



5YRS.HSD

ANNIVERSARY EDITION THE HAGUE SECURITY DELTA

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Richard Franken Henk Kool Rob de Wijk Aart-Jan Smits Wim Kuijken Rinke Zonneveld Martijn van Hoogenhuijze Heman Hartgers Olav van Haren Petra van Schayik Joep Gommers Inge Philips Marco van Lente Viresh Jagesser Pieter Jansen Alex van Eesteren Hans Henseler Elisabeth van der Steenhoven Bertwin Lussenburg Lodewijk van Zwieten Joris den Bruinen Chantal de Niet Mark Ruijsendaal Bert Feskens Rhizlane El Ghamarti

Building bridges leads to innovative solutions

O BY RICHARD FRANKEN, EXECUTIVE DIRECTOR OF THE HAGUE SECURITY DELTA

'm a great believer in the concept we developed six years ago that a security cluster consisting of government entities, businesses, and knowledge & educational institutions is the best way to encourage innovation in the area of national security, cybersecurity, vital infrastructure, urban security, and the forensic sector in the broadest sense of the word. The role I played then at one of the founding partners led to my involvement in the vision of the municipality of The Hague, concept development, and the creation of the national security cluster that later became known as The Hague Security Delta (HSD). The name is very appropriate as it reflects the reputation of The Hague as an international city of peace, justice, and security, but also because the municipality, in the person of former city councillor Henk Kool, had the courage to start something completely new in support of the economy and job market in the region and the Netherlands as a whole.

Innovative solutions

In the last five years, groundbreaking initiatives and partnerships have been started and surprising innovations have been created. The number of HSD partners has also grown steadily to over 280 companies, government entities, and knowledge institutions at present. It's great to see that not only the founding partners believe in the national HSD security cluster, but that the number of partners joining HSD has continued to grow over all these years. This is the best possible proof that collaboration is needed to develop innovative solutions to the complex and often global security issues of our time. By now, we are collaborating with roughly 40 security clusters all over the world.

Commitment

The commitment demonstrated by all these parties provides a great deal of energy and a wealth of opportunities. It also

accelerates the pace of new developments, and that is very necessary in a world where new security issues and threats are continually arising and where new technological developments see the light on a daily basis. In order to respond quickly and effectively, you need to have almost blind faith in each other. Over the last years, I have seen that sense of trust steadily growing within the national HSD security cluster. This happens not only because government entities, businesses, and knowledge institutions bundle and leverage their strengths together, but primarily because people are coming together and realising that collaboration based on shared interests is a real possibility and actually works. This has already resulted in a wealth of interesting innovations as well as economic benefits.

Strong foundation

Five years after its creation, the national HSD security cluster stands on a strong and solid foundation. This foundation is based on the willingness of all the parties concerned to share knowledge, to work for the common good, to look beyond the short-term philosophy of making a profit, and to opt for collaboration and shared responsibility with the goal of developing relevant and innovative solutions for today's society. I am thankful that HSD Office, in its role as the operational arm of HSD, has gained the trust and confidence of so many parties, and am also happy that these parties recognise the added value provided by HSD as a national security cluster. Working together, we will become even stronger over the coming years, in order to be able to deal effectively with existing as well as new challenges and threats. As directors and staff members of HSD Office, we will continue to do our best to realise this, enthusiastically and passionately.' -

I've been working in the security sector for over 40 years now in police work, security protection, and investigative work. What struck me most was that everyone in the security sector was working on his or her own island without trying to connect to others in order to create something new. The arrival of HSD led to bridge building between these separate islands, making it possible to develop integrated and innovative security solutions.















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The inception of The Hague Security Delta

On 9 July 2013, the Stichting The Hague Security Delta (HSD) was born. The founding partners were board members and directors of the municipality of The Hague, Thales, Siemens, TNO, Cap Gemini, Trigion, the University of Applied Sciences of The Hague, Fox-IT, the Ministry of Justice & Security, Delft University of Technology, and the Ministry of Economic Affairs.

Professor Rob de Wijk, director of The Hague Centre for Strategic Studies, was appointed to get the HSD security cluster up and running. The Hague City Councillor for Economic Affairs Henk Kool was the first chairman of the board. Organisations such as The Hague Chamber of Commerce

and Syntens quickly registered as premium partners and by providing "in-kind" support in the form of hours contributed were instrumental during HSD's start-up phase.

The goal of Stichting HSD is to create a national safety & security cluster of businesses, government organisations, and knowledge institutions, to strengthen the international competitive position of the Netherlands, and to encourage innovation and public-private partnership in the domain of safety & security. The focus of its activities lies on national safety & security, urban security, cybersecurity, forensics, and the protection of vital infrastructure.



THE ESTABLISHMENT OF HSD: A STROKE OF FORESIGHT

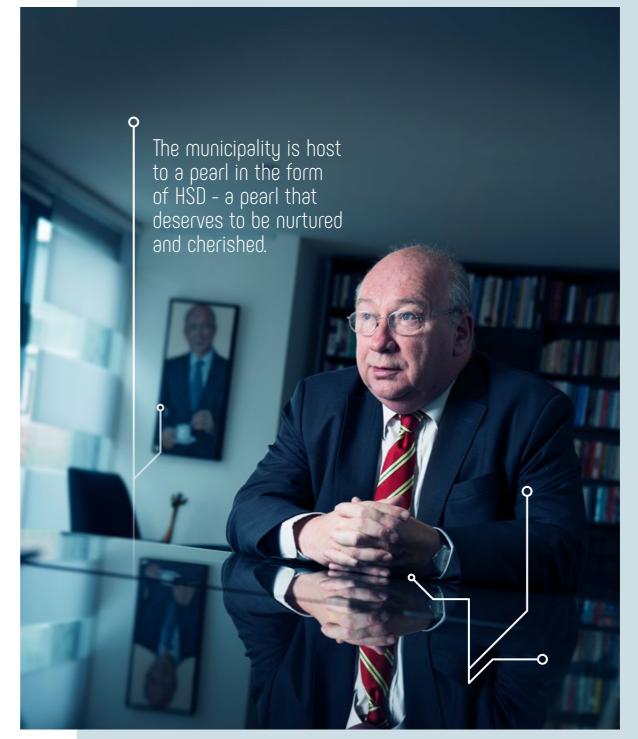
Talking non-stop and continually on the move

In 2010, The Hague is hit by the economic crisis and, to make matters even worse, the national government decides to downsize and tens of thousands of civil servants are suddenly out of a job. 'That hit us very hard', reflects Henk Kool, former City Councillor for Economic Affairs. 'An important pillar under our local economy was decimated. It created major problems for us, and we were forced to do some serious cost-cutting. The Hague Security Delta (HSD) was and still is my answer to the need for strengthening the economy of The Hague."

he service-based economy of The Hague is based on five pillars: the national government, international institutions, large companies, congresses and tourism, and the SME sector. The downsizing of the biggest pillar – the national government – means that Kool and his civil servants now have to rely on themselves to find other solutions. So they asked themselves: what can the municipality itself do best? In what area can it make a significant contribution to society? In what sector is there a need for something new that the municipality can help get off the ground? 'For us, Eindhoven was an important source of inspiration', says Kool. 'After Philips left, a flourishing tech-based industry developed there. After carrying out a study, we identified the safety & security sector as a promising option, with cybersecurity representing the biggest growth potential in that area. Cybersecurity was still hardly being talked about, whereas it was already quite clear that cybercrime would soon become a major problem. We responded by creating a hub that attracts companies and organisations and convinces them to set up a base in The Hague. That hub is The Hague Security Delta.

Strong starting position

Well-known major companies such as KPN. Siemens, Fox-IT, and Thales are based in the Hague region. Together with the then-ministries of Economic Affairs and Justice & Security and knowledge institutions such as TNO, the Hague University of Applied Sciences, and Delft University of Technology, these companies create a win-win situation when it comes to innovation and collaboration. 'With a bit of luck and lots of foresight, all of us - the so-called founding partners - established HSD together. We were already convinced that security, and certainly cybersecurity, would soon become an important theme. Research confirmed this. This new market was predicted to grow rapidly and create a great deal of new jobs. The HSD also formed a welcome expansion of the narrow economic basis underpinning the municipality.' Kool talked until he was hoarse in an effort to find partners for HSD and obtain the necessary financial resources. 'The European Union, the municipality, and the founding partners were the first ones to contribute, as they believed in the initiative and its benefits.' At the same time, he was also continually on the move, nationally and internationally, in an effort to learn from others who had already established successful clusters. He could also frequently be seen in Brabant and Twente, two regions that excelled in innovation, in an effort to strengthen and further mutual collaboration. --



Host to a pearl

The theme of security is logically and inseparably linked to the reputation of The Hague as a city of justice and peace. Kool: 'These three themes are inextricably intertwined and form the foundation of a properly functioning society. They form a trinity, whereby security is the youngest component in the proposition offered by The Hague. We must do our utmost to further develop this sector and encourage further job growth. Yes, we're talking about high-tech here, and it's about jobs for highly trained individuals. But it also creates extra jobs and income in a host of other

sectors, including cleaning firms, restaurants, hotels, and catering, retail trade, congresses and conferences, and tourism. In my view, the municipality is host to a pearl in the form of HSD - a pearl that deserves to be nurtured and cherished. In my role as chairman of the Economic Board of The Hague, I will continue to do my best in that regard. The overall security sector will retain its importance in the future, and the cybersecurity market will continue to grow in view of the global problems in relation to digital security. Via HSD, The Hague can continue to reap the benefits of these developments.



There are a great many organisations based in The

Hague who are working, nationally and internationally, to make our world a safer and more secure place for all of us. Security is a very relevant topic for society. That is also why The Hague has chosen to invest heavily in the development and growth of the security sector. The promotion and encouragement of collaboration between knowledge institutes, government organisations, and the business community has led to the growth of a thriving economic sector. This in turn works as a magnet for attracting new educational opportunities and businesses. The number of companies setting up shop in The Hague is steadily growing, as are the number of students and job opportunities in this sector. Stichting HSD marks its 5th anniversary. A great many people have worked very hard over the past years and are continuing to do just that. We expect growth to continue, and that is very important for the economy and job market of The Hague.

Saskia Bruines

City Councillor for Knowledge Economy, International Affairs, and Youth & Education for the



After the municipality of The Hague decides to set up a security cluster, The Hague Centre for Strategic Studies (HCSS) is commissioned to create this ecosystem within a period of two years. 'From the very start, it was my ambition to get government bodies, businesses, and knowledge institutions to work together and collaborate with each other', explains the project manager at the time Rob de Wijk. This so-called "triple helix" collaboration in the area of safety and security is innovative for its time and forms the basis of what is now called The Hague Security Delta (HSD).

s chairman of the National Security think tank, De Wijk soon discovers that the security sector is much too fragmented. Various government ministries, organisations, and businesses in this sector share his view. 'No one has a clear picture of which knowledge is already available. There is a lack of synergy, as the players involved either do not know or do not trust each other. Ministries and businesses are working on completely separate tracks or even at cross purposes. No one even knows what the market has to offer, literally and figuratively. At a time when issues of safety and cybersecurity are starting to attract a great deal of political attention, such a situation is becoming indefensible. By working together, we can make the Netherlands a safer and more secure place.' The result of all this is an increasing need to learn more about each other and collaborate with each other. HSD was also established to make this come true. -

□ | Effective differences

Collaboration doesn't just happen. Especially if the parties involved are still not familiar with each other and need to develop insight into each other's interests. De Wijk spends a great deal of time and energy on this area. 'Everyone has his own specific reasons for supporting HSD's establishment. Ministries wish to create safe and secure environments efficiently, effectively, and at acceptable costs. Knowledge institutions wish to develop and acquire the knowledge needed to do so. Businesses wish to expand their target market, and the municipality has its own interests in mind with regard to the economy and the job market.

This very diverse mix of interests is actually what makes the so-called triple helix form of collaboration so effective in coming up with solutions for security issues that have an impact on our society. Collaboration between the government and business sector had to be built up starting from zero, as the security sector has no history or tradition of such collaboration. 'The Ministries of Economic Affairs and Justice & Security at the time had to collaborate with HSD on "inventing the wheel". It had not yet been invented for the security sector. While doing so, we kept close tabs on the success factors behind Brainport Eindhoven as well as the Ministry of Defence, which had a rich tradition of pre-competitive and innovative collaboration with the business community.

In the end, it has become much bigger than we had ever thought it would

Pulling together

Over time, project manager De Wijk

saw increasing levels of trust developing between the government sector, business sector, and knowledge institutions. It's therefore no surprise that, after two years, the municipality and the management of HSD definitively decide to continue with the security cluster. In 2013, the HSD Organisation (Stichting HSD) is created, and in 2014 the HSD Campus opens its doors. 'In the end, it has become much bigger than we had ever thought it would. Significant players have made a commitment, the number of partners continues to grow, and projects focusing on innovation are coming on stream. But this does not mean that HSD can now take a breather. A great deal of hard work is still needed to bridge the differences, bring parties together, and leverage the power of triple helix collaboration to arrive at innovative solutions for contemporary security issues. This requires the support of all the partners concerned and the will to continue pulling together.'

WE HAVE LOTS OF CAPABILITIES, BUT NOBODY IS KNOCKING ON OUR DOOR

Mobilising against injustice

'If I sit around the table with clients in the military world, I'm generally dealing with specialists. Technical officers, for example, know the kinds of things you can do with a radar and understand the physical principles behind it. In the civil security world, that is not the case. As a result, there is a huge gap between what people ask of us and what is possible in terms of technological solutions.' We are interviewing Aart-Jan Smits, former member of the HSD management team and former director of Business Development for Thales Nederland. 'Precompetitive discussions are needed to bridge that gap.'

hales and other founding partners such as Siemens, Capgemini, and TNO are major suppliers for the Ministry of Defence. The defence market is characterised by mutual trust and discussions. 'Military people are used to working together with companies. They know full well that it's important to involve the developer of new technology in their operational problems. As a result, they can be certain that the solution provided will mesh seamlessly with their requirements.' In the years before the establishment of The Hague Security Delta (HSD), things were quite different in the civil security domain. The need for collaboration was not really recognised.

Targeted innovation

All that changed after 11 September 2001. The attack changed the world. 'The demand for security solutions soars', says Smits. 'A hybrid market starts to develop, in which defence applications are being used in the civil security domain, with or without modifications.' Due to his specific knowledge and expertise, he is appointed project manager for the Security roadmap in the leading High Tech Systems and Materials (HTSM) sector. His new position gives him the opportunity - without any commercial interest or the need for consultation with Thales – to help develop the sector further and bring the relevant parties together around the table. As in the Defence sector, he initiates discussions between government ministries, the business sector, and knowledge institutions. 'You first need to agree on the threats and potential solutions. Scientific institutions can then develop new knowledge in a targeted manner, and companies can innovate in the same way. The end result is that the Netherlands becomes a safer and more secure place, and the business sector has new products with which it can compete more successfully on an international level."

Precompetitive discussions

The creation of HSD meshes seamlessly with the efforts of Smits to work together within the framework of a "golden triangle" or "triple helix". 'Government agencies, companies, and knowledge institutions need to mobilise their efforts in the fight against injustice. -





→ HSD is the right organisation for organising those efforts. As an independent organisation, we have a neutral playing field available, the HSD Campus, where parties can meet and hold discussions. These precompetitive discussions on innovative security solutions are needed to bridge the gap between demand and supply. Our industry has a wealth of capabilities, but nobody asks for it because the party doing the asking simply doesn't have the relevant knowledge.

Integrity

That party is actually the government. And that can be a sensitive point. Government officials involved in policy tend to be rather hesitant when it comes to discussing matters with companies beforehand for several reasons. They do not want to provide too much information before a tender is granted, do not want to indicate any preference for a specific party, and do not want to give the impression of being recognised or honoured in any special way. 'Here again, you see a difference with the Ministry of Defence. There they know that not just the government but a great many companies as well - especially in the security sector - have integrity regulations in place. Partnerships and collaborations must always comply with these regulations. HSD passes this test with flying colours. In consultation with all the parties concerned, we have developed working methods that comply with the regulations and that allow for precompetitive discussions.' Smits is convinced that, without such discussions, the government party will always be "fighting yesterday's battle". He found it very motivating to discover that there were enough people who understood this and were willing, within government and the business sector, to stick out their neck for HSD.

Competition

During the pre-competitive phase, all the parties exchange ideas, knowledge, and information. They are not yet competing with each other in this phase, which makes an organisation such as HSD quite valuable for the government as the end user of security solutions. Smits: 'Companies realise that they are not alone in the world. Clients often use products from several suppliers and expect them to cooperate with each other. By collaborating on innovation. you strengthen the entire chain and deliver a better product to the end user together.' As Smits sees it, sitting around the table together, discussing trends, developing an agenda for new knowledge and innovation, and carrying out innovation projects are not competition-sensitive. 'The precompetitive phase is interesting and valuable for everyone, including small start-ups. Via an HSD Café or other session, they can hear what the end user is struggling with, can respond accordingly, and participate in innovation projects. Competition plays a role only later, during the development phase and the industrial application of an innovative proof-of-concept. In that phase, it's about specific product characteristics, service, and aftersales. And it's your skills that make a difference with regard to the actual sale.' In that regard, he points to the banking sector. For competitive reasons, they were initially not willing to provide any information about cyber-attacks. That changed only when they were already in danger of drowning. At that point, they got together - as a sector - and decided to introduce precompetitive discussions. 'As they do not compete with each other in the area of security, they are now doing much better', according to Smits. 'In contrast, sectors such as healthcare and education are lagging behind, as they are not organising this in a similar fashion. The security sector is doing so via HSD and, as a result, is leading the field. Collaboration is the key to further progress.'



Delta Programme Commissioner
Wim Kuijken was appointed as
the independent Chairman of the
Board of Management of HSD as of
1 January 2016. In his view, triple helix
collaboration and the facilitating role
of The Hague Security Delta (HSD)
will only increase in importance
within the context of the rapidly
changing world we live in. 'A further
professionalisation of our management
model is a logical consequence
of such a development.'

nsuring public order, safety, and security is one of the primary responsibilities of the government. But government is not the only party that deals with safety & security. 'The infrastructure that is so vital to our society is largely in the hands of the private sector', explains Kuijken. 'The government and the business community will therefore have to work together as equal partners on the basis of a shared responsibility in order to make the Netherlands a safer and more secure place for all of us.' According to the board chairman, this task is more complicated than in the water sector, where government organisations are the only parties with responsibility for the water infrastructure. 'That makes the presence of an organisation such as HSD even more important, an organisation that encourages collaboration, connects different parties within a network, initiates and stimulates innovation, establishes a triple helix agenda for knowledge development, innovation and acquisition, and helps businesses to expand the small Dutch market to the global arena. All the parties in the national HD security cluster are collectively doing the right things.' →

□ | Innovative strength

HSD has played an important role in the area of safety & security by bringing together government actors, the business community, and knowledge institutions. In view of the upcoming threats and the ever increasing pace of technological developments all over the world, Kuijken is convinced that this triple helix collaboration and the facilitating role played by HSD will only become more important in future. 'The national HSD security cluster is a network of partners that share knowledge with each other and innovate in order to develop more effective security solutions for society. Providing protection and security for our society is a future-proof activity with a solid economic growth potential, as digital and physical threats will always develop further and take on different guises than in the past. An appropriate motto in this regard is: 'becoming better is something you do together". It expresses the essence and innovative power of HSD

Driver for innovation

The ability to deal effectively with risks and threats via innovative solutions goes hand-in-hand with benefiting economically from such innovations inside as well as outside the Netherlands. According to Kuijken, the government is in fact an important driver for innovation in the (digital) security domain, as it is the most important player 'determining requirements' as well as client. 'In the coming years, I expect this government role to become even more important due to the projected increase in risks and threats. As a result, the social and economic aspects will become even more closely intertwined. This is an important factor for HSD partners. They are socially responsible entrepreneurs and are willing to invest in the long-term development of new products, but will in the end also need to make a financial profit in order to be able to continue investing in innovation. A government that acts as a 'launching customer platform' is of enormous assistance in that regard. The shared development of a long-term national security action plan and a (knowledge) investment programme would also help."

The government and the

business community have

to work together as equal

partners in order to make

the Netherlands a safer

and more secure place

Governance

In anticipation of the increasing importance of triple helix collaboration and the facilitating role of HSD in that regard, the board of management has decided to implement a more professional type of governance or management model. 'Over the past year, HSD has grown rapidly in number of partners and importance. This calls for a different management model. The management board will be independent and will have no formal connection to the founding partners. They will continue to be involved in HSD, but the present management wishes the triple helix parties to work together with a greater focus on obtaining results within the framework of the national HSD security cluster. This is a healthy development that is very appropriate for a future-proof organisation with ambition'

INTERVIEW

INNOVATIONQUARTER

ACCESS TO CAPITAL & MARKET



InnovationQuarter (IQ) is an important strategic partner for HSD. It is one of the investors within the HSD network and provides risk capital to innovative companies that aim to grow further. IQ also plays an important role in attracting foreign companies that wish to set up a base in the Netherlands. In doing so, IQ contributes to economic growth and job opportunities. Of course, these goals are also shared by HSD. 'Without each other, we would book less social return', says director Rinke Zonneveld.

great deal of interest in IQ's investment funds. A total of €137 million is available divided over three funds: IQCapital, UNIIQ and ENERGIIQ. The first fund finances innovative companies with a clear growth strategy, whereas UNIIQ invests in companies that wish to develop a proof-of-concept into an actual product. The last of the three invests in energy innovations focused on CO2 reduction, which is more in line with the other sectors in which IQ invests, such as high-tech & smart industry, horticulture, and cleantech. 'We invest primarily in companies that generate a social return on investment and that have a team in place in which we believe", explains Martijn van Hoogenhuijze, account

he security sector has shown a

manager for IQ. Together with his colleague Philip Meijer, he is responsible for discovering promising companies in the Safety & Security sector and for the acquisition of foreign companies. The companies in which IQ has invested in recent years include IHSD partners such as Cybersprint, Onegini and Andrupos.

Investors

IQ does more than just invest its own capital. It also brings HSD partners into contact with other private, public, and informal investors. 'We are the most active investment fund in the Netherlands. I dare say we know everyone in this sector worth knowing', says Zonneveld with a smile. Together with HSD and other partners, IQ regularly organises "access to capital" events, ⊢o

at which investors and businesses can meet each other on the HSD Campus. Van Hoogenhuijze: 'By leveraging our mutual strengths, we are able to assist HSD partners and other companies with a good pitch. The support provided by HSD to its partners is visible to investors and generates confidence. This allows us to attract investments and capital to the Hague region, which in turn has a positive effect on the regional economy and job market.

Target markets

Targeting the international market is important for innovative Dutch companies with a growth strategy. Together with HSD and other parties, IQ therefore organises various international activities. For example, this spring a

harbour safety & security. In the second quarter, a joint delegation representing Dutch cybersecurity companies was present during the "Japan IT Week" in Tokyo. Their shared goal was to help the Japanese market to make the digital infrastructure for the 2020 Olympic Games safe and secure. HSD partners also often work together to create a shared presence at international trade fairs and events, 'It can sometimes be difficult for individual companies to get a foot in the door, whereas a group of companies working together is often more interesting for foreign players. So HSD and IQ help companies to bundle their strengths and work together.' In addition, both organisations work hard to build knowledge and trade links with other strong security clusters in the world, thereby also helping to raise the profile of Dutch companies and their security solutions outside the Netherlands.

delegation visited Israel on the theme of

Drawing power

In Van Hoogenhuijze's view, the specific focus on safety & security provides the region of The Hague with a unique proposition compared to other regions in the world. 'This makes it easier for us to interest foreign companies in establishing a base in the Netherlands and the region of The Hague. The presence of the HSD national security cluster and the HSD Campus, which serves as an innovation centre, office location, and meeting centre all in one, provides us with convincing arguments in that respect. The Hague Security Delta is, after all, already a well-known name in the rest of the world.' IQ supports companies in Ottawa as well as Maryland - which are very strong cybersecurity clusters in Canada and the US respectively - with so-called soft landing programmes. Zonneveld: 'We facilitate them for a while, so that they can explore the market with assistance from HSD. In the other direction, this also holds true for Dutch companies.' Van Hoogenhuijze has noticed that foreign companies greatly appreciate this kind of "soft landing". 'They can build a network very quickly with the help of the national HSD security cluster and quickly find their way around in the safety & security sector. The HSD Campus enables them to come into contact with potential clients, resellers, end users, and suppliers. That represents a great deal of added value for them.'

The collaboration between HSD and IQ

Drawing card

over the past years has been very intensive. 'HSD is our drawing card', explains director Zonneveld. 'This national security cluster acts as a powerful magnet attracting other companies as a result of the access it offers to knowledge, innovation, talent, markets, and capital, the wealth of business activities surrounding it, and the unique triple helix collaboration that exists between government, business, and knowledge institutions. For our part, we help to charge this magnet by introducing our knowledge and expertise, making national and international networks available, and investing in innovative companies.' As far as the director of IQ is concerned, this collaboration can look forward to a long and sustainable future. 'The opportunities are there for the taking. Security is more than a buzzword. It's a crucial element of modern-day society. HSD is still young, but has already achieved a great deal. In the interest of the Netherlands, the province of South Holland, and the region of The Hague, I look forward to building further on our already strong mutual relationship.' -

Acquisition

International businesses and events'



BUSINESSES



*These results were obtained by the Security Acquisition Platform, consisting of InnovationQuarter, NFIA, The Municipality of The Hague, Chamber of Commerce and HSD Office



From day one, The Hague Security Delta works together with strategic partners who make an important contribution to realising its mission. The Chamber of Commerce is one of these partners. As soon as HSD is founded, the Chamber sets up a helpdesk for innovative companies named SME Connect. 'We make growth possible.'

or HSD partners and other companies in the security sector, SME Connect is the starting point for innovation and growth. They can contact this helpdesk for all kinds of business related questions, Chamber of Commerce (KVK) consultants Herman Hartgers, Kurt Jan Wiltenburg, and Jacob van der Vis are more than happy to share their knowledge on a wide range of topics such as international business, innovation, subsidy schemes, and legislation and regulations. Being at the centre of a large network, they can also make the right connections. 'We are very familiar with the HSD partners and what they are working on, explains KVK consultant Herman Hartgers. We also keep close watch on developments in the security sector as a whole. As a result, we can easily match entrepreneurs effectively and bring them into contact with each other. We do so, for example, for companies looking to innovate who are searching for a partner for that purpose.' Over the past five years, together with HSD, SME Connect has built a vast network of relevant parties inside and outside the security sector. 'We know all the ins and outs of the entrepreneurial landscape and can help

innovative SME companies with accessing the necessary knowledge, acquiring risk capital, finding a partner for innovation, expanding their target market, and recruiting new talent. In addition, we actively promote cross-sectoral collaboration, for example to ensure that innovations in the area of security and big data are also applied in other sectors.'

Matchmaking

Besides providing access to a large national network, via the Chamber of Commerce SME Connect also provides access to the Enterprise Europe Network (EEN), the largest support network in the world for SME companies with international ambitions. In this network, 600 member organisations located in over 60 countries provide support to entrepreneurs doing international business. One of the ways Hartgers assists Dutch companies is helping them find suitable trading and innovation partners within this network. 'Last year during the Cyber Security Week, we organised an international matchmaking event for that purpose, during which we scheduled over 500 interviews for more than 200 parties interested in each other.'



From left to right Martijn Poen (DIT British Embassy), Martijn van Hoogenhuijze (InnovationQuarter), Joris den Bruinen (HSD), Christy Wyatt (Dtex Systems), Olav van Haren (Dtex Systems), Chris van Voorden (InnovationQuarter), Philip Meijer (InnovationQuarter) and Eric van Pelt (NFIA).

Taking advantage of international opportunities is not only the ambition of Dutch companies with innovative security solutions. International players also view the Netherlands as a gateway for creating business opportunities in Europe. That's also why the United States firm Dtex Systems decided to establish a European sales and support office on the HSD Campus.

ith the arrival of Dtex
Systems, The Hague
and the National HSD
security cluster welcome a new cybersecurity company that is focused on "insider
threats". Olav van Haren, sales director,
explains why Dtex chose the Netherlands.

Strong culture of innovation

'In preparing our business plan for generating business in the Benelux, we looked at markets that have the highest need for detecting data leaks. The next question

was where we should set up a base. The Netherlands separates itself from the rest of the pack because it is viewed, internationally, as the "digital gateway to Europe" with a strong culture of innovation and the ability to quickly adopt innovations. As a cybersecurity company, it's important for us to be able to act and respond quickly in the security domain. The national security cluster with the HSD Campus as physical meeting place is the right platform for this. It offers us a great many opportunities for meeting new clients, talents, and partners and for collaborating with other parties.'

While searching for partners

and new markets outside the

Netherlands, Compumatica

Secure Networks came into

contact with HSD. As an HSD

partner, this company is now a

participant in the programme

'It's not as if new orders start

flooding in after one trip.'

Business Japan: Cyber Security".

"Partners for International

ACCESS TO MARKET

Doing business in Japan: 'It's all about trust'

utch companies and

knowledge institutions are working together within a consortium in order to position the Netherlands as a country that can ensure the cyber safety of Japan's vital infrastructure during the 2020 Olympic and Paralympic Games in Tokyo. The consortium emphasises the importance of protecting the energy, drinking water, and telecom sectors. The digital security of financial services and autonomous vehicles is also an important topic. In 2016, within the framework of the Partners for International Business (PIB) programme, the consortium members sign a partnership agreement with the Netherlands Enterprise Agency (RVO).

Trade mission

'The initiative for PIB Japan was born four years ago during a trade mission to Japan', explains CEO Petra van Schayik. 'The trip was so interesting that a number of companies decide to start a PIB together with the RVO. Coparticipant Alliander writes a collective proposal. The RVO approves it, and in 2016 we end up signing the official partnership agreement, which is accepted by the RVO. As a result, we have an effective organisation in the

Netherlands as well as in Japan that supports our PIB. That is of the utmost importance. HSD has an important coordinating role in this regard. You simply need a party that serves as a link between all the organisations and facilitates collaboration.'

In May 2018, the Japan IT Week will

Japan IT Week

take place. In connection with that event, PIB Japan will collaborate with a great many other parties to organise a mission to Japan. Participants include SecurityMatters, Compumatica, Redsocks Security, TU Delft, ReaQta, HSD and InnovationQuarter. 'We will have the opportunity to present our cyber propositions at the Holland Pavilion, with the goal of entering into new relationships with Japanese companies, knowledge institutions, and government entities.' During this mission, it becomes clear to Van Schayik how important the mutual collaboration between companies inside PIB Japan, the presence of HSD, and the role of the Dutch embassy in Tokyo all are. 'Together, we represent the Netherlands. That creates a feeling of confidence and trust abroad. As a small company on your own, you can't hope to accomplish this. ---



As an individual actor, you simply won't get the exposure and attention that you can get via the Holland Pavilion now. A national pavilion really has a much greater impact.'

Trust

Van Schayik is glad to give an example of how important trust is when it comes to winning a potential order. 'During the mission, we had the opportunity to demonstrate and test our product for a major potential client. The Dutch embassy was present during the demonstration. In a country like Japan, that is of crucial importance. It's clear to them that we are not just some single company, but that we have the support of the Dutch government. That can make or break the deal; trust is the key ingredient for doing business in Japan.'

Participating in the PIB requires a commitment in terms of time.

When asked what things companies with international ambitions should take into account, Van Schayik has a clear and simple answer: 'Don't be in a rush. Dutch entrepreneurs often want to achieve results very quickly, but in other cultures, especially when it involves cybersecurity, doing business demands a great deal of time. One of the reasons is that you need to build trust. Organisations that wish to start a PIB or to participate in such a programme should realise that it requires a great deal of time and investments, without any guarantee that the goals set out beforehand will actually be realised. 'So, don't think that new orders will start flooding in after one trip.' ⊢



Partners for **International** Business (PIB)

The Netherlands Enterprise Agency (RVO) operates various PIB programmes commissioned by the Ministry of Foreign Affairs. These programmes position (top) Dutch sectors within promising markets abroad and make use of the extensive government network abroad in doing so. The Netherlands has a global network of embassies, consulates, and **Netherlands Business** Support Offices (NBSOs) in place. The following organisations are involved in the PIB programme Japan: Alliander, Compumatica, European Network for Cyber Security (ENCS), Evidantly, Group 2000, InnovationQuarter, Radically Open Security, RedSocks, SecurityMatters, TU Delft, TU Eindhoven, ZiuZ and HSD.

Introduction partner model

The Hague Security Delta starts with the founding partners. Soon, in 2014, the partner model is introduced, based on founding, premium, and network partners. The number of partnerships steadily grows. By 2018, over 280 companies, government bodies, and knowledge institutions have joined HSD. From start-ups to scale-ups. From small and medium-sized companies to large enterprises. From industrial players to providers of vital infrastructure and government. In addition to Dutch organisations, foreign and international organisations with a base in the Netherlands also join HSD.

In light of its mission as a networked organisation, HSD works closely together with its many strategic partners, including InnovationQuarter, the Chamber of Commerce, the Municipality of The Hague, the Netherlands Foreign Investment Agency. the Netherlands Enterprise Agency, and EIT Digital. These partners strengthen each other as they have many shared goals, including acquisition, building international trade bridges. and enabling access to knowledge, innovation, markets, talent, financing, and capital.

Partners are crucial for the national HSD security cluster. Via the partner model, they commit themselves to the shared goals and contributing to their realisation. The end result is a sense of mutual involvement and proactive participation in collaborative ventures aimed at promoting innovation and knowledge development.

FOUNDING PARTNERS



















21







NETWORK PARTNERS



ALLIANCE PARTNERS





In 2014, Joep Gommers and Raymon van der Velde established EclecticIQ. The company builds software and aggregates information for cyber intelligence analysts in governments and big companies. They developed a new technology by themselves that makes it possible to automatically collect, analyse, distribute, and archive data on all possible forms of cybercrime and cyber espionage. They experienced rapid growth from the very start. So why are these out-andout entrepreneurs enthusiastic partners of The Hague Security Delta (HSD)?

clecticIQ has acquired millions of euros of investment capital, operates all over the world, and employs ■ 90 people in four different countries. 'And to think that it all started in an Amsterdam basement', laughs CEO Gommers. 'As geeks, we had a great idea and lots of ambition, but we thought it was a bit much to invite international defence organisations and intelligence services to visit us in our basement. By joining HSD, we immediately had a great location in The Hague for receiving our clients. That gave us the serious look and feel that we needed at the start.' By now, EclecticIQ has its own office location in Amsterdam. They use the HSD Campus to welcome important international delegations and for workshops.

In the course of our efforts at acquiring funding, we were regular speakers on the podium at the HSD 'Access to Capital' events.

Foreign delegations

In Gommers' view a good entrepreneur is not dependent upon HSD. 'You have to be able to take care of yourself, otherwise you won't survive in the long run.' But a security cluster such as HSD does make life quite a bit easier, especially for starters. 'It's a fact that, as a small Dutch company, you will not be visited by foreign delegations. But the municipality of The Hague and HSD regularly welcome such delegations. And HSD makes sure that they get to meet Dutch companies during their visit. That's how we succeeded in getting to meet international government players and companies and therefore expanding into new markets. ---

Gommers also puts his company on the map by using the HSD network to acquire funding and generate attention.

Trusted brand name

In practice, Gommers has found that HSD is a well-known and trusted brand name inside as well as outside the Netherlands. And that does have an effect. 'A security cluster needs to have a trusted and stable reputation in order to bring companies and governments together in a low-key and relaxed fashion. That is no easy feat. But still they succeed. In my view, that's a result

Via HSD, we succeeded in winning the NATO Cyber Security Center of Excellence incubator pilot. The HSD network makes it easier for us to do business internationally. Potential partners can find us more easily, and vice versa.

of the right intentions as well as the integrity of HSD Office, (HSD's operational arm).' He mentions the Cyber Security Week as an example. This theme serves as a focal point for organising events, workshops, seminars, and presentations where people from government, the business community, and knowledge institutions can meet and talk informally. 'That kind of thing helps to create mutual trust. And that's the key in the world of security.' And of course Gommers also benefits from such a week. 'My own agenda and that of my team are filled with new appointments afterwards.

Taking risks

'Young and innovative companies should be happy that we have Dutch government bodies, such as the municipality of The Hague and government ministries, as well as major companies that are willing to take risks', says the CEO of EclecticIQ. 'On the international stage, I see risk-averse behaviour in many markets. Only mature products that have already proven themselves are purchased. It's not like that in the Netherlands. New ideas and companies are actually supported here. The government is even willing to be the first party to buy a new product. Internationally, it's also a very important reference for other companies.' According to Gommers, our Dutch entrepreneurial culture makes it possible for young companies to succeed and continue growing. 'We are an example of this, and HSD plays an important role in that respect.

INGE PHILIPS



In October 2018, the third edition of the Cyber Security Week will be hosted in The Hague. As was the case in the previous two editions, Deloitte will once again contribute to 'this celebration of public-private partnership in the area of cybersecurity', explains Inge Philips. She is Director of Cyber Risk Services and sees it as her personal mission to make the world a safer place for everyone. 'Knowledge is the keyword in doing so.'

he numbers say enough. The Cyber Security Week (CSW) held in 2017 attracted over 4000 visitors, with 30% of them coming from outside the country. Businesses, government, and knowledge institutions have the opportunity for face-to-face meetings to discuss a variety of cybersecurity issues. 'It's the only week in which all the relevant parties can discuss the level of digital security in the Netherlands and set priorities', says Philips. It's therefore no surprise that she sees the HSD initiative as an excellent way to encourage publicprivate scientific collaboration. 'HSD is focused on bringing these triple helix parties together, and the Cyber Security Week gives these efforts an extra boost. Relevant players have the opportunity to meet each other, existing relationships are strengthened, and knowledge is shared.

Knowledge sharing

The municipality of The Hague, InnovationQuarter, The Conference The Hague, HSD Office, and Deloitte all worked together to organise the 2017 CSW. In collaboration with

hundreds of businesses, governments, and knowledge institutions, a varied programme was organised replete with events, presentations, workshops, seminars, and trainings.

Philips sees it as very important for so many parties to share their knowledge. 'That's what cybersecurity is about. In order to make our country a safer and more secure place, it's critical that we work together and strengthen each other. HSD is one of the places where this can take place and is effective.' She suits her actions to her words during the Cyber Security Week by sharing the aggregated knowledge of Deloitte on the status of cybersecurity in the Dutch business world. 'As we provide support to a great many leading companies in the area of cybersecurity, we have a good idea of which cyber-attacks are taking place and which threats are really relevant. This knowledge can help governments and knowledge institutions in setting out priorities. It would, of course, be unfortunate if they were to focus on a specific issue or a threat, while our data points in an entirely different direction. In that respect, we function as a kind of reality check.' --

Podium

Deloitte also shares knowledge by publishing studies and issuing reports. For example, during last year's CSW, Philips presented a report titled "Dealing efficiently with cybercrime, Cyber Value at Risk in The Netherlands", which mapped out the digital security of the SME sector and corporate businesses. The report was presented to Maarten Camps, Secretary General of the Ministry of Economic Affairs and Climate Policy. During a Kids Hacklab, Deloitte also encouraged kids to be more security conscious when going online, and ethical hackers from Deloitte showed off their skills during the Global Cyberlympics final. The Deloitte team took first prize for the sixth time. Philips: 'We take knowledge sharing very seriously. In view of our standing and position, we are almost obliged to do so. So it's only logical that, outside the CSW framework, we are also active in schools and on the podium. After all, security starts with knowledge.

Drawing power

According to Philips, an important spin-off of the Cyber Security Week is that it strengthens the drawing power of the Dutch cybersecurity sector. 'The sharing of knowledge on a large scale makes it clear that large as well as small cybersecurity companies collaborate and leverage each other's strengths under the umbrella of the HSD security cluster. It also shows that the government, knowledge institutions, and businesses know how to find each other and aim to work together for the benefit of society as a whole. In combination with the wealth of disciplines represented in the field of cybersecurity, our sector clearly has an interesting career perspective to offer. This is crucial when it comes to attracting national and international talents, for example via the "access to talent" events organised by HSD.' -



Institute for **Financial Crime**

the Institute for Financial Crime (IFFC) established by him in 2015. He is very enthusiastic about HSD due to the many areas of overlap in the areas of safety/security, cybersecurity, and forensic investigation. 'Trust is the foundation underlying our society. Financial and economic crime undermines that trust. The IFFC acts as a kind of "glue" between the many different public and private parties involved in fighting such crimes. We also encourage innovation through research, collaboration, and education. With roughly 50 participants, we actually form a kind of mini security cluster in this specific area. By setting up shop on the HSD Campus, we not only encourage "cross pollination" within the financial-economic sector, but also across different sectors with other HSD partners.' HSD-partners."



BELGIUM CANADA COSTA RICA **DENMARK GERMANY** FINLAND INDIA ISRAËL ITALY JAPAN **NEW ZEALAND AUSTRIA** POLAND SINGAPORE SPAIN TAIWAN CZECH REPUBLIC UNITED KINGDOM UNITED STATES SWEDEN

Strengthening resilience and security - together

HSD brings government, businesses, and knowledge institutions together, based on the shared perception that resilience and security can be strengthened at an acceptable cost to society only by working together for the common good. Over the past five years, this so-called triple helix collaboration has laid the foundation for a great many different

innovations and new products. The "HSD collaborative model for security innovations" was developed in 2017 with the goal of providing support for this kind of collaboration from HSD Office. This model is based on four successive phases: exploration and definition of the problem at hand, consortium creation, getting down to work, and harvesting.

In the final phase, HSD partners receive support for the presentation and potential (international) marketing of new products. In order to contribute to a safer world and create opportunities for registered partners, HSD Office works not only with national but also with international partners. For example, within Europe, HSD Office collaborates with ---

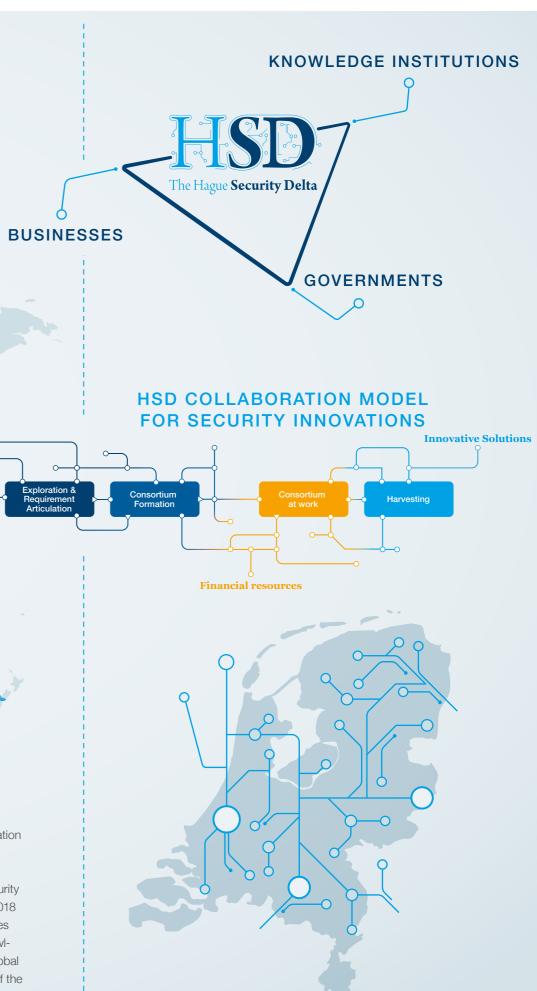
the safety & security clusters in France, Denmark, Finland, and Germany. Examples of collaboration with partners in Asia include the Hyderabad Security Foundation (HSF) in India. This safety & security cluster is being established in 2018 and will be structured on the lines of HSD. On a global scale, knowledge sharing takes place via Global EPIC, for which HSD was one of the

founding members. -

Businesses

Governments

Knowledge institution



INTERVIEW



The concept of a "campus" was introduced in 1998 by Michael Porter as the physical location of a cluster of specialised companies, supported by government and knowledge institutions. Michael is a professor at the Harvard Business School and a leading expert in the area of strategy and competition. His concept was soon put into practice all over the world, including the Netherlands. Marco van Lente, partner at Twynstra Gudde, describes the factors that make a campus successful.

ccording to Porter, clusters of companies are necessary in a global economy to strengthen the national and international competitive edge of cities and regions and to yield economic benefits at the local level. 'So you often see municipalities taking the initiative when it comes to developing and expanding clusters in order to provide a boost to the local economy, job market, and innovation. They can, for example, choose to differentiate themselves by focusing on specific themes so that their city becomes an attractive location for specialised start-ups, national and foreign companies, government organisations, and knowledge institutions. In addition, they can also establish a campus which then serves as a physical hub and meeting point for these activities.' According to Van Lente, this can have all kinds of favourable spin-off effects, including a reduction in unemployment, new office building construction, an influx of highly educated students and more customers for hotels, cafés & restaurants. and catering firms. -

A proactive municipality

In Van Lente's view, the presence of a proactive municipality that is prepared to make a long-term investment in a cluster by supporting a physical campus is an important criterion for success. Initially, businesses are often rather hesitant when it comes to entering into new cooperative ventures, starting innovative projects, and participating in the campus concept. 'When a campus is first established, they often know very little about the expected return on investment. Major investments are therefore considered too risky. That is also why municipalities as well as other government agencies reduce the level of uncertainty by providing financial subsidies and encouraging the development of a campus. Generally speaking, it's impossible to predict how long such support will be needed. But based on my own experience, I can say that five years is at any rate a relatively brief period when it comes to establishing a national campus and getting a clear idea of the added value of such a campus for potential partners. The Hague, for example, has been actively profiling itself as a "city of peace and justice" for 20 years now, resulting in a major international judicial cluster and a campus near the University of Leiden that focuses on international law, peace, and security. But in the long run a campus needs to be self-sustaining without any major financial contribution from the government.

Fertile soil

The Netherlands has a wealth of hubs, valleys, clusters, and campuses. Some of these have difficulty surviving the start-up phase. As an expert in cluster formation, Van Lente is familiar with potential pitfalls and problems, 'In the Netherlands, a campus often starts out as a local or regional initiative. Such an initiative needs fertile soil to thrive in, which needs to be anchored in the existing local or regional economy. In the case of Brainport Eindhoven, the high-tech industry in the region, with ASML as an important driver, served this purpose. Deventer can find nourishment in the chemical expertise of local companies, in particular the major chemical firm Akzo. And in The Hague, the security sector can thrive in the lush soil provided by The Hague Security Delta. That, by the way, is a rather special achievement in view of the fact that this sector was not that big at the start. It also shows that you can grow a big tree from a small seedling if the right parties bundle their strengths and commit themselves for the long term.

Intrinsic motivation

'Organisations and knowledge institutions that participate in a campus need to be intrinsically motivated', adds Van Lente. 'This means that they not only reap but also sow. They have to add something to the mix, based on the philosophy that the whole is more than the sum of its parts. The campus is only as strong as the collaboration of its partners. The most important factor here is the added value provided by partners for each other, and not simply the added value provided by the campus management or the operational arm of the HSD national security cluster.' In Van Lente's view, the Brainport Industries cooperative in Eindhoven, consisting of 90 companies in the production sector, uses an interesting method to maintain a good balance between input and return. Companies that wish to become a member must affirm beforehand that they are prepared to share knowledge with competitors/colleagues and other parties within the cluster. The Campus management can then remind them of their commitment if they fail to deliver.

Leveraging partner relationships

Why are you a member and a campus participant? What do you need? And what can you add? The cluster or campus management should know the answers to these questions in order to take the specific interests of the partners into account and leverage their respective strengths. Van Lente adds that it's also important for the partners to be involved in the preparation of a long-term innovation agenda, which describes what the trending topics are and how the partners can respond to and benefit from them collectively as a cluster. This then leads to annual programmes to which all the partners contribute. 'It's important for partners and management to keep each other on their toes and be willing to criticise each other when necessary. After all, in the final analysis, they are the ones who collectively define the concept of the campus and determine how it is put into practice or modified in response to new opportunities and developments.' -

Flywheel for start-up phase

Viresh Jagesser's (26) Anti-Fraud Company helps municipalities in improving their information position and to tackle crime and fraud. "HSD is our Flywheel".



Municipalities possess eyes and ears on the street, such as the police, special investigative officers, neighbourhoodteams and landscapers. Suspicions

regarding crime and fraud do not always reach the correct department, or it is not reported because the person in question does not know where he can report his information. "Our platform: 'Report a Suspicion' is for this reason the solution." Via HSD a greater number of poten-

tial customers has become available to Jagesser than his three-man team could realise on their own.

"A solid network is crucial in the start-up phase. Via HSD, I meet people in the security sector and I can approach connections easily. This leads to new

> developments. I have, for example, interested the municipality of Zoetermeer. And we partner at this point with consultancy firm Van Aestsveld. We are collaboratively writing a whitepaper and deliver a contribution to a HSD Café. What is unique is that our small business can

be present at international expos and events. We can only do this with the HSD as flywheel."



Fast growth

Cybersprint has existed for two-and-a-half years and is established on the HSD Campus. At this point, the company of Pieter Jansen (36) has grown from two employees to eighteen employees and has move from 24 square meters to 100 square meters. "We realise our growth in the HSD-environment."

Fully automatic, the 'searchmachine' of Cybersprint maps out the digital risks and threats for governments and businesses. "You do not know where the threat comes from and what it will specifically focus on. This is why we scour the internet and the dark web as broadly as we can to look where your security risks are and where you could possibly be hacked". Cybersprint belongs well in the HSD-environment, according to Jansen. In a single day he can meet a professor, a CEO and a civil servant on the HSD Campus, with similar issues but differing perspectives. "That knowledge and those meetings are enriching. It is not immediately about sales, but about knowing what is happening, claiming the benefit with this

and finally pass this through to a different HSD-partner." The HSD-network is one of the factors involved in the

rapid growth of his business. "We have gained access to capital via InnovationQuarter. Via SME Connect we are given access to networks in different countries. This is of aid in finding partners who are already connected to our dream customers, so that we can reinforce and strengthen them and the customer. HSD draws many visitors, which grants us the opportunity to pitch infront of foreign delegations. Trade missions open up many opportunities for us."

Great networking opportunities

StartPage.com has been based on the HSD Campus since September 2016. Alex van Eesteren, Director of Business Development, is particularly impressed by the wealth of networking opportunities. 'A chance meeting with encryption and privacy expert

Phil Zimmermann on the HSD Campus initially led to a close collaboration. In June 2018, he joined our workforce. He's supporting our developers in the development of an email service with a new generation of PGP encryption.



startpage



Opening **HSD Campus**



Grand from HSD incentive fund

Hans Henseler former Managing Director at Tracks Inspector works now at Magnet Forensic. In 2015 his company Tracks Inspector received a grant from the HSD incentive fund for the Digital Evidence Dashboard (DED) project. 'We wrote

our project proposal in collaboration with HSD partners TNO and In-Pact. The grant we received allowed us to innovate in the initial phase of the project in spite of our limited budget. The HSD network was instrumental in this regard.'



HSD Campus centre of activities

Fantastic Ilaboratio

Activists in Arab countries are at great risk. If they're discovered, they often end up paying with their lives. Elisabeth van der Steenhoven, director of Karama Europe, therefore made a well-considered choice in joining HSD. 'Within this national security cluster, I can find a world of knowledge on cyber security and encryption. This

knowledge is critical for our efforts to protect activists, particularly in war-torn areas. Within that framework, we were fortunate in being able to start a fantastic collaboration with HSD partners Tymlez and Focafet. They built the very first blockchain for activists in the Arab world. Via them we have now also started a collaboration with Microsoft.





National partnerships of government agencies, businesses, and knowledge institutions are active all over the world. These ecosystems originated separately from each other and play an important role within their country when it comes to digital security, innovation, training new talent, and investing in security. However, they all have to deal with practically the same cybersecurity issues. After all, cybercrime does not respect borders. At the end of 2017, 20 countries comprising 14 ecosystems and 3 continents decided to work together within a framework called Global EPIC.

y globally sharing national ideas and initiatives and implementing global initiatives on a national level, it's possible to accelerate new developments and innovations and raise the level of digital security to the next level. The Hague Security Delta (HSD) was involved from the beginning in the founding of Global EPIC (Global Ecosystem of Ecosystems Partnership in Innovation and Cybersecurity).

Greater effectiveness

Global EPIC focuses on the global sharing of knowledge and expertise. The participating ecosystems also make use of each other's facilities, tools, networks, and research data. Collective trend analyses are used as a basis for evaluating new cyber risks and deciding which measures need to be taken

against them. In addition, the collaborating ecosystems will work more closely with each other in relation to policy matters and well advise their governments accordingly, with the aim of implementing a consistent and shared global approach.

Digital defence

'Together we stand stronger, and together we have more clout', according to Richard Franken, HSD director. 'You cannot solve cybersecurity problems alone. Government, businesses, and knowledge institutions need each other. But even that is no longer sufficient in a time when international security issues are becoming increasingly complex. We need to work together and support each other on a global level in order to make more progress in establishing an effective and innovative digital defence.'

In 2018, Global EPIC will participate in the Cyber Security Week.

Global EPIC

The 14 cybersecurity ecosystems all over the world that collaborate within Global EPIC are: Centre for Secure Information Technologies (U.K.), The Hague Security Delta (Netherlands), Global Cybersecurity Resource - Carleton University (Canada), University of New Brunswick (Canada), Cyberspark (Israel), CyberTech Network (U.S.A.), The Kosciuszko Institute (Poland), Politecnico di Torino (Italy), La Fundación INCYDE (Spain), Cyber Wales (U.K.), bwtech@UMBC (U.S.A.), Procomer (Costa Rica), Innovation Boulevard Surrey, BC (Canada), CSA (Singapore).

Space satellite applications for Justice & Security

How can innovative products and services, based on satellite and space technology, provide a solution for the social challenges faced by the Ministry of Justice and Security (JenV)? How can we come into contact with companies and knowledge institutions in this specific field? And how can this contribute to the innovative ecosystem of JenV? In 2015, these questions resulted in the innovation programme, "Satellite applications for the Ministry of Justice and Security", in which HSD Office is involved as a programme partner.

his programme, which operates within the triple helix framework, is focused on the purchasing and utilisation of products and services based on satellite technology. Via this innovation programme, the Ministry of JenV also aims to gain experience with the deployment of new technology for dealing with the challenges faced by JenV, publicprivate partnerships, the involvement of external partners, and innovation-focused purchasing. An innovation scheme such as Small Business Innovation Research (SBIR) is an example of innovation-focused purchasing. The innovation programme originally started as a project intended only for JenV, but the ministries of Defence and Finance also soon came on board.

Tech-focused dialogue

'It's the first time that our ministry is involving the market and knowledge institutions in social issues at such an early stage and thereby actively looking for collaboration', explains Bertwin Lussenburg from the JenV Innovation team. 'It's a serious challenge, but HSD Office has, in its role as triple helix facilitator, provided us with support in the form of knowledge and contacts with businesses, knowledge institutions, and government agencies in the security domain. For example, HSD Office staff have helped us with defining our issues in greater detail, entering into a tech-focused dialogue with knowledge institutions, exploring the market, and setting up consortiums.'

Seven consortiums

The search for new innovations started

three years ago on 8 September 2015, during one of the tech cafés on the HSD Campus where the power and scope of application of satellite data were explored. By now, the programme has resulted in seven concrete research & innovation projects, ranging from carrying out more efficient searches for drug waste, detecting forest fires earlier on, and searching for and finding buried objects. The organisations participating in these consortiums include the following: National Police, FIOD (Fiscal Information and Investigation Service), DJI (Custodial Institutions Agency), NCTV (National Coordinator for Counterterrorism and Security), Human Environment and Transport Inspectorate, Ministry of Defence, Public Prosecutor's Office, Social Affairs and Employment Inspectorate, Dutch National Fire Services, National Police Internal Investigations Department, RIVM (Netherlands National Institute for Public Health and the Environment), KMAR (Royal Netherlands Constabulary), IFV (Netherlands Institute for Safety), LOCC (National Operational Coordination Centre), NLR (National Aerospace Laboratory), TNO (Netherlands Organisation for Applied Scientific Research), TU Delft (Delft University of Technology), University of Twente, Airbus, NSO (National Standards Organisation), TWNKLS and PIANOo. →

DEWIJK VAN

How can public safety & security services fight cross-border cybercrime? And how can cyber criminals be prosecuted once they are tracked down? The answer to these questions is not all that simple. But one thing is clear: within the justice department, there is a need for more knowledge and manpower to fight cybercrime effectively. And that is also why the Public Prosecution Service (OM) decided to collaborate with HSD at the end of December 2017.

odewijk van Zwieten, senior public prosecutor at the District Public Prosecutor's Office of The Hague, believes that the OM must be a reliable partner in the fight against cybercrime. 'Clear guidelines are very helpful in that context, for example with regard to the penalties that apply to different forms of cybercrime. As the cybercrime landscape is subject to rapid changes, it's important to ensure that the OM is able to respond flexibly and effectively. That's also why it's important for us to stay on top of new developments and to remain innovative in our working methods.'

Open doors

Close links have existed between the OM and HSD for some time now. In the summer of 2017, the top echelon of the Dutch criminal law chain visited the HSD Campus to learn more about the innovations available on the market in the field of security and how these can be of use in the criminal law chain. There are also frequent contacts with Testlab, the OM's innovation platform, and experiments are carried out in close collaboration with each other. 'We are open to new developments, but at the same time we also respect the rights of suspects as well as the interests of victims and the security of society as a whole', explains Van Zwieten. It's clear to the OM that HSD and the HSD network can make a valuable contribution when it comes to encouraging innovation within their organisation and developing existing concepts into useful products. 'An effective strategy for dealing with cybercrime must be based on more than detection and prosecution alone. Collaboration with public and private partners is essential, for example in order to neutralise technical infrastructures set up by criminals, to inform (potential) victims, and to prevent crime. Collaboration with HSD opens doors for the OM to collaborate with valuable partners and build a network together that can be used to fight cybercrime effectively.

An effective strategy for dealing with cybercrime must be based on more than detection and prosecution alone

Ongoing improvement

Michiel Zwinkels, Deputy Chief Public Prosecutor at the District Public Prosecutor's Office of The Hague, is convinced that collaboration with partners in the security domain is one of the added values of partnership with HSD: 'Active participation in the national HSD security cluster is essential in the rapidly changing world in which we live. The ever increasing pace of technological developments requires innovative thinking. The OM believes that collaboration between the public and private sector will make it possible to combat cybercrime more effectively. Collaboration in the battle against cybercrime is more relevant than ever nowadays.'

Innovation programme

The OM and HSD have already collaborated in launching an innovation programme that deals with a number of important themes. For example, on the theme of "ethical hacking", an HSD Café was organised in which the OM and ethical hackers from the HSD network held several discussions. As a follow-up to this initiative, a collective brainstorming session took place that helped forge closer ties. On the theme of "open innovation", a number of thought leaders from the (cyber) security sector held a round-table discussion during an open-innovation session on computer crime. In addition, the OM has already contacted other HSD partners, such as the Cyber Security Academy (CSA) and ICTU to examine the possibilities for further collaboration.

HSD Office as the nerve centre

On 13 February 2014, then-Minister Opstelten of Justice & Security, Mayor Van Aartsen of The Hague, City Councillor Henk Kool of Economic Affairs, and project director Rob de Wijk opened the national innovation centre for security: the HSD Campus. The Campus is the home base of HSD Office, the operational arm of The Hague Security Delta Foundation and the nerve centre of the national HSD security cluster.

HSD Office has different roles, depending upon the specific issue at hand and the

level of collaboration already realised between the businesses, knowledge institutions, and government bodies involved. It often takes on the role of facilitator, matchmaker, network director, booster, programme manager, or quartermaster in the area of triple helix collaboration.

The HSD Office team consists of a directorate, 14 staff members, and 2 interns (12.2 FTEs in 2018). Richard Franken is general director and Joris den Bruinen is adjunct director.



















- 2. Matchmaking event during the Cyber Security Week 2017
- 3. One of the many HSD Cafés
- 4. De University of Leiden opens in October 2017 an IoT forensic lab



8. Visit of the Ukrainian minister, May 2018

7. Launch platform Security Talent by former Deputy Mayor of The Hague Ingrid van Engelshoven, December 2014

5. Team HSD Office, January 2018 **6.** Provision of information about finance and capital at the Access to Capital

event, April 2017

- 9. Saskia Bruines, Deputy Mayor Education, Knowledge economy and International of the Municipality of The Hague, welcomes new HSD-partners end 2017
- 10. King Willem-Alexander visits the HSD Campus, March 2017



INTERVIEW

BRUINEN

DEN



Joris den Bruinen was involved in the creation of The Hague Security Delta (HSD) from the very beginning. Initially as policy adviser for the municipality of The Hague. With that track record and as deputy director of HSD, he was given the task of getting this national security cluster up and running. He was interviewed about the old days, the present, and tomorrow.

What was your personal motivation to work long days for the last five years on the establishment, expansion, and further growth of the HSD?

I really enjoy working to benefit the city of The Hague, which is very dear to me. This is where I live, where I work and raise my children, and where they go to school. My goal is to create opportunities for them and the other residents of The Hague. I'm convinced that such opportunities abound in the area of safety & security and more specifically cybersecurity. This innovative growth market is a motor for the job market and provides economic benefits for the city and the Netherlands as a whole.

In what way does HSD play a crucial role in the security sector?

It's not the job of government to develop products, but it is responsible for ensuring the safety & security of the public as effectively as possible. The solutions for issues of public safety & security must therefore come from the private sector. Private companies want to innovate and develop products, but they also want to have the perspective of a potential target market in order to recover their investments. Knowledge institutions possess expertise in the area of technology and innovation, and educational institutions are the ones training new talent in the area of security. In short, the relevant parties need each

Who is who in the HSD family?

HSD Foundation: the legal persona of the HSD national security cluster within which collaboration takes place between government, private business, and knowledge institutions.

HSD Office: the operational arm of HSD Foundation.

HSD Campus: the location where HSD Office and various HSD partners are based. This is also where most of the HSD events take place. This physical location is rented from the municipality of The Hague.

other in order to develop and implement public security solutions. HSD Office is the "accelerator" that brings parties together, bridges cultural gaps, makes it possible to discuss differing interests, and ensures that all the relevant parties work together to develop and implement innovative security solutions for the good of all. That is a very difficult goal to achieve without an independent organisation such as HSD, which has an intrinsic motivation to strengthen security as well as the economy.

How do you contribute to increased security?

It should be obvious that no single government organisation or company can solve the complex security issues of today and tomorrow by itself. That is also why we assist the government in making its needs clear to the business community. Within that framework, we also facilitate precompetitive discussions with various companies. We also encourage knowledge institutions to develop new knowledge on specific topics and to make that knowledge available within our security cluster. We assist companies in gaining access to knowledge, innovation partners, capital, talent, and international markets. In doing so, we work closely together with other parties such as InnovationQuarter and the Chamber of Commerce. In our role as an independent "accelerator", we can bring all the triple helix parties to the table, initiate collective innovation projects, and establish consortiums. HSD Office acts as programme manager for these partnerships. We also

take the initiative for innovation projects ourselves if we notice that a specific topic is not getting the focus it deserves. In addition, we provide studies, reports, and publications in support of our partners. Finally, we also organise knowledge exchanges, content-focused meetings, and international knowledge and trade links. Everything we do is aimed at increasing public security and strengthening the economy.

Are there hard facts and figures available proving that HSD actually strengthens the economy of The Hague?

That is an excellent and justified question. HSD definitely contributes to the economy, but it's difficult to scientifically prove a direct causal relationship with the facilitating activities of HSD. However, a logical relationship definitely exists between the interventions and output of HSD Office on the one hand and increased innovation and collaboration on the other, which enables our partners to accelerate their growth. Of course, they are the ones realising this outcome, and we cannot simply take credit ourselves for their results. A direct causal relationship can be shown to exist with an increase in the number of new companies and congresses setting up shop in The Hague and the Netherlands. These numbers have increased during the past year. HSD Office is also the driving force behind the Cyber Security Week. More than 4000 visitors from over 70 countries came, generating revenues of over € 2 million for the economy of The Hague.



The relevant parties need each other in order to develop and implement public security solutions.

How do you look back at the last five years?

At the beginning, we worked ourselves to the bone in order to get the security sector moving. We had almost no financial resources and no time to systematically store our knowledge, structure our work, or reflect on our actions. After the initial years, we were able to operate in a more professional and structured manner, and we started using the HSD Campus as the hub of our activities. But we continued to move forward as fast as possible without taking the time to reflect and look behind us. As a result, we were sometimes justifiably criticised with regard to the added value provided by HSD for our partners. But after five years, there is now a professional organisation in place that I can be proud of. In the next phase, we will focus even more on providing added value for our partners and making our input, output, and contribution to the outcome more visible. We will also focus more explicitly on collaboration with the various government ministries. HSD Office will continue to function as an "accelerator" that connects and brings parties together in order to create increased security and a stronger economy. -

HSD OFFICE EMPLOYEES TELL THEIR STORY

'People always, seem surprised'

Visible through alignment

'As communication manager, I was responsible for the communication strategy and its implementation from the very start of HSD. During the initial years, we were focused primarily on positioning the HSD security cluster and raising its brand name. The next phase was all about proving ourselves: 'are we actually doing what we claim to be doing, and what is the significance of our work?' Now, we are focusing more on raising the visibility of the results realised - by our partners as well as HSD

Office. The alignment of partners is an important element in HSD's communication strategy. This works both ways: we offer HSD partners a podium via our communication resources and they help to communicate the HSD story via their channels. So, we strengthen each other's message and are able to reach a larger public as a result. Without this form of cooperation, it would never have been possible to raise HSD's public profile as a national security cluster inside as well as outside the Netherlands.



CHANTAL DE NIET COMMUNICATION MANAGER



It's amazing to see how strong the network has become

Connecting areas of expertise

MARK RUIJSENDAAL INNOVATION LIAISON

'I've known HSD from the initial drawing board phase when I was working for TNO, a founding partner. It's amazing to see how strong the network has become and how much reach it has. In my daily work I'm responsible for the Human Capital programme. For which I've worked with various partners to develop the "Human Capital Action Agenda for Cyber Security". The aim of this agenda is to bridge the gap between education and employers and to attract and train talents. An example of this is the P@CT-

programme in which 15 partners work together to further the development of vocational level professionals in the area of Cyber Security. My work also indices several innovation programmes such as big data, real-time intelligence, and urban safety and security. The rapid pace of technological and social developments not only create new opportunities but also new threats. What makes my work so fascinating is the diversity of topics and the ability to connect the expertise of the triple helix partners.



People are always surprised to find out how few people actually work at HSD Office

Information for foreign delegations

BERT FESKENS INNOVATION LIAISON

Over the past years I've seen how HSD has rapidly grown into a national security cluster. We also receive requests quite reqularly from other countries to explain how HSD actually works. People are always surprised to find out how few people actually work at HSD Office, in contrast to HSD's major reach. Many other countries are eager to learn from us how they can also set up such a cluster. As a result, we welcome foreign delegations several times a year.

In my role as innovation liaison, my focus is mainly on HSD's international activities. I also supervise several innovative programmes, including Cybersecurity

Awareness, Cybercrime, and the innovation programme "Satellite applications for the Ministry of Justice & Security". The latter programme is really a best practice for effective collaboration between triple helix partners. Bringing these partners together is an important part of my work. I do this in various ways: within an innovation programme, within a business programme such as "Partners for International Business", or in a knowledge-based session such as HSD Café. What interests me most in my work is the ability to help various players to become and remain successful in a world where security issues are rapidly becoming increasingly complex.



HSD Café: Transfer of knowledge and networks

A friendly point of contact

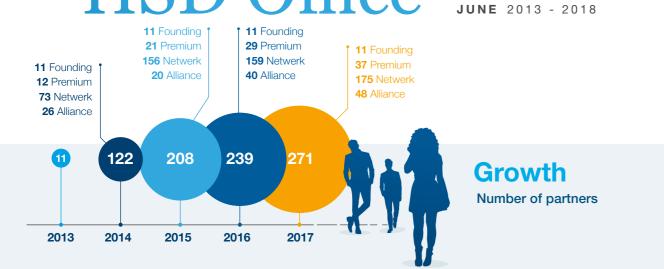
'If a third party is interested in becoming an HSD partner, I am the initial contact person. I provide them with the necessary information. If they have a question I can't answer, I make sure they get an answer from one of my colleagues, or a consultant from SME Connect, or someone else. Once a third party actually becomes a partner, they can contact me to provide updates on changes, to make contact with other HSD partners, or to organise an event on the HSD Campus. I interact on a regular basis with a great

many different parties inside as well as outside the country with regard to a wide range of topics. Over the last several vears. HSD has established itself as a well-known national security cluster with a strong reputation. In addition, I help my colleagues in organising events, and I manage the agendas of both directors. I am often the first HSD employee people come into contact with. So I think it's very important for me to always be friendly and helpful. After all, I am HSD Office's point of contact.'



RHIZLANE EL GHAMARTI EXECUTIVE SECRETARY

HSD OFFICE



Acquisition Businesses 2016 **Acquisition** Conferences 2014 2015 2016



Growth

Number of visitors to HSD corporate website

Developments HSD Office







Amount Files HSD Office		
2013	0	
2014	6,5	
2015	10	
2016	12	
2017	12,2	

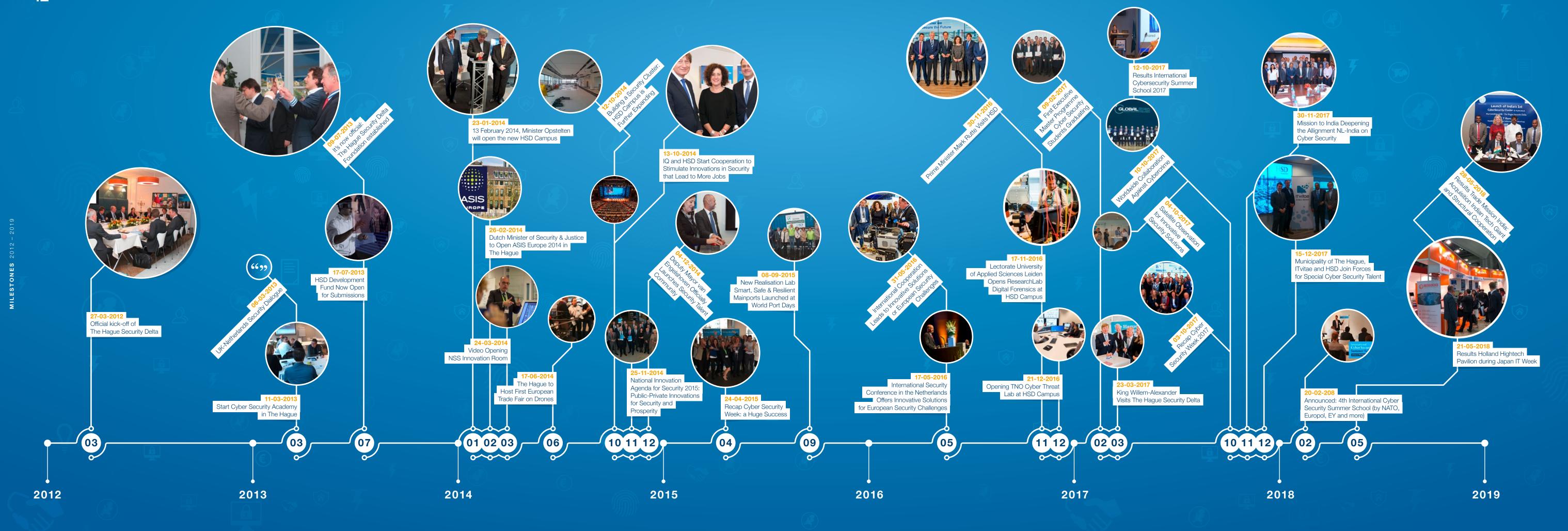
2013	0
2014	1.660.000
2015	1.500.000
2016	2.366.000
2017	2.367.911

Revenues HSD Office

Expenses HSD Office		
2013	0	
2014	1.462.990	
2015	1.500.000	
2016	2.367.000	
2017	2.361.498	

Goals of Stichting HSD	Output (What was delivered by HSD Office)	Outcome output: HSD Office makes a contribution
		to economic value/outcome
Continue expanding		Knowledge circulation
a visible and operational	64 HSD Cafés	
knowledge cluster	34 contributions to events & 161 speaking opportunities at events	
	 10 knowledge reports & 5 Issue briefs Report 'Blessing in the skies: test facilities for drones in Twente and formerly Valkenburg. TUS Expo: 1st edition 300 visitors Big Data report: 2 security projects initiated (event security & undermining) 	€ 1 million of economic spin-off TUS Expo
	1 National Security Innovation Agenda	
	establishing collaboration between 6 European security clusters	
	co-founder of Global EPIC for 14 international cyber security ecosystems	
	5 MOUs with international security clusters	
	2 meetings of EU security clusters	
	2 Cyber Security Weeks: 110+ events, 6000 visitors from 70 countries	€ 2.6 million of economic spin-off€ 5.5 million of online media value
	SRIE 2016: 700 visitors, 37% international	€ 180.000 of economic spin-off
Proactively facilitating consortiums and contributing to transparent relationship between	2 consortiums for H2020 with 3 parties	 I-Lead: € 527.000 of EU funding EIT Digital Proposal Waffle: circa € 100,000 investment including co-financing
	7 programmes with 120+ parties	Total project investments/funding for Big Data for security, International Zone, Rembrandtplein Satellite applications, RTI: € 6,390,000
consortiums, innovation budgets	5 open innovation sessions & 32 NIAV sessions	
and funding instruments	Financing guide	0
instruments	4 Access to Capital Events: 20 startups on stage with an average of 25+ investors and 80 visitors	8 investments: € 28.2 million
	14 funding consultations Dutch Security Tech Fund Termsheet & Investment	
	Memorandum	
	HSD incentive fund: 11 consortiums for innovation projects	€ 2 miljoen of public investment € 2 miljoen of private investment
Development of a Human Capital Agenda – Security	1 consortium P@ct with 13+ parties	€ 1,5 miljoen of investment for Mondriaan by Ministry of Education, Culture, and Science, 15 cybersecurity teachers trained
	3 Access to Talent events, including matchmaking during CSW	
	65+ training programmes, 350+ vacancies/traineeships and 1,500 visitors p/m on Securitytalent.nl	2+ jobs and 5+ traineeships in 2017 (footnote: data for previous years not known to HSD)
	3 International Cyber Security Summer Schools organised with 11 partners, 166 students in attendance (satisfaction score of 8.4)	
	Human Capital Agenda Cyber Security	
	CBS/HSD report 'Education and labour market in the security domain'	
	Establishment of Cyber Security Academy, 37 students graduated.	€ 500.000 investment (HSD Office's role: creating the necessary financial conditions for establishment)
(Inter)national	1.700 links established between (international) companies	55+ deals (footnote: that we know of)
acquisition and branding	2 Softlanding programmes: Canada and the US	4 NL companies to US, 4 US companies to NL, 11 Canadian companies to NL, 5 NL companies to Canada € 550,000 of business deals
	PIB Japan: 4 Dutch companies, 6 business deals in Japan	€ 550.000 business deals
	15 trade missions with an average of 8 Dutch companies	
	44 acquisitions: international companies and institutions	€12,4 miljoen million of projected revenue growth and 130 jobs in first 3 years based on the organisations' own expectations from acquisitions in 2017 (footnote: data for previous years not known to HSD)
	35 acquisitions: international congresses	€ 1.4 miljoen million of economic spin-off in 2017 (foot- note: data for previous years not known to HSD)
	2.847 online articles mentioning HSD, 38 interviews	€ 16,2 miljoen of online media value
Tota		€ 81 047 000

Total € 81.047.000



5YRS.



ANNIVERSARY EDITION THE HAGUE SECURITY DELTA

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Een vooruitziende blik

Mobilising against injustice

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Outside the Netherlands

Cybersecurity is about knowledge sharing

34 Collaboration is more relevant then ever

Together we Secure the Future

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