

Mercator NovioTech

Science Meets Business Nijmegen



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Dr. Andrea Budelli: **Kraft Heinz Innovation Centre**



Concha van Rijssel: **REshape Center for Innovation**



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Science Meets Business Nijmegen
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Investing in your future!



Innovation & sustainability

Innovation without sustainability is difficult to imagine. This spring is positively fizzing with green activities. Nijmegen and Arnhem are jointly preparing to host the international cycling congress Velo-city 2017. They won the bid last year in Taipei, and will be followed by Rio de Janeiro in 2018, the same year that Nijmegen will be European Green Capital, an honour previously granted to cities such as Stockholm, Copenhagen, Hamburg and Nantes; they are in good company! Of course, they had to do something to earn this. To win the title, Nijmegen put forward projects including sustainability in construction, energy, mobility, and the 'Nijmegen is embracing the River Waal' project. At several locations, sustainable new developments will arise such as the new EPR building on the Novio Tech Campus. You will find more examples in this magazine and at debates and lectures in the Nijmegen Sustainability Café in Lux and at Radboud University.

At the university we encounter this topic in education and research, as well as in the Sustainability Agenda 2016-2020. More than 27 courses linked to sustainability are taught by virtually all faculties. Recently a royal medal of honour was awarded to Radboud figurehead Prof. Pieter Leroy, Professor of Political Sciences of the Environment, who is responsible for the Master in Environment and Society Studies. He also acts as host for the Nature college on Tour on the Radboud campus with prominent guest speakers on the 'Transformation to Sustainability'. The green Radboud Campus not only boasts a wonderful environment and inspired teachers, researchers and students, but sustainable developments too. For example, the nearly completed renovation of the Dentistry Building, nominated for the Golden Phoenix, a prize for sustainable use of the existing surroundings. The jury sets a value on social, technical and economic aspects and on innovation and functional quality. Energy reduction is a key goal in this renovation: the energy rating will go from G to A+, an enormous improvement. With the renovation of the Trigon building located on the Kapittelweg, equally impressive energy savings have been accomplished. It is also a guiding principle for other buildings on campus and can be achieved in various ways: by adjusting climate control systems, heating with decentralized services, boilers in each building, and using heat pumps and heat/cold storage.

Ultimately the goal is to drastically reduce the use of fossil fuels, making new buildings carbon neutral and existing buildings energy efficient.

We hope you will be inspired to sustainability and enjoy reading this magazine.

Drs. Michel ter Berg,
 Radboud University Campus BV

Drs. Hein van der Pasch,
 Mercator Incubator Nijmegen BV

Dr. John J. Schalken,
 SMB-Life Sciences

Ir. Rikus Wolbers,
 Novio Tech Campus

CONTENTS

Combined forces for innovation in Health & High-Tech	4
Rabobank opens Teckle Innovation Desk on Novio Tech Campus	7
RadboudUMC REshape Center for Innovation - Nijmegen's birthplace of innovation	8
InnoBoot 2017 focuses on nanomedicine	10
Marie Curie BioGel workshop Coatings & Sensors	12
Nijmegen Velo-city 2017 and European Green Capital Award 2018	13
Ajilon Technology connects specialists to organizations	14
Full food experience at Kraft Heinz Innovation Center	16
Gicht high visibility fall prevention	19
Health Valley Event 2017: patient-driven innovation	20
Rockstart Digital Health Demo Day	22
EPR: Smart Factory and miniaturization	24
ClimateBooster: sustainable and unique in its simplicity	26
BisQQ: From data to information	28
Economy & innovation	30



Combined forces for innovation in Health & High-Tech

The Health & High-Tech sectors have recently gained a powerful collaborative partnership and implementation programme with the working title: Business Generator Health & High-Tech (BGHH). Together with prospective knowledge partners a consortium agreement has been drawn up agreeing to join forces, thus stimulating innovation, business and employment opportunities in the city of Nijmegen and the surrounding area. BGHH focuses on innovative start-ups and scale-ups, but also aims at 'grown-ups'. The BGHH fits in with the municipal vision for strengthening the knowledge economy and will give substance to the goals of the Economic Innovation Agenda 2020. The key partners within the consortium are the City of Nijmegen, Oost NV (East Netherlands Development Agency), Radboud University, Radboudumc, Health Valley, SMB Life Sciences, Kadans property management, and Novio Tech Campus. Rikus Wolbers is overall Programme Manager at BGHH and John Schalken its Business Support Manager.

Rikus Wolbers, Programme Manager BGHH (right) and John Schalken, Business Support Manager BGHH.

“In addition to the core partners, various associated partners are involved with BGHH, such as The Economic Board and Rabobank. The Province of Gelderland also supports the programme,” explains Rikus Wolbers. “The reason for this collaboration was the wide-ranging and often fragmented innovation initiatives taking place all across our region. We want to consolidate this sort of initiative so we could provide a clear and powerful range of innovations. BGHH covers the entire Health & High-Tech ecosystem. This should not only strengthen the knowledge economy in the region and stimulate employment, but should also put the Nijmegen knowledge region more clearly on the national and international map. Joint branding and marketing, standing together as one region to show what we have to offer in terms of knowledge institutes, research facilities, innovative businesses and, of course, knowledge and business support.”

Streamlining and avoiding duplication

As Business Support Manager, John Schalken and his team support, facilitate and stimulate entrepreneurship for businesses in the field of Health and High-Tech. All key partners are represented in the Business Support team, ensuring direct communication and rapid reactions. According to John Schalken, “Streamlining and avoiding duplication are the key words for our approach. The goal is to act as a collective so we can provide better service to entrepreneurs, hence increasing our impact. Our close contacts with knowledge-intensive businesses give us an overview of which innovation is taking place where. This allows us to match knowledge to businesses and so avoid two places working on the invention of the same wheel. So far the emphasis has been on supporting start-ups, but in practice we see that scale-ups and grown-ups also need innovation support in order to grow. That’s why, in



Rikus Wolbers

“BGHH covers the whole Health & High-Tech ecosystem”

addition to start-ups, we also want to focus on scale-ups and SMEs. The overarching goal is growth and to bring to market more innovations, both for Health and High-Tech. Developing new employment is one thing, but keeping knowledge workers in our area is at least as important. Fully-grown businesses also need to invest to survive the future. We are going to add our contribution towards achieving this.”

Combined strengths, promotion and branding

“When you create fertile ground for knowledge-intensive businesses, this becomes a

pull factor making you an attractive business location,” continues Rikus Wolbers. “Oost NV and The Economic Board provide us with connections to Innovation Attachés and foreign Chambers of Commerce. At the moment, there are insufficient connections between our region’s strengths. As a collective it is much easier to promote and brand the region. Historically our knowledge institutes do have their own international networks, but their focus is mainly on scientific cooperation rather than business. That means there are opportunities that have not yet been fully realized. BGHH can supply the business component. It is also difficult for businesses to find the right contacts at knowledge institutes, so they simply do not try. By founding Radboudumc Research Facilities and Technology Centers, major steps have been taken towards bringing businesses and the research facilities at these institutes closer together. By entering into alliance with BGHH by becoming a consortium partner they are taking the next step, thus raising the connections between business and knowledge institutes to a higher level. In addition to this, BGHH has good links to the HAN University of Applied Sciences, Wageningen University, Pivot Park Oss and Brainport Eindhoven.”

“Acquisition remains a priority,” says John Schalken. “The exact location of a business in the region is less important. Young businesses that prefer to stay close to the research institutes are probably best located on Mercator Technology & Science Park. If they want to grow, they can either move to Novio Tech Campus or the surrounding business parks such as Kerkenbos. A good example of one of the businesses that have fled the nest of their academic surroundings is Radboudumc spin-

Three work programmes

Incubation	Acceleration	Activation
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Focused on supporting innovative businesses, aimed at all phases of growth.

Three broader supporting activities

Marketing/Acquisition
Scouting & Screening
Meetings

Focused on the network, promotion and acquisition in order to create a greater impact as a region.



John Schalken

off TropIQ Health Sciences. Another is NovioGendix, later acquired by a player on the international market, MDxHealth, or businesses such as Mercachem and Synthon. All of these have deliberately stayed in Nijmegen and we all benefit. It is all about forming a regional pool of as many businesses with knowledge and expertise as possible.”

Research facilities, workshops and clustering

The Nijmegen region has ample facilities to support current knowledge businesses as well as those wanting to set up here. There now are two multi-occupant office buildings on Novio Tech Campus and we are looking into further expansion. The Mercator Technology & Science Park, close to Radboud University and Radboudumc, is also an interesting business location. “When businesses are situated close

“BGHH wants to act as a bridge between science and business.”

to each other it is easier to share knowledge, resulting in positive cross-fertilization,” according to Rikus Wolbers. “NXP Semiconductors and her recent spin-offs Ampleon and Nexperia, for example, are a pull factor for semiconductor-related businesses. At this stage various businesses from that sector have located here and we have an almost complete chain of chip design, manufacture, testing & packaging on the Campus. It is exciting to see how a business like EPR, ini-

tially located no more than 500 metres from here, moved to Novio Tech Campus and immediately saw new collaborations and business emerging. Simply by being closer together and making the match.”

Mentoring and coaching by Business Support are important areas of focus within BGHH. “It’s all about networking, connecting and thus organizing chances,” says John Schalken. “It’s not ‘rocket science’, but ‘people business’. In the autumn we will start a programme of Science Meets Business meetings, training sessions and workshops where entrepreneurs can learn from each other and share knowledge. Included are practical business themes such as ‘Investor readiness’, ‘Regulatory & quality issues’, ‘Intellectual property protection’ and ‘Team building.’”

According to Rikus Wolbers, “There are interesting organizations and research facilities in the region that are known to the knowledge institutes but not so much to the business community. Radboud University, Radboudumc and HAN University of Applied Science, for instance, offer various options for project research. BGHH wants to bridge the gap between science and business, as we are able to reach deep into all levels of the business community. For larger European projects we can also help match the right project partners and hence position ourselves more effectively. This will allow new business clusters with their own specializations to form. At the moment we are looking into the option of a location for pooling expertise on fast prototyping. This will make it possible to quickly move from idea to prototype and realize the manufacture of small batches.” Both agree that “it is really remarkable that the consortium partners are jointly giving a commitment to BGHH’s plans and undertaking to achieve the targets set. This speaks volumes about the innovation climate in our region.”

Examples of 2017-2020 goals from the BGHH implementation programme

To be realized by the end of 2018

- At least 150 new jobs in the region by organic growth of start-ups, scale-ups and ‘grown-ups’
- Establishment of one notable organization in Gelderland thanks to BGHH, creating 50 new jobs
- Attracting € 4 million in new investment for the supported businesses
- 16 start-up / scale-up entrepreneurs coached by an experienced entrepreneur
- 10 new contracts for the use of specialist equipment/laboratories/machines etc. in Gelderland
- Housing 10 to 15 innovative businesses on the Gelderland campuses. At least four of these businesses will be spin-offs from knowledge institutes

To be realized by the end of 2020

- At least 350 new jobs in the region by organic growth of start-ups, scale-ups and ‘grown-ups’
- Establishment of three notable organizations in Gelderland thanks to BGHH, creating 150 new jobs
- Attracting € 25 million in new investment for the supported businesses
- 25 start-up / scale-up entrepreneurs coached by an experienced entrepreneur
- 30 new contracts for the use of specialist equipment/laboratories/machines etc. in Gelderland
- Housing 15 to 20 innovative businesses on the Gelderland campuses. At least eight of these businesses will be spin-offs from knowledge institutes

Jos
Willemsen
(left) and
Bram van
Haren

Rabobank opens the Teckle Innovation Desk on Novio Tech Campus

Recently Rabobank Rijk van Nijmegen opened the Teckle Innovation Desk on the Novio Tech Campus, a regional innovation service for start-ups and SMEs. Rabobank offers advice and assistance to innovative entrepreneurs using their 'network, expertise, and capital', summarizes Jos Willemsen, Corporate Account Manager at Rabobank Rijk van Nijmegen. The 'Teckle', represented by a digital dachshund, stands for tenacity, perseverance and investigative skills, i.e. the Rabobank Rijk van Nijmegen's nose for innovation.

Network - expertise - capital

Traditionally, a bank is generally seen as a provider of capital, but Rabobank wants to be more than that. "Usually the bank becomes involved when an enterprise is leaving behind its start-up phase and needs funding for further growth. In the start-up and pre-seed phases there is often not yet any cash flow and there is no security to back capital. Generally start-ups have raised the necessary seed funding themselves through acquaintances, family, friends and informal investors. Yet especially in this early business phase Rabobank can offer valuable support, even if the door to the vault stays closed for a while longer. We offer innovative entrepreneurs access to our extensive **network** of contacts in the business community, trade associations, knowledge institutes and government. Rabobank also has a veritable treasure trove of **expertise** in the field of innovative entrepreneurship. Good entrepreneurship is an absolute essential for any type of business growth. With tools such as the Business Model Canvas, various models for business plans and practical management information, we provide support for starting entrepreneurs. Of course we can also assist by offering **capital** using normal banking products, but also with alternatives. Rabobank contributes to the Thuja Capital Healthcare Fund II (TCHF II), for example, which invests in businesses developing innovative medical products. We are also involved with the SHIFT investment fund for innovations and are partners in Gelderland Valorizes. We are also a member of the pre-seed fund KERN, stimulate innovative entrepreneurs with the Herman Wijffels Innovation Award and are one of the sponsors of Rockstart Digital Health Accelerator."

SME Account Manager Bram van Haren adds, "We match start-ups to entrepreneurs who want to act as a sounding board or

who want to get involved in new businesses. Apart from those seeking funding, increasing numbers of people are willing to invest. Money Meets Ideas is a Rabobank platform where informal investors meet entrepreneurs who are looking for venture capital and expertise. Rabobank & Co is an initiative offering wealthy clients a new investment opportunity, as clients and the Rabobank jointly invest in businesses based on Rabobank funding. That means we offer a comprehensive range of support for starting entrepreneurs."

Innovating together

Locating the Teckle Innovation Desk on the Novio Tech Campus was a conscious choice, according to Jos Willemsen and Bram van Haren. "We want to be on the spot where things are happening. We can do a lot in an environment buzzing with innovative and knowledge-intensive businesses. Innovating together! Entrepreneurs who have any questions can drop in every Tuesday and Thursday or make an appointment. Together we will look for an answer. Off-campus businesses are also welcome, of course. This service offered by the Innovation Desk is free; it is our investment in a new client relationship. Actually it is a form of old-fashioned banking: being close to the client, giving practical advice and working together to find solutions, and 'no' is not an option. Even in the fast world of innovation, everything ultimately revolves around personal commitment and relationships. Doing business is still essentially working with people."

Visit the Teckel Innovation Desk (open without appointment every Tues. and Thurs.): Novio Tech Campus - Building A - room 0.ru.10 (next to Rockstart). Or call for an appointment: +31 (0) 24 281 86 00.

HACKING BRINGING INNOVATION T



Radboudumc REshape Center for Innovation

*Nijmegen's birthplace
of innovation*

REshape Center for Innovation is part of Radboudumc in Nijmegen. "As an innovation department we bring in healthcare-related innovations and new technologies that have been developed outside the hospital," begins Concha van Rijssel, programme manager at REshape. "These are always found on the intersection between technology and patient empowerment. We also promote innovations within the hospital. We could be described as the birthplace of 'future healthcare', aimed at bringing in innovations, as well as developing and implementing them."

INNOVATION

We are involved in various projects at home and abroad, conduct research, organize events and stimulate education and training," continues Concha van Rijssel. "Our main task is to bring together people and ideas in order to relieve patients and their family members. The use of new technologies can be an important factor, but technology does not necessarily have to be the solution. Technology is a means, not a goal in itself. Reshape doesn't stand on the side of 'cold' technology; we focus far more on behavioural changes and prevention." Could you give an example? "Children often have to stay in Intensive Care longer than is necessary, because healthcare professionals do not have the means to monitor patients well enough outside IC. Not only is this taxing for the child, it is also stressful for the family. Now there are more and more techniques that allow for different and more flexible monitoring. At the moment a test is being conducted with a patch that measures several parameters, meaning the child can leave the IC sooner. Besides decreasing strain on patients, beds in the IC unit become available sooner. Later this year we will also be doing a trial run in several departments with equipment for more flexible monitoring. The solution can often be found closer to home than you would expect. We have been using the so-called Design Thinking Method for years for this. It means looking for the question behind the question, often leading to practical and creative yet simple solutions. An example: children with a cleft lip and their family often have to travel to Nijmegen from all over the country for repeated specialist consultations. In the first 18 years the patient has to undergo frequent follow-up examinations, including long travel times. Skyping solved the problem for repeated consultations and unnecessary travelling. For 'acute' communication issues the first thing you hear is "we want a platform or an app", but when you actually speak to a patient's family, the problem actually turns out to have been solved with a single phone call two weeks after treatment. The solution can be that simple."

Patient journey

"We believe in human-centred design, understanding what patients and families want and finding solutions from that human perspective," emphasizes Concha van Rijssel. "Healthcare innovation can only be successful if the patient is involved in its development, so it is 'patient-included'. Hence the patient is a standard member of the team that is on the lookout for innova-

tive solutions. We have a 30-day procedure to map out the patient journey. We follow the patient on their journey preceding, during and after treatment, inside and outside the hospital. We sometimes think the hospital is some kind of universe, but for the patient and their family it is only a small part of their lives. The patient journey is different for each patient; that one typical patient doesn't exist. Everyone deals with their condition differently. Some will want to know and register everything they can find, others just want to live their lives and forget about the disease. However, it still gives us an insight into patient satisfaction, as well as possibilities for differentiation and improvements in healthcare. We cooperate with other hospitals in the area to make this possible, such as the Jeroen Bosch Hospital, the Canisius-Wilhelmina Hospital (CWZ) and the Sint Maartenskliniek, but also with the Ministry of Defence and primary healthcare centres such as the Academic Healthcare Centre Thermion in Lent."

Hacking Health Valley

REshape's collaborations go far beyond our own region. For instance, Radboudumc REshape is a member of Hacking Health, an international organization that organizing hackathons in Canada, the US, South America, Europe and Asia. During a hackathon teams of (healthcare) professionals and patients develop pitched ideas and share insights and experiences, all in one weekend. The goal of this 'creative pressure cooker' is to rapidly move from an idea to a prototype, then test it using a target group or in a practical healthcare situation. Hacking Health hopes to create a basis for interdisciplinary cooperation, as well as building relationships that could in time lead to more innovation. Dutch Hacking Health is an initiative that REshape brought to the Netherlands, and is already supported by five UMCs: LUMC, Maastricht UMC+, UMC Groningen, UMC Utrecht and Radboudumc. As programme manager at REshape, Concha van Rijssel was closely involved with the organization of the recent event Hacking Health Valley 2017, held in Nijmegen on 19 - 21 May. Patients, healthcare professionals, designers, programmers and entrepreneurs joined forces to develop smart ideas for current issues into real-life healthcare solutions. "For Hacking Health Valley we worked closely with partners such as HealthValley, Rockstart, Pluryn, Sint Maartenskliniek and Siza. In the same weekend Dutch Hacking Health events took place at four other UMCs. Its strength lies in bringing together and connecting the knowledge and experience of doctors and nurses who spend 95 % of their time at the bedside with that of designers, programmers and entrepreneurs. Contributions made by hands-on experts like carers and patients are particularly crucial for achieving any sustainable and practical solution. Of course ideas, experiences and insights are also shared internationally with the other Hakathon Health members," says Concha van Rijssel. "We see these events first and foremost as a way to change the culture and mindset in healthcare, our hospital in particular. It is a means to show healthcare professionals that you cannot innovate on your own. Changing your perspective can lead to new insights. Healthcare innovation will get you nowhere if you have never talked to a patient, nor would it get you any further if you never thought through the business side of things or the technological feasibility of an idea. This 'thinking outside the box' provides many new and creative ideas. You keep each other up to scratch and give each other new input."

International cooperation

Recently REshape Center for Innovation started a new activity: REshape Center for European Health(care) Design. "We are work-

"Healthcare innovation does not stop at the border"

ing closely with Growtivity, a business that designs digital healthcare solutions based on a platform by the American software company Salesforce, the Ikone foundation and others. In this collaboration we want to combine human design thinking in the healthcare sector with rapid prototyping and market access. Firstly we analyse the needs and problems of patients and carers, then prototypes will be tested and immediately improved. Thanks to our cooperation with Growtivity we can combine our strengths, networks and energy. We expect to be able to get innovations to patients, their families, carers and healthcare professionals much faster. It is our ambition to also be active outside the Netherlands. The same healthcare problems can be found in other countries; healthcare innovation does not stop at the border. At the beginning of this year we welcomed Zayna Khayat from Canada to REshape. She is a member of the Health System Innovation team of the global innovation hub MaRS Discovery District in Toronto. She is also director of MaRS EXCITE (Excellence in Clinical Innovation and Technology Evaluation), a collaboration between healthcare, government, business and knowledge institutes focusing on 'future healthcare'. During her eleven-month exchange, part of Zayna Khayat's remit will be to represent REshape in a co-creation with the Ministry of Health, Welfare and Sports (VWS), setting up an innovation programme that future healthcare leaders can take into consideration when planning policies for our future healthcare system. She will also be continuing to build upon the international network of innovation centres set up by REshape director Lucien Engelen."

www.radboudreshapecenter.com



Concha van Rijssel, Programme Manager at REshape

InnoBoot 2017 took place on 11 April at the Novio Tech Campus. The theme of the meeting was 'Nanomedicine'. The day started with an Innovation Tour of locations at the Radboud campus, HAN and the Novio Tech Campus, all with connections to iLab Nijmegen. The afternoon programme included several keynote speakers and pitches by innovative entrepreneurs and creative innovators.

InnoBoot 2017 focuses on nanomedicine

EVENT REPORT

After a few words of welcome by Rikus Wolbers, Managing Director of Novio Tech Campus, keynote speaker **Mani Diba, MSc** was first in line with a lecture on regenerative medicine. Reconstructive or regenerative medicine aims at regenerating or repairing lost or damaged body parts and organs using three types of material: biomaterials, cells and biomolecules. Diba's research focuses primarily on biomaterials. Three characteristics determine if a biomaterial is perfect for nanomedicine: its degree of biodegradability / solubility in the body, its bioactivity and its mechanical properties. Administration by injection is preferred, but causes a certain amount of damage to the structure and quality of the biomaterial. The challenge was to develop self-healing biomaterial that is able to repair its own structure after deformation during injection. In cooperation with researchers from Harvard University and Dalian University of Technology, Mani Diba and colleague Sander Leeuwenburgh of Radboudumc developed a very elastic and self-healing colloid composite gel consisting of a combination of silica and gelatine nanoparticles. Not only is this material very elastic, it is also very robust. This makes the gel easily injectable, because the structure repairs after possible deformation. Furthermore, drugs can be added to it. These characteristics make the material suitable for biomedical applications such as bioprinting and tissue regeneration.

The second speaker was **Dr Christianne Rijcken**, CSO of Cristal Therapeutics, a Biotech company that develops nanoglobules that deliver cancer drugs to targeted parts of the body. In 'targeted drug delivery' medication is transported only to diseased cells or tissues. This means the dose can be increased and more concentrated while preventing damage to healthy cells and the occurrence of undesirable side-effects. Using their innovative patented CriPec nanotechnology based on polymers that can be broken down by the body, Cristal Therapeutics is developing drugs that are more effective and safer. This CriPec technology makes use of pores in the arteries. In

infected tissue, the artery walls have pores of up to approximately 200 nanometres large enough for Cristal Therapeutics' specially-developed globules to slip through to deliver the drugs they are transporting. In the meantime the effect of the CriPec-technology has been proven in the laboratory with several drugs (such as cancer medication, inflammation blockers and hormones). Investors including Biogeneration Ventures and Aglaia Biomedical Ventures have recently supplied approx. 13 million euro for extra research into the most important drug, Cripec docetaxel, in which nanoglobules are combined with existing chemotherapy.

Mani Diba, MSc



John Schalken of SMB Life Sciences then announced those presenting their pitches. First was **Friso van Assema** of Rhinehorn Initiative, which has come up with a possible solution to counter the illegal hunt for the 'medicinal' horn of African and Asian rhinos threatened with extinction. Ground rhino horns have been used for centuries in the practice of traditional Chinese medicine. In many countries people are convinced of the medicinal effect of rhino horn and one kilogramme can bring in no less than 65,000 to 100,000 dollars. Rhinehorn Initiative wants to provide a solution by replicating rhino horn using proteins and biotechnology. Producing 'Rhinehorn' with similar properties should discourage poachers. Rhinehorn Initiative already has some sponsors, but has encountered a number of 'practical' problems in the development, financing and marketing of the product. Ownership of rhino horn is illegal, and market research in an illegal market is very difficult indeed. The authorities are not very cooperative and do not believe the duplication of an illegal product is ethically justifiable. Nevertheless, Van Assema is convinced of the marketing viability of this product and is desperately searching for collaborating parties and sponsors.

The second to pitch was **Sander van Asbeck**, CEO of Mecurna, one of Radboudumc's spin-offs. Mecurna is developing a precision medicine for kidney patients. Due to a deficiency in the filtration system of the kidney, the glomerulus, blood purification capability declines. Local infections can occur, aggravating damage to the kidney, creating a downward spiral in the functioning of the organ. Ultimately the patient will become reliant on dialysis or a kidney transplant. In order to keep the disease under control, kidney patients often use immunosuppressive drugs that act not only on the kidney but on the entire body with various undesirable side-effects. Because of this, the optimal dose cannot be given because this can sometimes cause cancer. Mecurna has investigated the possibility of transporting the medication by targeting the glomerulus, focusing on cell-penetrating peptides which can deliver materials through the cell membrane into the cell. They discovered a peptide that specifically targets the filtration units in the kidney, allowing it to deliver so-called messenger RNA that is able to produce therapeutic proteins. These proteins can counter or possibly stop infection in the filter of the kidney. Mecurna's goal is to develop the first precision medicine for kidney patients.

The third person to make a pitch was **Dr Waander van Heerde**, CSO of Enzyre, a

Professor Daniela Wilson

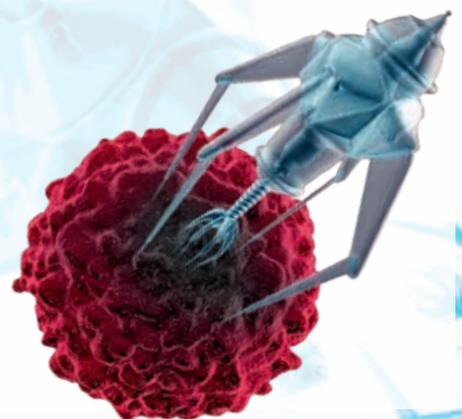


Radboudumc spin-off which targets point of care solutions for the treatment of blood-related diseases such as haemophilia therapy and thrombosis therapy. Enzyre has developed a biochip platform that can be used to measure enzymatic reactions. Using a multichannel biochip containing a small amount of blood, several enzymatic reactions and coagulation parameters are measured in real-time. The prototype of the biochip was developed in collaboration with Radboud University, Radboudumc, Future Diagnostics, Chiralix and NXP Semiconductors. The application is aimed at personalised healthcare that could also be used outside the hospital environment, or the lab test can be carried out at the patient's home. Enzyre has developed a new detection technology based on measuring light.

The final speaker was **Professor Daniela Wilson** (Institute for Molecules and Materials, Radboud University), an expert in the field of nanotechnology. Researchers at Radboud University have managed to produce nanometre-sized capsules in different shapes - spheres, disks, bowls, and rods - by using molecular building blocks and smart assembly procedures. These capsules can serve as nanocontainers or nanorockets for biomedical purposes such as the transport of drugs in the body. On the outside they can be equipped with enzymes or molecules that attach to specific tissues. Daniela Wilson researched the possibilities for further optimising this drug transportation using nanorockets. "The shape of the nanorockets determines the character-

istics of the flow in the bloodstream and they are propelled using hydrogen peroxide as their fuel. Inside the nanocapsules, a gas is produced which leaves the capsule via a narrow opening, thus creating thrust which propels the nanocapsules.

The challenge was to send the drug carriers to the target site. Sensitivity to temperature played an important role since infected tissue is warmer than healthy tissue. The nanorockets have an opening with a type of polymer bristles which act as a valve. The bristles can stand up or lie down depending on the ambient temperature. At higher temperatures the bristles lie down and close off the opening so that no fuel gets in, hence the rocket slows down. At lower temperatures the opposite happens and the rocket actually starts to move. By including nickel particles in the core of the nanorocket, a magnetic field can be used to propel the rocket in the desired direction. The ability to control and direct the nanocapsules offers many opportunities for their biomedical application.



Nijmegen's Novio Tech Campus was the location of the three-day BioGel networking programme. BioGel is an innovative training and network (ITN) project organized by Marie Skłodowska-Curie Actions (MSCA) supported by the European Horizon 2020 funding programme. PhD students and companies from various countries exchange knowledge and experiences within BioGel.

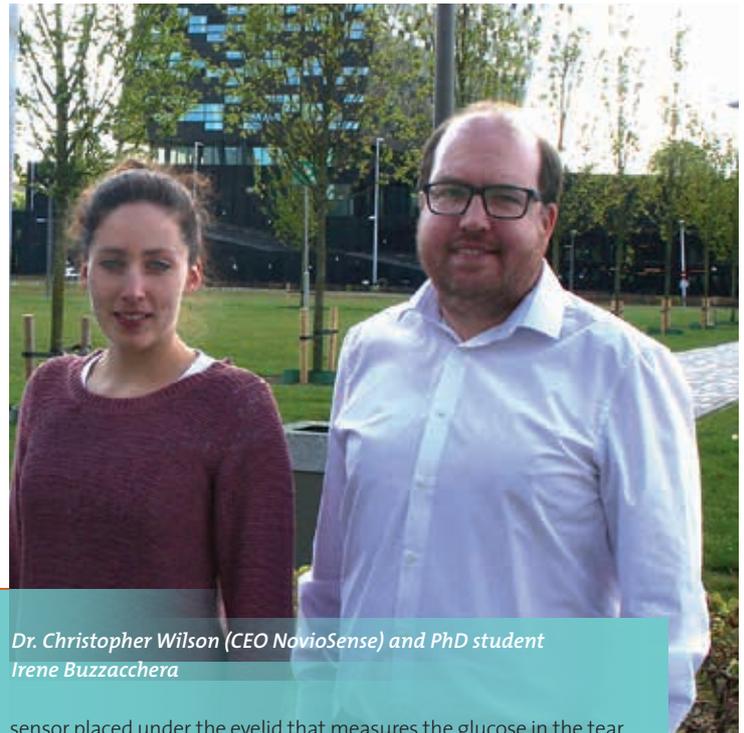
Marie Curie BioGel workshop on Coatings & Sensors

NETWORKING

The organization of the latest meeting in the Netherlands was in the hands of PhD student Irene Buzzacchera, working at NovioSense, and her co-promotor Dr. Christopher Wilson, CEO of NovioSense. Also closely involved in the organization were professor Roeland Nolte, emeritus Professor at Radboud University, and Professor Daniela Wilson from Radboud University's Institute for Molecules and Materials (IMM).

The focus of the ITN project is on the development of biogel for medical applications, such as skin tissue repair, regenerative medicine or diagnostic materials. In the course of the three-day programme, PhD students had the opportunity, as well as sharing research, to absorb practical knowledge which may be useful in their further careers. The first day comprised a plenary session and a 'fireside chat' with Jos Put (former CTO at DSM) and Roeland Nolte who shared their experience of careers at two leading research organizations, DSM and Radboud University. The second day focused more on business with speakers like Dr. Jan Weber, Senior Research Fellow of Boston Scientific, and issues like IP, Quality & Regulatory Issues. Daniela Wilson gave an interesting lecture about the future of nanomedicine. On the final day the students worked on a business case related to their research, presenting it as a pitch.

Christopher Wilson: "Each one of us has their own research theme related to the application of biogels. One student is working on a gel for the regeneration of nerves, another is involved in the hydrogel project run by Alan Rowan, molecular chemist and professor at Radboud University. The core business of NovioSense is a glucose



Dr. Christopher Wilson (CEO NovioSense) and PhD student Irene Buzzacchera

sensor placed under the eyelid that measures the glucose in the tear fluid. The measurement is read out wirelessly on a smart phone. Our Italian PhD student Irene Buzzacchera is researching a hydrogel coating for a long-term implantable sensor for monitoring type 2 diabetes. The sensor then communicates with an implantable insulin pump, making the injection needle redundant. Irene also played a central role in the organization of the BioGel programme."

Irene Buzzacchera: "It was an extraordinary experience. We were able to make new contacts with researchers and companies, expanding our network for now and in the future. The 'entrepreneurial' contributions and the workshops were especially interesting to hear and experience. PhD students are keen to know what is going to happen after their studies and what kind of working environment they could work in. We now have a clear picture of state-of-the-art research in coatings and sensors, but also of future research and business opportunities. The BioGel network meets two or three times a year. The next meeting is planned in Greece and will focus mainly on presenting our new research projects."

Concluding, **John Schalken**, acting as host from BGHH Business Support, said, "This BioGel programme is a prime example of how we, in Nijmegen, can bring together international researchers and knowledge-based companies in order to share knowledge and to network in the areas of research and entrepreneurship. Literally, science meets business!"

BioGel programme participants





European Green Capital Award 2018

For the whole of 2018 Nijmegen will be able to call itself European Green Capital: the most sustainable city in Europe. The European Commission rewards cities for their efforts to improve the environment with the European Green Capital Award. The main reason why Nijmegen won the title was because of the many sustainable projects and the high degree of participation. Businesses, housing corporations, educational institutions and Nijmegen citizens have all made contributions to sustainability in recent years. Thousands of houses have been insulated and over 15,000 rooftop solar panels have been installed. Compared to 2008, a 13% reduction in gas and electricity has been achieved. The new heating network warms thousands of houses with residual heat from the waste-to-energy power station ARN. Many kilometres of cycling highways have been also been created and buses are powered by green gas. Furthermore, a project such as the relocation of the dike with the new city island of Veur-Lent has international appeal.

In 2012 Nijmegen commenced the co-creation process 'Power2Nijmegen' in collaboration with businesses, knowledge institutes, social organizations and other specialists with the aim of realising the City of Nijmegen's ambition of being 'carbon neutral' by 2045. The municipality of Nijmegen mainly wants to act as a facilitator to connect new and existing initiatives that contribute to the common aim. The optimum scenario assumes a 50 % energy saving and 50 % sustainable energy production in 2045.

The Four Day Marches Festival:



marching with no footprint

The organizers of the Four Day Marches Festival (15 – 21 July 2017) want to play a part in achieving the city's ambition of becoming an 'energy neutral' city by 2045. Together with water supplier Vitens, a system has been developed in which renewable bottles are filled with tap water. Depa Disposables, waste company Dar and ARN power station are collaborating to produce a mono-stream of biodegradable 'waste' as a business case for partners in the circular economy. The local, sustainable supplier Huismerk Energie is providing the event with 100% green energy from solar panels and windmills. The NS (Dutch Railways) will transport visitors with 'green' trains, buses are powered by natural gas and there will be extra charging facilities for electric cars.

Velo-city 2017

The municipalities of Arnhem and Nijmegen are organizing the Velo-city 2017 international cycling convention from 13 to 16 June. Over 1,500 participants from around 80 countries are expected to take part in the largest cycling convention in the world. During Velo-city 2017, experts from all over the world will share their knowledge in matters of cycling policy, cycling infrastructure and sustainable mobility. In addition to over 250 speakers from about 40 countries there is an extensive (cycling) excursion programme for visitors of the convention, an exhibition and a special meeting for mayors and ministers, where they will discuss how cycling can contribute to the liveability of cities and to the welfare and happiness of citizens.

The main theme of Velo-city 2017 is 'The Freedom of Cycling'. Issues such as Governance, Infrastructure, People, Bikenomics and Urban Planning take centre stage during the convention. 'The Dutch Story' will be addressed, as well as the relationship between cycling and health and sustainability. On the final day of the convention the European Cycling Strategy will be handed over to the EU Commissioner for Transport and Mobility, Violeta Bulc. The Mayor of Nijmegen, Hubert Bruls, and the Mayor of Arnhem, Boele Staal, are delighted to be able to act as joint hosts to Velo-city and to receive King Willem-Alexander for the official opening of the convention in De Vereeniging in Nijmegen. This will signal the start of the convention and various cycling activities for local residents in the region. Following the opening the king will cycle part of the RijnWaal route, the 17-kilometre cycle highway between Nijmegen and Arnhem.



Cycle Highway

Ajilon Technology connects specialists to organizations

The knowledge and skills of educated and qualified employees are important prerequisites for the growth and innovation of organizations. Secondment agency Ajilon, part of Adecco Group Nederland, connects professionals with a technical specialization at Bachelor or Master level with businesses in knowledge-intensive industries. Ajilon recently opened an office on the Novio Tech Campus, operating in the east of the Netherlands. Business Unit Manager Ferdi Kocken can see many opportunities in the student city Nijmegen with its many businesses in semiconductors, pharmaceuticals and medical technology.

PRESENTATION

The professionals at Ajilon Technology work in product innovation, design and implementing new and improved manufacturing processes, they lead project teams and departments, or give advice on technical issues.

"Ajilon is made up of several business lines," begins Ferdi Kocken. "IT, Engineering, Finance, Technology and Young Professionals. We also have a legal and financial centre of expertise for freelance services. As Business Unit Manager at

Ajilon Technology I am responsible for our new location in Nijmegen. We have branches in several locations across the Netherlands: Eindhoven, Groningen, Rotterdam and Gorinchem. At this location we focus on the High-Tech, Aerospace, Life Sciences, Chemical and Process industries. We have currently seconded out 250 professionals to our clients. All are qualified technical specialists (from HBO higher vocational training to PhD), of about 30 nationalities. Including our Engineering business line, that adds up to over 500 technical professionals.

**Ferdi Kocken,
Business Unit
Manager Ajilon:**
*"Businesses with a
(temporary) gap
in their knowl-
edge or capacity
can
contact us."*

The location on Novio Tech Campus has great efficiency advantages bearing in mind our existing clients in the semiconductor industry such as NXP and Ampleon. There are also opportunities for us in other sectors as well. Moreover, this is an innovative region with many knowledge institutes of interest such as Radboud University, Radboudumc, HAN University of Applied Sciences, Wageningen University and the University of Twente. These knowledge institutes naturally produce a considerable inflow of talent that becomes available for the job market. So we are literally moving closer to both the job market and our clients."

Secondment

According to Ferdi Kocken, secondment has many advantages for the client. "The client generally only pays for the hours worked and runs absolutely no risk if there is illness or absence. Our professionals often bring with them very specific knowledge and experience. Of course, things such as confidentiality are included as a standard part of the contract and we can always put in additional terms regarding intellectual property. For secondment Ajilon acts as the employer, with the professional reporting to us and under our supervision. Sometimes projects have a clear beginning and end, for which we establish a number of 'deliverables' that we can use to monitor progress. We also often support clients by carrying out temporary assignments. In this way secondment provides clients with flexibility, cost management and the knowledge they need. In certain cases the client even offers the seconded employee a permanent contract. Of course this is not the focus of our business model; we would prefer to keep employing our professionals ourselves. However, the ambition of the person seconded is always the most important thing. We do all we can to encourage our employees to continue developing. One of the ways we have done this is to create the role of Field Manager. The Field Manager supervises and coaches employees in their personal development, carrying out the annual Performance Management Cycle, a system for planning, progress and assessment. In four meetings a year the employees' talents and ambitions are discussed and assessed and laid down in a Personal Development Plan. We offer plenary workshops on fairly general subjects or on market developments, but we also buy in very specific external training for individual development



Secondment provides clients with flexibility, cost management and the knowledge they need.

plans. We permanently employ 70 % of our employees and so they have been working for us for many years. In some parts of the organization employees have already celebrated 25 years working for the company or have worked with us up to retirement age.”

Hot list

Finding highly-educated and qualified employees is an increasingly problematic issue for knowledge-intensive businesses. How long does it take Ajilon to find and deliver suitable candidates? “It is very rare for our professionals to be without a project for very long. Our recruitment department is therefore always on the lookout for technicians, engineers, scientists, consultants and project managers for our regular fields of R&D, Process Engineering, Manufacturing, Quality and the Supply Chain. We keep an updated ‘shadow list’, a hot list of the most requested job descriptions and keep in regular contact with the candidates from this pool about the next move in their career.” “The ‘war for talent’ is becoming more serious. That is why we often take on good candidates with specialist knowledge, even without an actual commission in sight. We would like to second these professionals to our neighbours on the campus on a temporary basis at a favourable rate. These are people who have often gained work experience at a start-up, worked with the innovation cycle from idea to product and had a responsible role in the process. They can be deployed flexibly to support new projects and to contribute their experience. There are benefits for both sides: start-ups can flexibly hire professionals on a temporary basis at a low rate and the professional gains use-

ful experience while we are looking for an employer for a secondment post. Such versatile work experience boosts their CV, makes it even easier to place them and it gives them extra skills for performing any future assignments.”

Businesses with a (temporary) gap in their knowledge or capacity can contact Ajilon. During an initial interview, an account manager will define the challenges the client faces in order to find a fitting solution. “It’s becoming more common for us to take an experienced professional from the relevant field to the interview who is able to judge what the real issue is. Sometimes the client wants a solution that, on closer inspection, would not meet their actual needs. This is a way to really get to the crux of the problem, so we can always find a good match between the proposed solution and the professional needed for secondment.”

Ajilon on Novio Tech Campus: cross-fertilization

Ajilon is interested in new forms of cooperation with other tenants, now it is located on the Novio Tech Campus. “Central to our plan is ‘cross-fertilization,’” says Ferdi Kocken. “As part of Adecco Group we have a vast amount of HR-related knowledge and experience. We are currently discussing with the campus management how we can make our knowledge easily accessible to the other businesses on campus, which is also a good way of getting to know our neighbours”.

Some of our services:

- Taking on risk, e.g. by payrolling
- Making available our practical knowledge of labour law
- Acting as an internal job board for the campus (combining supply and demand, with or without contractual involvement)
- Facilitating temporary exchange of employees between tenants.

Please contact Ajilon Technology for an appointment:

Tel. +31 (0)40 799 90 10
technologyzuid@ajilon.nl
www.ajilon.nl

Full food experience at the Kraft Heinz Innovation Centre



Kraft Heinz Innovation Centre in Nijmegen

industrial production and a sensory centre with facilities for using consumer panels to test flavour perception and product use.

Sugar and salt reduction

“The Kraft Heinz innovation strategy is 100 % aimed at consumer needs and food trends,” explains Andrea Budelli. “It is important to pick up trends in food at an early stage and to research how we can apply them to our product categories and brands. We are always aware of the great social responsibility we have as food manufacturer. We want to produce healthy foods for millions of people in a sustainable and eco-friendly way. In order to

The Heinz Innovation Centre opened in Nijmegen in 2013. Two years later, in 2015, a merger with Kraft took place and both companies continued their work as ‘The Kraft Heinz Company’. Globally the business is ranked as the fifth largest world player in the food industry, with about 42,000 employees and a total turnover of 26.5 billion dollars and 4.3 billion in profit. The Kraft Heinz Innovation Centre is where product innovation for the European market takes place. We talked with Andrea Budelli, Vice President R&D Europe and Global Infant & Nutrition, about Kraft Heinz’s innovation strategy and the approach taken at the Kraft Heinz Innovation Centre.

RESEARCH & DEVELOPMENT

Everyone knows the name Heinz from their ketchup, canned soups and baked beans. The Kraft brand is also recognized the world over with their cheese products, peanut butter and mayonnaise. What many people may not know is that many well-known Dutch brands are part of the concern: Honig, Wijko, Amoy, Brinta, De Ruijter, Venz, Roosvicee and Karvan Cévitam. Andrea Budelli is in charge of 110 researchers and about 50 employees in other positions in Nijmegen. The Netherlands and Nijmegen in particular were a deliberate choice of location. “The Netherlands has a central position in Europe and has a good infrastructure. It is a politically and economically stable country with a cooperative govern-

ment and consistent laws and regulations. It is easy to work and live in the Netherlands; everyone speaks English. With Nijmegen as our base we have good links to all universities and research institutes such as TNO. In particular the proximity of Wageningen University, one of the best universities in the world the field of food, makes it a good provider of knowledge and talent. We have always had good relationships with the regional and local authorities. The City of Nijmegen has actively promoted the relocation of Kraft Heinz to this wonderful site.” The Kraft Heinz Innovation Centre is equipped with microbiological labs, practical and packaging labs, a pilot plant for pre-



guarantee business continuity, we need a long-term vision based on the sustainable use of resources, environmental awareness and social responsibility & social commitment. After all, future generations should also want to buy our products. Many of our innovation programmes are therefore aimed at waste reduction in packaging, energy savings, water reduction in the manufacturing process and above all, healthier food. For us an important innovation goal is to prepare our key products with a maximum of flavour, but with a healthy label for sugar and salt. Too much salt and sugar can cause cardiovascular disease and obesity, and consumers are becoming increasingly aware of this fact. Hence the focus of innovation in all our markets is on reducing salt and sugar content. The challenge for us in respect to this is to leave our products' characteristic flavour intact. After all, ultimately we are selling food, not medication. If the flavour isn't right and the consumer adds extra sugar and salt themselves, nothing is gained by reducing sugar and salt. This gives us both commercial and ethical targets and challenges to deal with. We strive for an optimal food experience, starting with flavour, packaging, ease of use and convenience of preparation, all the way up to and including waste efficiency. Everything has to be just right. In short, a full food experience."

Trends in food and taste

Society is changing. "Due to the internationalization of society a blending of culinary habits and flavour trends is also taking place. Eating behaviour is also changing rapidly: the out-of-home eating trend, single households, self-heating packaging, slow food, micro-

Andrea Budelli in front of the Heinz 'time-line'. Founder Henry John Heinz was a marketer through and through. He was the first to sell products in glass, because he believed the customer ought to be able to see what they bought.



Kitchen: The kitchen is the heart of the Kraft Heinz Innovation Centre. Here prototypes are developed using various ingredients, preparation methods (cooking, frying, steaming, baking, grilling) and both professional and consumer kitchen equipment (e.g. baking tray, barbecue, deep fryer, microwave). These prototypes are made in the company's own pre-industrial production department, then go on to final industrial production.



Microbiology Lab: This is where microbiological research is carried out into the physical and chemical characteristics of ingredients, quality, shelf life and food safety.

Application Lab: This is where things such as usability and product characteristics like texture are researched.

Temperature room: Products are tested in climate chambers at different temperatures (up to 37°C) over periods ranging from a month to a year for quality, stability and shelf life during storage and transport.

Packaging Lab: This is where packaging prototypes are developed (e.g. using 3D plotting) and materials are tested, e.g. stress tests, thickness measurements and air permeability. Applications for new materials are also tested.

Taste panel: An important testing method at Kraft Heinz are flavour tests using consumer panels. This is done with groups of 16 people to ensure statistical significance. There are 5 groups in total, changing on a daily basis. To prevent consumers feeling inhibited about giving their honest personal opinion because Kraft Heinz researchers are present, there is a neutral panel leader who translates the questions into 'consumer language' and keeps the atmosphere informal and relaxed.



User test: Here consumers are observed and questioned while using products. Is the packaging easy to open; does the product live up to expectations when used as an ingredient in food preparation? Are the instructions easy to understand? This user test is important because a product that is difficult to open or is used incorrectly immediately fails to meet expectations, so will never be given a positive flavour rating.

Professional test: Professionals prepare products that are then tested by 16 consumers (Kraft Heinz employees). Software is used to process and analyze the test results.



Pilot plant: This is like a miniature factory with over 800 state-of-the-art machines and pieces of equipment that, though smaller, are comparable to those used in factory production. Here, pre-industrial prototypes are produced (except for the packaging) for use in various test set-ups. Afterwards they will be put into real production in the actual factory.

wave cooking, etc. People also eat out more often in business canteens and restaurants. We take these things into account in our product innovation, for instance smart packaging or different packaging for bulk consumers. Europe has enormous variations in taste. It is difficult to develop a product that is a match taste-wise with every European country. We search for a taste profile that fits with as many countries as possible. Taste trends change quickly: now it's Mexican, then Indian, then Japanese. We have over 20 nationalities working for us, each with their

own taste DNA from their country of origin. That's fascinating and very useful for product development. Innovating means being alert to trends, observing carefully and then developing! Famous chefs are opinion leaders, deciding the trends just like in the fashion world. You do need to understand how consistent those trends are and research whether the consumer is ready to pick up on a trend. It is a matter of timing. Too soon and you will not sell your product, too late and the competition will beat you to it. You have to be prepared to respond immediately."

Big bets

In its innovation policy Kraft Heinz focuses particularly on the so-called 'big bets', the global top brands. According to Budelli, "We have about one hundred brands worldwide, including 30 aimed at the European market. Eight brands each account for 1 billion dollars and 20 for over 500 million dollars. We are on the lookout for initiatives with a higher than average scale and growth potential; they give us the potential for large-scale production for many countries. The characteristic traits of big bets are that they are highly focused, requiring a large investment and the best people, thus producing the highest value for the company. Just look at our history. Our founder Henry John Heinz introduced ketchup and baked beans to the market, still our core products 100 years on. So you are creating something for the long term, which is not easy. For innovation we have a twin-track policy, both continuing to produce major brands and developing many smaller innovation initiatives. It is a matter of keeping the right balance. Too much innovation across all products can lead to fragmentation; well thought-out innovation within a product category leads to a reinforcement of the big bets." Budelli is clear about the innovation budget required: "Innovation is not about the size of the budget you have to spend, but how you spend it. We are an entrepreneurial company and will do whatever it takes for successful growth. When it comes to our big bets, there are no limits to the innovation budget."

'The magical number' 57 dates from an 1892 advertising campaign promoting 'Heinz 57 varieties'. It was partly 'marketing bluff', because some of those products did not actually exist yet.





Gight, high visibility fall prevention

Due to the ageing population there is a clear rise in both the number of vulnerable elderly people and the number of falls. Every year 1 in 3 elderly people suffers a fall. The number of people aged 65 and older who end up at accident and emergency departments has risen by no less than 40 % over the past 10 years. Time to take action, thought Joris Olde Rikkert (20), a student of theoretical physics at Radboud University.

Gight during a presentation at healthcare organization De Waalboog. Eef Lamers (left) and Joris Olde Rikkert

Joris Olde Rikkert came up with Gight, a clever lighting system in the form of home guidance lights marking the path from the bed to the bathroom in the dark. Together with fellow students he set up the Gight project as a Student Company which has since grown into a real business. This year two trials will start: one with 150 elderly people in Oss in collaboration with BrabantZorg, and one with 20 elderly people in Nijmegen together with healthcare organization De Waalboog. Olde Rikkert and his colleagues are following the results closely and will be using them to conduct scientific research.

Fall prevention and post-fall care

Gight is an LED lighting strip that uses sensors. Danger spots in the home such as thresholds and other obstacles are marked with their own distinctive colour. A sensor in the system registers when the resident gets out of bed and another sensor signals when they have left the room. If the second sensor is not activated, there may have been an accident or a fall. Sensors in the light path detect a fall. Via a network connection, the system will then send a notification to a personal emergency number belonging to an available family member or carer, a control room or the district nurse. In fact, Gight not only provides fall prevention; by sending a notification in the case of an emergency, it also ensures a speedy response and post-fall care. The data collected about falls provide further input for improved fall prevention and post-fall care. Prior to the final design, 20 Gight products were first tested by elderly people. This was done to find out if additional improvements could be realized before the start of the pilots in Oss and Nijmegen.

Social enterprise

Joris Olde Rikkert: "Gight is a business run by and with students. We involve as many students as possible from Radboud

University and HAN University of Applied Sciences by offering internships or by having them join our Gight team. Robert van de Ven, studying physics at RU, takes care of the technical side of things; Coen Hoffts, studying Economics and Business Economics, is in charge of the financial part; Sean Veldhuizen, a student at HAN and Eef Lamers from RU deal with PR and communications; Niels Bos, a Human Technology student at the Hanze University of Applied Sciences in Groningen, supervises the pilot project in Oss. We currently use office space for free in a building owned by the Anton Jurgens Fonds. Gight is a social enterprise where social impact counts more than anything else, with sustainable manufacturing and as little pollution as possible. We are making our work for Gight available to the 150 elderly people in Oss free of charge, both for those living independently and those living in a nursing home. The municipality of Oss has given us a subsidy of almost 30,000 euro to implement part of the pilot. The Municipality of Oss, BrabantZorg and Gight are making a joint effort to make the pilot a success. All things considered, it is our mission to reduce both the nightly risk of falling and the risk of social isolation in a humane and eco-friendly way. In short, we won't let the elderly fall by the wayside," is Joris Olde Rikkert's resounding final statement.

www.gight.nl

Gight improves not only fall prevention, but also rapid response and post-fall care

Fall prevention



Automatic guidance lights indicate obstacles and show the way

Fall detection



Falls are detected, so elderly people can be found sooner

Data collection



Falls are registered
Solutions can be found



Health Valley Event 2017:

Patient-driven innovation

EVENT REPORT

Recently the ninth Health Valley Event took place in Cinemec Nijmegen. The event is a meeting place for everyone involved in innovation, business and healthcare in the Health and Life Sciences sector. The theme of the Health Valley Event 2017 was 'patient-driven innovation'. In addition to several parallel sessions in the morning and afternoon, there was a trade show with various stands and a plenary programme with keynote speakers such as Dianda Veldman (Dutch Federation of Patients - Patiënten Federatie Nederland) and Jan Kimpen (CMO Philips). Chris Doomernik, Director of Health Valley, made the opening speech with Michel Verheijden and Erik Kuperus (MiER) acting as joint chairmen for the day.



Prince Constantijn of Orange-Nassau, Chris Doomernik (Director of Health Valley) and René Penning de Vries (Chairman of the Board, Health Valley) at the opening of the plenary programme

Preventing over-innovation

Dianda Veldman opened the plenary session. According to her it is important for patients not only to have user-friendly access to their medical data, but also to be allowed to manage this data as well as make their own additions. Even though an increasing number of hospitals are working with patient portals, these are mostly operated from the organization's point of view and are often incomplete, hard to understand and therefore far from patient-driven. According to her, digital healthcare offers many benefits to patients, but the question remains whether patients really feel the need for hundreds of e-health innovations. She warns against over-innovation; innovation ought to concentrate on the patient's real needs. Hence Veldman cites the features required by a successful innovation according to the Everett Rogers theory of the diffusion of innovations: relative advantage (compared to other innovations), compatibility (with other norms and values, previous experiences and needs), complexity (perception of how complicated an innovation is to use and understand), trialability (possibility of experimenting with the innovation) and, finally, the observability (degree to which the innovation is visible to others). A further important aspect of a successful innovation in healthcare is the degree to which it can be scaled up. In her view this must be done according to guidelines such as those recommended by the Council for Public Health and Society (RVS, Raad voor Volksgezondheid en Samenleving), amongst others. One of these RVS recommendations is to make it obligatory for providers and suppliers of healthcare IT systems to make data from different systems compatible (taking into account the privacy of patients/clients). RVS identifies a number of key issues: safeguarding the use and exchange of data, the accessibility and use of digital care by patients who do not have adequate opportunities or skills to use it correctly, and the quality of the applications. Veldman concluded by examining the DigitalCareGuide (DigitaleZorgGids), an independent knowledge platform on e-health providing information on digital care applications for patients and carers. This site acts as a guide for the patient and provides a selection of useful applications, sites, tools and services related to digital care.

From 'volume-based' to 'value-based'

The second keynote speaker was Jan Kimpen, Chief Medical Officer at Philips. Using demographic figures, he illustrated the increasing ageing of society. According to the WHO, the proportion of over-60s in the global population will be doubled to 22% by 2050. The current system of healthcare will be unsustainable

Jan Kimpen,
Chief Medical
Officer of
Philips



and the future need for digital care will be huge, according to the Philips 'Future Health' study. 50% of millennials already want to be able to access their files at any given moment and, surprisingly enough, the over-70s form the largest group of people that is keen to make use of patient files. To achieve widespread and rapid acceptance of digital care by patients it is also important to get physicians fully involved. Almost three quarters (72%) of patients of 55 years of age or older say that they have never shared any information with a healthcare professional via digital healthcare products. No less than 38% of healthcare professionals with over 20 years in practice indicate that they do not have any patients sharing information with them. Kimpen believes we need to consider a different model for healthcare: 'value-based healthcare' instead of 'volume-based healthcare'. The USA has already reached the phase of 'value-based purchasing' or 'pay for performance' (P4P), where the amount physicians are paid depends on the level of added value, including patient experience, compared to the benchmark. Kimpen advocates the idea that all partners in the care-ecosystem should cooperate to tackle future challenges in healthcare. The professional and the patient are at the centre, surrounded by a personal health area in which other people can play a role, facilitated by all current and future digital possibilities. The transition from 'volume-based' to 'value-based' is already underway; thoroughly research what patients want and adapt digital healthcare products in response to that.

Focus on prevention and quality of healthcare

In his role as ambassador for Start-upDelta, Prince Constantijn of Orange-Nassau also gave his reaction to developments in the area of e-health and underlined the importance of good cooperation between all parties. "The Netherlands has one of the best



Prince Constantijn of Orange-Nassau (Start-upDelta) at the Healthcare Directors session with Paul Smits (Radboudumc) and Mark van Houdenhoven (Sint Maartenskliniek)

healthcare systems in the world. We need to focus on prevention and quality of care in a climate of research and innovation. Dutch healthcare also has the potential of becoming the most innovative system in the world, if all stakeholders work together."

There were two start-up pitches: Renske de Bruine (Winck) and Ilse Schoormans (Thuisleefgids.nl), followed by a session with healthcare directors Paul Smits (Radboudumc), Mark van Houdenhoven (Sint Maartenskliniek) and Rob Hoogma (Siza) about collaboration with start-ups.

The day came to a close with a final plenary show with guests including Anne-Miek Vroom (IKONE), Prince Constantijn of Orange-Nassau (Start-upDelta), Rob Hoogma (Siza), Mark van Houdenhoven (Sint Maartenskliniek), Leon van Halder (Radboudumc), René Penning de Vries (Health Valley), Michiel Scheffer (Province of Gelderland) and Hans Schikan (Top Sector Life Sciences & Health).

National Healthcare Innovation Prize 2017

During the Health Valley Event 2017, the winner of the National Healthcare Innovation Prize 2017 was announced. This is a yearly initiative to support scale-ups in the health and welfare sector. The Dutch Foundation for Healthcare Innovation (Stichting Zorginnovatie Nederland) and its partners selected ten nominees from over a hundred entries. Umenz was the winner of the National Healthcare Innovation Prize 2017 and received the sum of €15,000 to invest in further up-scaling of its innovation. In total almost 4,500 votes were cast, with Umenz receiving 24% of the vote. Second and third were A-view and Qbi with 17% and 14% respectively. Umenz developed an app connecting the healthcare consumer to all their healthcare professionals. The app offers an overview, support, personal guidance, alerts, registration and consultation for all the patient's treatments and has access to a large library of medical animations and instructional videos providing information, coaching and guidance to the patient. Using the app gives the patient continuous contact with healthcare professionals. Second prize-winner A-view developed a balloon catheter using an endoscopic ultrasound via the oesophagus enabling images of possible hardening of the arteries after a heart operation, thus diminishing the chance of brain damage. Qbi is an interactive entertainment and movement product, a playful and challenging way of getting older people to move using modern technology and gaming.

Umenz is the winner of the National Healthcare Innovation Prize 2017



Over the past few months, start-ups have been working on their innovative product or service in the field of e-Health as part of the second Rockstart Digital Health accelerator. The ten selected start-ups were given a starting capital of € 20,000.-, office space, support and guidance from an extensive mentor network in order to validate and scale up their businesses. In exchange, Rockstart receives an equity interest of 8 % of the business. Demo Day was the finale of the 180-day programme. At event centre De Vasim, the ten start-ups from four continents presented their product or service to the press, professionals and investors. In a pitch they demonstrated how they want to make a sustainable impact on people's health.



Rockstart Digital Health Demo Day



iThrive from the Netherlands is a personal coach on your smartphone that motivates you to change counter-productive habits and set goals.

www.sonovr.com

MedInReal from France is a virtual medical training programme aiming to develop an affordable and accessible training platform for healthcare professionals.

www.medinreal.com

RenalTracker from the Philippines focuses on patients with chronic kidney diseases and helps patients keep track of their nutrition and to analyze it in consultation with a healthcare professional.

www.renaltracker.com

EyeSense from Egypt is an application that uses Artificial Intelligence (AI) and deep learning to assist the blind and visually impaired in exploring and recognizing their surroundings.

www.eye-sense.com

GoClinic from Germany is a mobile platform for patients and hospitals. Important information for a planned admission to hospital is explained in such a way that patients can prepare themselves properly.

www.goclinic.io



The 10 start-ups selected

Healthbit from Belgium is a clinical analytics business that develops 'predictive health software' for a more efficient and faster diagnosis of medical conditions.

www.healthbit.be

BabyMoon from Moldova is a biomonitoring system for premature babies that combines skin-to-skin contact (kangaroo care) with real-time monitoring and analysis of vital functions.

www.babymooncarrier.co

Photographs: Dieter Schalk



iVitals from Zambia is a platform enabling people in Africa who have a landline or smart-phone to contact medical specialists 24/7 in real time.

www.ivitals.co

Totem provides a platform for patients, researchers and medical professionals, based on open source wearable technology.

openhealth.wemaketotem.org

SmartBridge offers a second opinion on a diagnosis or treatment plan for cancer and wants to become an international platform for sharing the medical expertise of oncologists.

www.smartbridgehealth.com



Innovative Tax: your tax partner in innovation

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Dinali (Alaska)



EPR: Smart Factory and Miniaturization

EPR Business Managers Patrick Kilkens MSc (left) and Joost Lammeren MSc.

EPR specializes in co-designing and manufacturing printed circuit boards (PCBs), electronic modules and complete system integration for the high-tech industry. “We act as a knowledge partner for our clients and offer value-added engineering,” summarizes Joost van Lammeren, Business Manager at EPR. The business recently opened its new premises on the Novio Tech Campus. EPR’s focus revolves around two main issues at the moment. Firstly, the implementation of the Smart Factory, in which data and processes are integrated thus allowing close monitoring and flexible adjustments to the manufacturing process. Secondly, they are capitalizing on the trend towards miniaturization of high-tech components whilst retaining or improving their functionality.

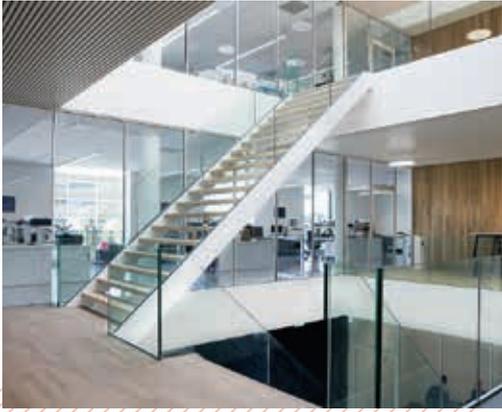
“We prefer to be involved in the client’s electronic design right from the very start of the life cycle,” begins Joost van Lammeren. “In the past a client would bring us a ready-made design for manufacture. However, the design was often, shall we say ‘sub-optimal’ for manufacturing, to say the least. Especially if you look beyond a prototype or small series to the final stage of the life cycle. If we had been involved earlier, we could have added smart extras to the design, making it easier to manufacture, test and service. Not only would this result in cheaper manufacturing, but in better quality too. So at first we were mainly a producer, but now we have extended our services both further back and further forward in the

PRESENTATION

A special X-ray machine is used to check the connections of the components that have a kind of ball-contact on the underside instead of legs at the sides. These solder connections cannot be seen with the naked eye, but the X-ray can see straight through the material. It is also possible to examine the soldering from various angles (360 degrees) after digitally ‘slicing’ the material for inspection.

The testing and repair department is on the first floor. This is where products from upstairs are tested and third-party repairs are carried out. In a Faraday cage products can be tested in neutral conditions and without possible radiation from outside.





Each floor of the 15-meter high building has a delivery lift that can automatically pick up and supply materials from the stockroom by entering a code. This saves an enormous amount of space and time. In the old building materials had to be collected from the stockroom shelves manually and taken to the right place.

product's entire life cycle, adding value throughout. We have a great deal of design expertise, we produce prototypes and small series, and prepare the product so it is completely ready for series production."

Business Manager Patrick Kilkens and his colleague are EPR's dual directors: "The knowledge partnership with the client has evolved logically over the years. It began with a prototype of a circuit board and soon we became involved in many other assignments because of our expertise, from the smallest printed circuit board to fully integrated test systems. In this region we act as a knowledge partner for NXP, Nexperia, Ampleon, PinkRF and others. We are also looking to cooperate with businesses such as semiconductor and sensor packaging specialist Sencio. These businesses are now our neighbours and that is only strengthening the cooperation."

work environment and a real division between the offices and manufacturing. That's not right for the corporate culture that we believe in. Everyone in our organization is important to our mission and to reaching our targets. Because the old company cafeteria was too small, we had to stagger our breaks and some colleagues hardly ever met one another. In our new building the central staircase takes up a lot of space, but it literally acts as the aorta of human movement throughout the entire building. These 'soft' aspects add value to the building and are more important than being able to put in an extra desk. Over 50 colleagues from the various departments constantly bump into each other, work more closely together on projects and update each other in informal meeting spaces. It's a building with lots of glass; open and transparent, just like our attitude towards our clients."

Lean Six Sigma concept

EPR puts the emphasis on the Smart Factory concept. "We are working on the complete integration of our information system, linking our ICT backbone to our manufacturing process," explains Joost van Lammeren. "We want to embed all our processes in tooling and have developed our own web application for this: EPR Infinity. We have linked processes, machines and people, so we can react faster to market demands and be able to manufacture even more efficiently. This ties in with the Lean Six Sigma concept in which we aim to reduce waste and simultaneously improve our process quality. We are collaborating on Lean Quick Response Manufacturing with the HAN University of Applied Sciences' Lean QRM Center. Collaboration with knowledge institutes is also very important with a view to acquiring new talent."



On the top floor the smallest SMT components are mounted. A Pick & Place machine fixes the components temporarily with a paste on to small series PCBs ready for soldering. Soldering is usually done in a convection oven with hot air to activate the solder paste. However, EPR has an advanced Vapour Phase machine (in the background), which uses hot steam to distribute the heat far more evenly over the circuit board, preventing local overheating and resulting in higher quality soldering. The soldering process takes place in a vacuum to prevent air from getting into the soldering. EPR is one of the few businesses in Europe that has this technology.

'Designed on the NTC in Nijmegen'

Last April EPR moved from a nearby business park to the Novio Tech Campus. "This environment really appealed to us, an incubator for innovation with a real campus atmosphere. The entrepreneurs all work passionately on new knowledge-based products and that is incredibly inspiring. This campus has real potential to become world-renowned. It would be wonderful if products developed here read 'Designed on the NTC in Nijmegen', just like it says 'Designed by Apple in California' on all iPhones," says Patrick Kilkens with a smile. Joost van Lammeren continues, "The other reason for our move was that we were located in a traditional commercial building with offices at the front and the manufacturing tucked away in a factory at the rear. Lack of daylight, a somewhat outdated

EPR's target market is the high-tech industry such as semiconductors, but also aerospace and the medical sector. EPR manufactures complex modules and systems that are used in heart-lung machines, but also in the Mars satellite. Miniaturization is an important development in sectors such as aerospace where EPR wants to keep ahead of the field. According to Patrick Kilkens, "We can mount the smallest components, smaller than the head of a pin: Surface Mount Technology (SMT 01005 at 0.4 x 0.2 mm). This tiny component has the same computing power as the much more frequently used larger version SMD 0603 (1.6 x 0.8 x 0.8 mm). This puts us three steps ahead of the current demand in the market. When the market is ready for it in four of five years' time, we want to have moved on a further three steps. Smart Factory and Miniaturization are two developments that make us stronger for the future."

ClimateBooster: sustainable

“I should have invented this 25 years ago,” Henk de Beijer, Director of De Beijer RTP in Duiven, says with a smile. He is talking about his ClimateBooster, a silent fan system that significantly increases the efficiency and comfort of a radiator. An interview about smart and sustainable energy solutions, whose strengths often comes from their simplicity, while still being both unique and patentable.

Technical consultancy De Beijer Raadgevend Technisch Bureau (RTB) develops innovative, sustainable and energy-saving products and has made a number of inventions in thermodynamics and energy engineering. The business has carried out various research projects and has developed products relating to subjects such as heat pumps, solar energy, energy storage and district heating. “We cooperate with knowledge institutes such as TNO/ECN, the University of Twente, TU Eindhoven, as well as with institutes in other countries such as the Fraunhofer Institute,” says Henk de Beijer. “In the field of thermochemical energy storage we have recently joined a consortium with Prof. Vlieg, professor of Solid State Chemistry at Radboud University. Our objective is to prove that it is possible to turn a particular technology into actual products. At that point, it is usually transferred to larger-scale industry. We have

our own lab facilities where we can verify and test the models for our energy systems.”

Sustainable energy systems

Henk de Beijer continues, “We have four product groups in the field of sustainable energy. The **SunRidge** is a new type of solar boiler that can be placed on the ridge of a roof. The system consists of an inner and outer tube and operates according to the principle of heat transfer by condensation of steam. Cold water enters the inner tube which acts as a boiler. A capillary structure is fitted to the inner wall of the larger tube with a small amount of water on the bottom of the tube. Everything is placed under pressure, making it possible to boil water at a temperature of 10°C. The sun causes the water in the capillary tube to boil and evaporate, condensing against the colder inner tube thus transferring heat to the water inside the boiler tube. The condensed water drips down and the cycle repeats itself. We are now working on the development of the second generation in cooperation with the Monier Group, the largest roof tile manufacturer in the world.”

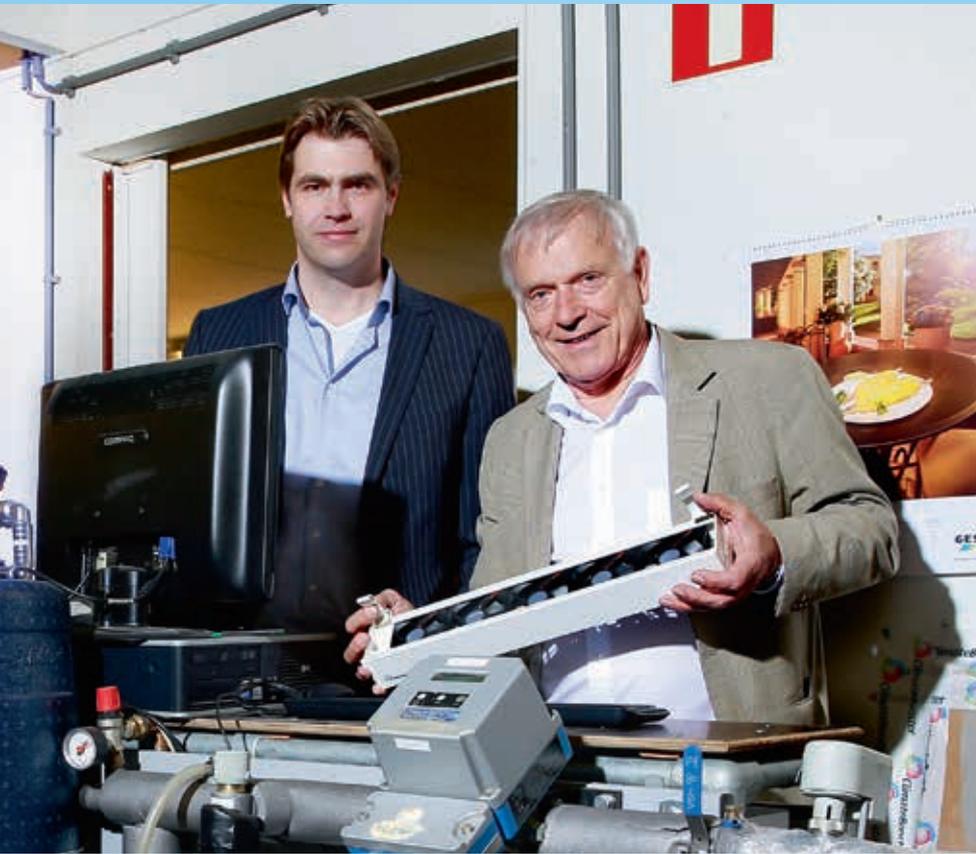
Another invention is the **SolabCool**, solid substance absorption-cooling equipment that can use residual heat of 65-90°C to cool in the summer. By making use of residual heat and solar energy the SolabCool makes an important contribution to lowering carbon emissions. SolabCool’s sustainable character results from the so-called ‘sorption cooling’ technology used. “It is wonderful being able to generate sustainable energy,” according to De Beijer, “but what do you do with it when you don’t need it straight away? Heat Cold Storage is a system allowing you to store any



kind of energy. Invention is a matter of permanently making associations between things and thinking them through. Once you are able to generate and store sustainable energy, what is the most sustainable way of using it for cooling and heating? This is how we came up with the idea of using the equipment that is already available in most houses: normal radiators. And so the idea of the **ClimateBooster** was born. A radiator comes with a specification of 75°C ingoing temperature, 65°C outgoing temperature and 20°C room temperature. This determines the standard output a radiator can give. However, if you really want to take advantage of your high-efficiency boiler or introduce the principle of heat pumps, you have to stick to temperatures below 55°C. Unfortunately, current radiators cannot reach their maximum output at that temperature. Your heat pump may be energy-efficient, but your house will be ice-cold. In double panel radiators, the air between the two panels is heated and rises, but below temperatures of 70°C, this principle no longer works very well. With the ClimateBooster we lend a helping hand. The ClimateBooster consists of an aluminium profile containing ventilators and a sensor



and unique in its simplicity



Bart Jacobs (left) and Henk de Beijer with the ingenious ClimateBooster

system, that can be clicked on to the bottom of the radiator using magnets. The trick is that the system is self-controlled. When the temperature at the bottom of the radiator and the temperature in the room differ too much, the ventilators automatically speed up or slow down. By giving the rising air a boost, you save energy. Combined with a high-efficiency boiler you achieve the same result at 50°C as you would at 75°C without the ClimateBooster. This also allows maximum results from a heat pump running at less than 50°C. Yield as well as comfort increase because the heat is spread more effectively and more rapidly. Using the ClimateBooster, the average Dutch household would have an annual saving of 10 % on gas for heating."

An intelligent chip combined with various sensors and a unique suspension system.

The demand for cooling in homes is rising, but unfortunately the average air conditioning system is a major energy consumer. "The SolabCool uses water as its coolant so the system can easily be connected to under-floor heating, for instance," says Henk de Beijer. "We came up with the idea of using the existing radiators for cooling as well. By combining the SolabCool with the ClimateBooster you can use your double-panel radiators for cooling in summer. The ventilators will send a cool breeze through the house when the radiators are cold."

Building something out of bits and pieces

"In 2015 we started developing the ClimateBooster. First we calculated if the principle would work. Then we cobbled together the first model with bits and pieces. The next phase was to see if we had really found something unique and if would make a difference in real life. At the heart of this invention are the electronics we developed, consisting of an intelligent chip combined with various sensors. The other unique aspect is the clever suspension system, a user-friendly

click system with rubber strips and magnets."

During development of the ClimateBooster De Beijer RTB conducted its own novelty search and commissioned Bart Jacobs, patent attorney at Arnold + Siedsma, to take care of the patent application. Henk de Beijer explains, "Arnold + Siedsma has previously made patent applications for us. Using an expert as a sounding-board is invaluable for getting to the core of an idea. Bart literally asks questions that get right to the heart of the matter so you can define the essence of your invention. He gives an objective and rational assessment of the invention and he is to-the-point, demonstrating the very real added value of a patent attorney: excellent interaction."

Bart Jacobs nods. "For small businesses, the cost aspects of a patent application are of utmost importance. This means that it is essential to make the patent application in close consultation with the client. The European Patent Office bases their assessment of patent applications on fixed criteria, for which you have to answer well-defined questions. We present our clients with these questions at an early stage of the process to help make the process of gathering the correct information more efficient. It makes the patent application easier so that the costs can be kept low. We applied for a Dutch patent for the ClimateBooster and are now in the priority year. At the end of the priority year it is possible to opt for a PCT application, with which you initiate an international patent application for about 130 countries all in one go. After submitting the PCT application you get another year and a half following the priority year to decide in which of the PCT member states you really want to continue with your patent application."

Henk de Beijer concludes, "We put the ClimateBooster on the market in November 2016. With just a small amount of promotion on Facebook we have already sold 250. It is a relatively simple product that is cheap to manufacture, so it sells for a very reasonable € 140. We are good at defining and developing a new product, and we are also perfectly capable of manufacturing it ourselves at the beginning. If you want to scale up, though, it is better to consider teaming up with a larger partner. Itho Daalderop and Remeha have already become customers. In the past we often sold our inventions, but now we prefer to have a license agreement."

www.ares-rtb.nl - www.arnold-siedsma.nl

From data to information

‘Business Intelligence for any organization’, is the BisQQ slogan.

The company specializes in process and data analysis, using a mainly practical and problem-solving approach. Mark Haring has combined his education in business with practical experience in financial reporting at large organizations and his thorough knowledge of ERP systems (ERP = Enterprise Resource Planning, business software). He was surprised at the practical limitations of often costly software packages, but even more surprised at the large quantities of unused data in those systems. This motivated him to start his own BI consultancy, BisQQ.

Put simply, Business Intelligence (BI) aims to turn data into information, frequently focusing on financial data about products, processes, clients, competitors and markets. This information adds to the knowledge within the organization, offering management a clear view of business processes and it should also lead to improved decision-making. Clear reporting is essential because it provides time and money-saving insights for the organization, improved control of processes, effective control of productivity and efficiency. And, last but not least, it results in optimum business returns. That should appeal to any entrepreneur!

ERP systems are not made for reporting

“I have years of experience with ERP systems and in practice you see that ERP software is mainly used for entering data for controlling business processes,” says Mark Haring. “ERP software therefore mainly focuses on primary business processes such as purchasing, stock management,

“SME businesses are often overflowing with data.”

sales, service and manufacture. Reporting is often just an after-thought, even though the customer does have a need for it. It is included ‘somewhere in the package’, but only limited tools are available. Tools of which no-one could explain to me exactly how they worked or what was wrong if they didn’t work. My conclusion - and I am not the only one - is that ERP systems are made for input but not for control information! From the technical point of view, an ERP builder has to make design choices almost daily and these will always favour the input side.”

Client at the helm

In general terms, the BisQQ service package consists of two product groups. First of all BisQQ wants to offer each SME client a so-called Self-Service BI by setting up the basis, then providing training and supplementary advice. BisQQ prefers to work in a kind of tandem construction with the SME client. “The average SME business may not own the most extensive software packages, but they are often overflowing with data. People often don’t even realize what kind of data they have, let alone what they could do with it,” according to Mark Haring. “With our Self-Service BI you can increase the system options step by step, starting with the most important financial reports, then adding other options later as required. SME entrepreneurs don’t want to spend too much on BI advice, nor do they need large-scale BI environments. Self-Service BI is a perfect match: flexible, budget-friendly with rapid results.”

Mark Haring also uses the experience he gained as a financial analyst in a hospital. “They had a very expensive BI environment,” he begins, “but the financial analysts were still spending lots of time putting reports together themselves. You have to ask yourself why, in practice, you still have to take so many extra steps to get a report when you have such an expensive system. Many controllers accept it as inevitable, but I thought it was remarkable to say the least. With Self-Service BI this ‘gap’ is filled so that the initial investment is reduced.”

The second product is Off-the-shelf BI. BisQQ is using it to map all existing data from the Syntess Atrium ERP system, with the aim of offering several ERP packages completely off-the-shelf, processing them into a standard data model. The basis for all reporting is the data model. In most instances cross-references have to be made between existing data. From a technical point of view, it is often a big challenge to make various data files compatible. When the complete BI system is up and running, it makes sure

Mark Haring and his business BisQQ are located in the Mercator I building on the Mercator Technology & Science Park, close to Radboud University. “This location is a deliberate choice,” he explains. “The short lines to data scientists at Radboud University are very valuable and this campus with its many innovative business makes for inspiring surroundings. I have also joined the Mercator Business Club and the ICT Network Nijmegen, where you can exchange your knowledge and experience.”





“SMEs have much to gain from BI.”

the right information reaches the right person at the right time in the right format. In the end the client will be able to ‘take the helm’, only contacting BisQQ in case of emergencies or expansion.

Transforming data to control information

During a first interview the client’s wishes are identified. In many cases the management information desired is not yet very specific and the client asks only generalized questions. Mark Haring comments, “This is remarkable in itself because there are often several Excel sheets in an organization that seem to be leading a life of their own. The data from these Excel sheets is also presented in a customized way to make it comprehensible. This is one of Excel’s strong points, but unfortunately it is very labour-intensive and error-prone. There is a lack of consistency, making it difficult to extract management information or produce adequate reports using Excel’s own functions combined with ERP reporting tools. However, the latest technological developments in Self-Service BI do make it possible, allowing many manual operations to be automated and making data accessible. This means we can compete against the major players.”

Haring does not really have sector preferences and his BI product is industry-independent. “We can also be valuable for knowledge-intensive start-ups with Self-Service BI. Start-ups often have to deal with a lot of research, market and business

data. Self-Service BI helps transform the data already present in your software systems into control information, allowing you to build a solid BI foundation for your business right from the very start. The costs of implementing a BI system are still low at that point and the system can grow along with the business. It is important to make smart connections between the data from the start in order to get valuable reporting. It is even more valuable to link data that at first glance seem incompatible. That’s the end of the line for many ERP advisors, but it’s exactly where our challenge starts. BI offers added value to your business and most definitely a competitive edge. SMEs tend to be rather suspicious of it. They don’t want a technical ‘bits & bytes’ story, they want a tangible solution and instant results. We want our services to prove that they really can produce valuable information. SMEs have much to gain from BI, but entrepreneurs first have to be made aware of the concrete advantages it will bring.

www.bisqq.nl

BisQQ expertise

Self-Service Business Intelligence

We combine data from various sources into a personalized data model: information about customers, service contracts, projects, general financial data and effectiveness. Using Microsoft’s BI products, BisQQ then creates a data model enabling users to put together their own reports and overviews, based on one or more available databases. Of course BisQQ can develop these reports for you. We also offer training on how to use the data model independently for making reports.

Off-the-shelf Business Intelligence

Standardization and shared costs form the basis of BisQQ’s Off-the-shelf BI concept. All the data from your software system has been completely mapped out by BisQQ and processed in the data model, which can then be used immediately, including the reporting function. The main advantage for the client is the fact that BisQQ has already built the complete data model with the investment distributed between all clients. This makes BI available for every organization while leaving intact the flexibility allowing customization for individual clients. The concept of Off-the-shelf BI is still unfamiliar because the technology required didn’t yet exist. Now it does and SMEs can immediately reap the benefits.



ReSnap acquires start-up bootcamp alumnus Bundle

ReSnap, the smart photo book company which grew rapidly after its beginnings as a spin-off from Radboud University, is now acquiring Bundle. The acquisition is part of ReSnap's international growth strategy. As well as the home market in the Benelux they have excellent prospects in the United States, England and Australia. Both companies develop technologies that make it easier for consumers to use their increasing number of photos to make physical products. ReSnap is the only company in the world that has produced 'subjective image selection technology for photos', successfully developing their own innovative software. Bundle is sometimes regarded as the 'Dutch Google Photos'. Using the iOS and Android app developed by Bundle, users can collaborate with others to create shared collections in smart albums. As a result of the acquisition of Bundle, ReSnap's technologies will now also become available on mobile devices. The updated apps are due to be launched soon.

www.resnap.com
www.bundleapp.co



From left to right: Iwan Holleman (Radboud University), Bram den Teuling (Orikami), Rob Lips (GATT Technologies), Michiel Scheffer (Province of Gelderland) and Paul Leenders (VitalFluid)

Gelderland's Growth Accelerator awards

Michiel Scheffer, member of Gelderland's Provincial Executive, handed over the first vouchers from the new Groeiversneller (Growth Accelerator) innovation programme (Oost NV - Province of Gelderland) to three companies associated with Radboud University and Radboudumc. This took place on 19 May in Radboud University's Huygens Building. In 2017, the province is making available over 4 million euros in support and growth to SMEs (up to 250 FTEs) in the innovative production industry. By 2020 the 'Groeiversneller' needs to contribute over 2,500 new SME jobs. Since the scheme was introduced on 2 March, more than 80 applications have been made. One of these companies, Gatt Technologies (www.gatt-tech.com) is housed in the Mercator III building at the Radboud campus, collaborating with Radboudumc and the university's Organic Chemistry department, amongst others. Gatt Technologies are developing General Adhesive Tissue Tape (GATT), a medical 'duct tape' used internally with the aim of shortening surgical treatments and reducing complications. VitalFluid (www.vitalfluid.nl) has also received a voucher. This new innovative company is developing and producing Plasma Activated Water from tap water in order to render pathogens harmless. The third company Orikami (www.ori kami.nl) aims to find patterns in (big) data so that they can be analyzed, then visualized in an attractive way to act as the basis for making decisions in 'personalized healthcare'. "With the Growth Accelerator we want to help companies make a success of their plans," says Michiel Scheffer. "By providing knowledge and money we help SMEs to expand more quickly. In this way we will work together to make innovation in Gelderland a success."

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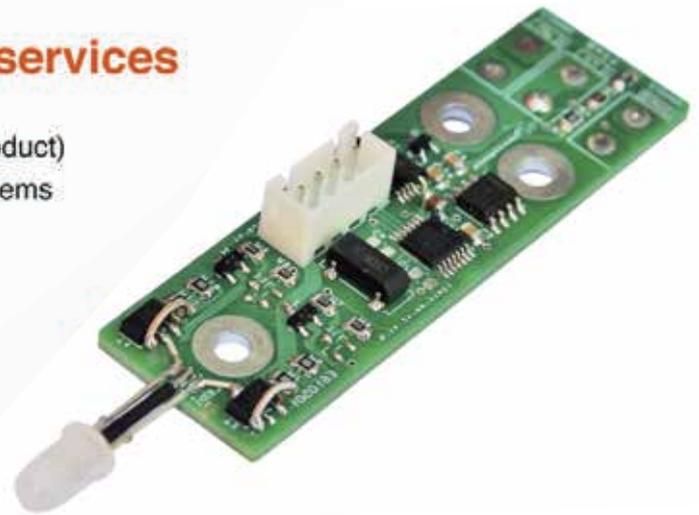
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Gebundelde Innovatiekracht

Top-level Office Space



The Mercator Technology & Science Park offers interesting accommodation options. Based on the wide range of requirements for knowledge-based companies, there is room for start-ups, growing companies and larger businesses.

This means that office space can be rented in units ranging from 25 m2 to several floors at a time. The principle of 'easy-in, easy-out' is reflected in the shorter leases specifically for starters in a full-service office environment. Mercator offers more than simple office space in its concept. The facilities for young companies, their mutual collaboration and the links to the university make Mercator so much more than just a park with the traditional multi-tenant office blocks.

The Mercator Technology & Science Park has a unique location at the edge of the university campus, in an area shared with large R&D oriented companies. Moreover, the presence of prominent knowledge-based institutions makes it a handy meeting point for young talent. Research and enterprise go hand in hand, resulting in many economic innovations and external contacts.

BV Campus matches your accommodation needs with the possibilities at the Mercator Technology & Science Park, or elsewhere on the grounds of Radboud University. Would you like to receive more information? Please contact us on +31 (0) 24 361 16 53.

Radboud University Nijmegen

