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ROTTERDAM

ROTTERDAM.
MAKE IT HAPPEN.
More than 100 Life Sciences & Health companies and healthcare organisations are located in Rotterdam. Did you know that Rotterdam therefore has 10% of the market share in the Netherlands as well as one of the most prestigious Life Sciences & Health networks in the country?

Besides this group of 100+ organisations that focus solely on Life Sciences & Health there is, of course, a very large network of ICT organisations, employment advisers and design offices that help to shape and develop this sector. The Life Sciences & Health sector is therefore not just one of the biggest employers in the city but also one of the most important economic sectors for the Rotterdam region. It offers superb career opportunities and courses at all levels as well as various incubators that encourage innovative start-ups to grow further and to seize opportunities.

From the launching of the Life Sciences & Health fund Swanbridge Capital and the Life Sciences & Health Hub to network events that take place at the Erasmus Centre for Entrepreneurship and the Cambridge Innovation Center. Whatever the size - startup, SME or bigger still - Rotterdam has the space for every company to grow and develop further.

As the Executive Councillor for Employment and Economy I am therefore extremely proud that our very active Life Sciences & Health network continuously contributes to the strong and innovative economic climate in Rotterdam and the surrounding area. In this magazine we would like to introduce you to several of the fantastic and innovative organisations from our city.

And finally: I am looking forward to meet you at one of the following network events in the city!

Maarten Struijvenberg
Vice Mayor of the City of Rotterdam
Erasmus MC

Innovation is in our genes

Foreign guests are often surprised when they visit the Erasmus MC University Medical Center: a medical university in a hospital? They find that an unusual model. These guests from around the world – such as researchers, professors and hospital and university boards of directors – like to visit Erasmus MC a lot. Here, they acquire or bring the latest knowledge when they come to attend conferences or symposia, to do research, to follow a course or to take part in professional development. ‘Indeed’, says Ernst Kuipers, chairman of the Executive Board, ‘we are a global player.’

The Erasmus MC really is a city within the city. It is the largest university medical centre in the Netherlands and one of the biggest in Western Europe. This makes Erasmus MC the biggest healthcare employer in Rotterdam as well. Five percent of all professors in the Netherlands work at Erasmus MC.

New building with a focus on patients

Over a period of fifteen years, Erasmus MC is realising a completely new hospital that is built according to the latest insights. At the same location as where it all began in 1966: in the heart of Rotterdam.

Ernst Kuipers: ‘As a university hospital, we are mainly specialised in complex disorders. The treatment of these involves various health professionals. The hospital has therefore been designed around the patient’s problems and not by specialisms, as was previously the case. This is a relatively new concept. It makes a world of difference for the patient population.’ These patients will experience the hospital less as a big city and more as a homely village where all the specialists are nearby. However, this village will have access to the latest expertise and will be part of the international innovative hub, just as one would expect in a large city.

Unique character

The combination of research, education and hospital is a must for an institute that provides complex care, treats rare diseases and carries out complex treatments with highly specialised equipment. ‘The Erasmus MC has a unique character. The people who work here are interested in the combination of research, education and complex care. That also means a lot of consultation and regularly welcoming new colleagues. We ask patients to take part in the research. Sometimes by simple means such as giving blood or completion of a questionnaire in other instances with more intense participation in a clinical study. All these efforts will help future patients.’

In the near future, patients will also benefit from the long-lasting and renowned study ‘Generation R’ that the Erasmus MC is carrying out with various partners. In this study, the growth, development and health of 10,000 Rotterdam children are being monitored until they reach adulthood. ‘We will be able to use the outcomes of that research for innovations, for example through encouraging a healthy pregnancy. Or we will be able to use the fact that an increasing number of children need to wear glasses. These are just a few examples, because such a study yields a wealth of information that can give rise to innovations.’

According to Kuipers, innovation is in the genes of Erasmus MC. ‘It is a mindset. Innovation is part of our DNA. That is why we also have things such as Pharmafilter, our own waste purification and an automated bed-washing facility (more efficient cleaning). All of our research around innovation is linked to patient care. We want to continuously improve this. Sometimes, the research is highly fundamental and not immediately applicable. However, it does provide a basis for further research.’

Professor Kuipers trained as a gastroenterologist. He has enjoyed a long career at Erasmus MC, which includes positions as head of the Gastroenterology Department and as one of the specialists involved in the new building. ‘I am proud of the fact that Erasmus MC is located in the centre of Rotterdam and that we are helping shape the future of healthcare in the south-west of the Netherlands.’

Erasmus MC
IDEALISM

‘We have a talent for spotting the details. That enables us to offer genuinely useful products’

Alphatron Medical

Efficiency gains by combining healthcare and technology

The company Alphatron Medical has made the combination of healthcare and technology its core business. ‘Things are now starting to get exciting,’ says director Harald Verloop enthusiastically. ‘The Netherlands has now reached a stage of digitisation that allows us to develop even more products for the further improvement of work processes in hospitals and healthcare institutions.’ The mobile workstations the company produces are used for a growing number of applications. Efficient for the nurse and pleasant for the patient.

Besides mobile workstations, Alphatron Medical is also active in imaging technology for diagnostic purposes, a subject we will return to later. First AMiS: the workstation that integrates medical safety and diagnostics with functions such as the addition of an electrocardiograph and a link to the electronic patient file. This mobile workstation is not called AMiS for nothing. ‘This device is the nurse’s best friend. It facilitates a safe and controlled way of working with patients. Each patient has his or her own stationary “cockpit” for this workstation. This considerably reduces the chances of medical errors.’

Verloop describes how digital mobile working was developed in the United States and how it then stagnated there. ‘We initially imported the solutions, but ultimately found that these did not work well enough. We decided to add qualities and modalities and further developed the workstation. The Netherlands is now the world leader in this area. We have set up the AMiS in more than half of all hospitals in the Netherlands, tailored to the clients’ wishes. Yes, we are the market leader. I think that our solutions make healthcare institutions far more aware of the achievable efficiency gains.’

Barcode

The same applies to JiveX, the digital platform offered by Alphatron Medical to support the workflow of all medical image such as CT, MRT, Ultrasound and Endoscopy but also other medical data like vitals signs and diagnostic reports. Retrieving, viewing and comparing images, with coupled authorisations and agendas: these are complex systems in complex environments. Healthcare institutions are becoming increasingly convinced of the added value of this new technology. Especially when they have their own professionals who are responsible for medical information technology: they are the first to see the improved efficiency that can be achieved. Implementing innovations in a medical environment always takes time. At first, hospitals did not see the benefits of a wristband with barcode for patients, and now they can no longer do without it because it increases patient safety.’

Training

Alphatron Medical is located at the Noord-West industrial estate in Rotterdam and employs about forty people. ‘They are all very good listeners. We have a flat organisation without management layers. We often talk about what could be improved within the company as well as in our clients’ work processes. Consequently, our staff are motivated and they are given plenty of freedom and opportunities to develop things. Our clients are often surprised by what we deliver. We foresee developments within medical technology and we anticipate these with our products. In our view, it is not just the technical implementation that is vital, but also the functional implementation. It must be intuitively useful. This means we often remain with the client for a long time, until everything works well for everyone, and that is why our courses and training sessions really do make a difference in this respect.’

Talent

A new product for Alphatron Medical is powerful software to streamline the exchange of information between institutions. ‘That is important, especially in the case of merging institutions. The Australian producer was looking for a partner and came to visit us. It was great to be able to show them Rotterdam. The city has an atmosphere which shows that we know what we’re talking about and that we can do it. We really do have something to offer, with impressive architecture, plenty of good restaurants and a can-do mentality. We also like meeting up with other Rotterdam companies in the healthcare sector. We know this world well and we have a sixth sense for what is needed. We have a talent for spotting the details and that enables us to offer genuinely useful products and services.’

www.alphatronmedical.com
When your life is turned upside down due to an accident or other emergency, it is imperative to get things up and running again. At Rijndam Rehabilitation, highly specialised employees work on the recovery and well-being of patients in such a situation. There are patients of all ages, including children and babies, and they have complex problems. Rijndam is always innovating to ensure that these patients get the best help possible. The rehabilitation centre has an important function within the region and has various locations.

‘Our patients are confronted with the consequences of severe injuries,’ says Guido van den Bogaert, member of the Executive Board. ‘However, their bodies have sufficient load-bearing capacity, which means we can also achieve something with our rehabilitation treatments. With us, the patients have to work hard. Our strength lies in the various specialised disciplines that we have internally and facilities such as a swimming pool and a fitness studio for therapeutic use. Everything is aimed at encouraging patients to regain as much use of their functions as possible or to learn to live with their limitations. We also make use of new technology in the process.’

Robotics
Putting on a jacket that contains a wide range of sensors that continuously measure the patient and stimulate him or her to remain mobile is still something of the future. But according to Van den Bogaert, it is merely a question of time. Robotics such as walking robots, arm robots and hand robots are already well-known devices in treatment. They are exposed to continuous evaluation and – if needs be – adjustment. In this field, Rijndam Rehabilitation works together with companies and knowledge institutes, such as Delft University of Technology. ‘We use various computer techniques to measure and stimulate functions in patients, even when they are at home. We link that to extensive scientific research.’

Collaboration with Erasmus MC
Rijndam collaborates intensively with the Erasmus Medical Center. One of Rijndam’s outpatient clinics is located in Erasmus MC. And researchers from both organisations work together a lot to continuously test new treatments and techniques. When these prove to be suitable, they become part of the treatment repertoire. Rijndam and Erasmus MC also have a joint innovation centre that brings together and facilitates care, scientific research and innovation. This is not just about technological innovations though. Social innovations are also important in Van den Bogaert’s view, such as highly specialised outpatient clinics for specific problems.

Connection with the city
Rijndam Rehabilitation is located in the heart of Rotterdam at the site of the former Bethesda hospital. The current location that contains 140 beds was opened in 1995 and is in need of modernisation. ‘In 2018, we will start a major renovation that will be accompanied by the construction of new buildings. That will give us the opportunity to set up our centre even better for the combination of treatment, development and research. It will additionally give us the chance to further improve our connections with the neighbourhood and the city. We have a clear relationship with the City Council of Rotterdam. For example, we take part in the Hoboken consultation with museum directors and entrepreneurs in the neighbourhood, with the aim of strengthening this area. We are working hard on all fronts; we just need to get a bit better at showing it.’

Living Lab
Rijndam’s new building will contain a Living Lab with an even stronger culture of innovation and trying things out than is currently the case. ‘We will simulate the home situation with a range of challenges and possibilities for patients. This requires a tailored approach. Employees will be able to test their ideas here. Employees in organisations often have good ideas, but not the time to test them. We offer the space for this. Start-up companies will also be able to use our facilities as a test floor. Many companies have ingenious inventions to measure movement behaviour and to use this information for a healthy lifestyle. Numerous things that could make a worthwhile contribution to the self-management of patients should be investigated. That is possible here.’

‘We are working hard on all fronts; we just need to get better at showing it’
The Rotterdam Eye Hospital

We can use increasingly refined techniques

It is always busy at The Rotterdam Eye Hospital. People are continuously walking in and out. ‘We have a constant stream of patients,’ says Nico Klay, chair of the Executive Board. ‘Besides a large amount of basic care, we are also highly specialised in complex treatments.’ Patients therefore come from all over the middle and west of the Netherlands. Klay has a considerable dose of enthusiasm and healthy entrepreneurship. ‘And innovation is what I like most of all.’

The Rotterdam Eye Hospital has been located on the Schiedamse Vest in the centre of the city for 140 years. It was bombed during the Second World War and quickly rebuilt. About 600 people work there, spread over 400 FTEs. ‘They feel devoted to this institution,’ says Klay. ‘Developments are continuously taking place in ophthalmology. Laser techniques and robot surgery allow for increasingly refined treatments to be performed. We actively participate in these developments. Our complex also houses the ROI, the Rotterdam Ophthalmic Institute, which is part of our hospital. Here physicians and scientists continuously investigate how treatments and operations can be improved. We develop high-quality standards that we implement and export via our employees.’

Smartphone

The Rotterdam Eye Hospital holds a unique position. Of course, there is top-level surgery for various complex operations. But in addition to this, the hospital has its own beds for patients who need supervision, and there is a 24/7 emergency care department. ‘Problems such as retinal detachment require immediate intervention. We have six surgeons who are specialised in this kind of disorder.’ And when it comes to complex cataracts, The Rotterdam Eye Hospital carries out restorative operations for the entire of the Netherlands. This hospital is also top of the bill in the area of glaucoma. ‘Due to the ageing population, many fields of care related to ophthalmology are growing considerably. One such example is macular degeneration that used to leave you blind but can now be treated with a course of injections. And if there really is no possibility for further treatment of a certain condition, then we have a range of medical aids. We have access to those here under our own roof with companies such as Koninklijke Visio and Ergra Low Vision. The most recent development that I’ve heard about is a smartphone with braille.’

Sharing knowledge worldwide

In 1997, The Rotterdam Eye Hospital took the initiative to establish the World Association of Eye Hospitals, which forty specialised eye hospitals are currently a member of. ‘We are still very active in this, for example with discussions about rare eye diseases or complex cases. When you are this specialised, it is logical that you cross national borders to share more knowledge. But we also actively share knowledge in a network with other eye care clinics within the Netherlands.’ Klay also mentions the good collaboration with the seventy or so optometrists in the Rijnmond region with respect to glaucoma. ‘My ideal is that we will collaborate even more closely with respect to diagnosis and aftercare. For example, measurements and reports can be viewed electronically, enabling us to exchange valuable information.’

Dream

Klay has plenty of other ideals. ‘My dream is that somebody with eye problems can already find the right care online from their own home. And that the amount of administration that needs to be completed in the hospital is minimal. A technique such as an iris scan could help reduce the administrative burden considerably. You would immediately know who a patient is. I also aim for a good level of hospitality in the hospital, with a personal supervisor for each patient. The doctor visiting the patient in the hospital instead of the patient having to visit an “old-fashioned doctor” in a consulting room. We call this practice “carrousels”. We are already implementing it and the outcomes are really positive.’ Klay is also keen to state that his hospital collaborates intensively with Erasmus MC and other hospitals in the Rotterdam region. ‘I am also pleasantly surprised by the good exchange of information with the city council and the possibilities to collaborate with Rotterdam at all different levels.’

www.oogziekenhuis.nl
Rather a partner than a competitor on the job market

The days when each healthcare institution vied for its position in the highly dynamic healthcare job market have long passed. At least, if your organisation is located in the Rijnmond region and you are connected to deRotterdamseZorg. This organisation, established by the healthcare institutions themselves, has a clear vision on job market issues. Also, or perhaps especially, with regards to the future.

Healthcare is the biggest employer in the Rijnmond region. DeRotterdamseZorg is a foundation that consists of 24 healthcare institutions. The number of participating healthcare organisations continues to grow. These range from hospitals, institutions providing care for the elderly, mental healthcare and care for the disabled to organisations for youth healthcare.

‘Despite our diversity, we share the same job market,’ says director Jacqueline Stuurstraat. ‘We share the responsibility of training and deploying the right employees, both today and in the future.’ A wide range of instruments have already been developed to help to respond to the expected changes in healthcare and for the people who work in it. A small office with the equivalent of four full-time staff in the Life Sciences & Health Hub of the Rotterdam Science Tower facilitates and coordinates the collaboration. Employees from the healthcare institutions also meet here to work on projects together.

Smart collaboration

‘The questions that crop up cover more or less the same issues. How do we deal with the ageing workforce, cutbacks and the vitality of older employees? What are the consequences of clients and patients assuming more control over their own care for healthcare professionals? How do we deal with technology and the growing demand for care from district nurses? How can we make a career in healthcare more attractive for young people? And also: how can employees become more flexible, so that they can continually adapt in the dynamic world of constantly changing healthcare needs. Our projects provide answers to these questions. We do this by using the knowledge and qualities of employees from the various participating healthcare institutions. They mostly do that alongside their job, but for large projects, they are sometimes seconded from their work. By collaborating, we make smarter use of knowledge, money and time.’

‘A good example of a joint initiative is the career platform that matches supply and demand in the region. Healthcare professionals can use the platform to explore the possibilities of different work or to work temporarily in another organisation to acquire knowledge and subsequently share that in their own organisation. The career platform helps healthcare professionals to gain more control over their own development.

Strategic personnel planning

Through various programmes, deRotterdamseZorg works on a future-proof job market. An example of this is the strategic personnel planning programme. DeRotterdamseZorg translates research, policy, trends and ambitions of the partner organisations into possible approaches. ‘Project and programme leaders come from the various organisations, and they take the acquired knowledge and network back with them. I have noticed that, through this collaboration, healthcare institutions have become more enthusiastic and active. Their own employees acquire knowledge and expertise on the basis of problems from everyday practice. That is a completely different and innovative way of learning and working. It ultimately elevates the quality of the care to a higher level. Our office is responsible for exploring the job market, clarifying problems, sharing project results and safeguarding projects once these have been completed. However, the people from the organisations are responsible for carrying out the projects.’

Unique

Now is the ideal time for this type of collaboration. Healthcare organisations increasingly view each other as partners rather than competitors. The concept of deRotterdamseZorg is unique in the Netherlands. As an organisation expert, director Stuurstraat is definitely in the right position. ‘I like pioneering and innovating, creating something from nothing. And collaboration, also with commercial parties, leads to a considerable dynamism. My biggest ambition is that ultimately we will no longer be needed. For the time being, however, we are still a clear catalyst, and many parties benefit from this.’

www.derotterdamsezorg.nl
Lagaay International

Medical equipment on board, we deliver it worldwide

How do you get the right medical products on board ships, to the offshore industry and to remote regions? Lagaay tackles these logistical issues and supplies a wide variety of medical products. Up to date and in accordance with the latest statutory requirements. Through the increasingly intensive collaboration with fellow companies such as Mediscore and Europort Pharmaceuticals, everything can always be supplied quickly. Lagaay International is a significant worldwide player in this field.

Lagaay’s roots can be traced back to its founding father Abraham Lagaay who established a pharmacy in Rotterdam in 1879. Back then, he already saw opportunities to deliver medical supplies to the shipping industry thanks to the strategic location of the port city. Lagaay has always been located in Rotterdam and has grown to become a worldwide supplier of medical products. From vaccines to hospital beds and from a first aid trauma kit to painkillers. Joris Alberda is the company’s director.

Safety
‘The shipping industry is still our core business,’ says Alberda. ‘We are well known within the sector. Our field team delivers medical equipment to ships in the Rotterdam, Antwerp and Amsterdam regions. When the delivery is to ships further away, we work together with reliable transport partners. Our primary objective is to deliver high-quality products with a long shelf life. Safety is a top priority within the shipping and offshore industry. And by collaborating with other local parties globally, we relieve our clients of their concerns. Recently, a client in Singapore was pleasantly surprised, because for many years he had been searching for a company like ours, one that could take care of everything. That saves time and alleviates worry.’

Alberda got his degree in neuro-psychology, but became fascinated by the pharmaceutical industry by chance. He speaks enthusiastically about the latest medical developments, which he thinks everybody should know about. ‘Take for example Waterjel, which can seriously limit the consequences of burns. It works superbly, and to be honest, everybody should have it within reach.’ Alberda would almost sell it to private individuals, but he is clearly a business-to-business supplier. He also praises a new microbiological cleaning agent that “attacks” bad bacteria and so genuinely promotes hygiene. ‘We are now working with the manufacturer to introduce it in the Port of Rotterdam. Hygiene aboard ships is extremely important.’

Remote areas
An important client is Maersk, the largest container shipping company in the world. Lagaay is intimately acquainted with the shipping world. But in recent years, delivering to remote areas has played an increasingly important role. Getting the right equipment delivered to such locations by a single party is no easy matter. ‘The connection with Europort Pharmaceuticals recently made it possible to quickly deliver a large consignment of vaccines to South Sudan via an aid agency. Last year, Heineken set up a brewery in Sierra Leone. There was only a small and inadequate hospital in the vicinity. The Travel Clinic from Rotterdam, whom we also collaborate with, advised that Heineken should set up its own small clinic. We supplied it with the necessary products. We provide a genuine complimentary service. The Travel Clinic provides qualified people and we provide the hardware. By joining forces, we create more structure and reduce the client’s administrative burden.’

Cruise world
Lagaay International is also branching out into the market for cruise ships. ‘For cruise ships visiting Europe, we are an interesting and nearby party. We want to become a serious provider. The service we provide has a clear content and really matters. We enjoy carefully consulting with clients, who are sometimes poorly informed, and becoming a good partner for them. I also notice that the international shipping industry likes to do business with companies from Rotterdam. Apparently, we have a service-oriented business attitude.’
He is a bit idiosyncratic. Perhaps this characteristic is what helped him to become a big name in this field. A very big name. With his staff, Gerrit Melles leads an organisation that is an eye clinic, an eye tissue bank, an academy and an R&D department rolled into one: the Netherlands Institute for Innovative Ocular Surgery. According to him, these pillars of the institute are inextricably linked and strengthen each other. With this concept, Melles is continuously inventing new ophthalmic techniques and products.

One such ground-breaking invention is the DMEK technique. Thanks to this technique, the surgeon replaces merely the diseased layer of the cornea instead of the entire cornea. The results are good and the technique is used worldwide. Melles: ‘We have the philosophy that an intervention should be minimally invasive and support the process of natural recovery. An example is a prepared graft that stimulates the formation of the body’s own cells. Our strategy is to pursue optimal anatomical recovery, so that the eye can regain its visual potential with a minimum of complications. Such refined techniques lead to a high level of satisfaction among the patients.’

New techniques
NIIOS employees can be deployed in many ways. ‘Somebody who works at the eye bank also works in the clinic or R&D department. This provides them with direct feedback from everyday practice. We do more research and measurements among patients than is usual. This enables us to filter out possible future complications. For example, a patient with a transplant may eventually show rejection symptoms. You need to treat these earlier than usual.’ This is just one example of the many things that NIIOS is capable of and realises.

Another example is the eye bank. There are currently two eye banks in the Netherlands. At the eye bank of NIIOS, employees and students are constantly occupied with the preparation of tissues, to make them suitable for transplantations that are becoming increasingly advanced and specific. NIIOS leads the way in these developments. Melles is sometimes surprised that his new ophthalmic surgical techniques receive little attention from the Dutch government. ‘More than 20 million patients have been operated on worldwide using our techniques. Besides, these techniques could be used to completely solve the donor tissue problem. However, that does not reach the politicians in The Hague.’

Medical students from the Erasmus Medical Centre and other universities are given the opportunity to learn surgical skills as early as possible at NIIOS. Melles, being the son of an ophthalmologist himself, learned the art in a playful manner by watching his father. ‘And I want students to have the same opportunity, because the sooner you start, the better you become as a surgeon. Students are also an equal team member wherever possible: we do not really have a hierarchal working culture.’ Sixty-five people work at the institute, a large building on the Laan op Zuid in Rotterdam.

NIIOS Netherlands Institute for Innovative Ocular Surgery

We are the ‘Apple’ of ophthalmology

SurgiCube
At its R&D department, NIIOS also develops innovative equipment. An example is the SurgiCube: a device that provides a sterile environment in which you can operate without the need for an extensive operating theatre. ‘In-office procedures, like at the dentist, can also be performed by ophthalmologists. The SurgiCube facilitates that.’ NIIOS develops medical devices like this one together with local companies in Rotterdam, such as SurgiCube International, D.O.R.C and Vitreq. Their jointly developed products are sold throughout the world. The highly specialised techniques of Gerrit Melles are also well received, especially in the United States, where NIIOS also has a location. Melles sometimes sees his institute as the ‘Apple’ of ophthalmology: technical perfection and as few complications as possible. ‘Our goal is to raise 20 million dollars for research by 2020. Because we are leading in our field and we also want to be the pioneers of the future.’
The requirement of employers to care for their employees is becoming increasingly important. Risk management, also in healthcare, is a must. Outsourcing this care to professionals reduces the burden for companies. One way to realise that ‘unburdening’ is through the Travel Clinic, which provides corporate healthcare solutions worldwide from its base in Rotterdam.

Perry van Genderen is a physician and director of the Travel Clinic. ‘Our company arose from our work for the Rotterdam Havenziekenhuis,’ he says. ‘With a partnership of physicians, we wanted to focus more strongly on the business sector. We noticed that preparations for sending out employees and the remote provision of care could be realised more efficiently.’

The Travel Clinic retained its relationship with the Havenziekenhuis, but now has its own location on the Maasboulevard opposite the hospital. ‘With the exception of chest x-rays, we can do everything in-house. An employee on leave in the Netherlands wants to lose as little time as possible to medical check-ups. And if a chest x-ray is needed, then they only need to cross the road.’

Worldwide network
The Travel Clinic’s activities are definitely not limited to medical check-ups and recommendations in the Netherlands. From its base in Rotterdam, the Travel Clinic covers the entire world. ‘We have a worldwide network of doctors and hospitals that we can use to give specific advice to companies. For example, should we repatriate an ill employee or is a local solution possible? We examine the quality of local medical facilities down to the fine details. We can act quickly to provide a rapid response. We always have a mini-hospital packed up and ready to go that can be used to help a colleague provide care anywhere in the world and at any moment, even aboard ships. We try to provide an integral healthcare operation for our clients and that benefits both parties. And we are often able to realise that in practice. We can do a lot, but not everything. That is the reason we collaborate with partners such as Lagaay International, which is our preferred supplier of medical products. Other partners are the repatriation company Eurocross and Expat Preventive for security issues. Finding the right partners costs a lot of time, but is born from the needs that emerge from everyday practice as well as the desire to set up processes much more efficiently.’

Higher level
Increasing globalisation requires action on an international scale, and this also applies to companies located in the Netherlands. Van Genderen sees opportunities. He is a prominent member of an international network of doctors that focuses on recognising emerging infectious diseases and developing guidelines for their treatment. The doctors with whom the Travel Clinic works abroad now follow an intensive training and certification programme. ‘With this, we want to bring the local care, for example in developing countries, to a higher level. The auditing of clinics is also a part of this process.’

The company uses high-tech tools to increasingly improve the risk profiles for people. ‘This results in a predictive value of risks, from which you can then provide more tailored solutions, for example the appropriate frequency of medical check-ups. We are also developing e-learning modules to prepare employees and their families for the period abroad. We think that a considerable health benefit can be gained through prevention, even though clients do not always follow this, especially in times of crisis.’

Long-term relationships
But who are the Travel Clinic’s clients? ‘These vary from very small to very large. Our roots are clearly in the Port of Rotterdam. We have long-established work relationships with companies like Boskalis and Van Oord and shipbuilder Damen. But NGOs who send people abroad also make use of our services. We work for every company that is confronted with health issues and is open to our recommendations.’

www.corporate.travelclinic.com
Everybody at Erasmus MC who has a good idea can come to us, all 14,000 employees

A ‘service’ shop of Erasmus Medical Center. That is how the Technology Transfer Office (TTO) likes to see itself. For example, by protecting and helping to realise employees’ good ideas, or by supporting potential medical start-ups. The TTO has developed rapidly over the last few years.

Science and industry: An impossible combination? TTO director Thijs Spigt does not think so. ‘I am really happy when I talk with scientists. But I find it just as exciting to show how scientific results can lead to a successful product. It is difficult for scientists to let go of their discovery, their ‘baby’. As TTO, we want to take a look inside the crib and ensure that the baby grows up into a healthy adult and can leave the nest.’

We have already achieved that with various start-ups. Companies such as Viroclinics and Quantib have now become independent after support from the TTO. In collaboration with Rotterdam City Council, an entire floor of the Rotterdam Science Tower on Marconiplein has been set up as an incubator for starting companies. There they are given the opportunity to mature and enter the market. But the idea for a ‘smart pregnancy app’, which helps pregnant women to live healthy, also received a far broader platform via the TTO.

Growth

When Spigt took up the position of director in 2014, he had eight employees. That has since grown to about twenty. They are mainly lawyers who are good at writing contracts and business developers who shape these ideas. The TTO generates direct income through the issuing of licences for inventions and has recently gained access to its own investment fund. ‘The fund is meant for very young start-ups that investors often find too risky. It is a collaboration between Delft University of Technology, Leiden University, Erasmus MC and Innovation Quarter.’

‘We are one hundred pure Erasmus MC. All departments contribute to the funding of the TTO. Everybody at Erasmus MC who has a good idea can come to us, all 14,000 employees.’

Serious partner

Applying scientific discoveries in practice: valorisation of knowledge, it is what Spigt does best. ‘I always look for the connection between science and industry.’ He trained as a biologist and has many years of experience in the pharmaceutical industry. He is a keen advocate of allowing scientific values to flourish in society. This development arose in the 1980s in the United States. Everything that is discovered at universities must eventually yield as much value as possible for the taxpayers. Universities do this by marketing their discoveries that then generate direct income. At Erasmus MC, knowledge valorisation started about twenty years later, around 2003.

‘It started slowly and without much structure. We have since become a serious partner and we stand eye-to-eye with industry. If needs be, we take a firm stand. And within Erasmus MC, we show scientists that their work is not solely about publishing. No! There is a parallel route that professionally protects ideas and creates impact for society. We provide that route.’

Bridge

Spigt signals a lot of developments in diagnostics. ‘Diagnoses are constantly being refined and medication is increasingly tailored, especially for serious illnesses such as cancer. There is a direct relationship between fundamental research at the cellular level and the clinic where people made of flesh and blood need better care. We are the bridge between science and patient, as it were.’

In recent years, the TTO’s reputation has grown within and outside of Erasmus MC. ‘My benchmark is that we will become completely embedded in the Erasmus MC right down to the smallest capillaries. And that is what we are working towards now.’

www.erasasmusmc.nl/tto
Future prospects
In the world of medicine and care, private citizens are increasingly expected to be self-reliant through their individual means and resources. This means that more and more often, citizens will take or be asked to take responsibility for organising their own care, for example maintaining their own medical records, and relying on their own social network. This system creates new opportunities for entrepreneurial activity.

Prevention and a healthy lifestyle will prove to be key concepts for the future of the medical & care sector in Rotterdam. Opportunities for the Life Sciences & Health Cluster lie in achieving this transition, moving from the current disease-driven system to a new system geared towards prevention. Opportunities for technological innovation are present as well, particularly with regard to e-health and m-health – from sensor technology and serious gaming to apps.

Programme spearheads
The municipality of Rotterdam attaches great value to creating an effective business climate for companies in the Life Sciences and Health sector and wishes to play an active role in this. For example, we support businesses to enable them to retain offices in the region whilst continuing to expand. We also do this by promoting an innovative start-up ecosystem and ensuring lots of opportunities and support for new companies.

The municipal authority is focusing on three spearheads to reinforce the appeal of its business climate for Life Sciences and Health companies:
1. Strengthening the right networks between businesses, as well as those between businesses, government and knowledge institutions in Rotterdam and the surrounding region. The municipal authority promotes and facilitates initiatives by entrepreneurs, for example through the founding of a Life Science & Health Consortium, efforts to increase the sector’s profile through various communications media and by organising various networking events such as ... meets science’ events and the care-innovation networking breakfast.
2. By providing scope for innovation by supporting innovative projects or by organising Business Challenges specifically for medium and small businesses in the medical and care industry.
3. Working with network partners to improve job-market prospects within the care sector

The municipal Life Sciences & Health team is responsible for implementing these spearheads.

Team
To learn more about the Life Sciences & Health Cluster, please contact account manager Renate Veerkamp at rc.veerkamp@rotterdam.nl. Renate is the designated city contact for LS&H companies and institutions.

Ellen Perik, the Life Sciences & Health programme manager, is responsible for overseeing the strategic direction of projects (eem.perik@rotterdam.nl). In their work as project managers, Caroline Giezeman, Jeannette Leete and Tessa Vreeken are responsible for organising various networking events, facilitating testing grounds and establishing the right connections with network partners. This creates potential for scaling-up experiments in the medical world, technology for the home, e-health, care innovation and smart cities/big data projects relating to Life Sciences and Health issues. Edith Jacobs is a policy officer for economic exploratory studies and Emilicia Rocha supports the team in her role as project assistant.
ROTTERDAM = LIFE SCIENCES & HEALTH ACTIVITIES

With its ideal location, wide array of diverse cultural activities on offer, its rich history and melting pot of nationalities, the city of Rotterdam is a unique place to call home. The city offers space to new arrivals, businesses, residents and students alike. Space for everyone: from established businesses to grown-ups and start-ups looking to harness opportunities for innovation, growth and development. Whether you need office space or simply room for inspiration, experimentation and new challenges - it's all in Rotterdam.

LIFE SCIENCES & HEALTH IN ROTTERDAM

Rotterdam has a very active and diverse Life Sciences & Health network that contributes to a strong innovative, economic and scientific climate. The exchange of knowledge takes place during various network events organised in collaboration with different partners:

- In collaboration with the Erasmus MC Technology Transfer Office, the Erasmus Centre for Entrepreneurship and the Life Sciences & Health Consortium, the Life Sciences & Health Hub will be established on 23 February 2017 in the Rotterdam Science Tower. Which network events will be held here?

- Health Innovation Challenge: initiative in which medium-sized and small businesses develop solutions to meet future challenges in care.
- New Business Cycle Health: entrepreneurs spend 10 weeks envisioning new healthcare innovations.

- "...meets Science" Events: where science, business and society meet up.

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- Care innovation networking breakfast, bringing together innovative healthcare entrepreneurs and clients from the care community 4 times a year.
- Weekly Venture Café, organised by the Cambridge Innovation Center.
- Events organised by EIT Health Belgium-Netherlands.

RIJNMOND METROPOLITAN AREA*

- 3,697 businesses and institutions in the Life Sciences & Health sector in the greater metropolitan area
- 67,072 people employed in the Life Sciences & Health industry

ROTTERDAM*

- 1,906 businesses and institutions in the Life Sciences & Health sector
- 41,004 people employed in the Life Sciences & Health industry

10 LIFE SCIENCES & HEALTH BUSINESSES OR INSTITUTIONS ARE AMONG THE METROPOLITAN AREA’S 25 LARGEST EMPLOYERS:

- Erasmus MC and Faculty; Laurens; Maasstad Ziekenhuis; Aalfje; Humanitas; Pamejor; Argos; Sint Franciscus Gasthuis; Careyn; Bavo Europort.

10 HOSPITALS

- Erasmus MC, the largest university teaching hospital in the Netherlands
- 2 top clinical training hospitals
- 5 general hospitals
- 2 specialist hospitals

LONG TERM STUDIES:

- Generation R = growth, development and health of 10,000 children living in Rotterdam
- ERGO = 15,000 residents of Ommoord from the age of 40 have been examined for health problems
- REAAL project provides insight into how visual communication contributes to care with regard to well-being and potential for lowering the costs of care.

MEDICAL DELTA

Medical Delta is an internationally recognised cluster in the field of Life Science and medical technology. In this cluster Erasmus MC University Medical Centre Rotterdam, Leiden University Medical Center, Erasmus University Rotterdam, Delft University of Technology and Leiden University, along with three universities of applied science, collaborate closely with partners from the business community and local government, including the Rotterdam, Leiden and Delft municipal authority and the province of South-Holland.

- 11.6 billion in revenue each year within the Medical Delta region*
- 127,000 jobs in the entire Medical Delta*
- 4,350 researchers and 14,000 Life Science & Medical Technology students#
- 3 universities of applied sciences and vocational training schools, with about 21,000 students in programmes for nursing, care, lab assistants and precision instrumentation†
- 3 Science parks: Leiden Bio Science Park, Science Port Holland-Techopolis and the Rotterdam Science Tower
- various Incubators: Biopartner Center Leiden, YES! Delft, ECE (Erasmus Centre w for Entrepreneurship), Erasmus MC incubator, CIC (Cambridge Innovation Center), Erasmus TTO (Technology Transfer Office)

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* source: Panteia baseline measurement; figures from 2013
# source: Medical Delta website
† figures as of 1-1-2015, source: South Holland Chamber of Commerce register on behalf of Economic exploratory studies for 2016
**ROTTERTDAM = ROOM FOR GROWTH & INNOVATION**

- **625,000 INHABITANTS**
  - The 2nd city of The Netherlands

- **175 NATIONALITIES**

- **30,000 EXPATS**
  - The Rotterdam workforce is highly educated

- **ROTTERDAM - THE HAGUE AIRPORT WITHIN THE CITY LIMITS**

- **SCHIPHOL AIRPORT JUST 27 MINUTES BY TRAIN**

- **EUROPEAN CITY OF THE YEAR 2015**

- **BEST INNERCITY 2015-2016**
  - Lonely Planet

- **RELATIVELY YOUNG POPULATION**

- **35%**

- **TOP CITY IN THE WORLD 2016**

- **START-UP LOCATIONS**
  - Cambridge Innovation Center
  - Erasmus MC Incubator
  - Erasmus Centre for Entrepreneurship

- **Rotterdam - The Hague airport**