CROSSVWORKS #1

INNOVATING WITH THE CREATIVE INDUSTRY

What is the connection between luminous asphalt and a clothes collection made of pure polyester or two-part greenhouse assimilation lamps? They are good examples of innovative thinking that help the world into the future: crossovers that are in line with the ambition of the creative industry to cooperate with the other top sectors in order to find new solutions for social and economic challenges.¶
Genuine innovation means jumping in at the deep end together. This publication presents co-creators who have taken the lead to inspire others, to convince them, and to challenge them to take the plunge together.¶

Crossover works!¶

CROSSOVER WORKS #1 INNOVATING WITH THE CREATIVE INDUSTRY

FOREWORD

‘And everything in the world must have design or the human mind rejects it’

John Steinbeck, Travels with Charley¶

They go together like warp and weft: the top sectors in the economy and the youngest branch of the family – the creative industry. The top sectors are the warp and the creative industry is the weft. The weft is the thread that links the sectors together and in doing so creates distinction and adds value. For design-orientated companies make a significantly larger profit than the rest: all in all, the creative industry produces an added value of 18 billion.¶

Does this mean that in itself the creative industry does not add up to much? No, because with a substantial turnover of almost 8 billion* and a good deal of professional employment the sector is growing in size and significance.¶

Entrepreneurship, in the words of Schumpeter, is about new combinations. Entrepreneurship is a creative expression; it calls for vision and courage. There is an affinity between entrepreneurs and creative professionals, and this becomes visible in crossovers when they meet one another and create new, unexpected combinations.¶

Syntens, PICNIC, CLICKNL, the Federation of Dutch Creative Industries and the Creative Industries Fund NL create contexts in which entrepreneurs can find new possibilities. They provide opportunities and promote innovation, because it is on the margins of the economy that the core of the future lies. The marginal is at the centre of innovation. This is what makes apparently small-scale initiatives worthwhile. Starting up an enterprise is only a small part of the work. After that stage, persistence counts. Persistence is crucial.¶

In that case you can use your friends and stand to gain from knowledge and a good entrepreneurial climate. This publication is full of promising initiatives. We could easily have made it twice as thick. Of course, we do not know for sure whether all of the innovative products, services and concepts mentioned here will continue their success story in the future. But we have a strong suspicion that we will be reminded of cases highlighted in this publication when they are widespread and have become an integral part of our lives.¶

Then as a reader you will presently be able to say that you knew about them before anyone else had heard of them.¶

Harry Starren
Chair, Federation of Dutch Creative Industries
Member of the Dutch Creative Industries Council

* *Source: Rutten 2012 (Data: Lisa 2012 and national accounts)*

INTRODUCTION

THE STRENGTH OF NEW COMBINATIONS

By 2013 isolated thinking is passé. At least, that is the objective. Syntens, PICNIC, CLICKNL, the Federation of Dutch Creative Industries and the Creative Industries Fund NL want to promote crossovers to and from the creative industry. By organising various matchmaking events they are stimulating entrepreneurs, researchers and government bodies in the hope of getting all the sectors moving. 'They all have to get over having cold feet.'

No more introversion, but jointly trying to find solutions to pull the economy out of the doldrums and to give society a positive impulse. That is the target of government policy for the top sectors, which is aimed at promoting more innovation by nine sectors. Various sectors and disciplines can help one another in that endeavour. The top sector policy deliberately aims at cross-fertilisation and crossover has become a buzzword. The creative industry in particular has made it a spearhead. This top sector, which brings together design, architecture, fashion, photography, gaming, advertising, ICT and (new) media, is hybrid by nature: creative minds are used to cooperating with other sectors. And the fact that the sector is constantly growing in size and turnover, confirms the potential it contains. This is precisely the potential that the originators of this publication want to explore.¶

Syntens, PICNIC, CLICKNL, the Federation of Dutch Creative Industries (FDCI) and the Creative Industries Fund NL have joined forces to promote crossovers to and from the creative industry. For although one can already mention a series of good examples, in practice it still proves to be difficult to abandon your island and swim to the other side, where they speak a different language and wonder what you have actually come to do. This new consortium welcomes the opportunity to lend the world of enterprise, the government and science a helping hand.¶

Sneakers & suits

'If you read the reports on the enormous potential of the creative industry, the conclusion is more or less that the creative industry is capable of putting the economy back on its feet by 2020', says Bruni Hofman, former cluster manager creative industry at Syntens Innovation Centre. But something new must happen if that is to be achieved: 'The challenge lies in creating new combinations between the different sectors. By thinking together about social problems in a different way, new solutions arise. And that is good not only for society but also for the economy.' Within Syntens she has responsibility for bringing the various parties together that can contribute something to one another in the field of innovation. In practical terms, this means cross-fertilisation in order to develop new products and services in numerous fields, such as the environment, ageing, security, mobility, health care and education.¶

Such cross-fertilisation begins by putting all those parties around the same table. BNO represents more than 7,000 designers, but is also a partner in the FDCI, in which eight branch associations from the creative industry have joined forces. Rob Huisman former managing director: 'On the one hand we want to mobilise our members to take part, on the other we want to explain to potential partners and clients how the creative industry is put together. After all, if you want to cooperate, it is very important to know where you can find the people you need.'

Kitty Leering, managing director of PICNIC, the platform for innovation and creativity, offers a platform where groups with a different DNA can meet and challenge one another to come up with something new. 'Since 2006 we have been bringing the sneakers and suits together in multidisciplinary events. Still, we can see that there is still a reluctance to take the plunge. Corporates often find creative minds a bit vague and are afraid of unguided missiles, while creative professionals often find corporates dull and inflexible. But the moment they open up to one another, interesting new things emerge.'¶

Matchmaking

Thinking differently: What does it mean? Huisman gives an example: 'I heard an item on the radio about a company in Eindhoven that makes parts for engine blocks for Peugeot. Car sales are down, so the factory is just ticking over. But there are hundreds of industrial designers in that region. In that case the car industry and the creative industry can mean something for one another. The designer can contact the manufacturer or vice versa: the idea that perhaps they might be able to think of something else that could be produced in that factory, a product or service for which there is a demand at the moment. That is what crossovers are about.'¶

Another branch in which a lot is changing is agriculture and stock-breeding. One of those changes is that the demand for regional products is growing to sidestep the whole mishmash of overseas production and transport. Farmers welcome the chance to penetrate the local markets, but to achieve that you have to know how to reach that market with your message and your product. A creative thinker who is used to thinking outside the conventional paths can be of help.¶

A lot can also be gained from crossovers with science. CLICKNL was set up especially for this. 'Knowledge on one person's shelves could mean a breakthrough for somebody else,' says Valerie Frissen, managing director of this new network organisation. 'Instead of working in isolation and reinventing the wheel time and again, we must share knowledge much more.' CLICKNL connects the world of knowledge and the creative industry together to produce new inspiration and innovative products and services. By issuing a first call for proposals with the Dutch Organisation for Applied Scientific Research (TNO) and the Netherlands Organisation for Scientific Research (NWO), they have challenged the creative industry to come up with good research proposals, which are now in the selection procedure. Numerous matchmaking events are planned from which knowledge institutes and creative professionals – including self-employed persons without personnel – stand to gain. And a number of projects involving cooperation between creative enterprises and researchers will shortly be launched that are explicitly aimed at crossovers to other sectors.¶

Profit

'The government top sector policy has given the creative industry a seal of economic value', says Huisman. 'Now we are taken seriously and are more than an item on the art page of a Dutch daily. That is already pure profit.'¶

The government has taken the first step, but it is up to the market to seize the opportunity. Medium and small enterprises are expected to display curiosity above all. The creative industry will have to look beyond the traditional boundaries and demonstrate what its added value is for other sectors. 'For instance, start at zero and see what the result is at the end', says Huisman. 'We expect everyone to look further afield', Hofman adds. 'Be curious. It doesn't all have to be brilliant, as long as it gets things moving.'¶

The Kick-off Crossover Relay at the PICNIC Festival in September 2012 was a first attempt to get that cross-fertilisation under way. And it worked. Hofman: 'There were immediately people from the energy, logistics, high tech and horticultural sectors who were very interested in connecting with the creative industry.' At the autumn conference of Greenport Holland (horticulture and starting materials) six weeks later, which was also dedicated to crossovers, the creative industry was once again given a prominent part. For instance, it was proposed there to add a third theme to the next Floriade besides sport and housing: the creative industry. 'We hope to penetrate the next sector in the spring', concludes Kitty Leering. 'We want to organise an event with every sector in the next two years. It is only a small oil slick at the moment, but it must grow to become an ever larger one.'¶

Syntens Innovation Centre encourages enterprises to engage in sustainable innovation: www.syntens.nl

PICNIC is an international platform for innovation and creativity that matches people, organisations and ideas to devise solutions for the future: www.picnicnetwork.org

Federation Dutch Creative Industries represents the interests of the professional creative industry for eight branch and professional organisations: www.dutchcreativeindustries.com

CLICKNL is a network of innovation networks that develops and implements a number of knowledge and innovation programmes for the creative industry: www.clicknl.nl

Creative Industries Fund NL provides project subsidies to strengthen quality within the creative industry, to promote innovation and cross-sectoral working, and to professionalise entrepreneurship both nationally and internationally: www.stimuleringsfonds.nl

HIGH LIGHT 01

DISTINCTIVENESS TO REMAIN OUT IN FRONT

After 25 years of product design, Jeroen Verbrugge knows what design can mean for other branches. ‘Creative professionals offer distinctiveness to enable companies to remain ahead of their competitors.’¶

Jeroen Verbrugge (photograph Jan Bijl)

‘The creative industry can give the other eight top sectors extra competitiveness’, says Jeroen Verbrugge. He is one of the founders and director of FLEX/theINNOVATIONLAB, a member of the Dutch Creative Industries Council, and has just received a doctorate for five of his designs. He is convinced that the creative industry will come to play a much larger role in the new economy. ‘Globalisation makes new technologies available to everyone: that makes innovation purely on the basis of technology virtually impossible. So to be innovative all the same, you have to add genuine distinctiveness, uniqueness and value.’¶

That is where the creative industry comes into the picture. Verbrugge mentions the example of the Philips MRI scanner with Ambient Lighting. ‘Philips can no longer make do with an even better MRI scanner: more and more parties can buy that technology and components in China, India or Japan. But they have added something unique and essential with Ambient Lighting: lighting, sound and images that make the patient feel at ease, with the result that the examination proceeds more smoothly. Creating a fantasy world in a piece of medical equipment is something that a technologist is less likely to do. Design thinkers think more in terms of the social context. By thinking outside the trodden paths, they are more capable than others of making experiences special, and in that way they can help companies to remain in front of their competitors.’¶

Growth impulse

The work of FLEX is often about finding unique selling points for other parties. As an industrial design bureau they are constantly cooperating with other branches to investigate how they can improve products or services to make them distinctive. That varies from giving Hero fruit juice bottles a distinctive trade mark to the drastic metamorphosis of a freight carrier.¶

It is a challenge to penetrate those branches where it is not yet taken for granted that a design agency is called for. When Syntens brought FLEX into contact with Hortilux, a manufacturer of greenhouse assimilation lamps, Hortilux initially wondered what was the point of bringing in a design agency. Making things look attractive was not relevant to the horticultural branch, was it? After all, this business is just about giving plants as much light as possible, as economically as possible, to make them grow as well as possible.¶

Verbrugge has plucked a good many greenhouse tomatoes in the past and was well aware of these obstacles. So his idea for Hortilux had nothing to do with beauty, but everything to do with efficiency. He proposed making the high pressure sodium lamps more compact by separating the ballast and the reflector with a long cable. That enables you to hang more reflectors above the plants: you can place the ballast

lower down between the plants, which benefit from the heat it emits. The result is a higher illumination and a lower electricity bill. ‘You see the same separation of reflector and ballast in street lamps’, says Verbrugge. ‘That’s how I knew it was possible.’ The process was given a growth impulse by looking further afield than is usual in the branch itself.¶

Westies

Situated as it is on the edge of Westland, FLEX more often develops concepts for local horticulturalists. The common complaint about the low price that vegetables fetch per kilo set Verbrugge thinking. On his own initiative he approached a corporation of horticulturalists with a new idea, or rather, a business plan. Taking the prototype of the potential packaging with him, he proposed offering customers a ready-made supermarket product under their own brand. Not tomatoes in some box or other with the purchase price determined solely on the basis of weight, but Westies, vegetable snacks from Westland, in a customised, distinctive packaging that stands out on the supermarket shelf and in which the vegetables remain fresh longer because of the improved ventilation. The designers drew their inspiration from a cartoon figure who looks like a strawberry: the bubbles based on that figure give the packaging of thin, relatively cheap material a qualitative look and make it robust enough. The German Lidl and Real supermarkets fell for the total product and now buy it exclusively for the German market under the name Tombons.¶

Translation

A lot of experiments go on with the 3D printer and 3D mill in the basement lab where the first Westies packaging was born. Verbrugge: ‘This is where we literally give form to ideas. IDEO has said “prototyping is the shorthand of innovation” and there is a core of truth in that. Take an example from my own practice: an arrow in a flow chart of the logistical process of Post.nl does not tell you anything more than that something has to go from A to B. But why, and how? To make it more tangible, we immediately start by making foam models of trolleys and sorting boxes. That visual translation helps to work out the details of the new process, involves other partners better, and in the end yields a more relevant final result.’¶

The same is true of the KPN DIY packaging for internet, TV and telephone. FLEX turned the original brown box full of incomprehensible things into a distinctive box with a clear step-by-step plan in colour codes. The result: at least 35 per cent less calls to the call centre about connection problems. ‘With an investment of less than € 200,000 this saves the KPN € 2,500,000 a year.’¶

Assimilation lamp for Hortilux Schréder (photograph Marsel Loermans)

Packaging for TomBons vegetable snacks (photograph Marsel Loermans)

DIY installation packaging for KPN (photograph Marsel Loermans)

Bale press for Lely (photograph Carlo van Sonsbeek)

Creative database

No matter how good they may be, not all innovative ideas make the grade. An example is the plastic airplane trolley that FLEX once tried to launch. 'Our variant was a good 10 kilos lighter, more hygienic and sustainable than those remote-control honeycomb and aluminium machines from which your meal now comes. But I didn't know that there was a manufacturer with a monopoly who had just built a factory to produce those old-fashioned things. So we lost that battle.'¶

As Verbrugge knows, for a successful crossover you have to know the context and be able to put yourself in someone else's shoes. Understanding and wanting to solve the problem a company runs up against must be more important than wanting to make something beautiful. And that requires relevant knowledge of the sector – what he calls a creative database. 'Only then does creativity become effective. It's not a good idea to go into a sector and start from scratch. That's not usually the way to solve problems. Creative solutions do not just fall from the sky like manna. That lamp wasn't born overnight, it was preceded by a whole process of trial and error.'¶

Besides, crossovers by no means need to be spectacular, according to Verbrugge. 'There's no point in advancing too far because then nobody understands what you are up to. It has to be relevant for the whole chain, which sometimes means that you have to take small steps. The first step as far as I am concerned is to show what the added value of the design can be in problem-solving.'¶

Jeroen Verbrugge (1960) is co-founder and director of the industrial design bureau FLEX/ theINNOVATIONLAB in Delft, where a total of 30 designers and engineers work together on developing new products. Verbrugge graduated from the Delft University of Technology and took courses in business and marketing at the Erasmus University Rotterdam. In 2012 he was the first industrial designer to receive a doctorate from the University of Twente on the basis of five of his designs. Over the years FLEX has won a number of awards, such as RedDot, Dutch Design, GIO and I.D.
www.flex.nl

CASE 01

RATIONALIZER

A mirror of the emotions for private investors

ABN Amro and Philips have joined forces to develop a Rationalizer, an exploratory design concept for private online investors. Rationalizer works as a mirror of the emotions that shows the users the intensity of their feelings. This enables them to base their financial decisions less on emotions and more on reason.¶

Anxiety and greed can be a pitfall for private investors: these emotions make it difficult to take objective decisions based on facts. Rationalizer warns the user when it is advisable to take a break, relax and reconsider the action to take.¶

The system consists of two components: the EmoBracelet and the EmoBowl. The bracelet uses a galvanised skin response sensor to measure how worked up the user is becoming. This is translated into a dynamic light pattern on the EmoBracelet itself or on the EmoBowl. The more excited the user becomes, the more intense the light pattern: the light increases in intensity, it flashes more quickly, and the colour changes from pale yellow via orange to deep red.¶

www.philips.com/design
www.design.philips.com/about/design/designportfolio/design_futures/rationalizer.page

© Philips-Design concept: Rationalizer

CASE 02

FLOATING PAVILION ROTTERDAM

Climate-resistant urbanisation on the water

A striking new object is floating in the centre of Rotterdam: a complex of three floating domes connected with a floating square. This pilot project has been 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.¶

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 has been 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 by 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

Visualisation: bird's-eye perspective of Floating Pavilion Rotterdam / Deltasync & Public Domain Architects

Floating Pavilion Rotterdam (photograph René de Wit)

CASE 03

KWH/M2

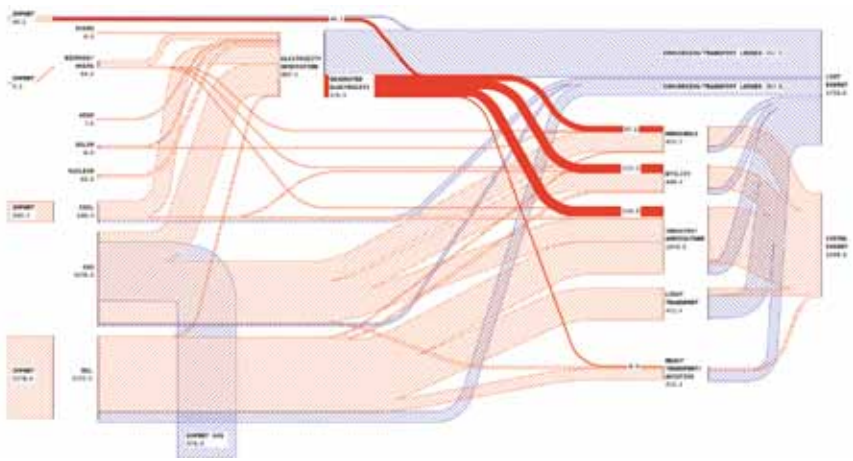
Designing for the Post Fossil Era

Few other transformations will have such a profound influence on the landscape of the Netherlands as the energy transition that is on the way. Gradually, but at a stiff pace, we shall shift to an increasingly larger proportion of renewable sources. This will also have major consequences for the landscape. This is an essential difference from the fossil era, in which energy production was something of a distant column of smoke on the horizon, towards a period in which the production of energy will be a visible presence in our immediate surroundings. The new sustainable energy sources are extracted not from below the surface (gas, coal, oil, uranium), but from above it (sun, wind, tides, hydro, bio fuel, refuse). In short, the production of energy will form a much more tangible and visible part of our everyday environment.¶

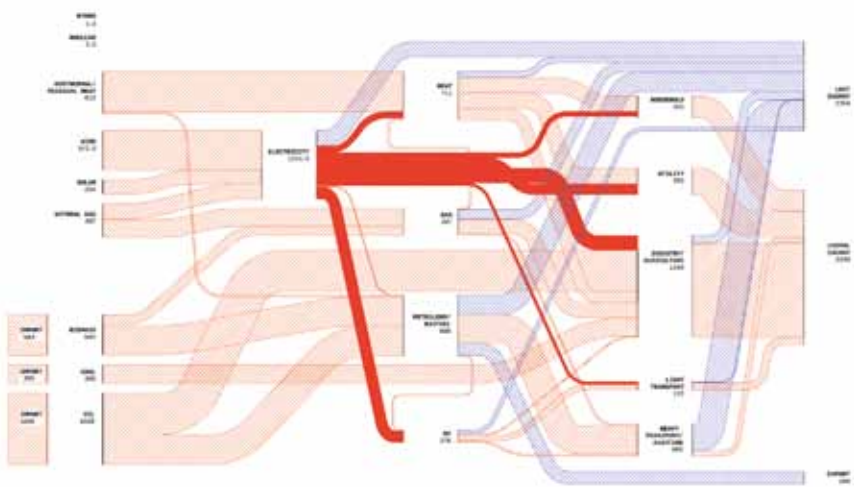
With the project 'kWh/m2 – Designing for the Post Fossil Era', H+N+S Landschapsarchitecten are giving an urgent but neglected design issue a place in urban design and landscape architecture practice. Part of the project is the development of a three-part Energy Atlas to chart the spatial aspects of the energy economy in the Netherlands, from generation to use, from the past via the present to the future.¶

By charting the technological, social, economic and political background of the energy world, a foundation is laid for designing with sustainable energy on various scale levels: building, neighbourhood, city, region, country and continent. Four regional designs offer a broad survey of the way in which the issue of energy can be integrated in the spatial design. By visualising what cities and landscapes will look like as a result of the energy transition, the discussion concerning new forms of energy generation can be enriched. The research project is being conducted jointly with NL Agency (a division of the Dutch Ministry of Economic Affairs), the Delft University of Technology, Energy Research Centre of the Netherlands (ECN) and the graphic design agency catalogtree.¶

www.hnsland.nl



Sankey diagram of the national energy economy in 2012 (Source: H+N+S landschapsarchitecten in cooperation with ECN)



Sankey diagram of the national energy economy in 2050 in the business as usual scenario (+15% energy demand) (Source: H+N+S landschapsarchitecten in cooperation with ECN)

ESSAY 01

DISCOVER YOUR INNOVATIVE TALENT

Being successful will increasingly come to depend on the extent to which you are able to innovate and how you organise that. The market offers opportunities, but you have to know how to seize them. It's a question of real entrepreneurship, claims Frank Kwakman associate professor at Nyenrode Business University.¶

Our economy is increasingly becoming an interaction economy in which networks of companies supply one another with products and services, buy from one another and cater for their customers. In a value network of this kind, each company supplies its unique added value for the customer on the receiving end. These value networks are growing increasingly complex and the number of companies that are becoming more specialised is growing too. New services and facilities play a more and more important role for the competitiveness of the Netherlands. The present market dynamic can be an important catalyst for this development, but we will have to display entrepreneurship.¶

Dynamic market

The market is highly dynamic and that imposes new demands on entrepreneurs, their products and their services. Competition and pressure on prices are increasing, while customers are becoming more critical and demanding. New mobility and web-based (cloud) initiatives are putting pressure on existing retail channels, and in some branches business is slowly evaporating. In a number of cases there is a demand for more speed, transparency and standardisation at a lower cost. One can sense the need to use the new products and services to cater for the changing demands of consumers and buyers. Not only price but also service will come to play an increasingly important role, turning many productive enterprises into service industries. Some firms move forwards in the chain, others move backwards. Thinking along with others at the start and cooperating with other partners is new to many entrepreneurs, and so is being given responsibility for the financing, maintenance, management and running of machines and buildings, for instance, as an extra service. Cooperating in the chain means not only forming alliances, but also having the business model in order and organising the flows of information. In the meantime the labour market is growing more flexible and an enormous exodus of professional knowledge is on the point of happening as a result of ageing. There is now already a serious shortage of technical knowledge, and the knowledge that there is, is to be found outside enterprises among an increasing number of independent professionals. While more and more knowledge is becoming available via internet, at the other end there is a demand for increasing specialisation. These hyper specialists are partly formed by a new generation of professionals who are desperately needed but who impose their own demands on work and the work climate. That also means that entrepreneurs must realise that the knowledge and work landscape is changing profoundly as the result of technology and social media. New and flexible teams, communities and networks are springing up. And at the same time work and knowledge are increasingly less tied to borders. We now have to think not just in terms of the Nether-

lands, but at a European level at the very least. Some entrepreneurs are obliged to internationalise the business because the opportunities for entrepreneurship are only situated abroad.¶

Motives for innovation

If we look at this dynamic and at the development of the Dutch economy as an interaction economy, a number of pictures immediately come to mind about how entrepreneurship and innovation can best yield results. We define innovation in terms of activities aimed at the renewal of the organisation, products and services of a company or government body in order to add value. In a wider sense we increasingly see innovation arising between companies, in chains, and between government agencies and companies. We see that innovation is gaining precedence over the provision of services, for example in the case of productive enterprises, but note at the same time that knowledge-intensive service providers, for example, have a demand for productizing. In this process innovation increasingly takes the form of open innovation, in which companies or government bodies do not invent the wheel themselves, but look for partners to cooperate with, open up external sources, and above all also involve customers, citizens and companies actively in the innovation process. The key word here is co-creation. This is explicitly also a question of innovation as a multidisciplinary activity in which you draw inspiration from other disciplines. In this connection, the creative industry talks about crossovers: the import of knowledge from this sector into other sectors in order to generate innovative ideas and to bring about innovations.¶

So there are various reasons – and just as many opportunities – to innovate in this market. Here are a number of them:

1 There are several large and complex social issues that require new concepts and solutions, for example liveable cities, humane health care and a sustainable food supply.¶
2 Entrepreneurs in a range of sectors have an urgent need for new products and services, new concepts and corresponding new business and profit-making models in order to remain competitive and in business.¶
3 Part of industry sees the only way to continue to supply products successfully if they are accompanied by a distinctive range of services for maintenance, renovation and financing, for example.¶
4 Companies in the knowledge-intensive service industries are asking themselves how they can package that high-level knowledge in new ways and market it, with standardisation and an increase in productivity as priorities.¶
5 The development of our economy towards an interaction economy calls for a rethinking of value networks, chains and communications – of how people, knowledge and ambition can be connected in a creative and innovative way.¶

Firm of the future

For many organisations, successfully responding to these opportunities means reinventing yourself and creating new forms of organisation. In this connection we have already pinpointed seven characteristics of the firm of the future: success factors that determine whether or not you survive in this market.¶

The first characteristic is that you have a unique reputation by which to distinguish yourself. That requires knowing what you stand for, making choices in which you want to excel, and opting for specific markets, issues, services and partners when necessary. That leads to a strong brand and power of attraction both on the labour market and among clients or customers. Second is the development of partnerships with strategic clients, target groups or other forms of cooperation. A strong relation means investing in knowledge of target groups and branches and knowing the strategic agenda of these clients. If present at the right level, this also offers opportunities to find partners for cooperation, innovation and access to new networks. Third, successful players are characterised by approaching customers and customer groups in a differentiated way. Drawing distinctions, making various proposals and forms of approach, and deploying different business and profit-making models are illustrations of this. The average customer is replaced by a focus on different needs and relations. This brings the fourth characteristic immediately into the picture: cohesive leadership and entrepreneurship in relation to the spearheads in the market, based on vision and substantive content, with room for entrepreneurship where the interface with customers is, and that is often low in the organisation.¶

A permanent focus on innovation, in the widest sense of the word, is the next characteristic. Being successful will increasingly come to depend on the extent to which you are capable of innovating and organising that innovation, not on your own but together with (strategic) clients, partners and knowledge institutes. What can be an important condition for this is the sixth characteristic: making intelligent use of technology. Successful enterprises have a lean organisation of their internal processes and provision of information; they are web-based and have mobile support. This provides an individual basis of experience and an advantage in innovation for clients, especially where ICT is concerned. The seventh characteristic of innovative organisation is clarity regarding its core activity, what the key talents are, and where cooperation is sought. There are more and more examples of companies that work as

a network organisation with well-chosen partners and a flexible casing. This makes them flexible and capable of putting together the best teams for each project and programme.¶

The enterprising professional

In order to cash in on the opportunities in the market outlined above, it is necessary not only to renew your organisation, but also to form a picture of the professionals that you need for that. The profile of many professionals within a discipline must therefore be stretched.¶

The enterprising professional we have in mind here possesses not only such qualities as curiosity, proactivity, innovativeness, courage and autonomy, but also five inter-related talents that require attention in addition to the original discipline. The first are competencies that transcend the discipline, such as consultancy skills, project management and personal presentation. These are examples of competencies with which more justice is done to the initial discipline. With increasing specialisation, you could add cohesive competencies at this point: professionals who are able to look beyond the boundaries of their discipline. Forge a unity from separate specialisations and products, and transcend the barriers of professional jargon. And that is only the start, because in addition they must be focused on customers and branches. In other words, they develop a genuine interest in customers and branches in order to be a discussion partner on business issues that are essential for clients, and perhaps precisely by doing so they may discover niches in the market and act upon that discovery. Besides being able to listen properly, the professional must be able to speak the client's language and thereby to go beyond the limitations of his discipline to meet others. Other requisites are commercial affinity, the capacity to network, and the ambition to arrange your business in such a way that you create value for clients. For a number of branches this means, for example, that you try to sell not hours but solutions and results, and preferably do not charge by the hour either.¶

Among the extra talents is personal branding: making choices in your professional career to become more visible on the market and at the same time to give your professional development a targeted impulse. That is only possible if you make choices for markets, customers, issues and what you want to mean for them. That means networking in a much more focused way and knowing which communities you want to belong to. A final extra talent is role and style flexibility: being able to work in constantly changing combinations of teams, coalitions and interests. This means being able to assume different roles, such as expert, head of project, consultant or entrepreneur. It sometimes also means that you must realise that your profession is changing or that you suddenly find yourself in a different business.¶

So there is an enormous challenge for individual professionals and their enterprises to discover and develop new talents in the necessary renewal. In this way you get moving, entrepreneurship arises, and innovation has a chance.¶

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Prof. Frank Kwakman is an entrepreneur, senior organisation consultant, associate professor at Nyenrode Business University and author of many publications in the field of strategy, management and professional services. He is head of the Professional Services Institute at Nyenrode Business University. As a consultant and tutor he helps professionals to redefine their strategy, develop innovative business models, enter into new partnerships, and find new ways to create value. Entrepreneurship is the key to all these activities.

CASE 04

PhDO

Network for research in the creative industry

Many creators, designers, artists and policymakers in the creative industry are looking for ways of deepening their knowledge and taking their discipline further. Linking practical, hands-on knowledge with new forms of scientific research can play a role in improving the depth, quality and impact of creative work. In practice, however, there are obstacles between what you want and what you actually do. PhDO brings them to the surface and connects creative professionals with research ambitions to people who are right in the middle of this research.¶

PhDO consists of a series of network events for people in the creative industry and others who work in research and development. The network aims to develop realistic insight into the process of preparing, adapting, setting up and implementing research in, by and for the creative industry. At the same time it is a platform to present research positions, grants and results to a relevant target group.¶

Among those who have contributed to previous editions are the artist/researcher Jennifer Kanary, Tjeerd Hoek (Frog Design), bio-artist and researcher Rich Pell, Professor Jan Simons (University of Amsterdam/Embedded Researchers), Clare Brass (Royal College of Art, UK), Elske Gerritsen (NWO Humanities), Piem Wirtz (v2_), and artist Špela Petrič (Slovakia). Discussions were then held on the basis of their work and approach regarding the present and future of these forms of research.¶

In the next few years we shall work with guest curators from the world of science, art and design. PhDO is an initiative of Frank Kresin, Waag Society and artist and researcher Arne Hendriks. The founding partners are Waag Society, NWO and IIP Create.¶

http://waag.org/nl/project/phdo

Arne Hendriks presents his research The Incredible Shrinking Man (www.the-incredible-shrinking-man.net) in PhDO.2 (photograph Waag Society)

CASE 05

SURGERY GAME

Laparoscopic surgery training game for the Nintendo Wii-U

Both surgeons and trainee surgeons at the University Medical Centre Groningen (UMCG) turn out to make little use of the expensive simulators in the skills lab to keep their laparoscopic skills up to scratch. 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, the surgeon Henk Ten Cate-Hoedemaker and educational specialist Jetse Goris took the initiative of developing a training game that can be played simply at home on a game computer. It turned into a special form of cooperation between the UMCG and Grendel Games, leading to an entertainment game for the Nintendo Wii-U with adapted hardware for less than a fraction of the price of a simulator.¶

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. Moreover, other crossovers loomed up in the process: for instance, the classical composer and conductor Tjalling Wijnstra was involved in the project for the soundtrack. The challenge was to compose short but recognisable and playful melodies that must not be allowed to distract, but should intensify the involvement of the player.¶

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. Compromises became strengths. This has led to an enormous innovation in the simulation market.¶

The game (provisional title Underground) has received publicity all over the world and won numerous awards, but the major success is that the team has managed, probably as first in the world, to develop a serious medical game for a game computer. Underground proved to be so attractive that Nintendo has invited the team to make the game available for the new Nintendo Wii-U. If that comes off, laparoscopic surgery training will be able to take place using a mainstream product all over the world for just a few hundred instead of tens or hundreds of thousands of euros.¶

www.umcg.nl
www.grendel-games.com
Province of Friesland

Underground computer game © Grendel Games

Prototype 'Surgery version Controller' © Pezy Product Innovation

HIGH LIGHT 02

MORE THAN FASHION

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 make a bridge between technicians and fashion designers so that they can help one another further.'¶

Marina Toeters (photograph Ilco Kemmere)

'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, a collar.' Toeters is trained as a fashion designer, but has nothing to do with the latest fashion, which changes every season and promotes consumerism. 'Fashion can be so much more,' she says. That 'more' lies above all in added functions: all of her 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 deliberately looks for cooperation with other disciplines.¶

Pure polyester

The mannequins in the showroom of her company by-wire.net show the results of intelligent cross-fertilisations. 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 in the hope that science will pick it up and industry will eventually produce it. An example is her cradle-to-cradle collection. To facilitate a clean recycling process, 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: that is not only easier to separate, but conventional cotton thread would pollute the recycling process. The challenge lay in giving that single material different structures and tactile qualities. Toeters has found a solution for that in cooperation with a textile designer, textile technologists and a knitting company. 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 in order for recycling one day.'¶

Clean electricity

It 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, so that we have finally solved the problem of an empty mobile at an awkward moment. Intensive research with a team of technical designers led this year to the first

applications of Solar Fiber: a glass fibre thread that is integrated in the 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 herself recently 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, but that is over. 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; the high relevance makes acceptance by the consumer a lot easier. By now BlueTouch is 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 more cuddly 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 out of the market. 'Extremely beautiful technologies are being developed. My mission is to make them commercially available so that everyone can benefit.' There is still a lot to be done before that takes place. Who is supposed to take the lead? Toeters: 'The fashion designer is in a better position than anyone else to think up creative solutions and convince the consumer of what is in. Technology experts are the best one to think up technical solutions and to improve the technology

The mannequins that display Toeters' creations
(photograph Ilco Kemmere)

Solar Fiber: clothing that generates electricity

Solar Fiber: Glass fibre thread in the shoulder straps of the dress
Co-creators: Meg Grant, Aniela Hoitink, Ralf Jacobs, Marina Toeters

Antibacterial cuddly clothing HuggyCare: Marina Toeters with Kwintet Workwear
(photograph Bob van Rooijen; model Sarah Nuiver)

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. That is where interesting crossovers arise.'¶

Marina Toeters (1982) graduated with honours from the Utrecht Graduate School of Visual Art and Design (MAHKU) 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

CASE 06

SMARTGATE

A connecting game

IJsfontein made two games, one after the other, for ACN, the branch organisation of freight carriers in and around Schiphol Airport.¶

The starting point was the development of a new freight handling system that was developed at Schiphol. The first game made employees of various companies in and around Schiphol aware of their position in the chain. The second game went more deeply into the changes that the new system would entail regarding specific functions in the airport.¶

By playing the game, the player gains insight into how the chain works as a system and into the advantages of the services of SmartGate Cargo. During the game the player has to deal with the transport of freight at the airport, from the transporter hall where the goods come in, via the forwarder and the handler to the airline to be finally transported by air.¶

A unique feature of a game like Smartgate is the way that both parties have contributed to its making. As a game developer, IJsfontein knows better than anybody how to make a game attractive and interesting for the end user, while the knowledge of ACN/Schiphol was indispensable for the content and operational aspects. In the end the cooperation has resulted in an attractive game that suits the wishes of the player and the client.¶

During the initial stage after the launch, both games were intensively played at all levels within the target group. Interest has waned somewhat by now, but every day there are still new players and others who come back for more. There were also players from other airports and from various logistics courses, and there was interest from far beyond the Dutch border. SmartGate Cargo is web-based and can be played by anyone free of charge.¶

www.smartgatethegame.nl
www.ijsfontein.nl

ACN/Schiphol Smartgate Cargo & IJsfontein

CASE 07

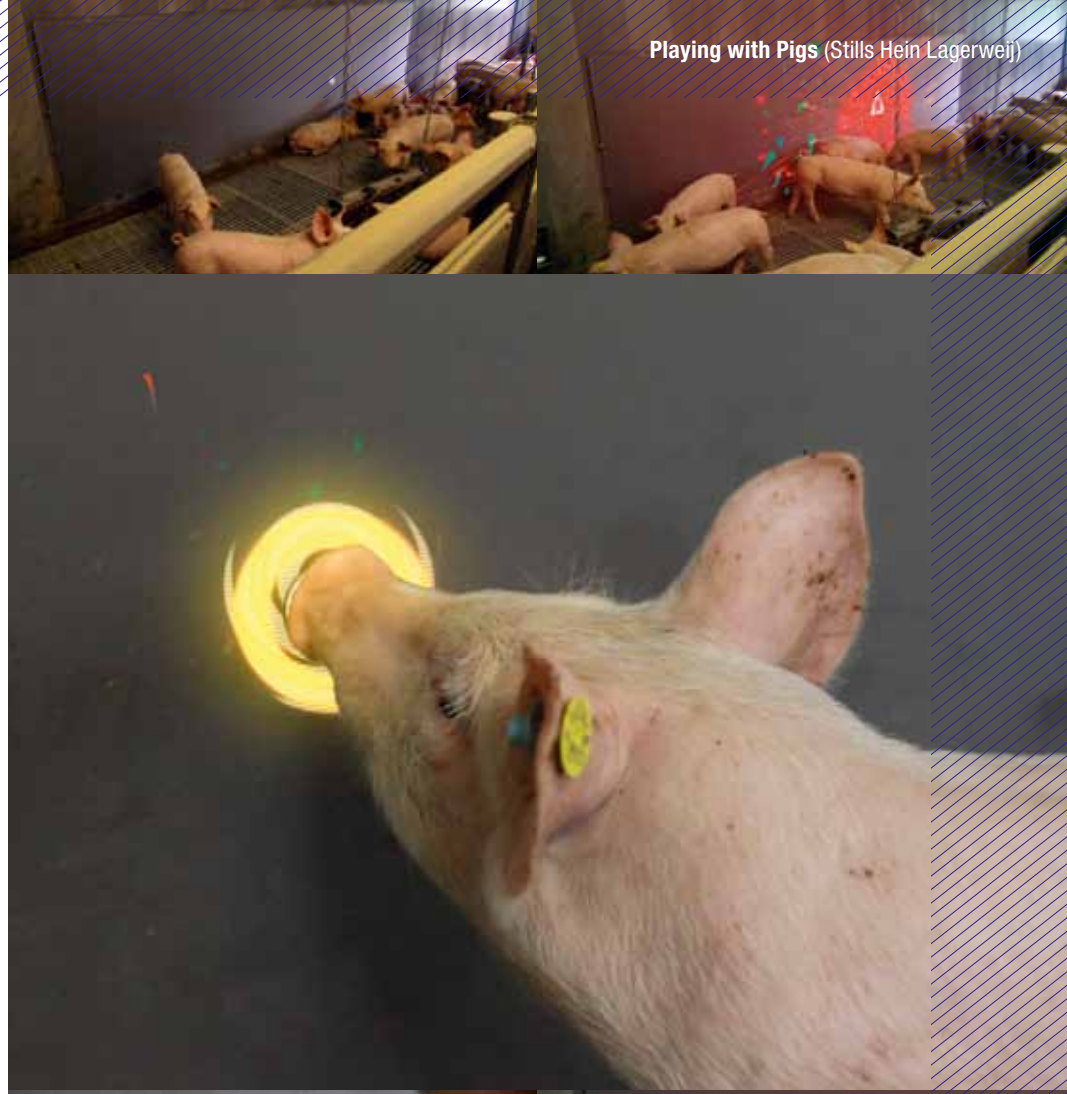
PLAYING WITH PIGS

Pig Chase: a game about the relation between people and pigs

The game is called Pig Chase: you play it with a pig on an iPad. The pig is on the other side of the screen as though pressing its snout against a misted window. You can use your finger to make contact with its snout. This activates a screen in the pigsty where the animal is really located. He and his fellow pigs then see coloured balls on that screen. They can follow them with their snout. As long as the player and the animal move the ball it remains in sight, and if they score a goal together, the reward is a sort of firework display.¶
The game is intended to improve life in the pigsty, a EU demand for pig farmers to counteract boredom and aggression among the pigs in their pens. Game designers and researchers from the Utrecht School of the Arts (HKU) and Wageningen University investigate the relation between people and their food: pigs kept in intensive pig farming conditions. Playing with Pigs is now being developed from prototype to iPad app.¶

Designers and researchers: Irene van Peer, Kars Alfrink, Hein Lagerweij, Clemens Driessen and Marinka Copier

www.playingwithpigs.nl

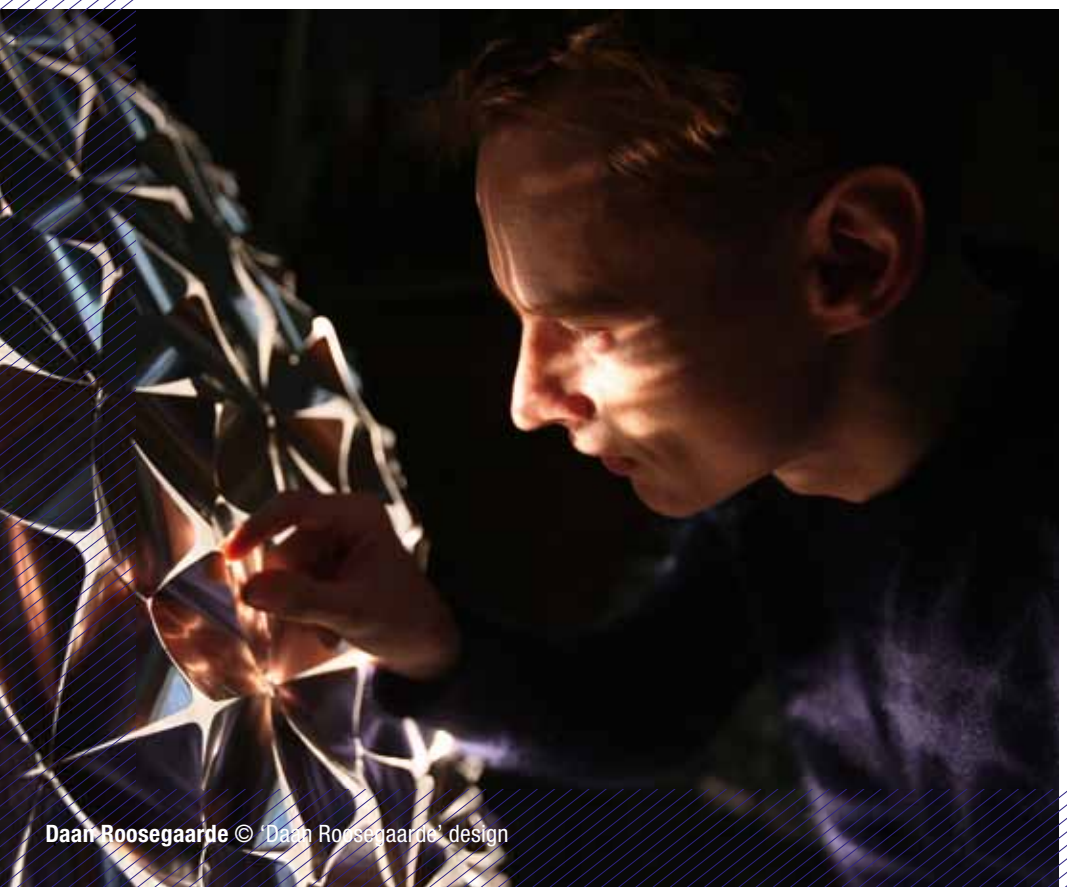


Playing with Pigs (Stills Hein Lagerweij)

HIGH LIGHT 03

A REAL ROSE GARDEN BESIDE THE HIGHWAY

Daan Roosegaarde considers it high time for an update of society. He spends half his time talking to convince the world around him of high tech reforms. These vary from smart highway to personal health sticker. 'I hop from obsession to obsession.'¶



Daan Roosegaarde © 'Daan Roosegaarde' design

When he checks in at customs, he says he is an architect, at a party he is the designer of a dance floor that generates energy, in the MoMA they regard him as an artist that they welcome on board. Sitting at a table with a journalist he settles for reformer. 'I mean that literally: everything is already there, we no longer need anything new, but people who re-form what exists and give it new meaning. A lot of the things around us were invented in the analog era, so it's time to adapt them to the digital era.' Daan Roosegaarde is convinced that we should hurry up with that update: 'The existing system is crashing culturally and economically. If we don't invest in new ideas, Europe will become one big open air museum and the Chinese will shortly take over the economy. The comfortable attitude we've assumed is no longer feasible.'¶

Route 66

It will not be Roosegaarde's fault. In fact he seeks out the Chinese connection with a second branch of his firm in Shanghai: he wants to be in the front line and seems to be very successful at it. As he travels between East and West he produces ideas in quick succession from astonishment at what there is and because he believes it can be better or more beautiful.¶

For instance, while travelling through the Netherlands he was amazed by the way in which Dutch roads are landscaped. The enormous impact that they have on the landscape made him think about such things as all the clutter on, above and beside the road surface. 'As a driver you see far too many messages all around, besides having to keep an eye on your TomTom and the speedometer. And then just think of all those bloody lamp posts just to light up that surface. To cut spending, let them illuminate less and less. The four per cent extra traffic deaths that this leads to are apparently acceptable to the government.'¶

In one of his talks he argued that there was a better way and made suggestions about reactive paint and intelligent lighting. Whether it was by chance or not, two Heijmans directors were in the audience. They called him the next day to ask what it would cost. 'We didn't know at the time, but I proposed thinking along with them about the new Route 66.' The contract that Heijmans and Studio Roosegaarde signed thus defines not a final product, but a joint development process.¶

Technopoetry

By now twenty ideas for the Smart Highway have been selected, six of which are already at the prototype stage. Luminous paint that gives the lines a glow in the dark effect, thermal traffic warnings for when there is ice, a priority lane that automatically recharges electric cars, or small wind turbines that convert the currents of air between two passing cars into energy. The roadside vegetation is also used, because one square

metre of grass is capable of generating 6 watts of current. Not yet immediately enough for good light, but a step in the right direction.¶
But besides the environmental advantages, Roosegaarde sees poetry there – what he calls technopoetry. While he was under the shower this morning he suddenly thought of a new variant: luminous roses along the side of the road. 'A real rose garden [the literal meaning of his surname]! If that is possible, it may well happen that in five years' time Heijmans will be selling luminous roses instead of asphalt.' The road builders will still have to get used to that idea, but when Roosegaarde consulted the Heijmans website after coming back from Beijing, he was pleasantly surprised. The standard static homepage had been replaced by an interactive page that links the Smart Highway to all kinds of blogs, infographics and news sites. 'Fantastic, that is a change of direction. It shows that they recognise the value of an innovative idea, even if it has not yet been implemented. Heijmans realises more than anyone else that they have to innovate – get wise – to survive.'¶

Second language

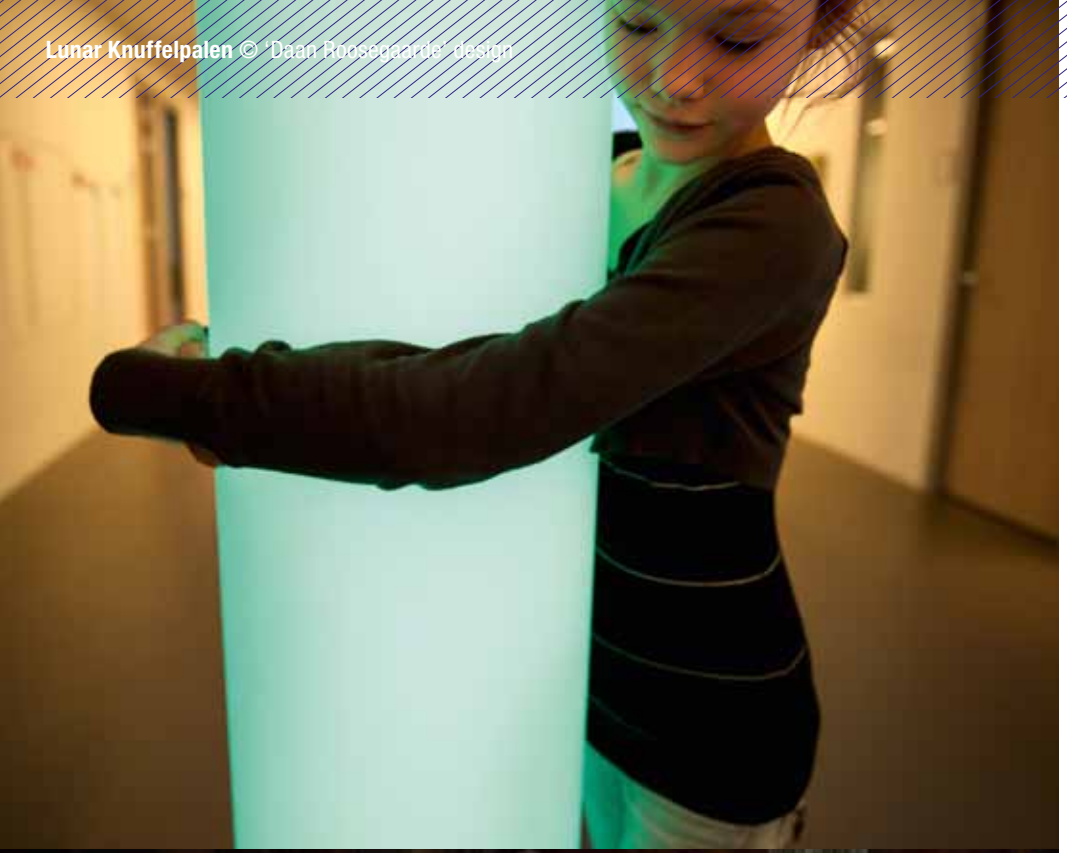
For too long Dutch Design has remained at the gadget level, Roosegaarde says. He wants to deploy technology much more broadly: not as a gadget, but to give people back their autonomy. After all, isn't it more attractive to generate energy yourself by dancing, for example, than to depend on an energy company like Nuon? Roosegaarde likes to refer to himself as a hippie with a business plan.¶
But it goes a step further than autonomy: he wants to make technology personal. 'Tech is becoming our second language, but it is still usually linked to a computer screen.' Roosegaarde wants to get away from putting people in front of computers towards a technology that they can wear. A project like Intimacy is a response to that: high tech fashion in which clothing becomes more transparent depending on the social situation. At the moment he is talking with the Swedish clothing brand Acne about a suit that becomes transparent if the wearer is lying. 'The fashion world has a bizarre turnover rate with a new collection every six months, but with old-fashioned materials. The interactive foils of Intimacy break with that way of thinking about fashion.'¶

Breaking open

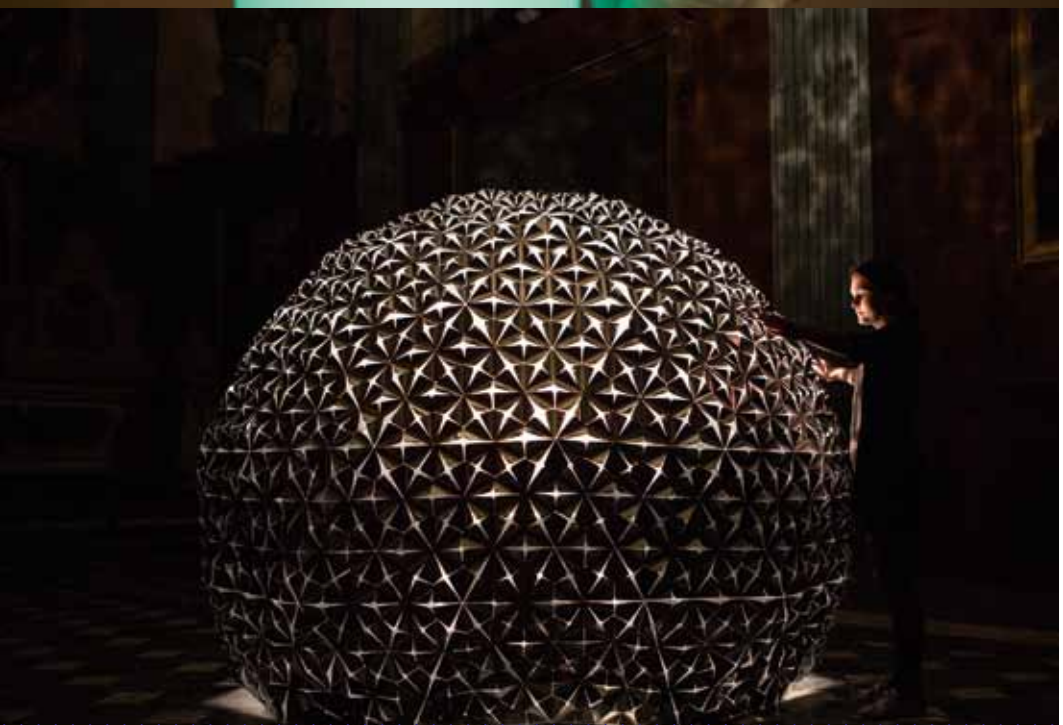
All of Roosegaarde's projects concern interaction between object and surroundings. Sometimes it is very targeted, such as the touch poles for the Breda Health Authority, which offer sensorial challenges to autistic children on their way to the therapy rooms: when they are touched they make noises and change colour. Sometimes they are more intuitive, such as the art work Lotus Dome that reacts to body heat. 'Everything you do has an impact on the world around you. I want to make that tangible.'¶

Smart Hightway / Glow in the dark © 'Daan Roosegaarde' design

Intimacy Dress © 'Daan Roosegaarde' design



Lunar Knuffelpalen © 'Daan Roosegaarde' design



Lotus Dome © 'Daan Roosegaarde' design

His latest obsession is about food and health. 'I would like to put a sticker on my skin that indicates whether I have enough vitamin D in my body. Or a sort of bonus card extreme that recognises when I walk into an AH supermarket and illuminates the products that are good for me at that moment.'¶

Where do you start if you want to put an idea like that into practice? 'First I scan my 500 or more LinkedIn contacts for possible co-creators and partners. We make a thorough analysis, see whether it is economically profitable, because otherwise it will never materialise. And then we start thinking about how to convince DSM to give us the key to their lab. I like hacking, infiltrating, breaking things open: that is still the big challenge. There are always people around me who say that what I want is impossible. But I'm having more and more success in proving the opposite.'¶

Daan Roosegaarde (1979) graduated with honours from the AKI, ArtEZ academy of the arts, after which he studied architecture in the Berlage Institute in Rotterdam. The interactive installations and products that he makes with Studio Roosegaarde are at the interface of art, architecture, fashion and technology. They have already won him many awards, including the Charlotte Köhler Award, two Dutch Design Awards and a Media Architecture Award. His work is on display in the public domain and sometimes also in museums such as the Tate Modern and the Victoria and Albert in London, as well as the National Museum in Tokyo.
www.studioroosegaarde.net

ESSAY 02

CREATIVITY IS THE RAW MATERIAL OF SOCIAL INNOVATION

To face up to the challenges of society we have to draw on the innovative potential of the whole of society. Design thinking and creativity are decisive for the acceptance of innovative applications and technology. In the last resort it is about stimulating people to behave in a sustainable way. An essay by Marleen Stikker, managing director of the Waag Society and innovator pur sang.¶

We have survived the end of the Mayan calendar, but the issues facing us as a society still offer alarming prospects. Ageing, climate change and the financial crisis do not disappear by continuing in the same old way. We have high expectations of new technologies. They can help us to stay healthy longer and to deal with our raw materials and food production in a more efficient way. We must also design that technology so that it encourages us to change our behaviour. The main innovation will have to come from a change of behaviour. The time of unlimited consumerism is over. We will have to find a different way of organising our lives, chasing our dreams and, perhaps most of all, stewarding the earth. This calls for a new take on innovation: it is no longer just a question of technological innovation, but also of social innovation.¶

New arrangements

Social innovation is a concept that has been increasingly used in the last few years to describe new strategies, concepts, ideas and organisations that try to offer a solution to the main challenges facing society. The starting point is that we must activate the innovative potential of the whole of society and that design thinking and creativity are important ingredients for success. Social innovation is a question of new arrangements between large institutions that are often organised in a vertical hierarchy and small, flexible organisations and individuals that are used to operating in horizontal distributed networks. That cooperation is in itself already worthwhile.¶

By putting how people experience the world around them at the centre, we can arrive at innovations that have a desirable effect on behaviour. There are nice concepts in circulation for them: co-creation, users as designers, design thinking, crossovers. The creative industry plays an important role in these new processes. In the last resort, designers and artists know a lot about experience and behaviour and are experts in creative processes. They are an essential link in social innovation.¶

Challenges to society

The Social Innovation Manifesto (www.socialeinnovatie.net) offers a starting point for a new innovation policy. An important recommendation is not to start from separate sectors and industries, but from the challenges facing society.¶

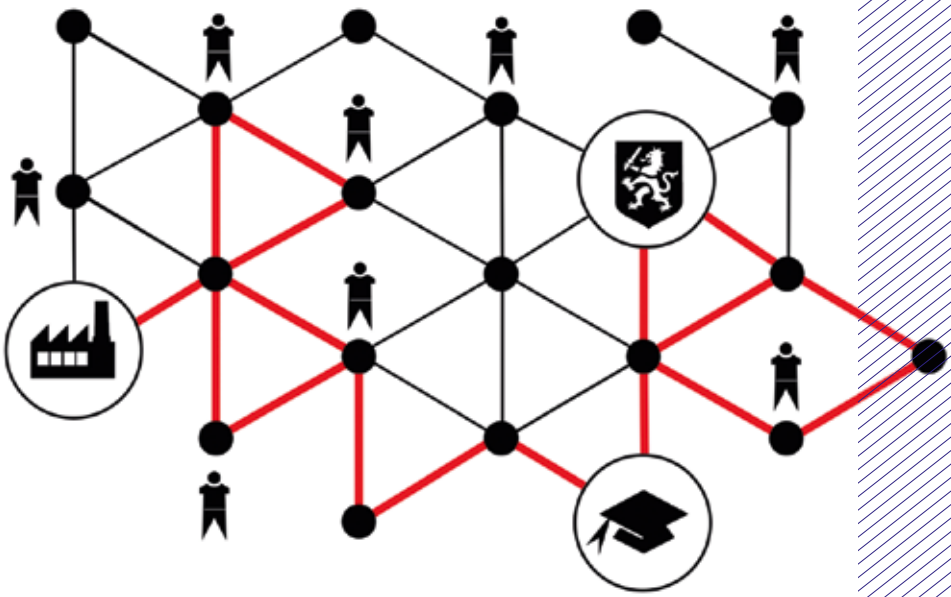
The European Grand Societal Changes can be taken as the starting point for that, which include: ageing population, climate change, creativity and education, active citizenship, balancing security and privacy.¶

In focusing on these challenges, the mobilisation of transdisciplinary cooperation and unexpected combinations are priorities. Multidisciplinary forms of cooperation are essential to respond to the complex challenges facing society today and to which separate disciplines can-

not offer a complete answer. This requires a different role on the part of the government, which as principal should also make use of creative processes and design thinking for such things as the design of information systems as intelligent meters, the electronic patient dossier or the public transport chip card. By regarding them not exclusively as a technological task, but as systems with which we design behaviour, you can ensure in the design process that people trust and accept the result. Now we are stuck with systems that cannot be implemented in the end because they meet with resistance.¶

Acceleration

The main reason to formulate a new innovation policy is that the innovation cycle is speeding up. Innovation takes place in a permanently iterative open process. It is therefore not surprising that innovations arise from horizontal, distributed networks and no longer exclusively from knowledge institutes and research labs of large companies. The present innovation programmes are not attuned to the dynamics of the short cycle, let alone being receptive to creative research and development by small firms and freelancers without personnel. The top sector Creative Industry has laid a good basis with the CLICKNL research programme. It is now time to develop new instruments too so that we can derive maximal profit from the creative potential of the Netherlands.¶



Marleen Stikker is managing director and co-founder of Waag Society, an institute that develops creative technological applications for social innovation. As 'mayor' of The Digital City (1994) she developed the first free portal and virtual community on the internet. To combine the strengths of science, industry and the creative industry, in 2004 she took the initiative of setting up the ICT Innovation Platform Creative Industry, the predecessor of CLICKNL. In 2006 she and Bas Verhart (Media Republic) started the PICNIC Festival.

CASE 08

SOLAR CURVE

Integrated battery charging concept for electric city buses

Studio Mango devised the Solar Curve concept for All Green Vehicles. This is a bus shelter that can recharge city buses inductively at the bus stop and fits into the cityscapes of North Brabant. This multifunctional charger is still clearly recognisable as a bus shelter and can accommodate several waiting passengers.¶

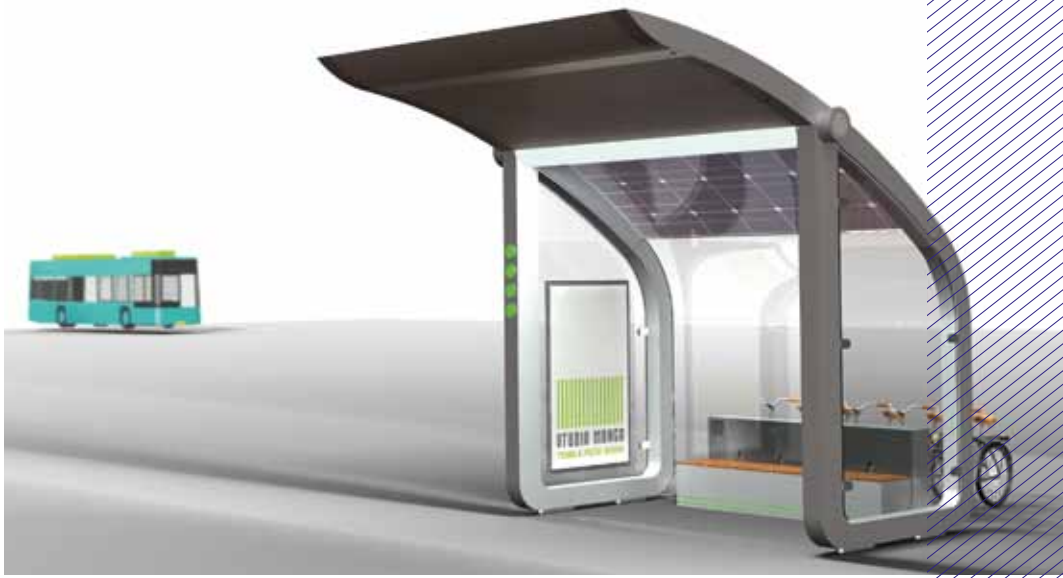
The electrical energy required to recharge the bus battery is fully compensated by the 15.5 m² solar panel on the roof, which is clearly visible from the inside and the outside of the shelter. The components required for inductively charging the battery are completely incorporated and protected from water or dust in the hinged roof construction. This has made it possible to retain the clarity of the design.¶

Use of the Solar Curve has been made as easy as possible for the driver. LED indicators indicate the correct position to park in front of the Solar Curve and the progress of the recharging process.¶

In 2012 the company EMOSS conducted tests with these city buses and the inductive charging technique by means of induction plates incorporated in a traditional way in the road surface. The application of the Solar Curve concept will be investigated in a later stage of this project.¶

www.studiomango.nl
www.syntens.nl

Visualisation Solar Curve – Studio Mango



CASE 09

ARLEARN

Augmented reality field trips, educational searches and serious games

ARLearn is an Android app from the Open University with which educational searches, field trips and role-based serious games can be developed and played. The players use their smartphone to explore and annotate their surroundings by means of augmented reality, while the tutor can monitor progress in real time. It is also possible to go on a virtual field trip via Google Street-View.¶

Besides the app for the players, the tutor has a toolset for the development of the scripts. ARLearn thus makes it possible to organise and to play location-specific educational games. For instance, students of Cultural Studies have already been sent out three times with ARLearn. In Florence they are asked questions about the subject of their choice on the spot, and can document their answer with audio and visual material via ARLearn.¶

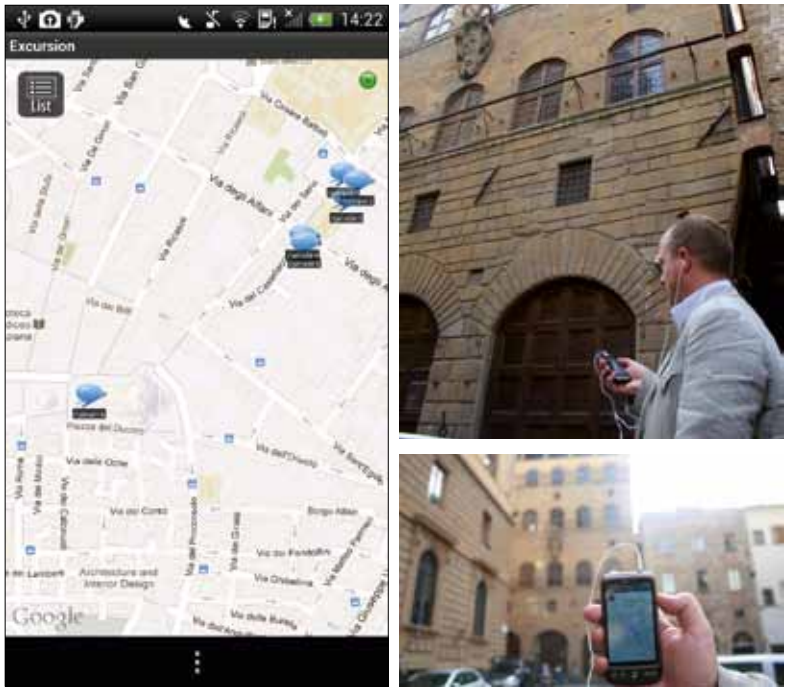
Although originally developed for educational purposes, ARLearn can be used in many other contexts as well. At the moment UNHCR, the UN organisation for refugees, is using the ARLearn toolkit to simulate crisis situations like a kidnapping, for example. Depending on their role, players are given assignments and have to cooperate in carrying them out. ARLearn has also been used in the Mindergie project with Kennisnet to motivate employees to use less energy.¶

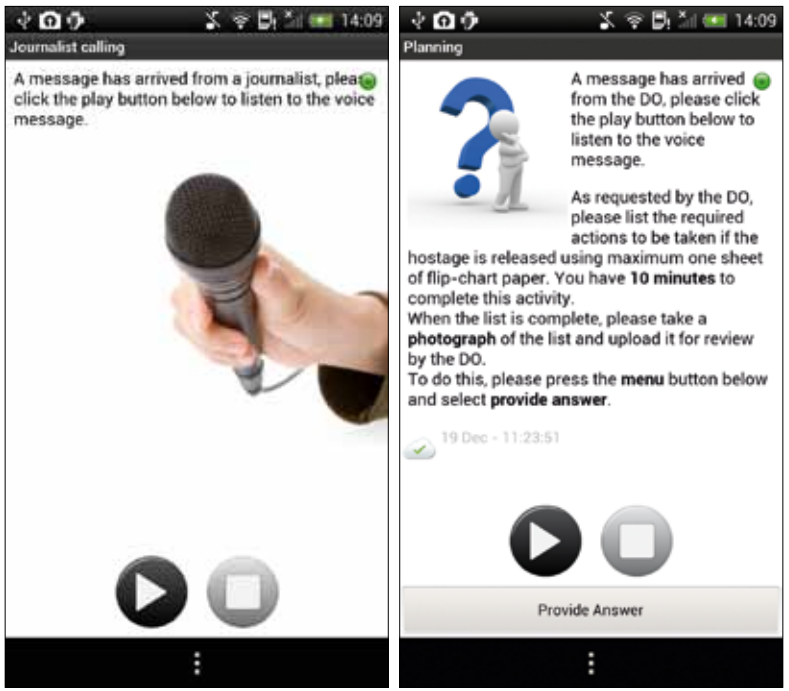
ARLearn is being further developed and used in new contexts all the time, for example in Emurgency, a EU-funded health care project in which ARLearn is used to practise first aid scenarios; or WESPOT, another EU-funded project on inquiry-based learning. An ARLearn pilot was organised in 2013 for Elena, a language skills project for children from 6 to 8 years.¶

ARLearn is developed by the Centre for Learning Sciences and Technologies (CELSTEC) of the Open University. The software is available under the GNU Open Source licence. You can find the app in the Google Play Store.¶

portal.ou.nl/web/topic-mobile-learning/

Screen shots ARLearn field trip





Screen shots ARLearn app

CASE 10

INNOVATION WITH ROAD USERS

The role of the Directorate General for Public Works and Water Management as a service provider

In the summer of 2009, 31 Volts implemented a service design project for and especially with the Directorate General for Public Works and Water Management (Rijkswaterstaat) to design services for the road user of the future.¶

31 Volts held co-design sessions at Rijkswaterstaat with various groups of road users. A design game was developed specially for this purpose to help the participants to come up with a lot of good ideas quickly. In a previous investigation Rijkswaterstaat had determined ten macro-trends, including 'belief in collective systems' and 'the desire for a traffic-free city centre'. These trends were used as the starting point in the design game. Then the participants were guided step by step through several assignments, at the end of which the teams had developed one or more new services.¶

The co-design sessions were followed by a design phase in which all the insights were collected, clustered and analysed, resulting in a number of overarching concept directions. 31 Volts added depth to these concept directions in consultation with external experts. The result of this design phase is five promising service scenarios. The service scenarios describe and give a visual picture of a future service. They also offer a step by step plan to test the specific service in practice.¶

The project has helped Rijkswaterstaat to scale down from abstract macro-trends to specific services to help tomorrow's road users. Besides the actual service scenarios, the project also showed how the Rijkswaterstaat can involve road users in future innovation trajectories.¶

www.31v.nl

AFTERWORD

The importance of the creative industry is firmly anchored in government policy. In the last few years the Dutch ministries of Education, Culture and Science, Economic Affairs and Foreign Affairs have been working on an infrastructure to lead to convincing results. There is a Topteam, there are innovation networks – united in CLICKNL –, a Dutch Creative Industries Council, a Federation of Dutch Creative Industries, The New Institute, and the Creative Industries Fund NL. This infrastructure functions largely thanks to public funding and targets policy and political objectives.¶

Policy, however, is not yet reality. In everyday practice there is only a vague picture of the activities of this institutional network. Besides, the term 'creative industry' is not all that unambiguous. In the years ahead these new forms of cooperation and institutions, each of which represents its own network of designers, entrepreneurs, knowledge institutes and government bodies, will have to realise the ambitions to strengthen the creative industry.¶

The Creative Industries Fund NL has an annual budget of grants to allocate for this purpose of almost 15 million euros. The core task of this fund is to support different forms of research, to promote innovation, to professionalise entrepreneurship, and to work cross-sectorally. Connecting the creative industry with the other top sectors is a logical step in this process.¶

The endeavour to introduce design thinking in the other top sectors is, however, more than a form of market expansion. The fund is based on cultural policy, which is why the granting of subsidies is also aimed at improving substantive quality. Creativity, research, innovation, quality improvement and entrepreneurship are closely interconnected. Subsidies can support cooperation between design, science, technology and producers or principals. But at least as much of an impact is made by making good examples visible and publicly discussing the different forms of cooperation between the creative industry and the other top sectors. The kick-off that led to the present publication has demonstrated the importance of this.¶

The fund has given warm support to this event and publication and will also participate in the relay of crossovers between the top sectors that will continue in 2013. But these meetings can only lead to results if the possibilities offered there are supported by the broad field of designers, researchers, creators, producers and principals who together form the creative industry. This publication offers insight into an inspiring prospect; let us hope that at the beginning of 2014 we will be able to show many more results of the cooperation between the creative industry and other top sectors in the Netherlands.¶

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Surgeons who learn something from the Wii-U, cradle-to-cradle fashion, a smart highway, a ball game to play with pigs, intelligent greenhouse lighting, or a bus shelter as a self-sufficient battery charger.
Just a selection from the many crossover projects in this publication. Look, leaf through it, read, and draw inspiration from wonderful examples of cross-fertilisation with the creative industry.¶