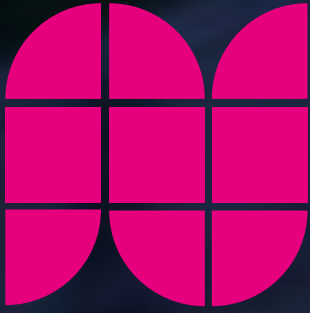


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# Pulse. Magazine

#3 - 2024

## Unexpected intersections in Health & High Tech

### **EXPAT STORIES**

*Khaoula Mahzouli about  
living and working abroad*

### **CHIP INTEGRATION**

*The story of Mark Luke Farrugia  
and CITC*

### **11 STARTUPS**

*A selection of changemakers  
in Health & High Tech*

# INNOVATE

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Nacht van de Ruimte



INNOVATE Experience



The most innovative student of the Netherlands

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  - If you like to get inspired by fresh ideas
- If you want to meet innovators and changemakers

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## COLOPHON



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### Production

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## PREFACE

# Pulse. Magazine

## #3: Embracing diversity

**Finding my first job through a magazine is something I still vividly remember. Whilst casually flipping through the pages, an article about Noviotech Campus caught my eye. I didn't think too much about it then, but that one moment led to an encounter which launched my career.**

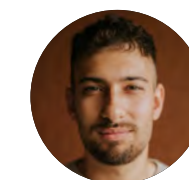
This magazine is dedicated to the impact of unexpected encounters. It's about Rob Nelissen, who feels that it's easier to collaborate in a region where people accidentally meet each other, creating personal bonds of trust and loyalty. About Khaoula Mahzouli, whose journey led from Morocco all the way to the Netherlands, and what it's like to meet new people in a country that is completely unfamiliar to you. And it's about Lisanne and Auke, who participated in the 'Innovatiefste Student van Nederland'; they won and joined a trip to Silicon Valley – 'a life-changing experience', according to Auke.

This is not to say that we should solely rely on chance meetings. But it might be helpful to embrace the fact that some things can be controlled or created on purpose, whereas other events, and the ways in which they occur, remain a mystery.

What can happen when you're able to combine different strengths, talents and personalities on your team and make it work, is what Marc Klein Wolt and Saskia Eijkelhof share with us. Yvette Akkermans and Hilmer Thijs shine their light on embracing the future and the role of diversity in doing so, with regard to The Vibe of the Future Festival.

I hope this edition of Pulse.Magazine serves as a catalyst for new ideas, surprising collaborations and perhaps even serendipitous and life-changing encounters. But, as Matthias Salewski says: above all, it should be fun.

Enjoy,



– Joey van Baarsel,  
Editor In Chief

## INSPIRATION

# Explore, Connect and Innovate: Hilmer and Yvette about The Vibe of the Future Festival

**During The Vibe of the Future Festival Nijmegen is transformed into a hotbed for innovation and inspiration. Hilmer, one of the driving forces behind the festival, and Yvette, community manager and co-organiser, share their vision, planning and ambitions for this remarkable event.**

“Nijmegen has long been a breeding ground for innovation, with ground-breaking innovations developed that have a global impact. This is exemplified in Nijmegen’s leading positions in Health, High Tech, and their crossovers”, says Hilmer.

With The Vibe of the Future Festival they created a platform for an entire spectrum of innovation beyond these focus areas, allowing visitors of all ages and educational backgrounds to personally experience the future. In a seven day programme, with innovation, creativity and collaboration at the forefront, Nijmegen is introduced to the future.

Structured like a mosaic, in the festival’s programme different components, colours and genres come together during a vibrant week full of events, organised by various partners. The format is comparable to events like Dutch Design Week and Amsterdam Dance Event. “The idea is to stimulate cross-pollination between different sectors and disciplines, which is vital to taking the next steps in innovation”, says Yvette.

### Driving forces

Since 2014, Hilmer Thijs (38) has been deeply involved in INNOVATE, an organisation that focuses on celebrating,

promoting and inspiring innovators in the region of Nijmegen and Arnhem. INNOVATE is known for events like De Nacht van de Ruimte (The Night of Space) and De Innovatiefste Student van Nederland (The Most Innovative Student of the Netherlands). Now they are also the main organiser of The Vibe of the Future Festival 2024. After three years as a creative director, Hilmer has now been general director of INNOVATE for two years.

### What does innovation mean to you?

*Hilmer:* “INNOVATE energises me. It is always wonderful to see people dedicating themselves to the creation of a better world. Whether big or small, all innovations work towards progress.”

Since February 2022, Yvette Akkermans (51) has been the community manager at Noviotech Campus, working hard to make The Vibe of the Future Festival visible.

### What motivated you to initiate The Vibe of The Future Festival?

*Yvette:* “In this festival, many gems from the region are being showcased. That is fantastic! It’s important for me to keep innovating and work towards a better society. Innovation goes beyond making life easier: it’s about progression for both people and nature.”



### What exactly does The Vibe of the Future stand for?

*Hilmer:* "We looked for a name that not only emphasises innovation but also conveys the energy and character of the future. In The Vibe of the Future we have exactly that: a vibe, an invisible energy that connects us and gives a glimpse of what the world of tomorrow might look like."



**"Whether big or small, all innovations work towards progress."**

– Hilmer Thijs

According to Hilmer and Yvette, innovation is not just about technology; it is also about community thinking. *Yvette:* "This is something you feel and share with others. That's what we wanted to highlight in this name."

### What's in it for the visitors?

*Hilmer:* "The Vibe of the Future Festival forms a unique opportunity to catch a glimpse of the future and meet interesting people who work on innovative projects every day. The festival not only lets you discover new things, but also expand your network and form collaborations."

*Yvette:* "The festival works with many companies and players in the innovation sector. Companies on the Noviotech Campus like NXP, or knowledge institutes like Radboud University, Radboudumc, HAN University of Applied Sciences, and ROC Nijmegen are also involved with inventions and practical applications."

### A colourful programme

#### What does the programme look like?

*Yvette:* "One of the major events of the festival is a Technology Day, organised for young people by VNO-NCW at the Technovium location of ROC Nijmegen. Whether you want to conduct experiments, create something or just play with technology – it's all there. The Technology Day receives support from the government, including the municipality of Nijmegen."

### Are there any business-oriented events for startups and entrepreneurs?

*Yvette:* "Demo Day, organised by Mercator Launch, is where startups, scaleups and innovators from Nijmegen showcase their innovations. Students can attend the HERO Entrepreneurs evening event, where they can meet their various entrepreneurial heroes. Are you aiming to expand your network, be inspired and learn where Nijmegen's innovation ecosystem is heading the coming years, then visit the INNOVATE Meetup at Noviotech Campus."

*Hilmer:* "That's not all: film enthusiasts can attend a special film screening by InScience at LUX Nijmegen, with three films shown about the 'Future of Health'. Afterwards InScience gives you the opportunity to ask questions."



**"Innovation is about progression for both people and nature."**

– Yvette Akkermans

*Yvette:* "The programme is highly diverse and tailored to different audiences. Whether you're a student, an entrepreneur or an enthusiast, the festival truly has something to offer for everyone."

### The future of the festival

#### What are the ambitions of The Vibe of The Future Festival?

*Yvette:* "If successful, we want to continue The Vibe of the Future Festival and expand it to an event spanning two weeks and two cities."

*Hilmer:* "We're considering a festival that connects Nijmegen and Arnhem, with Nijmegen focusing on Health & High Tech and Arnhem on Energy & Creativity."

*Yvette:* "Working together in this way, we believe we can further consolidate the strengths of this region."

More about the event: [vibeofthefuture.com](http://vibeofthefuture.com).



# A sustainable chip industry with CITC's revolutionary technology

Since March 2023, Mark Luke Farrugia has been the General Manager of Nijmegen's Chip Integration Technology Center (CITC). He has a clear mission; to make the chip industry more sustainable and to bring it to Europe and to Nijmegen in particular. "When I joined CITC two years ago, I saw that something was needed, a change, a new direction and a revolutionary product."

For many people, the Covid pandemic was a wake-up call about the world's dependence on chips. "Everyone realised that chips are in everything and that if there is a crisis anywhere in the world, it affects everyone." This has led to political initiatives to strengthen the chip industry in Europe. One example is the European Chips Act. The aim is to increase European production capacity and boost investment in technology and infrastructure, thereby reducing dependence on Asian markets.

## **New packaging: sustainable and efficient**

CITC specialises in chip packaging. "This goes beyond simply putting a chip in a box; it is encapsulating the chip in a material that protects it from physical damage and environmental influences, while also providing the necessary electrical connections. This packaging is essential for the performance and reliability of the chip and is an important step in the production of advanced technologies", Farrugia explains.

At CITC, he and his team started developing a new technology that is both environmentally friendly and cost-effective. "We want to put Nijmegen on the map as a centre for sustainable chip production", he adds. CITC's innovative approach, which uses 'additive manufacturing', replaces traditional, polluting processes with a method that uses only the necessary materials. It minimises waste, drastically reducing both environmental impact and costs. Instead of traditional techniques, that etch away excess material and create waste, additive manufacturing technology builds the required layers directly. This ensures a much cleaner production process and makes it possible to produce the chip packaging here in Europe, rather than relying on cheaper but more polluting methods in Asia.

"The aim is not only to make environmentally friendly products, but also to keep them economically attractive", says Farrugia. "We want to reduce costs by up to 70%, which will make it attractive to produce these technologies in Europe. This could transform Nijmegen into a global centre for sustainable chip production, while making a significant contribution to the European chip industry."

## **Sustainable chip production in Europe**

Farrugia, who is of Canadian-Maltese descent, began his career in the semiconductor industry straight out of college, gaining experience with major European players such as STMicroelectro-

tics and NXP. After his time in the industry, working with established research institutes and universities where he noticed that established players often stick to the confines of their established competencies, he decided to join CITC in March 2023. "After years of working with established institutes, I realised that if I really wanted to revolutionise sustainability and economic viability in Europe, I needed to be somewhere else", he explains.

Farrugia was won over by the potential he saw at CITC during a brainstorming session with experts from several Dutch institutions, including TNO and Holst Centre. "The idea of sustainable and economically viable chip production in Europe came from combining expertise from different fields", he says. "I realised that the establishment might not be willing to take the risks necessary for innovation. But newcomers like CITC are. They are determined to find their place in the industry and are willing to break new ground."

## **The 'iPhone idea'**

Farrugia is a firm believer in bringing together expertise from different fields to generate revolutionary ideas. "The beauty of innovation lies in bringing together people with various skills", he says. "That's where the great ideas come from."

CITC works closely with partners such as TNO, TU Delft, Holst Centre and various industrial players such as NXP and Nexperia. These collaborations are crucial for turning innovative ideas into market-ready products. "Everything you do in a research institute like ours has to come to market eventually," Farrugia explains. "That's why we work with industrial partners from the very beginning."

Farrugia compares his approach to that of Nokia and Apple. "In my day, Nokia was the undisputed market leader. When Apple came along with its button-less phone, Nokia thought the new technology would not take off. And look where Apple is today. Incumbents often underestimate the impact of disruptive innovation," he explains. "This also applies to CITC's technology, which offers an alternative to established methods."



Mark Luke Farrugia  
General Manager Chip  
Integration Technology Center

# How AI enables a more humane healthcare system

Nijmegen tops the international rankings of cities using artificial intelligence to fight breast cancer and other diseases, alongside universities such as Harvard and Stanford. “Research, business, and government come together here in a unique way”, says Jaap Kroes, AI team leader at Screenpoint Medical. The Nijmegen-based medtech company specialises in developing technology that allows breast cancer scans to be analysed faster and more efficiently. “The number of mistakes by AI is decreasing. With proper research and the right regulation, we can work on technology that allows us to find breast cancer faster and more often, and hopefully in the future doctors will have the time and space they need for their patients again.”

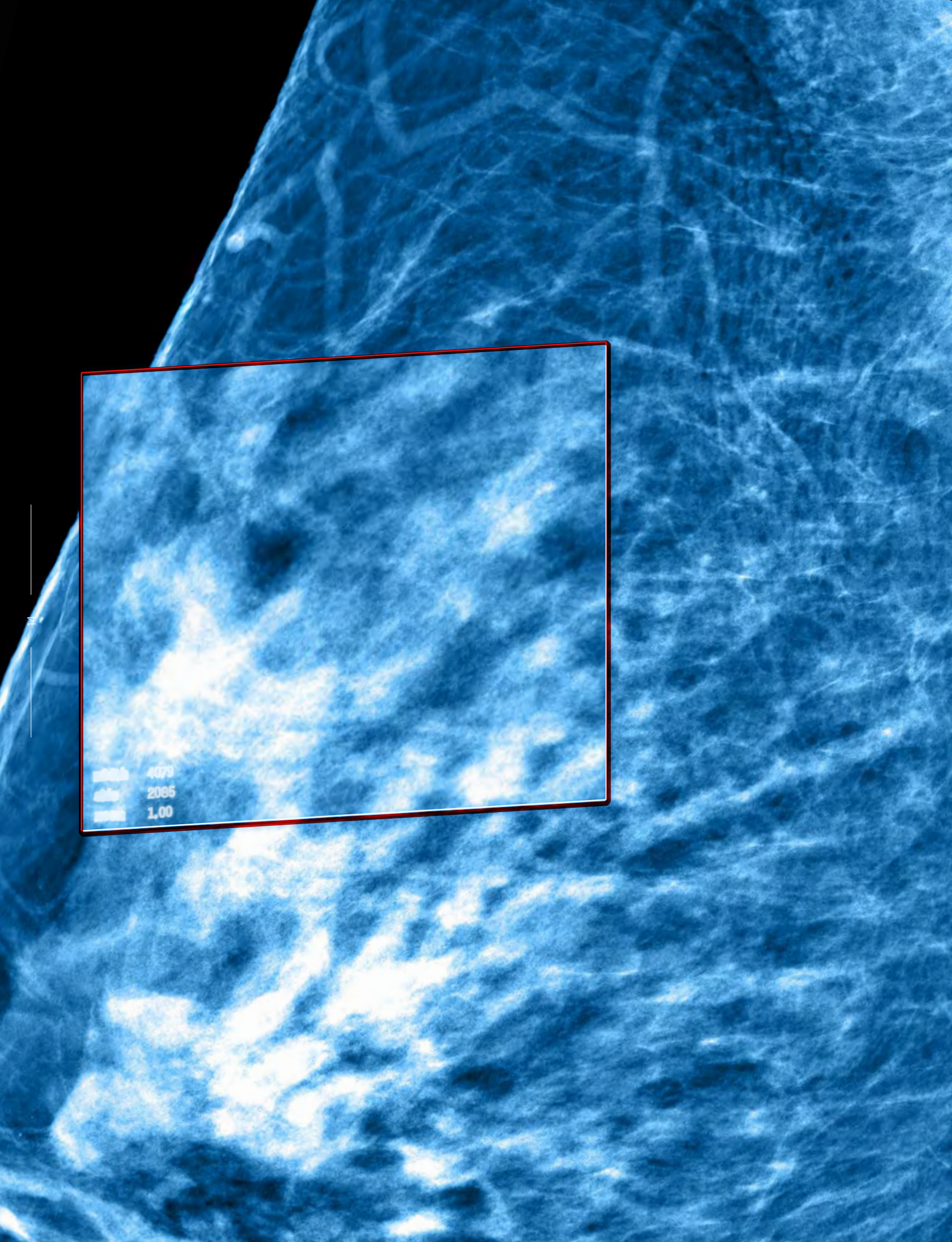
“One of the first real applications of AI in the medical world is in mammograms, the scans we use to detect breast cancer”, Kroes says. “That’s because there have been all kinds of population studies all over the world for thirty years, so the data has been collected very consistently. In addition, the question with breast cancer is very clear; ‘is it breast cancer, yes or no?’ With lung cancer, for example, it is more complicated. A lung is closer to all sorts of organs and because of that, there is a higher chance of ‘by-catch’. All kinds of things happen in a breast, too, but because there aren’t as many diseases that show up there, a tumour is relatively easier to find there.”

## Needle in a haystack

“Out of the thousands of women who are screened and have a mammogram, fortunately only 3 or 4 actually have breast cancer. But radiologists

have to examine them all equally carefully, and it’s not easy to spot a tumour on a scan.” Finding breast cancer is like looking for a needle in a haystack. Doctors used to do this by sight, but with technology from Screenpoint Medical, they can now have the scans analysed by an AI system. “Our system has already analysed millions of scans, from women of different countries and with different backgrounds. Based on this data, it draws up an opinion or conclusion about the submitted scan. It’s up to the physician how to move forward with this output.”

Kroes leads Screenpoint Medical’s AI team. “I’m looking with the team to improve current products, but we are also exploring interesting directions outside radiology, for example. We recently completed the MARBLE project, where we developed software to compare women’s



## “What if you could save someone’s life using AI?”

current mammograms with their mammograms from previous scans. A change between the two scans may indicate something is going on. Together with the Radboud University and the Radboudumc, and with the support of EFRO, we have expanded our technology, which will allow us to provide even better support in the future.”

### FDA-cleared

According to Kroes, Nijmegen is a world leader in the application of AI technology, particularly in healthcare. “The Netherlands is highly advanced in the field of breast cancer research and treatment. We were one of the first countries to establish a nationwide breast cancer screening program in the 1990s. Nijmegen is home to the Radboudumc and the national expertise centre for breast cancer research (LRCB). So you have companies, research, the clinical side - as well as the connection with the population. That’s really unique.”

Screenpoint Medical is not the only company in Nijmegen working with AI on the early cancer detection. “The floor above us houses Thirona, who specialise in AI technology for lung and eye cancer scans. Together with them, we are one of the few in the Netherlands with FDA approval in this field. This means that we can also introduce our technology in the US. It is really special to find two companies with this certification here in the same building on the Heyendaal campus.”

### Are we being too strict with AI?

It sometimes seems as though humans are allowed to make one mistake after another, but what about AI? “Twenty years ago, AI was still a funny little thing you would come across once at a trade show somewhere. 5 years ago, it was booming, everyone wanted something to do with it. Now, we are in a phase where it is seen more and more as an application, really as a product. I think this is a positive development, but we still have to remain cautious. If the trust is misplaced or gets out of hand, then there is a greater risk of mistakes. You can see this in ChatGPT, for example, where people copy and paste text without checking it.”

Nevertheless, AI generally makes fewer mistakes than humans. “People, including doctors, get distracted, tired, or have things on their minds. As a patient, you can suffer from that. AI is controllable and measurable and it is not guided by prejudice or discrimination - with humans, we are not always sure. Still, we are stricter with AI than we are with humans. Just look at the ‘benefits affair’ or self-driving cars: when things go wrong, all confidence is lost. Understandably so, because when things go wrong, the consequences are huge. It may not sound very exciting, but that is precisely why good regulation and legislation at this stage are so important.”

### Staying alert in the AI revolution

“In other countries, the adoption of AI in population research is moving faster than in the Netherlands”, notes Kroes. “For example, our products are already being used in Sweden, Denmark, and Spain. One reason for this is that everything is locally or regionally organised. After a successful pilot in the Copenhagen region, we were able to move on to the next region in Denmark. In the Netherlands, the introduction of this type of technology is organised nationally, so it sometimes takes longer, but nevertheless, our country is still playing a leading role in the field.”

With the right laws and regulations, Kroes thinks AI can actually help make healthcare more humane. “We should not use everything unchecked, but we should dare to apply of what we know works. From that you can make better decisions and have more personalised healthcare. If we apply AI intelligently, it also creates more space again for interpersonal contact between doctor and patient and more tailored care. And if you can use AI for a second opinion, and possibly save someone’s life, wouldn’t it almost be unethical not to do so?”

## “We are one of the few in the Netherlands with FDA approval in this field.”



# Pitches, meetings and fun in the Champions League of innovation

**“We hope to bring some of the American mindset to our work and lives in the Netherlands.” Lisanne Peters and Auke Bleij won the ‘Innovatiefste Student van Nederland’ (in English: The most innovative student of the Netherlands) competition in 2023 and 2022 respectively. The grand prize: a trip through Silicon Valley. We spoke to them about their experiences in San Francisco, where they spent seven days in the American capital of tech, entrepreneurship and innovation. We look back with them on their trip and talk to them about their participation in the ‘Innovatiefste Student van Nederland.’**

Lisanne and Auke have just returned, still impressed by the trip. “We look back on an inspiring and, at the same time, intense experience. We experienced and learned a lot – from each other and the other entrepreneurs we met there.

And we made a lot of new connections, during this trip and with the whole experience surrounding the ‘Innovatiefste Student van Nederland’. These new connections had the biggest impact on us.”

## The ‘Pay It Forward’ mentality

*What impressed you the most?*

**Lisanne:** “The meetings with other founders in America. We joined ‘Ask-me-anything’ sessions with entrepreneurs who are already CEOs of companies in Silicon Valley. This also gives you an idea of what’s ahead of us and what our future might look like. They shared so much knowledge and wisdom about where you want to be someday, they advised about the stage we’re already in as a start-up and for my role as CEO and entrepreneur. That’s super valuable.”



“It gives you an idea of what’s ahead of us and what our future might look like.”

**More about Lisanne’s startup via [www.symbiomatter.com](http://www.symbiomatter.com) or visit [www.goespyre.com](http://www.goespyre.com) if you want to learn more about Respyre.**

**Auke:** “I totally agree with that. I would even go as far as to say that this experience was life-changing. That may sound a bit ‘American’ to us, and maybe it is, but that’s how I experienced it. I went in with fairly low expectations, but the whole experience blew me away. From the first moment in San Francisco, you feel like you are in the Champions League of entrepreneurship.”

*What is the biggest difference between the US and Europe?*

**Lisanne:** “I’d say it’s the ‘Pay It Forward’ mentality. Entrepreneurs in the US are very open and willing to share knowledge, information and advice without expecting anything in return. In Europe, companies and people appear to be more closed – or end up in a negotiation more quickly. I learned in the US that the more you share, the greater your chances of success. In the Netherlands, I also have mentors and other entrepreneurs around me, who also share this mindset, but it is scarcer here than in the US. Having a mentor who can guide you through the business world is very important – that’s the best accelerator you can have.”

## Pitching and eating

*What did your meetings with other founders look like?*

**Auke:** “Mostly, if we had dinner with the other founders, investors would also be invited, so then you know that you’re going to have to pitch that evening. This created a certain tension in the group throughout the day – you see people working on their pitch all the time. Once we got to the restaurant, everyone did their pitch. And then it’s: take a seat and have fun. So, suddenly you’re sitting next to all these serial entrepreneurs, talking about their lessons and experiences. That gave a really nice dynamic of keeping the excitement in with the pitches, and at the same time, it’s a candy store of inspiring conversations and encounters with other entrepreneurs.”

*What did you learn from other founders?*

**Lisanne:** “Being a CEO can be quite a lonely profession. You are very conscious of what you share and what

you don’t. On this journey, we were not in competition with each other, but rather formed a cohort with the other entrepreneurs and wanted to boost our companies. I recognised myself in the stories of others, which created a togetherness that made me realise that I’m not alone.”

**Auke:** “There is no playbook for starting and running a business. Of course there are tips and tricks, but you also run into your own limitations, and you will have to overcome them to become a good entrepreneur. Everything is new and that is why entrepreneurship can also be quite confronting.”

## Champions don’t ask for permission

*How did this trip help you deal with that?*

**Auke:** “When looking at others, it always seems like everything is going well for them, like it comes naturally. But through our meetings with other entrepreneurs in Silicon Valley, I realised it’s not always true and that it’s often a sugar-coated version of reality.”



“This experience was life-changing for me.”

# Shorter ventilation in ICU thanks to electrical stimulation?

## FITNESS FOR THE RESPIRATORY MUSCLES

ICU patients on mechanical ventilation do not use their respiratory muscles, which weakens them. As a result, patients may be on life support for longer and some may need to be resuscitated after being taken off the ventilator. In an international context, Radboudumc and other centres are investigating whether electrical stimulation of the respiratory muscles can help patients to be resuscitated less often and for shorter periods of time.

Muscles shrink when they are not used. This applies to arm and leg muscles, as well as the respiratory muscles. A patient who has been on a ventilator for a while in the intensive care unit (ICU), will eventually start breathing on their own again. "We then remove the tube from the patient's throat", says Professor Leo Heunks, head of the ICU department. "But if they don't start breathing on their own, which happens to 1 in 5 patients, we put them back to sleep and reinsert a breathing tube. Of course, we want to know why these patients fail to breathe on their own. Research shows us that this is mainly because they cannot breathe out and



The device

cough hard enough. In these cases, the lungs slowly fill up with mucus and sputum and the patient has to go back on the ventilator. So, weakened respiratory muscles seem to be the problem."

### Respiratory muscle fitness

When we breathe in, we use the muscles of the diaphragm and when we breathe out, we use the abdominal wall muscles. The question is how to counteract the weakening of the abdominal wall muscles. A US device has given a new perspective. Heunks: "In theory, it is easy to electrically stimulate the respiratory muscles of patients on mechanic ventilation in intensive care. For example, you can have patients do breathing exercises twice a day for half an hour with stickers on their abdomen that are perfectly attuned to everyone's personal breathing rhythm. This is a way of keeping the respiratory muscles fit, and hopefully preserving muscle mass and strength remain as much as possible."

### Shorter ventilation

At an earlier stage, Heunks tested the stimulator on twenty intensive care patients from various hospitals in the Netherlands. The device was indeed found to stimulate the muscles, and there was little or no loss of muscle mass. "Hopeful results," says Heunks, "but what you really want to know is whether ICU patients can be taken off life support sooner as a result. And whether this respiratory fitness makes them less likely to need a breathing tube for a second time."

### Lower cost

The procedure is relatively simple and low-risk. Heunks: "If our research shows that the procedure actually works, that is first and foremost wonderful news for the patient. The sooner someone can get out of ICU, the better. And it's also better for someone if we have to resuscitate them less often." It is also economically advantageous because a stay in a Dutch ICU easily costs around 3,000 euros per patient per day. If you can shorten the length of stay of a large group of patients by one day, then you are talking about huge cost savings.

### Scientific prove

The device has a CE mark, which allows it to be used in European hospitals. "We are already using it regularly in our ICU," says Heunks, "because it is so obvious that it can work. But that is also a big pitfall. Medical treatments must be based on sound and systematic research. We have to prove scientifically that it works. That is why our current research is essential."



**Leo Heunks**  
ICU Head of Department,  
Radboudumc



that this solution works, we can go big and scale up with Respyre. That means we can become more professional, and also scale up in the literal sense: hardware investments in machines, packaging and materials. And we also want to start expanding our team. All in all: we're starting to really become a company."

*What would you like to share with the future candidates for the 'Innovatiefste Student van Nederland'?*

**Auke:** "That this is really a prize worth fighting for. It's one of the top competitions in the Netherlands, similar to a Philips Innovation Award, and this is by far the most valuable prize I have ever had the pleasure of receiving. This award brings you, as they would say in the US, 'stuff that money can't buy'. The experiences, the connections and the introductions to other innovators and entrepreneurs – that's priceless."

### "This journey is a prize worth fighting for."

**Lisanne:** "When I applied for this competition, my company wasn't even registered with the Chamber of Commerce yet. So I was thrown into the deep end, and I was impressed by the competition. But participating, and of course winning, did a lot for my company. I suddenly got media attention, developed business skills and was also able to increase my sales because of the interest in my product. I actually had no idea there was a prize when I entered the competition, but this event – and this trip in particular – offers a unique opportunity to meet so many other entrepreneurs and learn from each other."

*What's their opinion about Europe in Silicon Valley?*

**Lisanne:** "Europe still has a huge position when it comes to innovation. We were able to talk to 'important' people there, and they all made time for us. Part of it had to do with us being Europeans. A lot of innovation and knowledge comes from Europe, and the development facilities are also often better in the EU than in the US. So that again puts into perspective where our strengths lie."

### "Europe still has a huge position when it comes to innovation."

### Back in NL

*What's your main takeaway from this trip?*

**Lisanne:** "Especially the perspective on entrepreneurship in the US. It's allowed to dream big, and you don't have to keep your head down. But also what I learned about pitching and communicating about my business helped me get my story much sharper here."

**Auke:** "I learned that I should be proud of my entrepreneurship. In the Netherlands, I tend to be the biggest critic of my company and my story. There I discovered that I can be proud of my actions and where I stand. Entrepreneurship is cool there, you have something to say, and you feel like you're part of something."

*And now, what are the next steps Symbiomatter and Respyre?*

**Lisanne:** "Symbiomatter is in the process of validating the product itself. The material that I invented at the time has to become a product, so for that we are now setting everything up and looking at how we can do this on a larger scale, for example with a factory. And, like most startups, we are raising additional funding, and want to start expanding our team soon."

**Auke:** "We are now in the final large-scale validation battle. If we can show

So this brings you back to reality. Without that mirror, you can wander around for quite a long time thinking that you are the 'alien'; that maybe you should just stop being an entrepreneur and do something else."

*What has this meant for your doubts and insecurities as entrepreneurs?*

**Auke:** "On the one hand, it took away some of my doubts. I am more confident about who I am and myself as an entrepreneur. But it has also broadened my perspective and showed me that I still have a shitload to learn. You meet people who have already achieved great things at a certain level, which also makes you think about your own ambitions and the long road ahead."

### "I still have a shitload to learn."

**Lisanne:** "But it's also unfair to compare yourself to others, especially if they've been at it for a couple of decades. It helped me to see how they dealt with certain practical issues. One of the founders gave me the quote, 'Champions don't ask for permission.' So now whenever I hesitate, I try to remind myself of this."

### EU vs US

*Are there any drawbacks to the "American way" of doing business?*

**Auke:** "I was shocked by the work-life balance there. Some of the founders we met there worked over sixteen hours a day, seven days a week. I don't have that ambition and I doubt whether I could keep up with this. I find that entrepreneurship brings a lot of stress, and I want to deal with that in a healthy way."





COLUMN

# Impactful encounters

Saskia Eijkelhof & Marc Klein Wolt

**Connections are vital to transformation, change and personal growth – especially in the realms of innovative startups and science. In this column, Saskia Eijkelhof (EnginX) and Marc Klein Wolt share their experiences of crossing paths and the ways in which it impacted their careers and personal lives.**



**“I want to be able to do the job I love and be a mom to my daughter.”**

Saskia Eijkelhof, CEO EnginX

For almost ten years, one of the co-founders of EnginX worked at Radboud University with Marc Klein Wolt, my co-host for this column. At the time, EnginX needed someone who could connect things, drive the business forward and translate the technical information into a comprehensible story. Marc put him in touch with Mercator Launch, where I was working at the time. With my marketing and business background, it sounded like an awesome opportunity. After an initial commercial role, I got to take over as CEO. I said yes, and in no time, we had two pilot customers, funding, and a lot of interest: I decided to jump in.

**Unique software**

EnginX is the first company to develop this type of software. Currently, the engineering process consists of a variety of tasks, such as drawing, calculating, and simulating – and for each task, there’s a different software program. In addition, many things are still done manually, such as the subsequent process of simulating in 2D and 3D, finding the components and parts and sending them to the purchasing department. EnginX brings it all together: in our tool engineers can do everything at once, largely automated with AI, making the engineering process faster, smarter, and easier to transfer knowledge.

**Green energy**

In the future, I hope that EnginX will become the new standard for engineering that contributes to the energy transition. Everything needs to be more sustainable and more energy efficient. That’s where our software can play a crucial role, and it’s already doing so in the maritime industry. Soon, the first ship that is designed and built using the EnginX software will set sail. The engineers of this so-called ‘hydrogen ship’ have used EnginX to design and build a new fuel system that will allow it to sail on green alternatives instead of fossil fuels.

*“Soon, the first ship that is designed and built using the EnginX software will set sail.”*

**Amber**

The role of CEO suits me very well. Working for a start-up is fun and intense, and you have to keep both feet firmly on the ground. I enjoy the freedom to set my own agenda; the traditional nine-to-five mindset doesn’t work for me. Also, because, next to my work, I am a mother to my two-year-old daughter, Amber. Being a CEO and being a mother are vastly different things, but I combine them in a healthy way where possible. I’ve learned that the most important thing is to prioritise; I want Amber to see that I’m doing what I love, and at the same time I can be there for her as a mum.



**“EnginX could play a major role in Engineering 2.0.”**

Marc Klein Wolt, Director Radboud Radio Lab, Radboud University

The Radboud Radio Lab employs people from many different backgrounds. Our colleagues have a wide range of interests and education, and I had a student who fit the bill. He wanted to see if he could do something in business and put his theories into practice. That’s how EnginX was born.

**Space for talent**

I like to help people grow. It gives me a lot of personal pleasure and I think it is also one of our roles as a university. This is how EnginX came into being: I saw a student with a huge gift, but who at the time needed to find out more about himself and his abilities. By giving him some space, we were able

to contribute to this success story. And in addition to personal growth, it also allows us as a university to valorise technological innovations. It makes me proud to see where this has already led for EnginX.

**Success commercially**

Saskia has driven the growth of EnginX’s business. Her commercial talents are a great complement to the technical skills and knowledge among staff, students, and scholars. This is also one of the success factors of EnginX: they allow everyone to nurture their unique and individual strengths. Everyone does what they’re good at. By combining this variation of skills, both business and technical, EnginX has found its niche market: they have identified a need, created a solution, and found a launching customer.

*“Saskia has driven the growth of EnginX’s business.”*

**Engineering 2.0**

My vision is for EnginX to continue to grow in the aerospace industry. Their technology could perfectly be used to build rocket engines and satellites. But the space world is very conservative and requires a serious track record if you want to set a new standard. That’s what EnginX is doing right now: building a track record. People need to see and experience EnginX’s solution to design, calculate and evaluate objects in virtual reality – resulting in huge savings in cost and time. This is where EnginX can play a role in Engineering 2.0.

# At the cross section of Art & Technology – with NXP and ArtEZ

**Students from ArtEZ – University of Arts – presented their work during a pop-up exhibition at the Papierfabriek in Nijmegen. Around 150 visitors attended the event to see how a new generation of students, inspired by radar technology, had created a unique series of artworks.**



## Ever heard of Crashing Signals?

Artists: Robin Opheij

“During our visit to NXP, we had an explanation of NXP’s radar technology. Radar is used in a car to map the vehicle’s surroundings, so that the car can warn the driver or even make an emergency stop. All these safety features made me think about the frequency of car accidents, which made me aware that I actually had no idea.

To visualise this frequency, I built a device that reacts immediately to accidents in the Netherlands. I wanted to literally show people how often an accident happens by linking data from the Dutch emergency number to a device that hits a car door every time there is an accident somewhere in the Netherlands.”



## Under the radar - Undercover, radar and invisibility in clothing and textile

Artist: Mare de Boer

“I’ve researched several aspects of radar technology that are seen as weaknesses. I was inspired by stealth- and undercover techniques, and I studied ways to ‘cheat’ a radar system. Stealth aircrafts and camouflaged vehicles have been designed to avoid detection by a radar system. The surface structure of these objects interferes with the radar frequency, making it impossible for it to reflect back to its source, creating the illusion of an ‘empty area’.

I experimented with modern clothing and textiles, to demonstrate this concept in a playful and understandable way. I wondered whether it would be possible to make yourself completely invisible.”

## RADAR

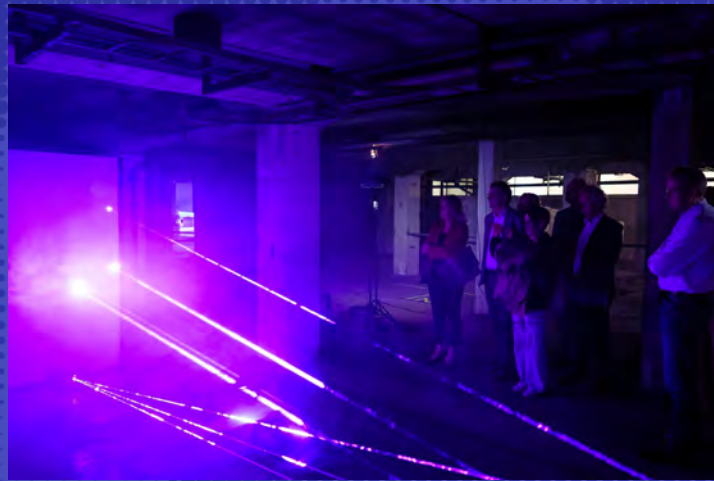


### The 'Tjilp' - Researching relationships between radar and birds

Artist: Niels Graber

"I studied radar frequencies in general. My research was aimed at the way radar signals are maintained uniquely to prevent them from interfering with each other, a technique often used to have a safe and successful communication between radar modules in modern cars. Although the frequencies for radar in cars are mostly on the same wavelength, the initial signal for the main wave, also known as the 'tjilp', diverges. The 'tjilp' changes the regular wave pattern, making it more variable and easier to identify when multiple radar systems are in the area.

I also discovered research regarding radar and birds. Radar systems have 'accidentally' found that flocks of birds fly at night, instead of during the day, as was long believed. My poetic installation explores the interference of real bird sounds with radar sounds."



### Mimicking radar signals

Artist: Isaak van den Aker

"I wanted to create something which would fit the large industrial space of the Papierfabriek. This led me to experiment with a laser, as I wanted to capture the information it carried in some sort of material. I figured that one way to do this would be through phosphorescence, which is also used as a material for 'glow in the dark' applications. Inspired by cars, I also decided to use metal. So, in my work, you'll see two metal objects 'talking' to each other, as they are reflecting an echo of their surroundings back to each other."



### Radar Vision - Perceive your surroundings via radar technology

Artist: Niels Pauls

"I was intrigued by the idea of what it would be like to perceive the world through radar vision, hence the title of the work. Radar technology is powerful, yet invisible – which inspired me to do this project: the hidden data revealed by the reflection of radio waves. I explored how to extrapolate information using the Doppler effect and other techniques. I created two identical radar glasses with microwave radar modules that detect human presence and are mounted on the front of the glasses. On the inside of the visor is an LED strip that acts as a screen reflecting the sensory input of what the modules pick up from the waves."



### Radar to detect heartbeat and breath

Artist: Kaan Piskin

"When do you notice that you are being filmed? When someone asks you if it's OK to record for training purposes? When there's a sign that says so?"

My installation aims to collect biometric data without permission, to demonstrate the possibilities of wireless technologies available to the wider market."

# Khaoula Mahzouli



**In this series, expats talk about their lives in the Netherlands. How did they end up here? What is their everyday life like, and what do they think of the Netherlands and its culture? In this edition we share the story of Khaoula from Morocco...**

“I was born and raised in Morocco, where I studied Mechatronics engineering. For three years, I worked for the only semiconductor company in Morocco, and eventually felt that I had reached a stagnation point in my career, so I looked into working abroad.

**“I felt like I had reached a stagnation point in my career, so I looked into working abroad.”**

First, I ended up in France. I really enjoyed it, but it wasn't a complete match. In the summer of 2019, I visited the Netherlands for the first time and I really liked it. In terms of culture, what you see is what you get here. I'm the same way.

A year later, I saw an advertisement for a job at Nexperia in Nijmegen that seemed tailor-made for me. From the first interview, it was an instant match. So, in early 2021, I moved to Nijmegen. Even though this was during the Covid lockdown period, the relocation process with Nexperia was very smooth.

I love it here. The city's slogan says it best: Nijmegen is an old city with a young vibe. The buildings can tell stories from hundreds of years ago, but the people are young, fresh, and outgoing. I did not expect people to be this friendly and this open, so that was a positive surprise.

However, I think it's important to distinguish between friendliness and wanting to develop a friendship. In my culture, if you are friendly with someone, it's a sign that you are starting a friendship and you can build on that. But here, I've noticed that people can be very friendly with you, but it's kept at that level.

**“People here are more aware and understanding of personal lives.”**

The work culture is also quite different from Morocco or France. I wouldn't even say it's a difference in work-life balance but rather a difference in work-life integration. Balance means weighing one against the other. But here, I think it's more about integrating your work life into your personal life.

For example, in Nijmegen, if you have a dentist appointment, you can just go for it and work later. In Morocco, I had to ask for permission, but it was not always possible. I feel like people are more aware and understanding of personal life and encourage you to make it a priority.

**“I greatly value the peace of mind that comes with people being friendly.”**

Of course, there are some challenges. It's difficult to find a house, for example, and it is expensive, but at the same time, the quality of life and the peace of mind that comes with people being friendly is something I value greatly.”



Khaoula Mahzouli  
Front-end/Back-end  
interaction specialist  
at Nexperia

## MERCATOR LAUNCH

# A SELECTION OF 11 STARTUPS IN HEALTH & HIGH TECH

**Do you have an innovative venture in mind? Mercator Launch, Radboud University's incubator, is located on the Heyendaal Campus in Nijmegen. It offers a dynamic track for students, researchers and alumni who want to turn their ideas into successful startups. With a 2-3 years guidance track, each entrepreneur receives coaching, support and housing to build a business, solve problems and make the impact they want to achieve.**

**A selection of eleven promising startups in Health & High Tech, who are currently supported by Mercator Launch. Visit [mercatorlaunch.nl](http://mercatorlaunch.nl) if you want to find out more.**

### 1 Aerocount

A spin-off of Radboud University, Aerocount develops advanced sensors that measure air quality, with a focus on nitrogen dioxide (NO<sub>2</sub>). These sensors are designed to help municipalities monitor and improve air quality in urban areas. CEO Beate leads this innovative company.

### 2 Social Shuffle

A software to improve classroom dynamics and combat bullying is at the heart of Social Shuffle (formerly Chair Dance). Based on behavioural science research, this tool helps teachers optimise social interactions in the classroom. It already has 20,000 users in the Netherlands and Belgium, and plans to expand globally.

### 3 Bronscore

Bronscore specialises in the development of customised software solutions. Founded by a talented student, this company combines a wide range of technical skills with a creative approach to help companies achieve their goals.

### 4 Micro-cosmos

With an innovative sleep solution for healthcare, Micro-cosmos is setting a new standard. Alumni of the HAN and Radboud University have developed a sleep booth that reduces noise and other disturbances, allowing patients to sleep better. CEO Eef leads this promising company, which already has customers in healthcare and nursing homes nationwide.

### 5 EnginX

EnginX develops software that helps engineers work faster and with fewer errors. In industries such as aerospace, where different countries and manufacturers often use different codes and manuals, parts may not fit properly due to miscommunication. EnginX ensures that all systems fit together properly, preventing these problems.

### 6 PiCard Systems

With methods for storing data in future quantum computers, PiCard Systems, a Radboud University spin-off, is making great strides in the world of quantum technology. Led by entrepreneur Viktoria, PiCard recently received funding to further develop this revolutionary technology.

### 7 Spacecific

Spacecific, a spin-off of TU Eindhoven and the Radboud Radio Lab, is developing a technology that determines the position of rockets very accurately. Using advanced orbit values, Spacecific provides reliable research results that are essential for accurate space missions.

### 8 Synaptica

Determining the correct dosage of medication is the focus of Synaptica, a product of research at the Donders Institute. Using AI, this innovative tool helps physicians optimise treatments and improve patient outcomes.

### 9 Nifti

With a revolutionary mobility concept, Nifti is working on the future. Led by Professor Nigel Hussey and as an initiative of Radboud University, Nifti uses magnetic tracks in roads, allowing vehicles to move efficiently and sustainably. This innovative project has already been successfully tested with a scale model and will be presented at DemoDay.

### 10 Affix Labs

A biological spray that repels insects, who wouldn't want that? Affix Labs has come up with this innovative idea. When clothing is treated with this spray, it remains insect-free for a month. The product is already on the market in Finland and is currently awaiting approval in the Netherlands.

### 11 Peltchair

The Peltchair, developed by Studio Synergy and Lilian van Daal, is an innovative chair that generates energy when you sit on it. Using special elements that convert heat differences into electricity, this chair shows how design can contribute to a more sustainable future.



The Mercator Launch team



# “We collaborate with local initiatives to create a fun and healthy work environment.”

**We are invited to Nexperia’s headquarters in the impressive 52 Degrees building on the Noviotech Campus in Nijmegen. Jean-Pierre Kempeneers, Chief Corporate Affairs at Nexperia, welcomes us. With a broad smile, he proudly shows us the view from his office. “That is where I sleep three nights a week”, he says, pointing to the Sanadome Hotel, which can be seen in the distance.**

Jean-Pierre is an experienced former diplomat who has travelled all over the world, but his home remains in The Hague, where he lives with his family. Since February, he has been working for Nexperia, a company he hardly knew before. And Nijmegen was also a relatively unknown city to him. “I had only been to Nijmegen once, for the Seven Hills Run in 2013. I’m discovering this city that’s completely new to me, it’s really exciting.”

### **600 Nexperia chips in every car**

Nexperia produces chips that are essential to the functioning of all kinds of devices, from household products such as toasters and vacuum cleaners to cars. “There are about 600 Nexperia chips in every car produced”, explains Jean-Pierre. Chips are as important today as oil was in the past, and Nexperia plays a leading role. “I am enormously proud that we produce approx 1 out of 10 chips worldwide.”

At just a couple of cents per chip, these products are small but invaluable. Nexperia is the only European manufacturer of these particular chips, which is very important for the Dutch and European semiconductor industry. “It is important for Europe to remain independent during the current geopolitical challenges”, Jean-Pierre emphasises.

### **What’s next for Nexperia?**

According to Jean-Pierre, his management style is all about vision. “In 2030, we want Nexperia to have a ten billion-dollar revenue. We have to know how to get there and develop a strategy that involves a certain amount of transformation. Currently, the chip industry is in decline, so we have to cut costs. However, as soon as the industry recovers, we have to make sure to have sufficient talent on board. So, we have always to remain attuned to the situation in the world and within Nexperia.”



Jean-Pierre emphasises the importance of genuine commitment and good relationships. “I want Nexperia to be a good employer. That means taking people seriously at every stage of their career with us, from onboarding to exit interviews. We offer a sense of freedom and responsibility, and it’s important that everyone feels that their management is there for them. And working with us should also be fun, healthy, and engaging, which is why we just set up a sponsorship with NOC\*NSF and invest in collaborations with local initiatives and associations.”

### **Committed to the community**

An NEC scarf can be found in Jean-Pierre’s office, a sign of the recent cooperation between Nexperia and the Nijmegen soccer club. In fact, Nexperia recently became NEC’s main sponsor. “We want to show that we are committed to Nijmegen and the region and that we want to contribute to the community.”

Another recent sponsorship that Nexperia is proud of is that of the Paralympic House. Jean-Pierre also explains the importance of supporting these athletes: “Paralympic athletes often have a very impressive story to tell. Their strength and energy fit perfectly with our company’s values.”

### **The Netherlands: leading in tech**

Jean-Pierre is proud of the Netherlands’ position in the world. He and his team are dedicated to strengthening the position of Nexperia in the Netherlands and in Europe. “The Netherlands may be small, with only 18 million people, but we are the seventeenth-largest economy in the world and the second largest agricultural economy. We have a thriving semiconductor industry with companies such as ASML, NXP, and Nexperia, which are all related to Philips. That’s the envy of many countries in Europe.”

He also sees an important role for the Netherlands within Europe, particularly in trade policy. “When European countries work together, they can achieve much more internationally than when they act independently. Thanks to our strong economic position and influence, the Netherlands can play a key role. It is impressive that a small country like ours can produce such great companies and is highly regarded worldwide. Even countries like China recognise this: they have great respect for our technological achievements and economic strength.”

**“NEXPERIA PRODUCES 1 OUT OF 10 CHIPS WORLDWIDE.”**

# WHO IS THE MOST INNOVATIVE STUDENT OF THE NETHERLANDS?

Innovation festival INNOVATE and science magazine Quest present the 8 finalists of the 'Innovatiefste Student van Nederland 2024'. The winner will join a growth trip through Silicon Valley.

**Arnhem, Netherlands – Many students are already taking the first steps to make a positive impact on the world during or immediately after their studies. For the fourth year in a row, all students in the Netherlands were invited to enter the 'Innovatiefste Student van Nederland' (in English: The most innovative student of the Netherlands) competition. This annual challenge aims to stimulate young talent and turn innovative ideas into reality. Unique to this challenge are the spectacular prizes: a week-long boot camp for all finalists and, for the winner an all-expenses-paid growth trip through Silicon Valley, made possible by the Ministry of Economic Affairs and Climate and the Ministry of Foreign Affairs.**

**Out of many entries from all over the Netherlands, a panel of experts selected eight students, based on creativity and innovation (in no particular order).**

#### Silicon Valley trip

Read more about last year's winner's trip to Silicon Valley on page 16.

#### Find out more

Read more about *De Innovatiefste Student van Nederland* and other activities of INNOVATE at [www.innovate.community](http://www.innovate.community).



#### PAVA

**Femke Delissen & Tom de Leeuw, VU Amsterdam**

PAVA uses WiFi sensors as a monitoring system in elderly care. They use them to remotely measure movement and provide real-time health insights without storing privacy-sensitive data.



#### AlphaPace

**Kas Hogeboom, TU Delft**

AlphaPace provides a device to quickly and accurately determine the quality of breakthrough radioactive cancer drugs (radiopharmaceuticals). These drugs will replace chemotherapy and help millions of people.



#### SimplePark

**Lucas Castelein, Fontys**

SimplePark connects car park owners with drivers and integrates EV chargers, making more efficient use of infrastructure and energy networks.



#### Hippotainer

**Jort Maarseveen & Tijmen Blok, Wageningen University & Research**

The Hippotainer is a plug-and-play complete "vertical farm" in a shipping container. Suitable for sustainable and efficient production of fresh vegetables, regardless of location: from the middle of the city to the middle of the desert.



#### Pedal Towards Sustainability

**Bas Velings, Ilias Lamari & Maarten Putman, HAN University of Applied Sciences**

The "Pedal Towards Sustainability" project, in partnership with the Mother Earth Foundation, develops an optimised zero-waste cargo bike with an integrated push cart to help waste collectors and keep the streets of the Philippines clean.



#### FABBS

**Justin van den Hurk, TU Eindhoven**

Fast Active Balancing Battery System (FABBS) is a revolutionary battery management system that actively balances the energy in a battery pack, significantly increasing efficiency, capacity and lifespan. This system transforms energy storage systems in various markets worldwide.



#### IN-DUC

**Joep van Heesch, RSM Erasmus University**

IN-DUC is developing a technology where induction works on a DC power supply without an inverter, enabling clean and sustainable cooking in places where this is currently a major problem.

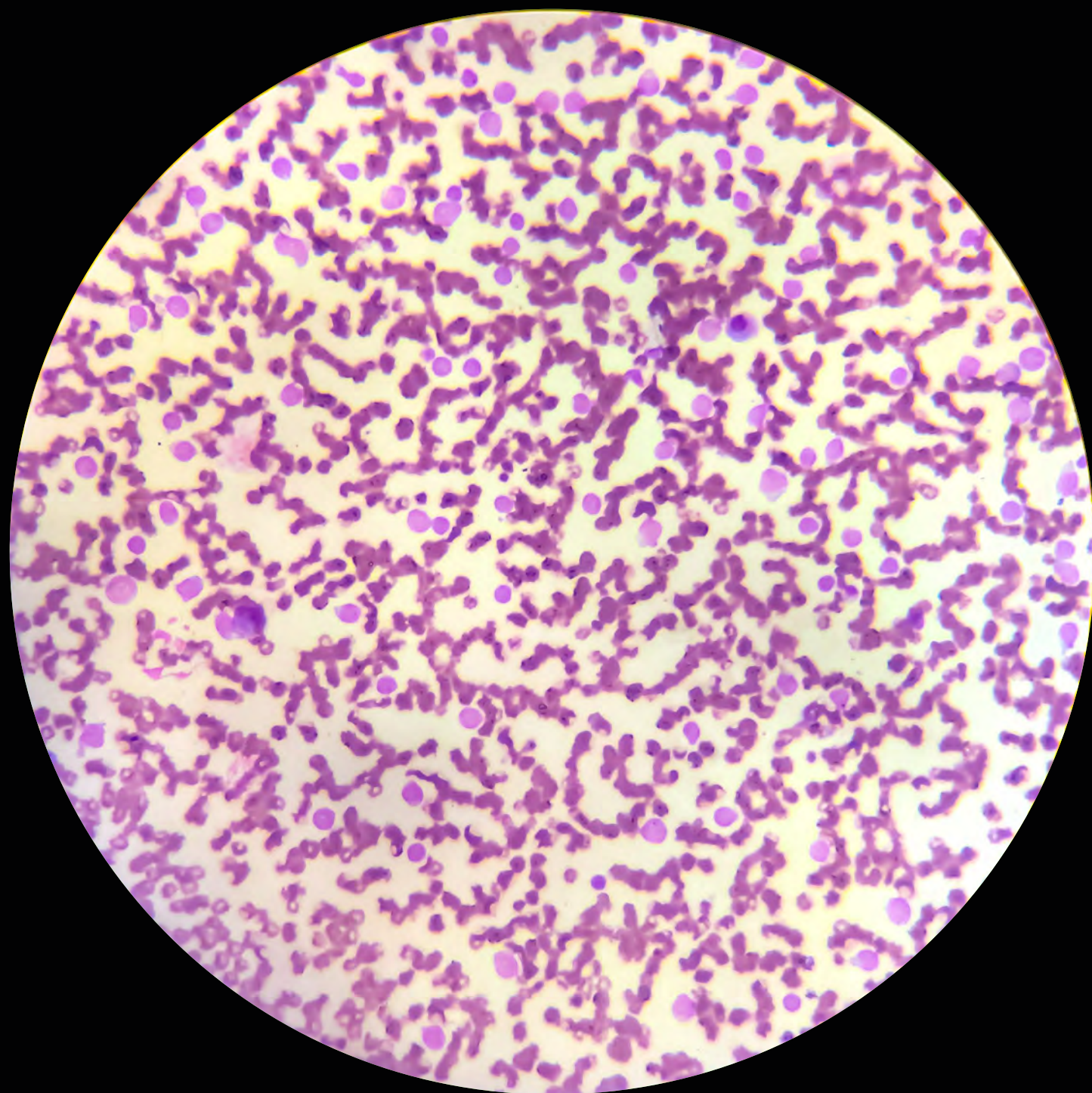


#### ROBO

**Team HealthBot, HAN University of Applied Sciences**

Robo, the smart social robot, provides companionship to the elderly and assists caregivers and families by providing insight into the user's physical and mood states.

# “Our goal is helping smaller companies realise their ideas.”



We meet Rob Nelissen, director of operations at Organon, shortly before he is about to leave for the Women’s Health conference in Boston. “I want to foster economic opportunities for Dutch innovative startups in the US, and vice versa.”

“SOMETIMES, INNOVATION IS ABOUT MAKING SMALL IMPROVEMENTS IN EXISTING PROCESSES.”

Organon has been a MSD spin-off since 2021. “The pharmaceutical industry in Oss contains over a hundred years of experience. We use that experience on a global scale to support the ideas of new generations: young companies and start-ups that lack the capacity or expertise to realise their ideas on their own. Many wild and good ideas originate at universities. But in the pharmaceutical industry projects are extensive and costly. There is a lot of documentation involved, governments want you to prove your concept. Sometimes this involves documenting the side effects and risks to thousands of patients. For that, larger companies can bring in their expertise and experience. Organon wants to play that role – especially when it comes to women’s health.”

### Competitive advantages to Dutch pharma companies

In the region of Oss, Nijmegen and Boxmeer, Rob works with various partners on the Pharma Delta collaboration. “When it comes to the development of therapies, we are hardly competitors within this region, as there are so many different diseases. A startup at NovioTech Campus working on epilepsy is totally different to a contraception production company in Oss. This creates the atmosphere to meet each other and openly share non-confidential information. Of course, everything relating to new products, patients and sales strategies will require careful handling, but there are many other areas where there can be mutual advantageous support.”

Players in the region need each other to strengthen the pharmaceutical industry, Rob emphasises: “Pharma companies face global competition. But not all competitors adhere to the rules that we have established in the Netherlands or in Europe. For example, we have set the bar pretty high when it comes to sustainability, human resources policies and

creating an inclusive and safe work environment. This means that as a company, you incur more costs here than in some other parts of the world. So to remain competitive you must be innovative and collaborate.”

### Bits of innovation

Does this always involve comprehensive processes or major changes? Not necessarily, says Rob. “Sometimes it’s about making small improvements to existing processes, without altering the manufacturing process itself. It’s our own employees who often conceive of these kinds of innovations. They know the chains and processes we’re dealing with and have a good idea how to handle or improve them. It is crucial always to share with your employees why we are doing something and what that means for patients. This energises and instils pride in employees, fostering creativity. A company must be open to this.”

But how do you foster innovation and entrepreneurship within your company? “Give people room for their ideas, from early drug discovery to production and packaging. Make sure to understand the core problem and provide your team with the resources to implement a possible solution. And it doesn’t end there: our problem may be experienced by other companies, departments or colleagues. Organon has something to offer in this regard, but we can also learn a lot from fellow companies in the region. That’s what we need Pharma Delta for.”

### Pharma Delta: A Lasting Impact on the Healthcare Industry

Where did it all start? “Larger organisations face challenges in their approach to human capital: how do we keep attracting, training and developing the best employees? Smaller organisations on the other hand, focus on funding continuity. Delving deeper into these two directions, we look at what connects us

and where we can share non-confidential matters. This demands mutual trust and acting as a team at a higher level than your own company. And for every joint effort at some point we will decide: do we structurally continue with this?”

“Pharma Delta allows us to tackle things that one organisation alone might not be able to cope with, being either too small or too large - or might not want to out of cost-effectiveness. Pharma Delta acts as a network organisation: it’s a safe environment and a meeting place. That is easier within a region because of the personal connections you have here. We encounter each other and get to know one another. This fosters trust and loyalty, creating many opportunities to mutually put solutions into effect.”

### Women’s health

Ultimately, Pharma Delta is all about the patients. “Everyone knows someone who is ill and needs medication or treatment: your grandmother, your brother, your aunt, maybe even yourself. It’s very close to home. Therefore it’s not very hard to recognise the importance of the availability and quality of medicines – and the development of new medicines to improve the quality of life.”

Organon especially focuses on areas where there is a lack of attention to women’s health. “We focus on global access to contraception and fertility drugs, where we have a lot of expertise. We drive innovation and collaboration for diseases that women are not yet optimally diagnosed and treated for. Organon cannot do this alone, but would like to narrow that gap, not only with its knowledge, but also by offering our global production and distribution capabilities to new collaborations. Pharma Delta benefits on human capital and shared facilities will help Organon to deliver on its women’s health mission.”

# Winkelsteeg: Innovative Area Development



Impression of the new station square, view from the entrance at the Halfgeleiderweg

**“IT’S MY JOB TO MERGE THE CREATIVE WORLD WITH THE WORLD OF REGULATIONS.”**

**“The best thing about my job is that it all starts with a vision, an ambition and - of course - policy”, says Frans Holleman. “Then, slowly, it turns from 2D into 3D. With regard to the Winkelsteeg development in Nijmegen, the structural requirements, like roads and infrastructure, already start to become visible.”**

Holleman is a seasoned professional in urban and area development, with over twenty years of experience at Bouwfonds, including ten years as director for the North East and Central regions of the Netherlands. His extensive career had him contribute to a wide range of large-scale projects. Three years ago he took the leap to becoming an independent developer. His passion for urban planning soon found him in Nijmegen, where he became deeply involved in the redevelopment of the Winkelsteeg area. What was initially planned as a six-month project has now turned into a 2.5 year-long commitment.

#### **The development of Winkelsteeg: a unique combination of urban living and working**

The Winkelsteeg area in Nijmegen is undergoing a remarkable transformation. “The project is ambitious, aiming to create 6,000 new homes and a significant amount of new employment opportunities. Winkelsteeg will be an area to work, live and meet in”, Frans tells us. “The first 500 homes have already been completed, with additional zoning plans underway for areas near the canal and the Goffert train station. This former industrial area will be redeveloped to include both residential and workspaces, all within an urban, car-free environment that has optimal mobility options.”

One of the most unique aspects of this project is the integration of functions for both living and working. “In most cases, either living or working becomes the more dominant use for such a district, but in Winkelsteeg, a deliberate effort has been made to balance the two. We aim to create 3,000 new jobs and attract new businesses. This is a place for startups and established companies, where innovation and craft entrepreneurship will flourish. Also, new and affordable types of residential units will be added, that will form a distinctive urban environment where living and working go hand in hand. Winkelsteeg will be a green environment with plenty of space for both social and sporting encounters.”

#### **Challenges in area development**

The development of Winkelsteeg is not without its challenges. One of the biggest hurdles faced is keeping the project on schedule, says Frans. “The development of an area always involves unforeseen circumstances causing delays. For instance, we were asked to adjust our plans so as to accommodate a sportscenter, including a swimming pool, after the start of the development process. This required a certain amount of flexibility, but that is inherent to my line of work.”

The challenge lies in balancing speed and care. While the pace is brisk, it’s important not to



Goffert - Novitech Campus train station area

**“I hope to develop Winkelsteeg into an area that enhances the quality of life and happiness of those who live and work there.”**



Winkelsteeg, Maas-Waal Canal

compromise the quality of the development. “It’s important to stay in tune with your stakeholders and keep the conversation going – you have to be a team player. But there’s always a risk of talking too much and doing too little. At some point, one has to take a decision. However, I remain optimistic about the feasibility of the Winkelsteeg plans, thanks to the extensive experience and expertise within the Nijmegen municipality.”

**“My job requires a certain amount of flexibility.”**

**Bringing visions to life**

What is driving Frans? “It’s my job to merge the creative world with the world of regulations, all the while increasing the project’s feasibility, being guided by a clear philosophy, which in this case is a clear vision for Winkelsteeg. An urban planner may craft a compelling narrative, but bringing that vision to life is where the real challenge lies. That doesn’t happen overnight; it requires a deep understanding of how to align all the moving parts. The key is to identify the critical connections that make the plan both achievable and sustainable. I enjoy being part of that solution.”

Area development is a long-term endeavor. Frans compares it to a marathon with intermittent sprints: zoning plans need to be made, tenders to be placed in the market, and decisions constantly refined. Despite the complexity and challenges, Frans remains optimistic.

“I draw my motivation from the opportunity to make a real contribution to the city. By listening to the needs of residents and businesses, and by working closely together with all stakeholders, I hope to develop Winkelsteeg into an area that is not only economically successful but also enhances the quality of life and happiness of those who live and work there.”

**Looking Ahead: a vision for the next 5–10 years**

Over the next five to ten years, Frans Holleman expects Winkelsteeg to become a leading example of modern urban development where working and living are combined successfully. “What makes this project special is its holistic approach to urban development. Everything is interconnected: it’s not only about numbers and planning, it’s also about creating an environment where people want to live and work. Winkelsteeg is designed not just to be functional, but also to foster a sense of community and well-being. We want a safe living environment where you get around on foot, bicycle or public transport.”

**“Winkelsteeg is designed to foster a sense of community and well-being.”**

Other municipalities and policymakers are already noticing this project, attracted to the short turnaround time and the impressive results achieved so far. “People want to know what is the secret to our success. I always say it’s our compact and focused project organisation, with a team of experts working closely together to realise the ambitions for Winkelsteeg.”



**Frans Holleman**  
Area Developer Winkelsteeg



**Stay updated**

Scan the QR code to see the latest developments of Winkelsteeg.

# Matthias Salewski

*“I want to bring science-comedy show ‘Die Physikanten’ to the Netherlands.”*

**Matthias Salewski (35) works as a project leader at Neways Advanced Microsystems developing chip packages for smart sensing and actuation applications. “All the physics takes place at small scales – our products are only millimeters in size. At ‘Die Physikanten’, I do quite the opposite, as I’m performing physics experiments on the big stage so that everybody can see and understand them.”**

“As an undergraduate physics student at the Technical University of Dortmund, I once saw a poster for the science-comedy show ‘Die Physikanten’. I was electrified and applied within hours to join the group. As a child, I already used to perform sketches and record them; when I was a teenager, I started with Latin American dancing; and as a young adult, I decided to study physics. Now, ‘Die Physikanten’ offered me the unique opportunity to combine my passions for comedy, performances and science on stage.”

**Electrifying moments**

“I like how a show creates special moments in time and space. Everything comes together; the audience looks at you with their eyes wide open, and forgets everything they are doing or thinking about. It is like a new dimension is opening up and something magical happens. This enables me to ‘electrify’

*“I like to create special moments in time and space.”*

people about how nature works. Not by being super-substantive or theoretical, as in lectures, but through show and entertainment. Above all, it should be fun.”

**Learning experiences**

“I’m learning a lot myself. I happen to be a physicist, but my colleagues are professional actors with real comedy experience. That was a great opportunity for me: to learn from people with completely different backgrounds and to bring that together on stage. They taught me exercises to regulate my breathing and voice, things I had never done before. It has allowed me to further grow the skills I need to perform on stage. And in return, I teach them about physics and nature.”

**A different scale**

Semiconductor chips, essential for modern electronics, contain a stunning number of functionalities. This is only possible by miniaturization, but, at the same time, this makes them fragile and difficult to access. “Our role at Neways is to protect

these extremely complex devices from environmental harm while ensuring they can interact with their surroundings in necessary ways, such as through electrical connections. What’s quite remarkable, is that our entire assembly process takes place at our facilities on the Noviotech Campus. So, millions of chip packages are being produced here in Nijmegen.”

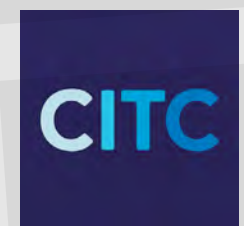
*“Millions of chip packages are being produced by us, here in our facilities in Nijmegen.”*

**Next generation science-comedy show**

In 2023, Matthias performed his first physics show in Dutch on the occasion of the 100th anniversary of the Radboud University in Nijmegen. “The highlight was to have my little daughter in the audience – ever since, she keeps telling me: ‘Papa, I also visited your show once’. Looking ahead, it would be wonderful to have the next generation of Dutch children growing up with our unique science-comedy show!”



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