, a phenomenon known as 'embedded creativity'. Nevertheless, government has not lost sight of the unique perspective that the creative industries can bring to bear as a separate sector. Its economic power may well increase, at home and abroad, precisely because it can develop and create new products and services that will play a key role in successfully tackling the grand challenges.

Creative industries as a Top Sector

Within the context of the Dutch government's economic policy, the creative industries were designated a Top Sector in 2011, alongside others such as logistics, water and agro-food. The experts assembled for the Creative industries Top Sector Team have acknowledged the broad role of the creative industries and are devoting much of their effort to supporting crossovers from the sector to other domains. The team has set itself the aim of making the Netherlands the most creative economy of Europe by 2020. The Top Team unites the worlds of the creative industries, research, education and government.

The exceptional position that Dutch government policy accords the creative industries dates back to 2004, when it was identified as a key area by the Innovation Platform, established to take the Netherlands into the international top five in research, education and innovation. At around the same time, the authorities in various Dutch cities – including Eindhoven, Amsterdam, Arnhem, Utrecht and Rotterdam – began to realise that the creative industries were very important to them as well. In the past few decades, initiatives have been launched in a variety of cities and regions, ranging from creative business clusters (often in former industrial buildings) to development programmes for specific niches within the industry.

In all these initiatives, efforts were made to get businesses, research and educational institutions, and government working together

– the ‘golden triangle’. Looking back, initiatives in the design sector, gaming industry and media were particularly successful thanks to specific regional incentive programmes. Policy instruments developed by the national authorities in cooperation with the European Union have proved valuable for the creative industries in that context.

Innovation, Talent, and Internationalisation

The Creative industries Top Sector Team is building on progress made during the days of the Innovation Platform and working on various fronts with public and private parties to boost the position of the Dutch creative industries. In particular, it is concentrating on: promoting knowledge generation (focused on innovation within the sector); talent development (through the human capital agenda); internationalisation; and improving the export position and financing of activity within the creative industries. The Top Team is working closely with various Dutch regions and cities that are committed to developing a niche within the creative industries that matches their own economic and social identity.

Because the role and significance of the creative industries are most obvious when it works with businesses in other sectors and domains, the Top Team has begun asking private partners outside the industry to commit to investing in R&D there, under the motto ‘It takes four to tango’. This idea fits in perfectly with the aim of making the Netherlands the most creative economy of Europe by 2020.

Ministries

Three ministries are developing an incentives policy for the creative industries, in close collaboration with the Top Team. The latter has the support of the Dutch Creative Council in that regard, whose members represent businesses and institutions across the Dutch creative industries.

Alongside the Ministries of Economic Affairs and Foreign Affairs, the Ministry of Education, Culture and Science is also helping to shape policy on the creative industries as a Top Sector. Each of these ministries is pursuing its own policy aims while working together to boost the creative industries.

Economic Affairs has developed general support measures, tailored as much as possible to the wishes of creative industries firms, in particular small and medium-sized enterprises (SMEs). Much of the government funding earmarked for research will go to projects associated with the creative industries, in consultation with the funding bodies, the Netherlands Organisation for Scientific Research (NWO) and the Foundation Innovation Alliance for Higher Education (SIA). The Netherlands Organisation for Applied Scientific Research (TNO) is also a partner.

CLICKNL, a top network for knowledge and innovation in the creative industries, has been set up to generate knowledge and carry out research with and within the creative industries. Businesses, research and educational institutions, and government work together in CLICKNL. Based on their joint strategic research and innovation agenda, approximately 15 million euros has been earmarked for research carried out on behalf of and in cooperation with the creative industries (which is also contributing funds).

The Ministry of Foreign Affairs is working to promote the Dutch creative industries abroad.

The Ministry of Education, Culture and Science has turned its attention to training creative talent, but also to development by means of experimentation and research in various creative sectors. In addition to specific funds supporting the arts and the film industry, the Creative Industries Fund NL focuses in particular on design, architecture and e-culture. The Fund supports Dutch and international projects within the creative industries as well as crossovers between disciplines and sectors.

For example, the fund is making a financial contribution and organising meetings to encourage cross-fertilisation between architecture and the health care sector. It is also encouraging research and supporting events that concern crossovers between education and design.

In adopting and supporting these initiatives, the Dutch Government is expressing its belief that crossovers will play a valuable role in tackling the grand challenges.

Who's who

Ministry of Education, Culture and Science

The Ministry of Education, Culture and Science works to create a smart, skilled and creative environment in the Netherlands. Its mission is to ensure that everyone gets a good education and is prepared for independence and responsibility. The Ministry supports the creative industries by contributing to the Creative industries Top Sector Policy and through its own policy on the arts (architecture, design, e-culture, film and other disciplines).

www.rijksoverheid.nl/ministeries/ocw

Ministry of Economic Affairs

The Ministry of Economic Affairs promotes the Netherlands as an enterprising country with an eye for sustainability. It is committed to creating an excellent entrepreneurial climate by creating the right conditions and giving entrepreneurs room to innovate and grow.

www.rijksoverheid.nl/ministeries/ez

Ministry of Foreign Affairs

The Ministry of Foreign Affairs supports international economic activity, creates the necessary favourable conditions, and encourages foreign companies to establish long-term operations in the Netherlands. Its mission is to promote Dutch competitiveness, an open world economy, and sustainable globalisation. It also pursues a cultural policy intended to enhance diplomatic relations.

www.rijksoverheid.nl/ministeries/bz/organisatie/organogram/directoraten-generaal

Netherlands Enterprise Agency

The Netherlands Enterprise Agency encourages entrepreneurs in sustainable, agrarian, innovative and international business. It helps them with grants, finding business partners, know-how, and compliance with laws and regulations.

www.rvo.nl

Creative Industries Fund NL

The Creative Industries Fund NL issues project grants in order to foster quality in the creative industries, to promote innovation and cross-sector approaches, and to professionalise entrepreneurship, both in the Netherlands and abroad. It also actively seeks to connect culture, society and the economy. The Fund organises activities and competitions, addresses relevant themes, and initiates debates, for example on how to enhance the international standing of the Dutch design sector.

www.stimuleringsfonds.nl

Het Nieuwe Instituut

Het Nieuwe Instituut aims to illuminate and map our quickly changing world and foster network-driven discussion with architects, designers, artists, makers, entrepreneurs, knowledge institutes, cultural organisations and other interested parties.

www.hetnieuweinstituut.nl

Federation of Dutch Creative Industries

The Federation of Dutch Creative Industries (FDCl) unites professional organisations within the creative business services sector (BNA, BNI, BNO, DGO, FotografenFederatie, Modint, PIBN and VEA).

www.dutchcreativeindustries.com

Dutch Creative Council

The Dutch Creative Council consists of the Council and the Creative industries Top Sector Team. It acts as an independent strategic adviser to the creative industries, which it aims to encourage and develop into a top, trendsetting sector in the Netherlands and internationally.

www.creativecouncil.nl

CLICKNL

CLICKNL is the Dutch creative industries knowledge and innovation network. It consists of a number of sub-networks: Design, Media & ICT, Cinext, Next Fashion, Games, Built Environment and Cultural Heritage.

www.clicknl.nl

Netherlands Organisation for Scientific Research

As the Dutch government's designated funding body for science and scholarship, the Netherlands Organisation for Scientific Research (NWO) promotes the quality of research in the Dutch creative industries and other areas.

www.nwo.nl

TNO

TNO is an independent research organisation which connects people and knowledge to create innovations that boost the sustainable competitive strength of industry and well-being of society.

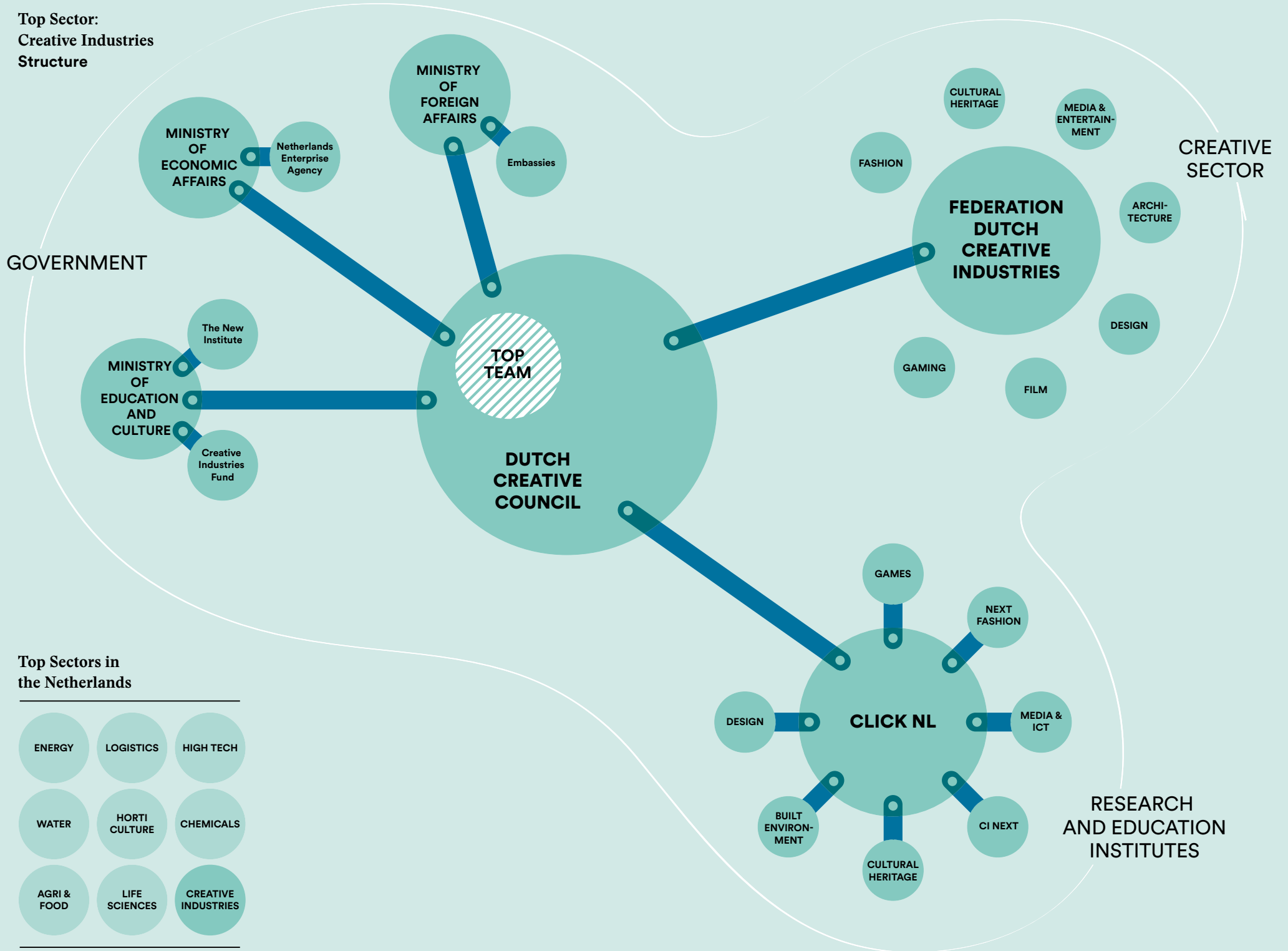
www.tno.nl

Creative industries Top Sector Team

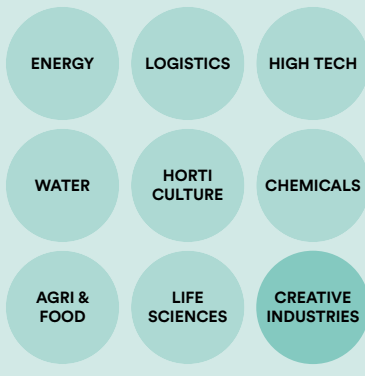
The Creative industries Top Sector Team advises the Dutch Government with a view to making the Netherlands the most creative economy in the world by 2020. The members of the Top Team represent government, research and educational institutions, and businesses – the 'golden triangle', as it is known in the Netherlands. The Top Team works on internationalisation, knowledge and innovation, and human capital and takes a particular interest in crossovers between sectors (examples can be found in this publication). The Creative industries Top Sector Team operates within the Dutch Creative Council.

www.topsectoren.nl/creative-industrie/topsteam

**Top Sector:
Creative Industries
Structure**



**Top Sectors in
the Netherlands**





Crossover case #1

Laparoscopy involves the surgeon's use of camera images to operate inside small openings in the abdomen. In order to make the required practice in this technique more fun and to lower the threshold, umcg, LIMIS Institue, and Grendel Games developed a training game that can be played simply at home on a game computer. It eventually led to an entertainment game for the Nintendo Wii U with adapted hardware for less than a fraction of the price of a simulator.

Surgery Game

Laparoscopic surgery training game for the Nintendo Wii U

For this unusual crossover the care specialists plunged into the world of game development, while the game developer did the same in the world of laparoscopic surgery. They attended several operations, went through innumerable hours of video material, and engaged in extensive training with simulators.

Because the training game had to be really entertaining in order to keep the players motivated, Grendel Games was given the opportunity to have a genuine added value within the project. On the other hand, it was necessary to critically evaluate which practical medical skills

can be learnt by playing a game. By getting medical specialists to apply their professional knowledge in the world of computer games, a dynamic process resulted in which all of the parties understood one another's goals.

The game (titled Underground) has received publicity all over the world and won numerous awards. The major success is that the team managed, probably as first in the world, to develop a serious medical game for a game computer, validated by scientific research (published in, amongst others, The Lancet).



Crossover case #2

A striking object is floating in the centre of Rotterdam: a complex of three floating domes connected with a floating square. This pilot project was implemented with the latest technology in the field of floating buildings and sustainability and marks an important step towards climate-resistant urbanisation on the water. Rotterdam is playing an international pioneering role in this respect.

Floating Pavilion Rotterdam

Climate-resistant urbanisation on the water

The design by the combination of architects DeltaSync and Public Domain Architecten consists of three linked floating domes, the largest of which has a diameter of 24 metres. The floor surface is 46 × 24 metres. The pavilion was built by Dura Vermeer and functions as an exhibition and reception area. The futuristic pavilion will be moored in the Rijnhaven for the first five years. Afterwards it can be towed over water to another location.

The sustainability of the pavilion lies in the materials used, the flexibility, and

also the interior design. The building is heated and cooled with solar energy and surface water. The pavilion is largely self-sufficient in its energy requirements. The climate concept that was devised by DWA, divided the building into different climate zones. The energy is only used where and when needed. The toilet water is purified on the spot and the residue can be flushed into the surface water. The ETFE foil with which the domes are coated is another novel feature. It is roughly 100 times lighter than glass, which makes it highly suitable for floating buildings.

Principal: Rotterdam Local Authority
www.deltasync.nl
www.publicdomainarchitecten.nl



Crossover case #3

Temstem is an app for people who hear voices in their head. At times of stress a game on the iPhone can prevent a lot of suffering. The care sector is enthusiastic: the free app seems to be a viable alternative to expensive therapeutic sessions.

Temstem

—
App keeps voices under control

It started with an assignment in an Industrial Design course by Nynke Tromp, who teaches at the Delft University of Technology: how can a designer help someone to recover from a psychosis? The psychomedical centre Parnassia drew inspiration from the ideas of students and invited Reframing Studio, the design agency where Tromp also works, to join in. Psychotherapists, researchers, designers and potential users worked together on an app – Temstem – for people who hear voices in their head. At stressful moments two games distract the player from the disturbing voices. For instance, by typing the syllables of a series of words with one finger: the higher the number of correct ticks, the higher the score. ‘The eureka moment came when we discovered that typing is just the right thing to keep your brain focused without being too difficult’, says Tromp.

‘It’s about activating the area where the brain produces language. This way, it is less likely for a person to be distracted by voices in his head’.

The main challenge was to find the right balance between aid and game: it must be attractive enough to make you want to play it, but simple enough in a stressful situation. The higher the level selected, the greater the therapeutic effect. In the meantime the player receives positive feedback: Temstem strengthens precisely what the voices want to weaken.

The crossover between design and health care proved to be fertile. After a successful test period – one player even got rid of the voices completely – the app is now available free of charge for iOS and Android users.



Crossover case #4

Who wouldn't like to help to make the world a better place without having to cut down on luxury? At least 25,000 people were so taken by the idea that they paid for their Fairphone before it was taken into production.

Fairphone

Flying start for a fair phone

5,000 orders were needed for the factory to start up production, but there turned out to be no less than five times as many enthusiastic supporters. 'There is apparently an enormous demand for innovation in the smartphone manufacturing process', says Fairphone's Roos van de Weerd. This Amsterdam based company claims that from beginning to end the life cycle of a mobile telephone can be made fairer and more sustainable.

The idea of making consumers more aware of the often less attractive story behind their electronics originated in the Waag Society. The designer and technical wizard Bas van Abel encapsulated that idea in a smartphone that is better for people and the environment. The required components are collected assembled, and, if possible, recycled again under the fairest possible conditions.

Van de Weerd: 'The project is about reorganizing systems that have got stuck in a rut. It can't be done in one go. Buyers invest in a process leading to a fairer phone. We can now guarantee, for example, that the tin and tantalum come from Congolese mines that have no connection with the armed militias. The next step is the gold. And in China we have found a factory that is dedicated to improving the working conditions'.

The plastic case is recycled and the Fairphone can even be repaired thanks to the use of components that can be dismantled. 'We have to leave those hermetically sealed black boxes behind', says Van de Weerd. 'That is design for the dump. It costs no more to make something that is more sustainable and social. And we invest the profit in the next step; the Fairphone gets fairer and fairer'.



Crossover case #5

There is already one being tested in the Philippines: The first 'smart toilet' from Unesco-IHE is not only hygienic, safe and cost-effective, but can also identify health problems.

Emergency Sanitation Operating System

Smart toilets for emergencies

In disaster areas where many people are living together in poor conditions, diseases are lurking. Sanitation plays an important role – a hole in the ground or overflowing emergency toilets are breeding grounds for bacteria and viruses. If the flow of waste is managed better, risks can be eliminated and the quality of life will improve considerably.

Based on this information, the separate urine and faeces tanks can be emptied at precisely the right moment to be processed into water, fertilizer and fuel. And by tracking the average body weight or monitoring the ratio of urine to faeces, experts can identify imminent malnourishment or dehydration at an early stage.

Professor Damir Brdjanovich from Unesco-IHE studied the issue, and then took it one step further. He envisioned a smart toilet, one that was not only hygienic, safe and affordable, but was also a source of information about the situation in an area.

Brdjanovich emphasizes that this is an interdisciplinary project. The request came from Unesco, the innovative software is from the Bosnian company Systech and the design is from Delft-based agency FLEX. "We have made a compact package that is easy to transport," explains designer Ronald Lewerissa. "The shipping pallet transforms into the toilet's foundation during installation. The water tanks are incorporated into the walls and the urine tank is part of the stairs. The aim was to make this toilet as functional as possible for a low price."

The initial results of the study were tested in the Philippines: The Emergency Sanitation Operating System, shortened to eSOS, is being tested here for functionality and acceptance. This lightweight, easy-to-maintain toilet is equipped with sensors that collect relevant data.



Crossover case #6

It required some serious persuasion, but now Dutch and Belgian publishers are convinced. Blendle brings paid journalism to readers in a completely new way – not in a newspaper or magazine, but by the article.

Blendle

The best of newspapers and magazines

Four years ago, he stood in front of a magazine rack in the supermarket. Which one should he choose? There was something that interested him in each one, but no single magazine had everything he wanted. Frustrated, Marten Blankesteyn stood outside shortly after... without a magazine. But it planted an idea in his mind. With the help of internet entrepreneur Alexander Klöpping, it grew to become Blendle, a platform where you can buy individual articles from newspapers and magazines to read and share with your friends for just a few cents.

Technically, the platform fell into place fairly quickly; the biggest challenge was convincing publishers to participate in the first search engine for browsing printed media. “The Dutch newspaper NRC was the first to make a move,” says strategist Thomas Smolders. “After that, the other publishers didn’t want to fall

behind.” Today, this new digital kiosk includes over fifty titles, primarily from the Netherlands and Belgium.

As a game changer in the publishing world, Blendle is often compared to iTunes. The concept is ideal for anyone who does not want a fixed subscription (and the stack of paper that comes with it), but appreciates well-written articles and is willing to pay for them. And if you don’t enjoy the article, you can get an instant refund. It is apparently working: Four months after the launch there were already 100,000 registered users, 20 per cent of which already topped up their starting credit at least once. Now that it has conquered the Dutch-speaking market, Blendle is eagerly looking across the border. “We are exploring the possibilities in several countries. I hope that five years from now we will also have a German and French Blendle.”

Our location below sea level has made us smart in the field of water management. The ‘Dutch Approach’ to the dangers of flooding is reaping international rewards. In the US, Dutch designers and engineers stood out in the Rebuild by Design projects, which are working to limit hurricane-related damage. This offers new opportunities for the creative industries and water management, two key sectors in the Netherlands.

Rebuild by Design

Essay by Henk Ovink

I left the Netherlands a year and a half ago and now work for the American government rebuilding the greater New York area after the devastating effects of Hurricane Sandy at the end of 2012. Every time I explain who I am and where I come from, the Americans tell me my history. They talk about the polders and the low-lying land below sea level. About our levees and the storm of 1953. About our centuries long tradition of regional collaboration and the significance of water for our strong position in the global economy. They talk about how we made the Netherlands – conceived, planned and designed it. And about what that actually means, designing a country. It is a compelling story, and one that is also true. For centuries, we have reigned supreme in planning, design and water management. The Netherlands is made from land and water. By using clever, design driven ways to manage risks and uncertainties, we have become what we are today. We even elevated this approach to an art form; we have the relevant expertise and in practice, we are at the forefront of the designs and innovations that are making a difference worldwide.

The Dutch Approach

The Netherlands owes its greatness to the water, with cities being built at the junctures of an international network of waterways.. In Europe, the Netherlands is still the market leader in inland shipping



and we have the best-protected delta in the entire world. And we keep investing below sea level. Water, planning and design should be inseparable from politics, public debate and our priorities for the future. We are completely dependent on proper water management, a safe delta and clean drinking water. Our cities cannot exist without water. This is part of the Dutch culture, and we have every right to be proud of that.

We are innovating and anticipating the future with the help of our key sectors: water management and the creative industries. Governments, academic institutions, the business world and the creative sector are closely working together on this, both in the Netherlands and abroad. Creating alliances to achieve complex changes is typical of the 'Dutch Approach'. Together, we are doing 'design-driven research'. Distinctive public patronage – the Americans would call it leadership – is essential for transforming the research into concrete physical results and achieving actual reforms.

Rebuild by Design

In October 2012, Hurricane Sandy swept through the northeast coast of the United States. It left the greater New York area not only with a trail of destruction, but also more than \$70 billion in damages. Sandy also showed that the most vulnerable members of society often live in the most high-risk locations. And the storm reinforced the image of a divided region. After Sandy, there was an immense call for action. There was enormous social pressure on politicians to act immediately and rebuild the city as it was before Sandy arrived. Money needed to reach people and companies as quickly as possible to enable them to rebuild the region from the bottom up. They managed to link slightly higher levels of flood protection standards to the reconstruction funding, but that was about it. There was no regional coordination, no insight into new regulations, and no long-term perspective. The question was this: within that 'can do' mentality, where the rights of the individual and the power of the community are continuously strengthened by the annual and biannual elections, how can you create a long-term, regional process? One that allows you to make cohesive plans for sustainable, resilient reconstruction? Not plans made in reaction to yesterday's storm, but projects based on the expertise and aspirations of tomorrow. How can design be used to unite people, to make the threats and opportunities tangible on their own streets and neighbourhoods, and to gain insight into the

impact of climate change, social inequality and economic instability in the future?

This is how 'Rebuild by Design' was born. For the US, it was a unique process of connecting design and engineering talent with the region's existing talent: residents, executives, entrepreneurs, scientists and community leaders. It was a single, regional, design-driven research process with more than two hundred professionals collaborating in ten teams. They analysed regional vulnerabilities and dependencies, as well as promising locations for new developments and quality improvements. Thanks to the strong coalitions of designers and local stakeholders, Rebuild by Design delivered ten innovative regional strategies linked to concrete, actionable projects. Rebuild by Design was not a plan, but a process of cultural change. The cross-sector teams collaborated on the development of a new, sustainable and publically supported reconstruction process. Initiated by the Presidential Hurricane Sandy Rebuilding Task Force, Rebuild by Design was a unique coalition of governments, research institutions and cultural organisations, funded by six donors, including the Rockefeller Foundation and the JPB Foundation. Rebuild by Design was therefore more of a movement than a project.

Dutch successes

The Dutch Approach was a hit in the US: there is a reason why six of the ten teams have Dutch partners. Of the six winners, four have representatives from the Netherlands.

OMA and Royal HaskoningDHV developed a comprehensive strategy for Hoboken: 'Resist, Delay, Store, Discharge'. This robust set of measures would make Hoboken a safe, attractive city once again. They included policy changes for making the city greener, projects for upgrading the sewer system and the addition of water storage facilities in public spaces.

In turn, BIG, One Architecture and Arcadis started from the premise that Manhattan, as the city of New York had already indicated, needed to be protected. The team brought two polar opposites of New York urban planning together: Robert Moses and Jane Jacobs. Their approach brought Moses and Jacobs together. On paper, it appears to be one large infrastructural intervention to protect the southern half of Manhattan from floods. But in practice it is developed, tailored,



designed and executed location by location, neighbourhood by neighbourhood. It is a method of design that unites water protection innovations and engineering expertise with a community-based approach whereby designs are developed in cooperation with the neighbourhood, residents and stakeholders.

MIT, ZUS and the Urbanisten dared to address the issue at a truly regional scale: The Meadowlands become the New Meadowlands. This part of New Jersey has been called the 'sewer'. The mafia has buried bodies here, and pollution and chemical storage facilities dominate the scene. Social and physical vulnerability go hand in hand here. And that is precisely where the opportunity lies. In MIT's proposal, this region would be changed step by step from a sewer into a gem. It includes an ecological water barrier that can collect water from most floods. This natural area can also be used for recreation, and the new levee will form the basis for a Bus Rapid Transit system to connect the various towns to each other by public transport. It is New Jersey pragmatism combined with Dutch design ambitions and urban planning inventiveness.

Finally, Interboro and their team took a similar regional approach, but then along the entire coast of Long Island. The north-eastern storms are notorious and cause high waters in the bays behind the islands. Currently, Long Island has an abundance of rivers (usually perpendicular to the coastline) which in urban areas have been

neglected or destroyed, or have disappeared. The storage capacity and ecological value is virtually zero, and this network of streams no longer provides any quality to cities and towns. Interboro linked reclaiming the Mill River to expanding the storage capacity with a protective system of dams and locks, so if another Sandy occurred, this part of Long Island would be safe. At the same time, instead of the Bay Park water treatment plant pumping excess water into the bay, the river was used to bring the water back upstream to be filtered naturally. Ecological quality, the city and the safety of this region go hand in hand.

Living lab

Rebuild by Design shows that our Dutch Approach to design, innovation and investing actually delivers added value. The complexity of global water issues is an enormous opportunity for the Netherlands. We can use it as a living lab, and with the combined strength of the government and the business, academic and creative sectors, we can consolidate and expand upon our leading position. I am convinced that our approach in America can and should be used for our own icons and perspectives, not only to keep our delta safe and competitive, but also to make it culturally and qualitatively stronger.

BIO HENK W.J. OVINK

Henk W.J. Ovink has worked for the Dutch Ministry of Infrastructure and Environment for many years. His most recent position there was acting Director General of Spatial and Water Affairs. Since 1 April 2013, he has been posted by the Netherlands to the Presidential Hurricane Sandy Rebuilding Taskforce. He is Principal at Rebuild by Design and advisor to Shaun Donovan for the Executive Office of the President, as well as Julian Castro, the secretary of Housing and Urban Development.



A dress that generates electricity, insulating fire-fighting outfits that still breathe, fluffy antibacterial clothing for nurses, an exclusive collection for the moon, or a pure polyester cradle-to-cradle outfit. Fashion technologist Marina Toeters thinks up, researches and makes it, but not on her own. 'I try to build a bridge between technicians and fashion designers so that they can help one another.'

More than fashion

Interview with Marina Toeters

'Fashion claims to be very innovative, but it isn't', says Marina Toeters. Since the introduction of polyester in 1953 there has been little innovation, she believes. 'The only thing that changes is dress length, colour, and a collar.' Toeters is trained as a fashion designer, isn't merely interested in the latest fashion trends. 'Fashion can be so much more,' she says. All of Toeters' designs include something extra that makes life easier and takes the future into account. Raw materials are running out, the world is growing more and more polluted, and the clothing industry bears a share of the blame. 'That alone makes it necessary to innovate,' says Toeters. 'The process of production, the materials and the functionality can be more sustainable, more practical, and more effective.' To substantiate that claim, she actively seeks cooperation with other disciplines.

Pure polyester

The mannequins in the showroom of her company By-wire.net show the results of intelligent crossovers. Projects commissioned by Philips or the European Space Agency, but also initiatives of her own with which she wants to show the world what is possible. An example is her cradle-to-cradle collection. To facilitate a clean recycling process,

Photo: Ilco Kemmere



it is made entirely from a single material: polyester. That sounds artificial and not very environmentally friendly, but it is an incorrect assumption that clothing made from natural materials is better for the planet. 'You can recycle polyester endlessly with few chemicals and without loss of quality as long as you keep it pure, so you shouldn't mix it with other materials.' The seams of these garments are not stitched but ultrasonically welded: this is not only easier to separate, but conventional cotton thread would pollute the recycling process. The challenge was to give that single material different structures and tactile qualities. Toeters, together with designers, technologists and a knitting company, found a solution for this challenge. Soft, supple, layered, coarse, glossy, matt or with a lasered pattern: it all turns out to be possible, and it makes a huge difference with regard to pollution and waste. 'Of course it would be fantastic if H&M has its entire collection fit for recycling one day.'

Clean electricity

Clothing does not have to make the world a better place immediately, Toeters concedes, but at least it must have added value, like the dress that can generate electricity to charge your smartphone. Intense research with a team of technical designers led to the first applications of Solar Fiber: a glass fibre thread that is integrated in clothing – for example, the shoulder straps of a dress – that absorbs sunlight and conducts it to a single solar cell beneath your skirt. The idea is that the solar cell will presently generate enough electricity to charge a phone or tablet. This initiative of Toeters won the first prize in Ideas Waiting to Happen and is now being developed further in cooperation with many parties. 'A lot of people don't like the idea of generating electricity with the clothing you wear,' says Toeters, 'but everyone has a mobile in their pocket or bag: we all carry electricity on our bodies. Solar Fiber just generates that electricity in a cleaner way.'

Huggy

By-wire.net is officially a one-woman business, but Toeters does not carry out any of her projects on her own. Depending on the nature of the product, technological specialists, interaction designers, engineers, textile technologists and often medical staff are involved as well. An example is the BlueTouch Pain Relief Patch, a Philips medical product that eases back pain with a blue led light on the skin.

'Philips used to be famous mainly for its lamps. Now they are in the front line when it comes to developing applications for the medical world.' Toeters designed the supports for the light sources, which are worn beneath clothing as a belt or smock. She expects pain relief via clothing to become more common in the future. BlueTouch is already on sale in Germany. Another product for the medical world is her antibacterial silver thread, developed to meet the rising hygienic standards in hospitals. The fluffy polyester materials in which Toeters integrates it make the clothing look cuddlier than the current clinical, white starched uniform of medical staff. The Huggy Care collection thus kills two birds with one stone: it kills bacteria and radiates warmth and wellbeing.

Strength of conviction

The prototypes and samples on the mannequins look pretty expensive. Toeters cannot say much at the moment about what one of those solar cell dresses will cost in the shops, but is certain that it must not be priced too high. 'Extremely beautiful technologies are being developed. My mission is to make them commercially available so that everyone can benefit. The fashion designer is in a better position than anyone else to think up creative solutions and convince the consumer. Technology experts are the best one to think up technical solutions and to improve the technology step by step. Besides, I can see that they are waiting for creative visionaries. Innovation arises when we join forces.' And then the clothing industry still has to be convinced. The fact that it is going through difficult times offers hope, according to Toeters: 'It is precisely at moments like these that people start to look for new possibilities'

BIO MARINA TOETERS

Marina Toeters (1982) graduated with honours from the Utrecht Graduate School of Visual Art and Design with a research project on the gap between designers and technicians in the fashion world. After her study she set up her company by-wire.net. She works as a freelance fashion technologist and designer for Philips Research, Philips Design, Kwintet Workwear, the European Space Agency (ESA) and others. Toeters is associated with several academies and universities and teaches at the Eindhoven University of Technology, the Utrecht School of the Arts and elsewhere.
www.by-wire.net

About this publication

Editors

Jeroen van Erp,
Creative Industries
Top Sector Team

Anita Németh,
Ministry of Education,
Culture and Science

Paul Rutten,
Creating 010, Rotterdam
University of Applied Sciences &
Paul Rutten Onderzoek

Ernest Slot,
Ministry of Education,
Culture and Science

Jesse Zuurmond,
Ministry of Education,
Culture and Science



Ministry of Education, Culture and
Science

Text contributors

Willemijn de Jonge
Henk Ovink
Paul Rutten

Case study author
Willemijn de Jonge

Design
HeyHeydeHaas

Production
Jesse Zuurmond

Translation
Balance (editorials)
Liz Keel (cases and essays)
Studio Mason ai Monti
(cases and essays)

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Designing a country

Creative industries in
the Netherlands



Societies the world over are facing big challenges today. The economic crisis has left its mark on them. Population growth has put pressure on the quality of life, infrastructure and environmental quality of cities worldwide. But there is good news too. The Dutch creative industries are actively helping to face these global challenges and to fuel economic competitiveness and innovation power.

This booklet offers an impression of these Dutch creative industries. It looks at the origins of that industry, the role of government and the most important parties. It also spotlights creative entrepreneurs who are following in the footsteps of Dutch creative industries pioneers.