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Science Meets Business Nijmegen



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Prof. Theo Engelen:

Scientific education and research
are inherently valuable.



New location opening:

Health Valley



Councillor Turgay Tankir:


Triple Helix in the Arnhem-
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Smart region, Triple Helix

The term 'smart region' has often been heard in packed symposium halls, and the issue of Mercator NovioTech you are currently reading shall report on this. The Advisory council for Science, Technology and Innovation (AWTI) aims for 'regional hotspots' with strong self-organising abilities and collaborations with businesses, research institutes and governmental entities in a so-called Triple Helix. The public authorities do not have to be leading, but do take on a supporting role by investing in the knowledge economy. This was discussed in Prof. Boekema's farewell symposium: "smart specialisation in the regional knowledge economy," with examples such as Brainport and Health Valley. Smart regions cannot do without the high-tech companies and universities' research excellence, which are all part of the Triple Helix. A willingness to co-operate is crucial: regionally, nationally and internationally.

Nijmegen occupies a special position: it is the southern-most city of the east and the northern-most city of the south, as well as a prominent post enabling Dutch-German and EUREGIO co-operation. This requires a specific strategy with attention to external positioning. For this, the selection of themes is essential. In the field of Health & Life Sciences, Nijmegen represents a leading national sector. Next to that, there has to be room for invaluable 'Key enabling Technologies' such as chemistry, ICT and High-Tech Systems & Materials, and for co-operation with regions to the north, south and east, including North Rhine-Westphalia.

The Nijmegen area has strong R&D themes, excellent academic research, and leading clinical expertise. What is missing are large leading companies backing it all. In times of crisis, we see that a large amount of smaller companies is more secure than a smaller amount of large companies. 25 years ago, Eindhoven experienced a major crisis with Philips and DAF, which had the positive side-effect of a sense of urgency, resulting in Brainport. In Nijmegen, it is far more difficult to organise collaborations because of the abundance of smaller companies. That is why the help of government entities and research institutes is sorely needed. Mercator NovioTech gives examples, such as the Economic Council Nijmegen, Radboud Research Facilities and the Radboud Nanomedicine Alliance at the Radboud campus. At on the NovioTech Campus we have held the Dutch Life Sciences Conference and MeetINN on Health, Medical Technology & ICT.

Strengthening the collaboration between the campus locations in Nijmegen, such as iLab Nijmegen, is essential. Countless facilities are made available for young chemical and life science companies. In this magazine, you will see examples of how the start and growth of innovative companies in the regional knowledge economy are stimulated. They will benefit from a well-functioning Triple Helix and high-quality facilities on both campus locations in Nijmegen.

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Mercator Incubator Nijmegen.

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SMB Life Sciences.

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Turgay Tankir, councillor for economic affairs in Nijmegen



Triple Helix in the Arnhem-Nijmegen-Wageningen area

No red tape or tiresome talks, but hands-on politics and practical cooperation delivering results. Turgay Tankir, councillor for economic affairs in Nijmegen, is seeking to cooperate more closely with Arnhem and Wageningen, to put the knowledge region on the map. In order to do so, Tankir aims for a triple helix model, where companies, research institutions and government bodies work together to strengthen innovation. The results of this process can already be seen in Nijmegen. The first steps have already been made to implement the triple helix concept on a regional scale.

ECONOMIC POLICY

“We are currently ranking the fourth economic region in the Netherlands, but if we stop innovating we will lose this position,” warns Turgay Tankir. “In the past year we lost a number of job opportunities, partly because of the crisis. New economic developments are needed to allow the amount of job offers to increase again. Luckily, Nijmegen’s knowledge economy has a good foundation with the necessary opportunities available. Radboud University, Radboudumc, and the HAN are important for the knowledge economy of the city, and are increasingly making both their facilities and knowledge available to external parties. A recent example was the official start of Radboud Research Facilities, where RU and Radboudumc open their doors to companies. Large companies such as Synthon, Heinz, Mead Johnson, Royal HaskoningDHV and NXP are also investing substantially in R&D, and

contribute considerably to the knowledge economy. In the Netherlands, NXP is in sixth place when it comes to yearly investments in R&D. Two-thirds are invested in Nijmegen, and one-third in Eindhoven. Synthon is a brilliant example of a research institute spin-off that has grown into a leading company in the Netherlands, and is even an important player on a global level. Heinz explicitly chose Nijmegen for its European Innovation Centre, due to the presence of research institutes and a highly skilled workforce: 51% have attained a bachelor’s or master’s degree. Heinz is already working with several research institutes and companies in and near the city in an open innovation model. SMEs are also involved with innovation. The Triple Helix is showing tangible results in Nijmegen. Together with the Economic Board Nijmegen (ERN) an ‘innovation agenda’ has been drawn up, and with the

help of our partners we aim to speed up its implementation. We intend to strengthen what is already strong; for Nijmegen this means health and education. We are working on smart crossovers and links between companies in the Health & Life Sciences sector (SME), ensuring a better transition from education to the labour market. By choosing focus, we prevent fragmentation of the available means to get there.

Broadening focus

There is a strong focus on Health & Life Sciences in Nijmegen. The question is, is this focus too narrow? Would it not be better to present a broader profile, in order to stay attractive as a location for both new and established research companies?

Turgay Tankir nods: “The Health & Life Sciences cluster is indeed very well-represented in

Nijmegen. We have some wonderful companies in this field, such as Mercachem, Khondrion, Novio Gendix, Spierings Medische Techniek, Lead Pharma and Urogyn. What's more, Radboud University and Radboudumc have defined nanomedicine as an important spearhead for the coming decades, with the Radboud Nanomedicine Alliance. In the Health & Life Sciences sector we can already see the beginnings of many very successful collaborations within the triple helix. Examples in the food sector can be found, such as the collaborative projects at Heinz and Mead Johnson. In the crossover field of Health & Semiconductors, there are specific projects as well. NXP, Radboud University, Radboudumc, Future Diagnostics and Chiralix are working together on the development of a hemostasis biochip, for instance. There are many innovative companies in the ICT sector in Nijmegen, a good example of possible crossover being that of Heinz and Guruscan. This ICT company from our city can help Heinz make the knowledge and skills of their employees globally accessible, enabling them to develop their innovation and valorisation more efficiently. The opportunities for the city can specifically be found in strengthening these knowledge intensive clusters, and the required facilities. This is also an important reason why we are developing the Novio Tech Campus. For any company that wants to establish itself here, access and infrastructure are a priority. With the new Goffert train station, the accessibility to NTC and the entire 'De Winkelsteeg' business park will be improved. We installed interactive road lights, using technology from NXP, and access roads have been tackled. It gives a clear insight into how a collaboration can be put to use.

He continues: "So we aim for crossovers not only between the sectors of Health, ICT and semiconductors, but also Food, for which Wageningen has a good position. Another of our spearheads is Energy and Environmental

Technology (EMT). One example is the heating system at the waste power plant ARN in Weurt, where residual heat is used to heat existing and newly planned housing, as well as office buildings in the Waalfront and the Waalsprong. Studies are being conducted to see how we can provide the entire university complex with energy from this system. Together with the province of Gelderland and GDF Suez, we are looking into the possibilities of a transition from a coal-fired power plant to a terrain where sustainable energy is generated: the Green Delta of Nijmegen. Next to that, of course, Health Valley, Food Valley, KiEMT and Business Cluster Semiconductors Nederland are fantastic regional initiatives, which stimulate and facilitate the leading sectors as much as possible across the region."

Regional branding

The organisation City Region Arnhem-Nijmegen, which consists of 20 municipalities, will cease to exist on January the 1st 2015. How does this relate to your plans for more cooperation in order to make the Arnhem-Nijmegen region more visible?

"We are already organising a follow-up. Proposals have been made for a common system concerning housing, mobility, sustainable energy, spatial planning and economic development. One of the tasks mentioned is the regional policy on promotion and acquisition. The various municipalities have posited their views and Nijmegen has responded positively to the new arrangements. We proposed creating a regional triple helix model, as has been done in Nijmegen. The goal is to brand the region (inter)nationally, and to set up a joint lobby for acquiring external means and attracting companies. Meetings will be practical, decisive and to the point, and we will address each other directly when it comes to implementing agreements. There is enough paperwork as it is, and plenty of people; the only things that count are real action and results."

According to councillor Tankir, the area is mostly in need of a large conference facility. "The present conference facilities can house 500 to 600 people at most. We ought to be able to organise large international conferences and symposiums for at least 1500 people. The knowledge and speakers are available in abundance at our research institutes. Were we to combine the networks available at the RU, HAN, Radboudumc and other institutes, we would very soon reach 1500 visitors. We are talking to several parties about funding, location, exploitation and the like, for the realisation of such a facility in the region. It has benefits for all: the area becomes internationally known, and the influx of conference visitors will provide the regional economy with an extra impulse. We are also discussing a new international school for expats in the Nijmegen, Arnhem and Wageningen region, and there are more joint projects like these that will promote innovation."

Cooperation beyond regional borders

The south-east of the Netherlands is developing into a leading technology-driven area with Brainport 2020. Shouldn't Nijmegen join in?

"Collaboration is taking place more and more throughout national and international networks, and for this it is necessary to cross city and regional boundaries. In the Arnhem-Nijmegen area we have made clear agreements about our collaboration. I am a practical person, and am always willing to talk with parties such as Brainport. We see real opportunities in the direction of Noord-Brabant and are already making some progress there in the shape of the Novio Tech Campus and Pivot Park. Nijmegen and Radboud University have also lent a helping hand to the municipality Oss when MSD announced that the R&D department was going to be closed down. In our collaboration with Wageningen, there is also a lot to be gained concerning crossovers in the field of Health & Food. We assisted Ede/Wageningen in obtaining the World Food Center, for instance, which now has to be realised. Connections with Germany, including Duisburg and Dusseldorf, will be strengthened thanks to the new Interreg funding programmes. Opportunities for cross-border SME consortiums are rich in this area, and these will work together to promote innovation. We promote entrepreneurship and as the continued growth of start-ups, as well as giving an impulse to starters who want to take root in the region. We want to attract people of excellence, leading companies and SMEs that constitute the building blocks of the regional knowledge economy. That again will result in many new jobs for researchers, as well as other segments of the labour market. In short, there is work to be done!"





High-tech operating theatre



From left to right: Dr. Annemieke Traag, Fred Plukker, Prof. Dr. Gerard Meijer and Jan Willem Dijk

"In a manner of speaking, we are opening up the laboratories. This should lead to more revenue for the university," says Jan Willem Dijk, Valorisation & Innovation manager at Radboud University Nijmegen. "At the Radboud, many excellent laboratories with capital intensive equipment have been installed, but for SMEs these facilities are rarely accessible. By making this quality equipment available for external use, innovations at these companies can be accelerated, and because of the abounding knowledge at these facilities, companies can get custom technological advice. A total of 12.4 million euros have been invested in the RRF. The province of Gelderland contributed 6.2 million euros through the Robuuste Investeringsimpuls Gelderland. The other 6.2 million euros came from Radboud University, Radboudumc and the Donders Institute. It is also very important for Gelderland Valoriseert, co-organisator of the opening on October the 2nd, that knowledge institutes and entrepreneurs help each other in their developments, as is already happening at the HAN BioCentre and Cat Agrofood in Wageningen."

Research areas

Radboud Research Facilities offer a wide range of facilities and expertise within five research areas. The Biochemical Screening Facility has equipment enabling medicine development, clinical validation of biomarkers and the analysis of molecules for (nano) medicine. For this, the industry and researchers can use a triple quadrupole mass spectrometer UPLC/HPLC, a PANalytical Empyrean powder diffractometer and an Orbitrap Fusion mass spectrometer. A second research area is biomedical imaging, for which Radboudumc is investing in three high-tech operating theatres that will be available to the industry as an open innovation facility.

Opening Radboud Research Facilities

The official opening of Radboud Research Facilities (RRF) was held on October the 2nd 2014. RRF is a partnership between Radboud University and Radboudumc. Research institutes, start-ups and the wider industry can all use the equipment, facilities, knowledge and expertise available at these organisations. The RRF has been set up to promote contract research.

The third facility, Neurology and Motion, offers ample resources for researching the sensorimotor integration of top-level athletes, people in good health, and those with a neurological condition. The equipment includes an Optotrack EEG BiSim TMS, a NIRS-EEG, a vestibular stimulator and touch-screen operant chambers, which are suited for measuring the cognitive functions of rodents with high translational values. Health supercomputing is a fourth research area, and here High performance computing facilities and Clinical genome sequencing are made available. Finally, in the field of Nano & microbiology, equipment such as the JEOL TEM 2100, a state-of-the-art 200 kV transmission electron microscope (TEM) and an ERMS mass spectrometer can be found. This microscope can measure tiny amounts of sulphur, carbon and nitrogen, for example in climate, soil, water and energy research. The facilities are located at the Huygens building and the Radboudumc. Companies, research institutes and start-ups can not only use the equipment and facilities, but also the available knowledge and expertise the organisations have to offer.

Jan Willem Dijk continues: "The RRF will accelerate innovation in the industry and promote collaboration between businesses and the university. It also works as an extra stimulant for international research and the creation of partnerships. Contract research is a field in which we expect considerable growth. Employment will result from new discoveries and the facilitating of innovations in the industry, as well as the creation of spin-offs around these facilities. It will make this knowledge region even more visible as well as promote continued collaboration between partners in the area."

For the official opening participants put their business cards in a row. This symbolised the connection between companies and knowledge institutes.



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Interested? You can drop in at Mercator UBC (Toernooiveld 100, Nijmegen) from December the 1st, every Monday between 13:00 and 17:00. Alternatively, call 024 - 371 17 17 to make an appointment with Harry Hurkens or Gino van Altena of BDO Nijmegen.

Because people count.



Community portal for international knowledge workers in the Arnhem-Nijmegen area

There are currently about 2100 expats living, working and studying in the Arnhem-Nijmegen area, plus another 2500 foreign students. In October, the Arnhem Nijmegen City Region launched the trilingual portal www.arnhemnijmegenexpat.nl as part of an Interreg project. We spoke with Ingeborg van den Heuvel about the background and setup of this expat community portal.



Ingeborg van den Heuvel, Arnhem Nijmegen City Region

“Arnhem Nijmegen City Region has been working to put the region on the map since 2008,” begins Ingeborg van den Heuvel, brand manager and online (city) marketer at the City Region. “Anywhere in the world, anyone who wants to work or study here would search online for information about this region. That is why we set up the portal arnhemnijmegencityregion.nl in 2010, and the site has become very popular. It’s where international knowledge workers, researchers and students can find information about the possibilities here: opportunities for studying, setting up a business, housing, international schooling for their children, and so on. This website is available in Dutch, English and German.”

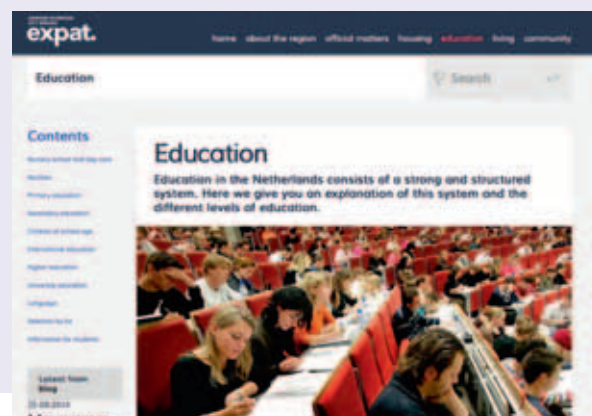
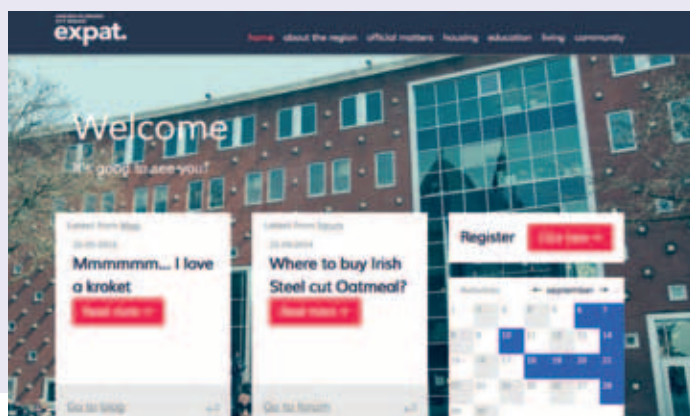
Information requirements for expats

Together with other European regions, the municipalities of Arnhem and Nijmegen investigated the information requirements of expats and foreign students as part of an Interreg project. It became clear that a portal was needed that not only provided practical information, but could also give people the opportunity to exchange personal experiences and get in touch with each other. Ingeborg van den Heuvel: “We had already made a start for such a portal with arnhemnijmegencityregion.nl and were able to expand this project and thus the website with an expat portal: arnhemnijmegenexpat.nl. Through work-

ing with a target group, we developed the layout of this expat community portal with features such as a forum, a blog and practical information and suggestions. This ranges from getting residence permits or a visa, to day-to-day things like how to use your OV chip card or how to meet people. For someone who is not familiar with the country or region, it is often difficult to find your way. Links to other websites take the portal visitor to the right places.”

The Arnhem Nijmegen City Region is conducting its city marketing tasks on behalf of twenty municipalities, and consciously included Wageningen in its work field. This was to address the fact that Wageningen houses around 600 expats who either work in Nijmegen or Arnhem, or send their children to school at the international school in Arnhem. “For this primary group, we now offer an accessible option for finding practical information and for getting in touch with others. Nevertheless, the portal is also meant for knowledge workers and students abroad who are still looking into the region, as it might be a future work or study place. They will be able to see how others did it before them, how they settled and now lead their daily lives. The expat portal does therefore not only contribute to the quality of expats’ living, working and studying conditions, it also strengthens the international competitive position of the region.”

www.arnhemnijmegenexpat.nl





The Mercachem pilot plant in Prague

Mercachem acquires Synthon's pilot plant in Prague

Mercachem – founded in 1997 by Frank Leemhuis and Eelco Ebbens, both doctoral alumni of the RUN - has grown over 17 years into one of the most innovative chemical Contract Research Organisations (CRO) with clients all over Europe, Japan, and North America. The company has a 4000m² state-of-the-art research facility in Nijmegen, where 135 academically trained chemists work on research questions and synthesis assignments from its clients. These clients are mostly pharmaceutical and biotech companies involved in the development of new medication. Both founders, whilst still actively involved in the daily workings of the company, made the strategic choice to specialise in chemistry and to showcase this quality in their product and services portfolio.

This strategic choice to specialise in chemistry has recently led to Mercachem acquiring Synthon's Prague-based pilot plant for the manufacture of active pharmaceutical ingredients (API) under GMP. Mercachem had already started manufacturing substances under GMP on a small scale (100-200g) in Nijmegen, but this acquisition enables Mercachem to manufacture on a much larger scale: 5-6 kg per batch. Mercachem now has the opportunity to offer a complete range of chemistry services from the very first compound design of drug substances (hit validate) to clinical studies (GMP production).

During the takeover, Mercachem not only bought out the facilities but also took on board all employees. The integration of the site in Prague with Mercachem is currently in full swing. Eric Damen and Göran Verspui, both Directors of Process Research at Mercachem, are busy informing the Prague employees of all the procedures used at Mercachem, and vice versa learning what the procedures in Prague involve. Eric Damen explains: "Many of our clients have long expressed the wish for Mercachem to be able to support the entire pre-clinical research process, but this wasn't possible due to a lack of GMP facilities. With our acquisition in Prague, Mercachem is finally able to meet this need. This is illustrated by the fact that we got off to a flying start directly after the acquisition with two new projects from clients of Mercachem. Our team in Prague consists of 15 people and is very experienced and skilled. The pilot plant has been inspected and approved by the United States FDA."

State-of-the-art workspaces

Göran Verspui adds: "With this site in Prague, Mercachem is able to offer a complete range of services for GMP production, including the development and validation of an analytical method, qualifying reference standards and stability studies compliant with the ICH guidelines. All work is conducted in state-of-the-art workspaces. Each GMP suite is equipped with two 30L reactors, and a 20L autoclave is also available. The acquisition of the GMP site in Prague is the next step in the development of our company, and is important for the continuity of business; Mercachem will be able to keep clients over a longer period of time. The quality of services offered will be improved by a smooth and efficient internal transfer from a Medicinal Chemistry team (discovery) to the Process Research team (chemistry and GMP production process), rendering a 'tech transfer' to another CMO unnecessary."

www.mercachem.com



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Reactor line for API production

Chris Doomernik:

“Health Valley is an excellent breeding ground for innovation”

At the start of this year, Chris Doomernik was appointed director of the Health Valley Foundation. She gained extensive experience in the field of HR at large organisations such as the Catharina Hospital in Eindhoven and Stork. In past years, she has been the director of Diet and Maternity Care & Nutrition at Thebe Kraamzorg. In this interview, Chris Doomernik talks about her logical transition to Health Valley, her approach and her ambitions.

“Health Valley is a network organisation which aims to promote innovation in the healthcare sector,” Chris Doomernik describes her organisation in one sentence. “Our network consists of about 200 parties, all working in health care: research institutes, care institutes, large companies such as Philips Healthcare and knowledge-intensive start-ups. The links with health insurers, government entities such as the Ministry of Economic Affairs and the Ministry of Health, Welfare and Sports, provinces and municipalities are also important. We focus on specific areas: personalised medicine (molecular diagnostics & therapy), medical devices & robotics, and eHealth. Within Health Valley we combine forces, exchange knowledge, connect people, give advice and provide financial support for setting up innovative joint projects. In short, we are an excellent breeding ground and driv-

ing force for innovation in the health sector, which also makes us a stimulant for the knowledge economy in this region.”

The ecosystem of Health Valley

The ‘work field’ of Health Valley is often defined as the Red Med Tech Highway. This is the connecting route between Enschede, Nijmegen, Oss and Eindhoven, the location of companies and research institutes operating in the life sciences, biotechnology, pharmaceuticals, medical technology or ICT. “We prefer to refer to the work field as that of the south-east Netherlands, as the connections to Groningen, Zwolle, the area around Den Bosch, and Maastricht are also very important to us for the promotion of health care innovation. Moreover, this links us to leading knowledge centres in neighbouring countries, giving possibilities for international co-operation. Health Valley is one large ecosystem where parties involved can complement each other, and where we act as the connector.”

Back to Doomernik herself. How does she view the change from a position as a HR director in a large business and director in a major health institute, to a managing job in an organisation like Health Valley?

“Health Valley has an enormous network, but is itself a decisive organisation with only eight permanent employees, myself included. So there’s not much HR to be done here,” she remarks with a smile. “Still, my move is a very logical one and is exactly in line with my previous positions. I have always approached HR from the business side of things. How can you improve business results by putting your employees in the right jobs, and which people do you need to do this? That is actually what I am dealing with now. Within Health City, we assess how we can connect parties to work together for innovative results. My business experience and communication skills come in very handy for this. In addition, I have gained a lot of experience and knowledge in the care sector. It’s true that I am not an expert in the field of biotechnology or diagnostics for example, but this does give me an unbiased outlook on certain developments. In my HR jobs I was mostly focussed on the internal organisation, and as a director in the health care sector I was more concerned with the external



Drs. Chris Doomernik MMO, director of Health Valley

‘market’. Establishing external contacts suited me, and that is something I can put to good use at Health Valley.”

Innovation on the basis of health care needs

What are the short-term plans and what is going to change at Health Valley?

Doomernik continues: “Health Valley has traditionally been focused on bringing technology to the health care sector that had already been developed. But a new discovery, however innovative, does not always meet the health care sector’s actual needs. Making an inventory of these requirements and then finding a match with companies or research institutes; not only is this the new approach that Health Valley has adopted, but I also view it as a personal challenge to invent according to the basis of health care requirements. We are developing this scheme around specific medical disorders or diagnostic areas. An example is our research concerning what is needed in palliative care, which includes patients and both professional and voluntary, to make the care given to each patient more comfortable, more efficient and of higher quality. I know very well from my own experience that it is crucial for each new technology or care method to be embedded in the developmental process. You have to take into account different care professionals, who all have their own role in the care process and who all have to commit themselves. If you want to implement an innovative healthcare product properly, it takes more than simply delivering a device. It is also important that the finances are taken care of, otherwise even the best innovations will not be introduced. Health Valley is currently looking at the conditions that need to be met, and which constraints need to be lifted for an innovation to actually be implemented.”

Embedded Field Labs and RedMedTech Ventures

An important project for Health Valley director Chris Doomernik is the development of the so-called Embedded Field Labs, in co-operation with Oost-NV. “A Field Lab is a pilot situated around care institutes, where new products and services can first be tested in practice in a healthcare context, where it is then further determined whether they offer real possibilities and opportunities. At the moment, there are four Field Labs: a Field Lab for secondary healthcare in co-operation with the Slingeland Hospital in Doetinchem, a Field Lab for disabled care working together with Siza, a Field Lab for rehabilitation with the Sint Maartenskliniek/ZZG Herstelhotel, and a Field Lab for primary care in co-operation with Thermoion Academisch Gezondheidscentrum and the HAN. RedMedTech Ventures is also a key project at Health Valley. With this project, we are supporting life sciences and health start-ups by providing financing up to €375,000 to protect intellectual property, start a company and further develop the product or service. Of course we have certain requirements, as it is only a loan. The provinces of Gelderland, Overijssel and Noord-Brabant have each paid €1,5 million into a fund, and the project will run for four years. The support is not only financial; we can also link start-ups to parties in our consortium or coach them on their way to a marketable innovation. Our goal is to scout around 360 enterprising researchers through our consortium, within four years. To reach this goal, we organise various networking events, and also have a special website (www.redmedtechventures.nl); an accessible way to put forward any innovative product ideas for the health care sector.”

ICT & medical technology

“For Health Valley, the combination of ICT and medical technology is an interesting theme, aiming to get in contact with start-ups that have innovative ideas in this field. You see, ICT is the new leading sector that is linking all other sectors together.”



Hans Cornet (Province of Gelderland) and Chris Doomernik at the official opening of Health Valley, 25th of September 2014.

To stimulate these links between leading sectors and to ensure that the ICT innovations contribute to economic growth, Minister of Economic Affairs Henk Kamp recently appointed René Penning de Vries, Health Valley Chairman of the Board, as an intended standard bearer of ICT. Mid-October, Penning de Vries was a speaker on the subject of ICT & Medical Technology, at MeetINN run by ICT Netwerk Nijmegen.

She continues: “We also applaud initiatives such as the Radboud Nanomedicine Alliance. Combining forces in this field will put the area more clearly on the map. With the help of our partners, Radboud University and Radboudumc, we are closely following such innovative initiatives. We are able to invite speakers to our events who have witnessed the birth of nanomedicine.

The Radboud Nanomedicine Alliance can in turn use Health Valley’s network to reach other parties. Health Valley was founded around ten years ago as a joint project of Radboud University and Radboudumc, to commit to the valorisation of knowledge. This is why our connection with Radboud University and Radboudumc is still very important. I have been working in the Health Valley network for a while now, and I see many good initiatives in the region, but fragmentation too. The co-operation between campuses could be stronger. That way, they will not only reinforce each other, but at the same time make the region ‘the place to be’ when comes to health, the life sciences and ICT, both nationally and internationally. A joint magazine like the publication of Mercator NovioTech is a very good way to present ourselves. It would be great if we could also more include the Pivot Park in Oss, in order to combine the knowledge and potential present at the regional campuses. It ought not to matter on which campus a company wants to establish itself, as long as it is in this region,” emphasises Chris Doomernik.



Frans Lichtenauer MSc, CEO of GynNext

GynNext: unique non-hormonal, reversible contraception

The pharmaceutical company GynNext opened its doors on the Novio Tech Campus mid 2014. GynNext is developing a new generation of IUD (Intra Uterine Frameless) as a long-term, non-hormonal and reversible contraceptive. "It was especially the business surroundings and the excellent support of the SMB Life Sciences that appealed to us," explains CEO Frans Lichtenauer.

At the start of this year, after two years of preparation, CEO Frans Lichtenauer established GynNext together with a select number of partners. He graduated in Leiden as an organic chemist, and has since had several marketing and business development positions at large pharmaceutical companies such as Boehringer Ingelheim and MSD (then Organon), and was a consultant at Coopers & Lybrand. Lichtenauer explains: "Quite a lot of couples protect themselves from pregnancy through permanent sterilisation, but many of these sterilised women or men later regret such an irreversible procedure. They eventually do want children, or are with another partner. The field of reversible contraception can be split into two groups: hormonal and non-hormonal. Hormonal methods are the 'pill', the contraceptive ring, the combined injectable contraceptive, the hormonal intrauterine device, or an implant. The non-hormonal methods are things like condoms, or an IUD with copper. Each method has its pros and cons. Some women actually need hormones, while others prefer to have fewer, or none. Our product is meant as a long-term, non-hormonal, reversible contraceptive and has a number of unique qualities compared to the common IUD."

Longest acting device registered

He continues: "The usual IUD is available in only one size and is often too large for young women with a small uterus, which can result in pain, bleeding and other side effects. The GynNext product is 'skeleton-free', has no 'arms' and fits in any uterus, most of the time without complications or side effects. What's more, our product is more reliable than the classic intrauterine devices. The GynNext product protects up to 12.5 years, which makes it the longest acting device registered, and it is reversible. We focus on three target groups. GynNext 12.5 is meant for women who have 'completed' their family, who do not want to use hormonal devices, but do want to be protected up to the menopause. GynNext 3 offers a three-year protection for young women, who want to wait a while before they have children. Our third product, Gymina, is meant for women who have gone through an abortion and who want to prevent such another painful experience. In the USA, 50% of women who have had an abortion come back for a second abortion; in Europe this percentage is slightly lower.

Many of these repeated abortions could be prevented with our product. For every contraceptive need we have a suitable, and reversible, product."

Worldwide distribution

The product was originally developed in Belgium and marketed in a limited number of countries. Frans Lichtenauer and his partners Bregje Krebbekx, Hans Platteeuw, and Ric Feller took a license for the original idea, developed it further, expanded the portfolio and now want to distribute the new GynNext product worldwide. "We can do the distribution across Europe ourselves from the Netherlands, but for the distribution to other continents and countries we are looking for partners. We want to market our product as a something used by gynaecologists. The most important thing is that we convince them of the advantages for the user, to ensure that GynNext gets a place in their vocabulary and is the first product they think of. To do this, we are organising symposiums in different countries, where gynaecologists receive explanations and instructions. The market approach and the planning of distribution are synchronised, to have a controlled organic growth. The internet and social media are important instruments both for the distribution and for generating (inter)national renown. It enables us to work globally, even as a small company. The motivation of users and physicians who have heard of GynNext is high. The emails with question are already pouring in, so we have high expectations of our product."



GynNext is easy to place



Antoine Driessen, chairman of the Board of Directors Rabobank Rijk van Nijmegen

The changing role of the Rabobank:

From moneylender to connector

“The co-operative Rabobank plays two roles in the community,” begins Antoine Driessen, chairman of the Board of Directors of the Rabobank Rijk van Nijmegen. “The role of a financial services provider that takes care of payments and finances, and enables clients to manage their bank affairs 24 hours a day worldwide. We also have our role in society, which means that we connect sectors important for the region, not only for the living and working environment but also in an economic sense.”

PRESENTATION

“Aside from our daily financial services, we also aim to present ourselves more in the role of a connector to financial networks. This is not only the case for Rabobank, you can see this trend across the banking sector. Banks are obliged to increase their equity funding, which limits their lending capacity. This is why Rabobank is increasing co-operation with crowd funding initiatives, credit unions, leasing companies, family funds, private equity, development companies and the government. From there, we try to generate more capital streams, that can be combined with our own bank capital to fund entrepreneurs.”

Investment vehicles

Rabobank Rijk van Nijmegen is actively involved in the regional knowledge economy and has various ways to stimulate innovation and support start-ups. Antoine Driessen: “The nationwide picture is that there is currently too little innovation. Development companies have plenty of money, but cannot do anything with it. The local government also has an adequate budget, but there are too few innovative projects in the region that are promising enough to make it to the sources of funding. Together with Radboud University, Rabobank Rijk van Nijmegen supports regional start-ups in the fields of technology and science with money, advice and facilities through the initiative Knowledge Exploitation Radboud Nijmegen (KERN). On the basis of a guarantee from the RU, combined with capital from Rabobank, we aim to stimulate innovations together. At the recent opening of Health Valley, TropiQ Health Sciences, a spin-off company of the Radboudumc, made clear how KERN had allowed them to use our capital to strengthen their own assets. This concerns relatively small sums of money, but are still very important for a company to be able to make the first steps. This is how we make a joint effort with other parties to finance innovations. There is too little offer, which is why we have had relatively few opportunities to implement the KERN concept. We have adequate investment vehicles in our portfolio for us to inject subordinated capital or supply specific assets with asset-based lending.”

Rockstart

Rabobank Rijk van Nijmegen is also co-operating outside the region when it comes to innovation, for example with Rabobank Eindhoven-Veldhoven. “Our account managers know how we can connect our networks with the TU Eindhoven and RU Nijmegen, and which innovations can be connected and financed. In this way, we connect the networks of Nijmegen and Eindhoven, but also those of Delft, Chemelot Sittard-Geleen, Food Valley Wageningen and Utrecht. All of this serves to strengthen the economy of the Nijmegen area. As a result, we have been asked to contribute in setting up a sustainable finance and network programme, aimed at patient and care innovations. In co-operation with Health Valley we want to create an ecosystem in this region that allows for health care innovations to develop further. For such an ecosystem, you need a knowledge network, as well as mentors to oversee the innovations, other companies who add specific knowledge and of course capital. In this context, entrepreneur Oscar Kneppers wants to start Rockstart in Nijmegen and help start-ups to speed their growth. He has already successfully done this in the ICT sector in Amsterdam and has made a deliberate choice for the Nijmegen area. Health Valley has the right profile to propagate both nationally and internationally. Rockstart has asked Rabobank and others such as Radboudumc, Health Valley and Novio Tech Campus to share thoughts and networks. Many parties in the region will be committed to this. The initiative stems of course from the entrepreneur. The province has promised €750,000, and together with the municipality of Nijmegen we are investigating whether we can receive financial means for this initiative through the Ondernemersfonds. We have the active role of a connector in this process. It is a fascinating role, which allows Rabobank to add value to the collective interest of stimulating and accelerating innovations.”



We want functionality!

Anton Loeffen, CEO of Eshgro

For a good coffee, you look for a good coffee machine. A machine that is convenient: fresh coffee at any time, tasty and cheap. That this requires electricity is a given; how recognisable for the IT sector. IT also needs to be available anywhere and at any time. Still, the sector is moving irreversibly from 'electricity' towards the 'coffee vending machine', according to Anton Loeffen, CEO of Eshgro, located in Boxmeer. It's about functionality.

PRESENTATION

Eshgro represents the innovations the company has made in the past ten years. "Up until 2004, writing software on location for clients stood central, whereas more and more clients were requesting services such as system management. We were working long hours on local servers and offered customised services. This meant an immense investment in money

and manpower, both for us and for our customers. Cloud computing freed the way to operational costs instead of capital costs."

Pay according to use

In the cloud you no longer invest in hard and software, but pay based on what you use. Compare it to Spotify; you don't invest in a CD

player and individual CDs, but you pay a fixed amount each month for access to the music of your choice, anywhere and anytime. Company costs are made predictable and transparent, and can be broken down to any desired level, to separate company activities, employees or working locations.

Anton Loeffen: "Just like in the car manufacturing industry, we work with building blocks, that can be switched on and off on a monthly basis. We have begun standardising based on the principles of the industry, such as LEAN and Six Sigma. It was only a matter of time before we reached the right scale. Now everybody benefits, because innovation costs can be spread over thousands of users." Eshgro is co-operating closely with Microsoft, HP and Ingram Micro. In 2013, the renowned research and advisory company Gartner recognised their innovative powers and proclaimed Eshgro 'Cool vendor in the European Cloud Market'.

"We are open to innovative ideas from software developers and aim for co-operation with start-ups and graduates."

Hackers check ISAE certification

Anton Loeffen: "Of course we set the bar high when it comes to safety guarantees. Our security and monitoring of the processes are at a level that is normally only available to multinationals. This ensures a smaller client gets the same availability, security and reliability as our largest clients. We notice that it is exactly those companies that have their own IT department rely on us."

Eshgro is ISAE 3402 certified, meaning that everything can be traced, and is documented according to strict regulations. "We also get 'pentesters' to attack us; these are professional hackers who carry out extreme penetration tests. We really want to guarantee security, as 90% of our clients run all their company applications on our platform," says to Anton.

Synergy of partnership

The cloud platform that Eshgro offers is a combination of software, services and tools. "A part of our clients supply their own software,

and we facilitate their services. Thanks to our cloud service, they do not have to build data centres or make investments in management and security. What's more, in the cloud we have around 600 business critical applications, combined with extra services such as back ups, management and support. Because of these applications, they can add value to the services for their clients."

The movement within the IT sector is an irreversible process, according to Anton Loeffen. "I predict an exponential growth towards functionality. This is why we are always open to in-

novative ideas from software developers. We also aim for co-operation with start-ups and graduates. The amount of data is always increasing; just think of all those hundreds of millions of devices that are collecting data on a daily basis and storing it in the cloud. The distinction between private and business can no longer be made. Companies have to re-think future facilities for their employees and the storage of data. Together, we can get it done."

Industrialisation basis for consumerism

Whilst IT used to carry out a facilitating role, such as the of installing systems in workplaces, IT solutions are now permeating primary processes, including the direct control of robots using business critical applications. "Our view of IT is that it is an instrument serving the end user, just like a coffee machine. We no longer represent the underlying technology - the electricity - but are becoming the coffee machine itself"

The business model of the IT sector has started to move; from trade to industry, and from technology to usability. Loeffen: "With our standardised cloud service, we offer the foundations. The new business IT is all about security, reliability, cost transparency and above all, functionality!"

www.eshgro.nl



We are open to innovative ideas from software developers and also aim for co-operation with start-ups and graduates.

SOME DISTINGUISHING ESHGRO ACHIEVEMENTS:

- Microsoft Gold Certified partner with Gold Hosting Competence.
- Gartner Cool Vendor of the European Cloud market 2013
- Microsoft SaaS Incubation Center (only 50 worldwide).
- The largest Microsoft HyperV Cloud Platform in the Netherlands.
- Hewlett Packard 1st IAAS partner Worldwide.
- Hewlett Packard 1st Cloud Agile partner Worldwide.
- Hewlett Packard Master the Cloud partner.
- Hewlett Packard Innovative Partner of the Year 2011 & 2013
- Eshgro offers more than 500 applications from the Cloud.
- Thousands of professionals use Eshgro's solutions on a daily basis.
- Eshgro's clients collectively earn more than €1 billion, which is achieved through financial, ERP, CRM, logistical, and other business-critical applications running on our cloud platform.



Smart Specialisation in the Regional Knowledge Economy

The European Commission has introduced 'Smart Specialisation' with the goal to stimulate regional areas in Europe in their choices for research and innovation strategies, as well as their positioning based on their strengths. The European Commission asked the regions to draw up a so-called Research and Innovation Strategy for Smart Specialisation (RIS3). The position of universities turned out to be key for many regions.

On October the 31st, the symposium Smart Specialisation in the Regional Knowledge Economy took place in the auditorium of Radboud University Nijmegen. The programme began with European scientific experts, followed by managers of the Dutch knowledge regions. Prof. Frans Boekema concluded with his valedictory lecture as Professor of Economic Geography at Radboud University.

Innovations and extra jobs in the valleys

Many speakers referred to 'valley-thinking' with imitations of the American Silicon Valley. Prof. Gert-Jan Hospers (UT/RU) named three important ingredients for success: research, entrepreneurship & capital. He warned against the tendency to needlessly strengthen already strong regions. Rob van Gijzel, mayor of Eindhoven, has never suffered from an inferiority complex. Brainport is seen as the national and international example of Smart Specialisation, and arose from a sense of urgency in the 1980s, when the Eindhoven area lost a lot of jobs because of the Philips Operation Centurion and the bankruptcy of DAF. That was when Eindhoven committed to public-private co-operation in the triple helix: government, university and businesses that have become stronger over the years, such as VDL, Philips and ASML, a joint venture of ASM International and Philips. Van Gijzel: "Aside from Philips, Eindhoven had very little to offer back then. We had next to nothing, only each other." Co-operation was therefore necessary,

and became the basis for the success of Brainport Eindhoven. Eindhoven was recently proclaimed the 'world's smartest region' with 22.8 patents for every 10,000 inhabitants, well ahead of San Diego, Silicon Valley, with 8.9 patents for every 10,000 inhabitants. Van Gijzel also spoke about aspects of co-operation concerning innovation: international, intersectoral, interdisciplinary, and inclusive, which means that the end-users are also involved in the process.

Big Data perfectly matches energy

Max van den Berg, Commissioner for the King in Groningen, spoke about the existing opportunities in the field of sustainable energy at Energy Valley in the North Netherlands. The North Netherlands traditionally have a lot of knowledge and industry in the field of energy. Energy Valley connects parties to develop this further and to lead the way to a sustainable energy economy. As it stands, revenues from natural gas for the most part end up going to the national government instead of the North. It is true that this has stimulated regional activity, but the establishment of large companies did not follow. "Business consisted of 95% SMEs, so there was an absolute necessity to co-operate. This resulted in new dynamics and investments, the knowledge infrastructure included," says Van de Berg. "The North Netherlands were put on the (inter)national map. Now Google is building a hypermodern

Rob van Gijzel

Event

René Penning de Vries (left) and Frans Boekema

datacentre in Groningen. Big Data & ICT are perfectly suited for the field of energy. Co-operation is needed to realise the transition to sustainable energy and to attract investors. The University of Groningen plays an important part; the co-operation with other universities, including Twente, Wageningen and Nijmegen, is still growing."

Health Valley: more than health care

As managing director, René Penning de Vries pointed out that Health Valley is about more than just health care institutes in Nijmegen. Health is connected to the Life Sciences & High Tech, across a broad region from Enschede to Eindhoven. On top of research, education and care the HV network is all about businesses. "We do miss a leading role from larger companies, but spin-off companies of research institutes are growing quickly in combination with the medical sector. MedTech, ict & digital health are also included, forming a strong base for Smart Specialisation of Health Valley," concludes Penning de Vries. "Apart from innovative companies, we need Radboud University/Radboudumc with their excellent research, leading clinical care, international research contacts and medical networks." He praised initiatives that took such an approach: Parkinson-Net, Radboud Nanomedicine Alliance, Radboud Research Facilities, Radboud Reshape & Innovation Center. The brand new Rector Magnificus Prof. Theo Engelen was asked to respond on behalf of Radboud University. He clearly outlined the position of the university. We asked for an explanation and entered upon a fascinating conversation about the value of science itself, its benefits for society and its "societal impact". Not everything of value can be measured and put in terms of material or monetary gains. Societal impact could become more visible, not least in a large area where Radboud University is already active in many partnerships.





Prof. Theo Engelen, newly appointed Rector Magnificus Radboud University:

“Academic education and research are themselves valuable”

The symposium ‘smart specialisation strategy’ for research regions was a good opportunity for the newly appointed Rector Prof. Theo Engelen to emphasise the academic and social position of Radboud University. With their knowledge, scientists have a primary impact on the world of research and education, and that world is without limits. Derived from research and education, a lot of attention is paid to the societal impact and benefits for developments in the city, the region and beyond.

At the symposium, it was very clear to Prof. Boekema that universities are indispensable for ‘smart specialisation’. There are interfaces between research excellence at Radboud University, leading sectors of the national government and innovation topics at Oost NV in the Province of Gelderland, as well as Health Valley. Health & Life Sciences are central themes. Chemistry, ICT, High Tech Systems & Materials are labelled as Key Enabling Technologies. Attention is also paid to joining Horizon 2020 (EU), as well as co-operating with Brabant/Limburg R&D hotspots: Brainport, Chemelot, Pivot Park Oss, and across the German border with NRW. In his reaction to René Penning de Vries of Health Valley, Radboud Rector Theo Engelen pointed out that there is a need for a broad approach and strong international R&D networks: “For Radboud University, internationalisation is as

indispensable as smart regional specialisation.” During discussions after the valedictory lecture of Boekema, an echo of this could be heard: smart specialisation ought not to become small specialisation; the Netherlands are too small to base innovation on narrow themes within limited regions.

A university for the city, the region, and the world

On the 17th of October 2014, two weeks before the RU symposium, Prof. Theo Engelen officially took up his duties as Rector Magnificus. The ceremony was held at the Stevenskerk, in the age-old heart of Nijmegen. Theo Engelen emphasises the symbolism of that location. “The university and the city are closely connected; they frequently come together. As a historian and Dean of the Faculty of Arts I was happy to see many colleagues actively in-

Theo Engelen

volved with the city and the region, for example working as an endowed professor, by giving public guest lectures, giving advice, taking on management positions, participating in debates at Lux and in preparing exhibitions at the Valkhofmuseum. It is only logical that our societal impact on the city and the nearby Arnhem-Nijmegen area is becoming more visible. Societal impact is first and foremost a derivative of research and education. These are the primary tasks for any university, and they are valuable themselves. The almost 20,000 students we are educating also have a clear presence in the city and region. They are given an excellent education at this university, which has been declared best comprehensive university of the Netherlands for the fourth year running. With our graduates, we are contributing considerably to society.”

Graduates and researchers to the labour market

Students trying to find a job in society after their studies may find that this is not an easy task, especially now in times of crisis. During their studies, students acquire ample academic resources. These allow them to be employed in a wide range of positions. There are also options for honing extra skills, in order to be prepared for the labour market and jobs in the business sector. Several faculties, such as Management Studies and Béta Studies, offer courses to help set up your own company. After such a start, young entrepreneurs can get advice from Mercator Incubator and rent a working space in the Mercator buildings. Many young researchers also set up a business after their promotion and postdoctoral time, aiming to market their scientific knowledge. In doing so, they create jobs for themselves and for other graduates. A number of these spin-off companies are located on the Radboud University campus in the Mercator buildings. Theo Engelen: “This is another visible example of societal impact. We try to allow room for businesses on campus. Students can find traineeships there, and companies can attract new employees. This mixture of science and business is of an academic as well as societal value. RU researchers are very often working on projects with spin-off companies, making it easier to find financing and research facilities. Radboud University and Radboudumc have recently begun the project Radboud Research Facilities, making laboratories and equipment available to businesses. Spin-off companies such as Synthon and Mercachem, which were founded by university researchers, had already been using these for a while. The circle of R&D companies has now been substantially enlarged.”

From idea to successful health-care innovation in 500 days with NBC 500!

New Business Challenges 500 is no event – it is a unique platform for healthcare professionals and innovative technology companies. To meet, to exchange knowledge, but most of all to realise actual innovations for the healthcare sector. The goal is to contribute to more efficient innovations for medical devices. We don't put technology at the centre of things, but rather work from the principle "what do our health carers need".

NBC500 focuses on the theme 'sensors in care', with a number of specific areas: point care diagnostics, constant monitoring and quantified self.

How we do this

NBC500 distinguishes four steps towards a promising innovation project:

- **Step 1:** workout: working with care experts to identify possible applications
- **Step 2:** from idea to innovative project, e.g. by doing a partner search.
- **Step 3:** working towards a strong business case
- **Step 4:** to the next level: an investor-ready business proposal.

Each step is linked to an event, beginning with a 'workout'. This not only ensures a clear starting direction, but keeps focus. After all, we only have 500 days.

During each event, you will be offered new insights and ideas, and you will be able to 'connect' new partners to your initiative. It is of course also an opportunity to share experiences with other case leaders; another way of finding better solutions.

First workout

On the 18th of September this year, the first 'workout' took place in the context of the New Business Challenges 500 at the Novio Tech Campus in Nijmegen. 'Bridging the health-technology gap' was the central theme of the meeting, and we feel that this has certainly been achieved. After a short introductory programme and some finger food, the stage was cleared for six pitches on interesting sensor technologies. After this, over 40 health care and high-tech professionals started a lively debate in small groups. Aided by an 'enhancement canvas', new and promising applications for the health care sector were traced. And not without results!

Interesting examples are using a Point of Care device for drug testing, MRSA detection using a Bacteria Breath Tester, and re-



moving body hair with the help of RF Power technologies. Ideas aplenty!

This workout is only the beginning of the contribution we want to make in order to deliver the more efficient innovation of medical devices.

Hub to innovation

NBC500 is your hub to innovation. We can help you by being your driving force, stimulator, organiser, manager, consortium builder, and most importantly as a link to network partners. We have connections with organisations such as Oost NV, RedMedTech Ventures, Health Valley, Meesters van de Toekomst, Gelderland Valoriseert, SMB Life Sciences, PPM Oost NV, Fieldlabs, Radboudumc, and many more.

Thanks to the network of Business Cluster Semiconductors, it is easy to find the right technology or industrial partner in the



fields such as Advanced IC, MEMS and Sensors, electronic design, packaging and testing facilities.

There is room for 4 specific project ideas to be developed into a promising business case within the time span of 500 days. Support is available for each project idea and this support will be customised.

For more information:

Barry Peet (Oost NV): +31 (0) 6 – 42 47 49 89 or
barry.peet@oostnv.nl

Dion Sluijsmans (Oost NV): +31 (0) 6 – 42 47 07 18 or
dion.sluijsmans@oostnv.nl

WANTED: INNOVATING HEALTH CARE PROFESSIONAL M/F



'Bridging the health – technology gap' is an important goal of NBC500. Our philosophy is that the development of innovations in co-creation between health care and entrepreneurs will result in promising initiatives that meet the needs of clinical practice. 'What do our health carers need?' should be the guiding principle for technological innovations in the context of our challenge. To make this possible, we are looking for (several) health care professionals who would like to contribute their thoughts and energy. Professionals who have thought during their daily clinical practice: this could/ought to be faster, more efficient, more effective, cheaper, cleaner.

Are you that progressive, creative, innovative and entrepreneurial physiotherapist, surgeon, clinical chemist, nurse, general practitioner, dentist? In short, a health care professional who wants to contribute their thoughts on innovations in the health care sector, then this New Business Challenge 500 is right up your street. You will not only discover and develop new technologies, but will have a hand in the improving the future care you provide! You will meet people who, just like you, are open to innovations and willing to actively contribute to this! In short, you will be actively involved and will be able to influence the health care innovations of the future!

PROMISING SENSOR TECHNOLOGY



Thermopil – an oral pill without battery for wireless and continuous monitoring of body temperature



RF Power – applying power (heat) in doses and to precise areas - radiation, hair removal.



Bacteria Breath Test – combination of an inhaler and gas chromatographer - detection of respiratory diseases



Biochip – small, cost-efficient and very precise lab-on-a-chip - detection of cholesterol, markers.



Minimal Invasive Measuring Device – for taking micro-amounts of body fluids and direct analysis



Ketosense – non-invasive measurement of glucose-related values through the skin.

A number of the technologies above come from the project Innovation 2 Industrialisation (I2I), set up by Business Cluster Semiconductors Nederland in co-operation with 19 partners from the industry. This was done with the support of the Provinces of Gelderland, Overijssel and the Twente Region. Four out of the six R&D projects in I2I (Micro-Needles, Ultrasound MEMS, Micronozzles and Micro gas chromatography) are developing sensor technology platforms that, in future, will be essential for Point of Care and

continuous Monitoring devices. Business Cluster Semiconductors is the ultimate network for ICs, MEMS and Sensors in the Netherlands, with 65 companies and three research institutes. More information: www.bcsemi.nl



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Innovative Tax: your tax partner when innovating

Innovative Tax is a small and independent tax law firm that provides high-quality tax advice to corporate and individual clients, often with cross-border operations.

On the basis of our many years of experience, we advise our clients practically and purposefully in national and international tax matters. Our approach is transparent, hands-on and independent. We believe that this approach enables Innovative Tax to put together a strong team of professionals including legal, accountancy and notarial advisers, addressing the specific needs of our clients worldwide.

Innovation box

One of our fields of expertise is tax counselling relating to innovation box projects. We have built up a wide experience in negotiating fiscally attractive agreements with the tax authorities on the implementation of the innovation box (for companies who developed their own IP using the WBSO or patents) for our clients in leading sectors such as the life sciences.

What can you expect from Innovative Tax?

- personal and pro-active commitment to our clients
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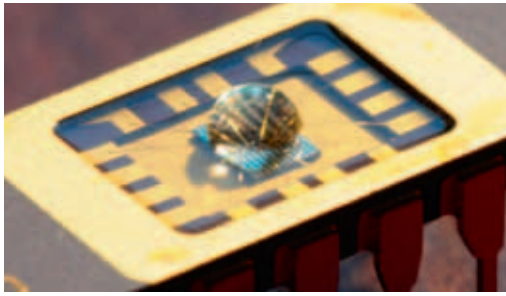
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"With passion, determination and perseverance, peak performances in both taxes and sports are possible"

The mountain is called Mount McKinley.



NXP Healthcare Solutions

OBIOS

The OBIOS sensor, an ultra sensitive optical detection technology for Point-of-Care diagnostics

The OBIOS demonstration chip is an ultra sensitive optical sensor. The OBIOS enables the transfer of sensitive diagnostic assays from a laboratory setting to a point-of-care application. The OBIOS can be used in the spectrum of visible light, making it compatible with most optical assays; chemiluminescence, absorption, fluorescence, and more. The pricing of the OBIOS chip allows for it to be integrated within a disposable module or cartridge. This sensor will be produced by NXP Nijmegen, and was developed here in the city.

Sensitivity

Due to the small size of the detector, it can be placed in direct contact with the point generating the light. This results in maximum sensitivity, and makes the OBIOS an enabler for miniaturised ultra-sensitive point-of-care diagnostic applications. It will solve one of the most pressing problems in the current lab-on-a-chip and biosensor developments: sensitivity. Earlier results show that its sensitivity is comparable to that of expensive desktop devices.

Evaluation kits

An evaluation kit and demonstration chip are available, enabling clients to conduct feasibility studies on a specific biological application. They will be able to determine the sensitivity and compare it with larger and more expensive laboratory equipment.



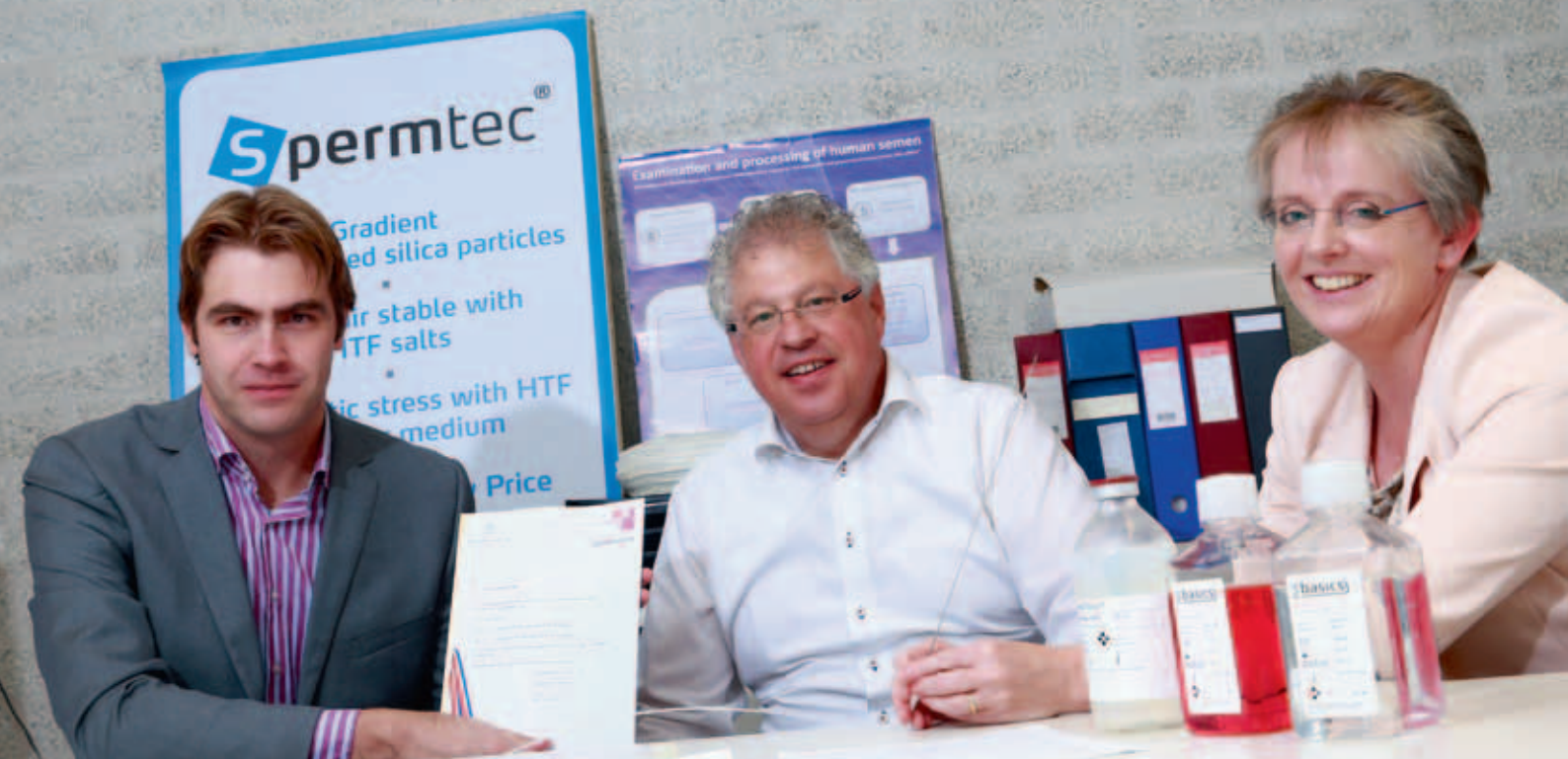
Most important features

- **Ultra sensitive:**
 - comparable to expensive desktops
- **Temperature:**
 - integrated temperature sensor with a resolution of 0.2°C
- **Wide dynamic range:**
 - 6 orders of magnitude
 - 350-800 nm
- **Speed:**
 - picoseconds to seconds
- Arrays can be realised
- Small form factor
- Cost-efficient (disposable applications possible)
- **Interfaces**
 - digital interface
 - I2C
 - other options also possible
- Different packages possible

Main field of application

- Point-of-Care diagnostics

Contact information: elfried.van.der.sar@nxp.com - filip.frederix@nxp.com or www.NXP.com



Patent for the Gynotec double lumen IVF needle

L-R: Bart Jacobs, patent attorney of Arnold + Siedsma, Gynotec director Jos Berbers and patent attorney Petri van Someren.

Gynotec, located in Malden, is a manufacturer of ART instruments (Assisted Reproductive Technologies) and medical products used for IVF treatments. A patent was recently granted for their improved version of a double lumen needle used to pierce ovarian follicles. Patent attorney Bart Jacobs of trademark and patent bureau Arnold + Siedsma acted as advisor for this successful patent grant. Arnold + Siedsma also advises on trademark rights, and draws up possible licence contracts.

PRESENTATION

Gynotec director Jos Berbers has worked with several pharmaceutical companies that specialise in fertility techniques. In 1993 he decided to start his own business. "At first we only represented a few medical products. Gradually, we started with product improvements and began production in co-operation with leading contract manufacturers of medical devices. Our first product was a single lumen needle, which we still market, using the 'borrowed' brand name of our contract manufacturer: Mona Lisa. This needle is perfect for 'harvesting' eggs after a successful hormone treatment. Without hormone treatment the number of ovarian follicles is usually less, and you need to exercise more care. In some cases the eggs are not ready yet, more firmly implanted and therefore more difficult to retrieve. But with a single lumen needle you can only 'suck up' eggs; you cannot take firm hold of anything or exercise pressure. A double lumen needle

with a retrieval and separate flushing part can provide the solution for such cases. With the flushing lumen, a fluid can be discharged to apply a little pressure and cause turbulence, which releases the eggs. With 'traditional' double lumen needles, one needle is put inside the other. This is precision work, making the manufacture more difficult and expensive. Another downside is that, due to the insertion of one needle into the other, the opening for retrieving eggs becomes smaller, which may damage the eggs. The outer diameter also increases because of the combination of the two needles, which means you will have to apply more pressure for the puncture. A finer needle causes less pain and inconvenience for the patient. To solve this problem, we developed a needle in which plastic tubing was applied, much as on a fire hose. The tubing is flat if not used and allows ample space for the retrieval of eggs. When discharging fluid the tub-

Double lumen needle with plastic tubing



ing gains no volume, but still allows the retrieved egg to pass through, as the flexible tube can easily be pushed aside. We were granted a patent for our first double lumen needle, but it turned out that it was not feasible in terms of production to apply such a thin tube to a needle. Unfortunately!”

Two years later Jos Berbers found a better solution. “Instead of flat tubing we developed a plastic tubing that retains its shape and fits closely to the inside of the needle. It can be pulled through and attached to the hollow needle relatively easily. The flushing fluid is now supplied to the space between the needle interior and the plastic tubing via an inlet in the exterior. The separate flushing channel actually no longer exists. The tube is temporarily depressed, again taking on its original hollow shape to allow space for the eggs to be retrieved. So we now have a double lumen needle with flushing provision, which has nearly the same outer diameter as a single lumen needle.”

Key to the invention: plastic tubing

For the patent application for this invention, Gynotec asked Arnold + Siedma to help them. Bart Jacobs: “The examiner determines whether the invention can be patented when the patent is applied for. He will bring questions based on his research and related international scientific documents. For the layman, these objections, arguments and the wording of the examiner are often difficult to follow. Many entrepreneurs become overwhelmed, believe they do not stand a chance and soon cancel the patent application. As patent attorneys, however, we are able to give a positive turn to the application. We investigate and assess the examiner’s objections and in many cases it turns out that these are unjustified. We then have to turn the input of the inventor into what the examiner wants to hear. We usually do find a way to determine the scope of protection. The problem with the patent grant for this double lumen was that the examiner did not fully comprehend exactly where the fluid would pass through, and which channel would be used for retrieving the follicles. It is frustrating when you can prove the examiner wrong, but he nevertheless stubbornly holds on to his opinion. In the end we were able to convince him of the unique and key part of this invention: the tubing.”

Jos Berbers sounds enthusiastic: “We owe the patent grant for the Netherlands and the US 100% to the efforts of Arnold + Siedma. They made certain that we did not give in to the objections of the examiner, but went ahead with the application. We have already discussed three other projects with them for a possible patent application.” Patent attorney Petri van Someren: “We word the conclusions in the application as broadly as possible to begin with to get the widest scope of protection for the invention. Often this is not feasible and we have to take a step back, but that is done on purpose. We can then combine the sub-conclusions on specific features with the broader main conclusion. This does give a somewhat smaller scope of protection, but

it does distance it from existing patents. By doing so, you make the invention unique, which means it is patentable. When you are very specific to begin with, the patent may be granted sooner, but you do get a very limited scope of protection.” Bart Jacobs adds: “This broad approach is particularly suitable for SMEs that usually have only a limited number of patents. In such cases, it is very important to make the scope of protection for each patent as wide as possible. Multinationals such as Philips have thousands of patents and can afford a smaller scope of protection per patent.”

Licence contracts and trademark protection

The new double lumen needle is currently in production. Gynotec does this together with respected contract manufacturers. Jos Berbers: “The needle is made of surgical steel, and is manufactured in Switzerland according to strict quality demands. The tubing is made of high-density polyethylene (HDPE). In Diest, Belgium, the needle is put onto the small plastic handle and attached to the tubing. Normally such things can be glued, but glue could possibly release gases that are almost always embryotoxic. The needle is a quality product that we also want to market under our own trademark. In the Netherlands, 70% of IVF-treatments are done with the single lumen needle produced by Gynotec. The Netherlands is pretty unique in the field of IVF. There are a few large, specialised centres where all expertise is concentrated; these carry out about one thousand IVF treatments per year. In other countries these treatments are distributed over many more hospitals. Here, hormones can be used and the most wonderful stimulation protocols have been developed. Many follicles can be emptied relatively easily with a single lumen needle. There is a trend towards the so-called ‘natural cycle IVF’, which makes little to no use of hormones. When you have fewer follicles to harvest, the double lumen needle is of interest. In Japan, the double lumen needle is used for 70% of the treatments; in Turkey this percentage is even higher. It shows how preferred methods within a country can determine the needle choice.”

Gynotec wants to set up distribution with the help of large partners in twenty countries, and is also researching the licensing of the product with Arnold + Siedma. Bart Jacobs: “We have a law department which can give advice on drawing up and negotiating license contracts. We also have trademark agents and specialised attorneys for determining the new trademark and its protection. The introduction of this new product under its own brand name could in its wake result in increased sales of existing products.”

The double lumen needle is being manufactured and will soon be marketed. Expectations are high. “We now own 3 to 4% of the international needle market, and we expect to be able to grow to a market share of 15% within a few years,” concludes Jos Berbers ambitiously.

www.arnold-siedma.nl



Opportunities in ICT & Medical Technology

Boudewijn Dekker opent de meetINN

ICT Network presents opportunities for Nijmegen

On October the 14th 2014, ICT Network Nijmegen and SMB Life Sciences organised a MeetINN in the M-building of the NovioTech Campus, with the theme of ICT and Medical Technology. Nijmegen occupies an excellent position in this field with new and experienced innovative companies, excellent study programmes, and research and health care institutes. The presentations at this MeetINN showcased promising business opportunities for companies that combine ICT expertise with knowledge of the medical sector.

ICT & MEDITECH

There was a lot of interest in this subject: more than one hundred enthusiastic visitors. All contributions to the area showed that Nijmegen is a rich breeding ground for initiatives that intersect ICT, the Life Sciences & Medical Technology. Host John Schalken, programme director of SMB Life Sciences, confirmed this by showing the speedy growth of new companies on the Novio Tech Campus.

Health Valley chairman René Penning de Vries, figurehead of ICT

René Penning de Vries, Chairman of the Board of Health Valley since 1993 and former CTO and director of NXP Semiconductors Netherlands BV, was appointed as figurehead of ICT for the Netherlands by Minister Kamp earlier this year. In the field of ICT, the Netherlands is a leading world-player. A new team will ensure that this leading position of

the Netherlands is strengthened even further. The Ministry of Economic Affairs co-ordinates the team's work. With his team of specialists, René Penning de Vries will initiate and stimulate developments on the intersection between health care and technology. Where Big Data is concerned, the team want to bring supply more in line with the demand, as well as stimulate use. In the field of Human Capital they will focus on future employment in ICT. The team also want to internationalise the ICT sector and put the Netherlands on the map as a country for ICT organisations to establish themselves. The team will be operating across sectors, co-operating closely with leading players and connecting successful applications to other disciplines. ICT is a 'key enabling technology' in all of this. Analogous to the leading-sector-policy, the team will involve in its implementation of plans all relevant par-

ties from the business sector, scientific research, developers, users and suppliers of ICT for research institutes, SMEs and government.

Growth market ICT

New products are giving rise to a growth market that did not exist before, according to Penning de Vries. The ability to develop ICT innovations and using these innovations quickly and effectively, are determining factors for the competitiveness of businesses. The strengths of ICT can be found in innovative applications for new work and manufacture processes, new services and revenue models that contribute to solving social issues. He gave a few examples of promising technological innovations in the health care sector for MedTech entrepreneurs. While many innovations used to originate within larger companies, these days these innovations come from small start-



René Penning de Vries, chairman of the Board of Directors of Health Valley and figurehead of ICT



Jos Lunenberg of Genalice



Bas Dirkson of Apps4Air

ups, and are often unexpected. You can now take over the world with limited means, as is shown by Uber, Google, Booking, and so on. In his speech, he gave his vision of the future in six 'D's: digitised, demonitised, democratised, delocalised, deceptive, disruptive. Our society is becoming increasingly digitalised, existing markets are completely overwhelmed and disrupted whilst new markets present themselves. He believes the Dutch ICT sector has a lot of international potential, not in the least because our country is in the top 5 of 'ICT readiness' and boasting an excellent ICT infrastructure. He does make the observation that SMEs are making too little use of these opportunities. He offered some suggestions and help for ICT entrepreneurs to make a conscious choice for which market they want to enter into with their innovations. Make a clear choice for a push or pull strategy. When choosing for a particular product or service, take into account whether a product is easier to multiply and is scalable. Do not forget that a patent not only offers protection, it also increases the market value of your invention.

ICT and DNA

The story of Chief Business Officer Jos Lunenberg, of the young and innovative software company Genalice, has made the potential of combining Medical Technology and ICT very clear. Genalice is an innovative big data company that brings better diagnosis and treatment of diseases such as cancer within

reach. "We are the Google of DNA," Jos Lunenberg opens his speech. Genalice's solution makes it possible to read and process DNA data extremely fast, enabling a more targeted treatment. Jos Lunenberg illustrated this with the staggering processing times of their software, which is one hundred times faster than conventional methods. Data can also be stored one hundred times more efficiently and can consequently be rapidly spread worldwide. Time is money, so the cost reductions that this involves are the most important USPs.

www.genalice.com

App for real-time health care

In his presentation, entrepreneur Bas Dirkson showed what it takes to develop medical apps. He is working together with the expert network Lavoisier on two start-ups: Apps4Air for patients with chronic obstructive pulmonary disease (COPD), and Femedx for women with an increased risk of pregnancy toxemia. Only after many trials can Apps4Air be marketed, a smartphone-app that can forecast the health of a COPD patient without the intervention of a doctor or other professional. Dirkson sees more opportunities for the ICT sector in the field of real-time health care systems. "But don't underestimate the complexity of the medical sector. It seems simple: from idea to product, then to the market, let's make an app, set up a database and done! The medical sector indeed offers wonderful opportuni-

ties, but it also has specific characteristics and specific demands for products, companies and the expertise available in your team," says Dirkson. An entrepreneur who wants to introduce medical devices and applications has to comply with many obligations and conditions. Good management practice and quality systems are extensive. In a global medical device market, a pro-active strategy is required to guarantee compliance with international laws and regulations. All processes have to be identified and documented, and they have to be traceable throughout the entire product cycle. To realise the aimed-for growth, an entrepreneur has to anticipate risks and uncertainties, and have access to the right people, means, systems and procedures. Risk management is therefore a key condition for the creation of value. Certification and audits are required to get there. Work with the complete set of conditions and make sure you have a comprehensive quality management system. This prevents unwanted delays of an introduction and unnecessary costs, and enhances the market opportunities. According to Dirkson a MedTech success begins with a good start: having the right knowledge of the market, technology and clinical applications, but most of all the 'quality manager is the key for success'.

www.apps4air.com



ABOUT ICT NETWORK NIJMEGEN (INN)

ICT experts, students, researchers, professionals, young and experienced entrepreneurs meet at ICT Network Nijmegen. Its core activity is the MeetINN: an information meeting organised three or four times a year by the Network, each time at a different location. Next to this, there are courses, company visits and other network meetings for exchanging

knowledge and experience and making new contacts.

For upcoming MeetINNs, please go to:

www.ictnetwerknijmegen.nl

For more information:

www.ictnetwerknijmegen.nl

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rkavelaar@ictnetwerknijmegen.nl



Consultants for entrepreneurs in innovative and technology intensive sectors: (l-r) mr. Theo Vermeulen (VWGNijhof accountants & tax consultants), mr. Maud van Weersch (Hoge van Gerven Notaries), Jerry Croes (Flavius Insurance and Finance)

Innovative lunch

We have already briefly introduced ourselves in the previous edition of Mercator NovioTech Magazine. We have offered you out 'combined consultancy'. Now, we want to back our words with action and advise you! We are happy to invite all those interested to an informal lunch meeting:

Innovation & entrepreneurship

While you are having lunch, we will give you information about doing business in the innovative and technology-intensive sectors. We will cover the following topics:

Programme

12.10 - 12.20 The innovation box, corporation tax rates to 5% (by VWGNijhof tax consultants)

12.20 - 12.30 The options for insuring research institutes (by Flavius insurance)

12.30 - 12.40 Getting funding, Informal Investors, Government (by Corinthe Corporate Finance)

12.40 - 12.50 Business entities, which legal form suits you best (by Hoge van Gerven notaries)

12.50 - 13.00 Protecting intellectual property rights (by EM Law)

13.00 - 13.10 Grants, fiscal facilities & funds (by Hezelburcht B.V.)

No lengthy complicated stories, full of incomprehensible technical talk, but short presentations in clear language of at most 10 minutes. There will of course be plenty of opportunity for asking questions.

Interested? Then we would be happy to welcome you on Thursday January the 22nd, 12:00 pm on the NovioTech Campus, at the new Life Sciences & High Tech location at the NXP grounds, Transitorweg 5, Nijmegen.

Due to a limited number of places available, please register in advance:
Sandy Vogel, svogel@vwgnijhof.nl
or call +31 (0) 24 - 365 09 65.

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University Sports Centre Company fitness



COMPANY FITNESS AT THE UNIVERSITY SPORTS CENTRE: GOOD FOR YOU AND YOUR EMPLOYEES!

More and more companies opt for company sports. This is not surprising. Fit employees perform better, feel better, are less frequently ill or absent and are more productive. It has all-round benefits for the employer: fewer medical expenses and better performing employees. After all, healthy and motivated employees are the most important capital of any company.

WHY JOIN USC FITNESS?

The University Sports Centre has much more to offer than the 'standard' gym.

- a choice of 70 different sports, from Fitness to Zumba, from Yoga to Spinning. You don't only have to choose one sport: with a **Top Fit Card** or a **Fit Card** you can participate in them all.
- Hyper modern sports centre, centrally located and with ample parking space.

- Twelve tennis courts, two beach volleyball courts, two hockey fields, a football field, a football/rugby field, a 400-metre track, a climbing tower, a dojo two sports halls, four multi-purpose halls, a spinning hall, four squash courts, a climbing wall and a bouldering wall. You are free to use it all!
- professional support
- the possibility to cancel your subscription per month
- the UCS offers specific courses such as: Fitness after pregnancy, Neck-shoulder-back, Slim and Fit, Pregnancy Fitness, 55+ sports.
- Very generous opening hours:
Monday to Friday 8.00 to 23.00
Weekends 8.00 to 21.00

WHAT DO COMPANY SPORTS COST FOR YOU AS EMPLOYER?

The University Sports Centre offers two types of subscriptions.

Subscription	Frequency	Which sports?	Cost for individual	Cost for company sports
Fit Card	exercise five days a month	70 sports	€ 28,25 per month	You decide!
Top Fit Card	unlimited sports	70 sports	€ 49,50 per month	You decide!

You decide how much you pay for your employees: you choose which percentage of the monthly costs you pay, with the remaining amount paid by your employee. This can vary from an employer's contribution from 10% up to 100% of the individual costs.

We would like to talk with you about a suitable offer. For more information, please contact:

Kim Hagendoorn, Commercial Affairs and Marketing
T +31 (0)24 361 29 91 | E k.hagendoorn@usc.ru.nl



University Sports Centre > Heyendaalseweg 141 > 6525 AJ Nijmegen > T: +31 (0) 24 361 23 92 > I: www.ru.nl/usc

WHATEVER MOVES YOU

Radboud University



Finance for growth

Every enterprise starts with a good idea. In the eco-sector, this is often a smart technology that contributes to solving a sustainability problem. Suppose, however, that all ingredients for a successful business are present: a finished product for which there is a market, a solid business plan, a launching customer base and a strong team. The desirable next step is often a break-through towards growth and scaling up, meaning a large financing requirement. Working with an investor takes courage. An investor plays a substantial role in the development towards sustainable growth.

INNEON: a quality proposal for the investor

Investors often complain that there are not enough 'high-quality' investment opportunities. On average, investors accept just 1% of

the offered investment opportunities. To improve opportunities for entrepreneurs, the INNEON project provides access to investors with dedicated funds for eco-innovative companies. By means of a thorough preparation, pre-selection and coaching quality proposals are created for investors. Projects put forward by INNEON are in the top 10% of investment opportunities that investors can consider.

Get in touch with INNEON

Do you have a business in the eco-sector and are you looking for an investment of between € 250,000 and € 5,000,000?

Please contact the Dutch consortium partner of the INNEON project:

Van der Meer & Van Tilburg
+31 (0) 30 - 699 2020
or sikkema@innovation.nl



Van der Meer & Van Tilburg is project partner of the European SWIP project, which aims to increase the market share of wind turbines in Europe.

Are you looking to develop your company?

With INNEON you will find an investor

Wanted: employers in the eco-sector looking for a 2nd or 3rd financing round of € 250,00 to € 5,000,000.

Offered: customised business & investor readiness coaching and proposals to potential investors.

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Do you have questions or would you like to make an appointment? Please contact Eva Rotte, Intellectual property & ICT lawyer: e.rotte@hekkelman.nl 024 382 83 84

NEED TO KNOW

1. Patent?

If your invention has a lifecycle of many years, patent protection could be interesting. A patent gives you protection up to a maximum of 20 years. However, patenting an invention also involves publishing, and requires complete transparency of affairs. The competition needs to know your exclusive rights, and they can only do so when your patent application is eventually published. The application has to supply enough information to comply with legal requirements, otherwise the patent could be annulled, or possibly not even granted. The draw-back then in that case is that the application itself will already have been published, and the un-patented invention will be up for grabs...

2. ...or keep it a secret?

Keeping an invention secret has the advantage that you can get ahead of the competition without putting a time limit on yourself. However, not every invention is suited for secrecy, especially when the product can easily be reconstructed by reverse engineering or research. Secrecy also demands rigid business management, and there is always the risk that an employee who has left the company runs off with the invention. In short: both routes, patenting and secrecy, have their pros and cons.

3. Don't forget: also secrecy for patents!

Valid patents are only granted if the model or invention is new compared to all that already exists, anywhere in the world. The invention is not allowed to have been published or exhibited anywhere. So be careful with an early publication of your invention; you could be making your own (future) patent impossible to attain! That is why it is best to file your invention before you share it with others. If you would like to or are obliged to share it with others, ensure you have a correct non-disclosure agreement, which includes a penalty clause. Drawing up a non-disclosure agreement is customised work. The party receiving the secret information will want to know the range and time span of the agreement. Is he allowed, for instance, to put the information before an investor or researcher to have it evaluated?

The best idea in the Netherlands; then what?

A smart improvement for a product or even just a name for your service can make the difference between average and excellent. Good ideas can therefore be worth money. But how do you protect your own idea from imitation?

An idea on its own cannot be protected. Abstract ideas are free and can be used and developed by anyone, in whatever way they want. Someone's own specific concept can be protected by means of an intellectual property right, such as a patent right, copyright, or trademark right.

A logo, name and other elements of a corporate identity are only protected as a trademark when they have been filed as such, and, after these have passed the test of distinctive characteristics, have been entered in the trademark register. During the process from idea to trademark, for example with a well-designed logo, it can be clearly indicated at which point we are dealing with trademark protection instead of an unprotected idea.

This is more difficult for copyright. A product or developed concept is 'automatically' granted copyright, as long as it is creative, sufficiently developed and original. A copyright does not have to be filed, which is why there are no registration dates for certain works. This can often cause trouble, so there are several initiatives where you can register your idea. Recording, depositing or filing an idea does not, however, give any legal protection, nor does it create an intellectual property right. It only proves that, for example, a certain text existed at the date of registration. The text still has to be specific, original and creative enough to be eligible for protection.

Technical inventions can be protected by a patent. It is not possible to get a patent for the idea of a bicycle with one wheel, for instance. A patent is only granted if the inventor can explain how such a bike is built. The patent will then protect a bike that works in that specific way, not simply the idea of a one wheeled bike. A patent has to be filed to effectively get protection.

www.hekkelman.nl

10th Dutch Life Sciences Conference at Novio Tech Campus



The Dutch Life Sciences Conference 2014 took place at the Novio Tech Campus on Wednesday, November the 19th. This Nijmegen hotspot for the Life Sciences & High Tech hosted the 10th edition of this conference in partnership with SMB Life Sciences of the Radboudumc, Kadans Biofacilities and Health Valley, making it the



place to be for the field of life sciences and biotechnology. This year, the conference was all about 'Partnership & Entrepreneurship', with several hundred entrepreneurs, researchers and investors attending. Novio Tech Campus director Rikus Wolbers was enthusiastic: "A conference such as this makes Nijmegen very

visible as a hub in the Dutch Health Valley. That's good for the city, good for our campus and good for the entire life sciences sector."

There was a plenary programme with keynote speakers including Cailin McGurk (J.P. Morgan), André Hoekema (Galapagos) and Anu Acharya (Mapmygenome). For the rest, there were parallel sessions with workshops on Entrepreneurship, Partnering and Personalised Medicine. There was also an Investors forum, of which BiOrion was the winner. The winner of the Venture Challenge Award autumn 2014 was also announced: Innofuse from Utrecht.

The day was concluded with a college tour by Lucien Engelen (Radboud Reshape Innovation Center) and lectures by Huib Pols (Topteam Life Sciences & Health) and Bernard Muller (Treeways). Daniel Kraft (Singularity University) was one of the guests, and he and Lucien van Engelen were interviewed during the tour.



Daniel Kraft (left) and Lucien van Engelen

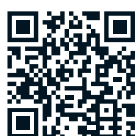


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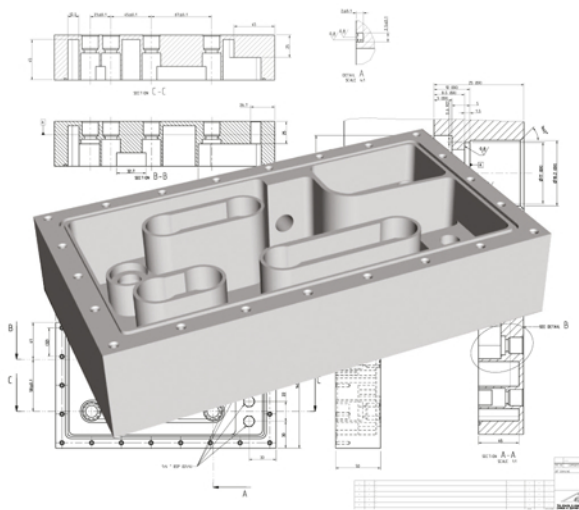
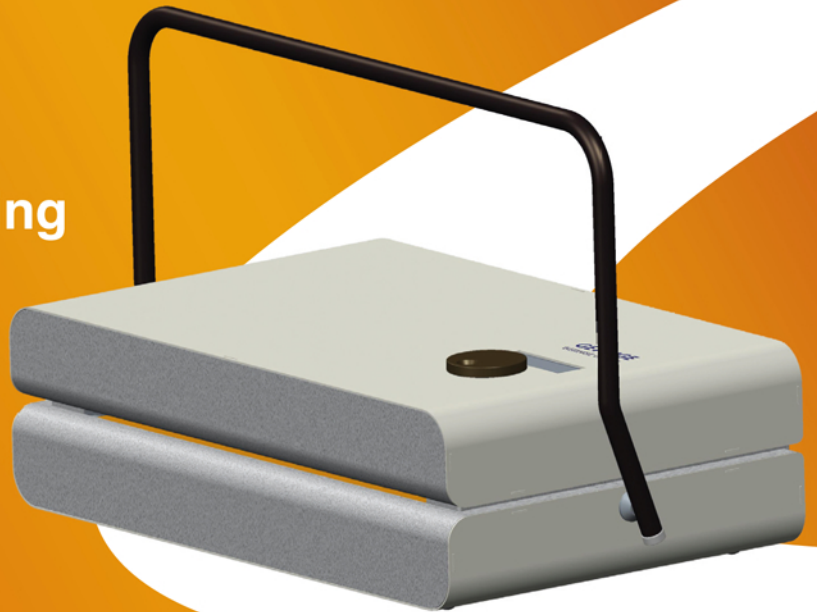
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Top-level Office Space



The Mercator Technology & Science Park offers a range of 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 shorter leases specifically for starters in a full-service office environment. Mercator offers more than simply 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 block.

The Mercator Technology & Science Park has a unique location at the edge of the university campus, in an area shared with large R&D orientated companies. Moreover, the presence of prominent research 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



Novio Tech Campus for Life Sciences & High Tech Innovation



Knowledge, industry and innovation meet at the Novio Tech Campus in Nijmegen. The campus has 10,000m² of state-of-the-art research infrastructure and accommodation on offer, for entrepreneurs and researchers in the Life Sciences, Health and High-Tech sectors. Novio Tech Campus holds iLAB status (InnovationLab).

Where innovations work!

Sharing knowledge in order to grow. That is the underlying philosophy of the Novio Tech Campus. The campus has sophisticated laboratories (ML 1, 2, 3), flexlabs, cleanrooms, an equipment pool, the NXP test laboratory and high quality operating supplies. It also has offices and meeting rooms with all the necessary support and services, plus a modern 'meet & greet' room for network meetings and events. From the Novio Tech Campus, entrepreneurs have access to expertise, infrastructure, facilities and (inter)national company networks and research institutes. With an incentive arrangement, SMB Life Sciences offer starters and young companies an integrated set of facilities and support for entrepreneurship.

For more information please visit: www.noviotechcampus.com