DIGITAL AGENDA

FOR THE NETHERLANDS

INNOVATION, TRUST, ACCELERATION

ACTIONS FOR THE FURTHER DIGITISATION OF THE DUTCH ECONOMY

- EDUCATION, KNOWLEDGE AND INNOVATION
- OPEN AND HIGH-SPEED INFRASTRUCTURE
- SECURITY AND TRUST
- MORE SCOPE FOR ENTREPRENEURS
- DIGITISATION OF SECTORS

ICT IN THE NETHERLANDS

dutch digital delta

5.4%
more turnover for ICT companies in 2014

3rd in the world where scientific impact is concerned

>4750 scientific publications per year

ICT (usage) contribution to economic growth in the business community:

at least **25%**

The investments in ICT have continued to rise since 2010

€47 billion
ICT expenditure

11.7 billion ICT goods
35.6 billion ICT services

70,000
ICT companies

€23 billion
in ICT investments: software, new media, cloud services, gaming

7,800
new ICT companies in 2015

Import/Export of ICT goods and services

Export
€28.5 billion
(58% re-export)

Import
€50 billion

24%
of Dutch companies sell online

Almost **100%**
of companies have access to the internet

The Netherlands is among the global leaders:

2nd Digital Economy and Society index

6th Networked Readiness Index

356,000 people
employed in ICT =
4%
of all employees are ICT employees

Akamai's ranking internet speed
8th

11
undersea cables for digital traffic via NFIA (of the 15)

more than 750
companies connected to AMS IX

Leading
educational research via SURF

97% of households have access to the internet

23 million
mobile phone connections

73% of Dutch people have one or several phones

High-speed internet coverage is **almost 100%**

70% of Dutch people (above > 12yrs) shop online

More than **10 million** Dutch people pay for their purchases online via internet banking

40.000
ICT jobs
in the forthcoming years

Most important source: CBS 2016

Last update September 2016

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THE DIGITAL **ECONOMY**

WE HAVE EXPERIENCED THREE INDUSTRIAL REVOLUTIONS IN THE LAST TWO CENTURIES, AND NOW THERE IS TALK OF A FOURTH: DIGITISATION. LIKE THE STEAM ENGINE, ELECTRICITY AND AUTOMATION BEFORE IT, ICT IS A BREAKTHROUGH TECHNOLOGY WHICH FUNDAMENTALLY IMPACTS THE ECONOMY AND SOCIETY. NEW DIGITAL TECHNOLOGIES ARE APPEARING ALL OVER THE WORLD AT A RAPID PACE, AND MACHINES AND EQUIPMENT ARE BECOMING INCREASINGLY INTELLIGENT, RESPONSIVE, INDEPENDENT AND CONNECTED.

The digital transition represents a change in what the economy produces (new products and services), the way it is produced (e.g. via smart production processes), the necessary infrastructure and the organisation of production and services. The degree of connectivity is increasing exponentially. In 2009, 2.5 billion devices worldwide were able to access the Internet. By 2020, this number will exceed 20 billion.[1] This means that the physical and digital sectors – and therefore also the physical and digital economies – will increasingly merge.

The challenge now is this: how can the Netherlands optimally benefit from the opportunities (new applications, revenue models and job creation) that this global transition offers? This depends on the degree to which the Netherlands (entrepreneurs, citizens, knowledge institutes and government bodies) is capable of implementing and further developing new technology.[2] And given our internationally oriented economy, the sooner this can be done the better. After all, our international competitors are not going to wait for us.

1.1 The importance of digitisation for our current and future prosperity

In the Netherlands, ICT makes a relatively large contribution to economic growth as it is being applied within all economic and social sectors at an increasingly faster rate. ICT is a source of innovation, new business activity and new potential applications. Thanks to digitisation, we now have access to new insights (analysis of complex medical conditions), new products (smart meters, drones), new services (digital marketplaces, personalised healthcare services), new working processes (customer-specific production, efficient transport) and new businesses (start-ups). In the world of academia, digitisation goes hand-in-hand with the movement towards Open Science (Open Access to scientific publications and research results). It also offers great opportunities for education via developments like Massive Open Online Courses (MOOCs) and open educational resources.

Furthermore, the Netherlands is internationally seen as an interesting place of business for countless ICT-related enterprises, such as data centres, cybersecurity companies, cloud providers, new media providers and telecom companies. In this regard, our excellent digital infrastructure plays a major role, including the AMS-IX Internet exchange. This digital infrastructure is of increasing societal and economic importance.[3] With its high-speed telecom networks and the largest Internet exchange in the world, the digital infrastructure in the Netherlands can be rightfully referred to as the country's third mainport.[4]

Statistics Netherlands (CBS) has calculated that the increase in ICT capital in the period from 1996 to 2009 was responsible for a quarter of all economic growth.[5] Research consultancy Dialogic sets the figure as high as 36% for the period 1990 – 2013.[6] ICT not only contributes to economic growth, but can also help with social issues such as sustainable food and energy provision, sustainable use of raw materials, safety, security or healthcare.

ICT-driven innovation is also an important factor in maintaining the future earning potential of the Netherlands. In the decades to come, the labour supply's contribution to economic growth is expected to decline.[7] In order to realise long-term economic growth as well as funding work to tackle major social challenges such as climate change and affordable healthcare, extra effort is required to significantly

1 Source: Gartner http://www.gartner.com/newsroom/id/3165317
2 See also Gartner http://www.gartner.com/newsroom/id/3114217
3 Deloitte (2013), *Digital infrastructure in the Netherlands – the Third Mainport;* (2014), *Digital infrastructure in the Netherlands, driver for the online ecosystem.*
4 Following on from the Verhoeven motion, parliamentary papers 34300, no. 45.
5 Statistics Netherlands (CBS) (2014), *ICT, Kennis en Economie.*
6 Dialogic (2014), *De Impact van ICT op de Nederlandse Economie.*
7 wCPB and PBL Netherlands Environmental Assessment Agency (PBL) (2015), *Toekomstverkenning Welvaart en Leefomgeving*

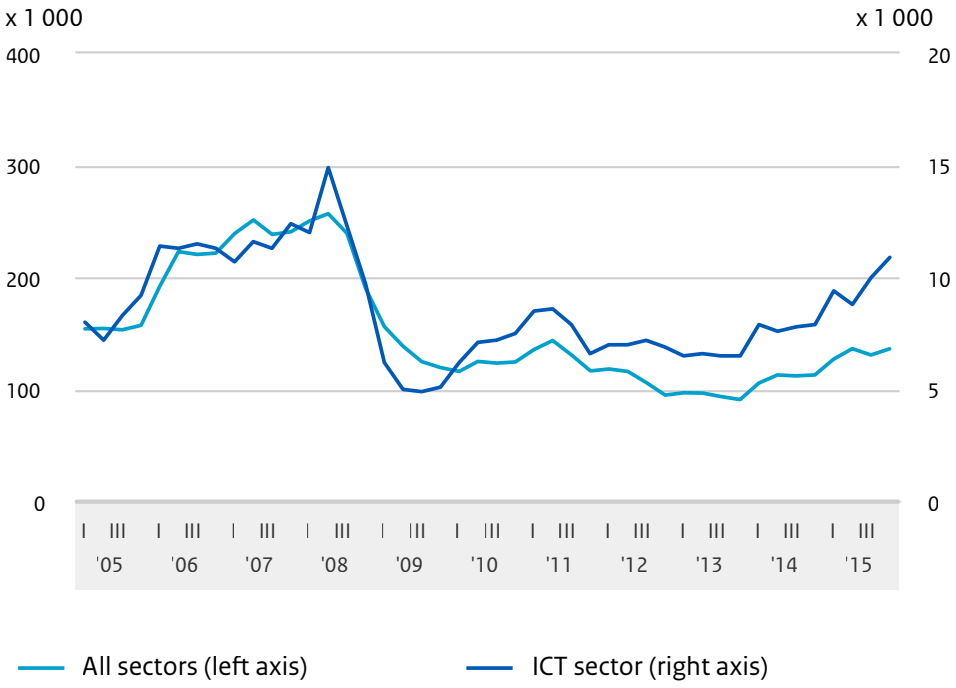
increase productivity. This means we have to do things differently and better, and develop new products and services.[8] Smart application of ICT is essential in this regard.

1.2 Challenges

The Netherlands has an excellent starting point for capitalising on the opportunities created by digitisation. Various international ranking lists, such as the World Economic Forum's 'Networked Readiness Index' and the European Commission's 'Digital Economy and Society Index 2016' (DESI) all testify to this fact. For example, consumers are making large-scale use of new digital applications and the Netherlands has a high-quality digital infrastructure.

However, there are indications[9] that the Netherlands must remain vigilant regarding its position and further development. Critical factors in this regard include shortages of current and future ICT professionals and increasing levels of cyber threats.

Vacancies



Bron CBS: ICT, kennis en economie 2016

There are similar concerns regarding the future of employment. The recent high-profile bankruptcies in the retail sector have clearly highlighted the decline in job opportunities. This requires us to pay attention to how vulnerable groups can be included in our increasingly digital world. The creation of new jobs is often difficult to prove, although they certainly exist. This is the case for e-commerce companies such as Bol.com (online retailer) and Booking.com (online hotel reservation website).

Entrepreneurs are also encountering new challenges. Every new development, technological or otherwise, could be the one that allows new players to conquer the market. In addition, competition can arise from outside your own sector. For example, in a short period, 'Tesla' has become an

8 Scientific Council for Government Policy (WRR) (2013), *Naar een Lerende Economie.*
9 Scientific Council for Government Policy (WRR) (2013); AWTI (2015); WEF (2015); EC (2016)

important player in the automotive industry, and the company may soon find itself in competition with driverless cars developed by Google and Apple. Due to these developments, individual businesses and even entire sectors are increasingly faced with the challenge of adapting to this new situation. As a result, the various sectors within our economy are in a state of constant transition. The degree of transition differs for each sector,[10] but every sector is affected by it. These challenges require adaptive entrepreneurs and employees who are able to cope with this ever-changing world.

Finally, another challenge is the increasingly important role played by data. This development is driven by the fact that the price of sensors, data storage and processing capacity is continually decreasing, which is helping to make more and more data available online. This affects the requirements placed on the digital infrastructure. Developments in data also raise issues concerning such topics as privacy and cybersecurity. The topic of privacy raises issues such as what data is collected, on what legal basis is it collected, who can access the data and what is done with it. It is vitally important that great care is exercised, especially with regard to personal details. This means that the security of connections within networks must always be guaranteed. Privacy and cybersecurity are mainly associated with risks, although they also provide opportunities. To an increasing degree, the guarantee of security and privacy is an important condition for purchasing products and services. By ensuring these preconditions are met and by offering innovative products and services in the field of cybersecurity, the Dutch business sector can stand out from its competitors throughout the rest of the world.

10 Netherlands Organisation for Applied Scientific Research (TNO) (2013), *Quick Scan sectoren*

IN THE DECADES TO COME, THE OPPORTUNITIES AND CHALLENGES CREATED BY THE DIGITAL TRANSITION WILL REQUIRE COLLECTIVE ACTION BY ENTREPRENEURS, EMPLOYEES, RESEARCHERS AND POLICYMAKERS. THIS REQUIRES INNOVATION AND FLEXIBILITY FROM ENTREPRENEURS, EMPLOYEES AND, MOST CERTAINLY, THE GOVERNMENT. THE GOVERNMENT MUST ANTICIPATE TECHNOLOGICAL DEVELOPMENTS AND ENSURE THAT THE PRECONDITIONS ARE MET. LAWS AND LEGISLATION MUST BE FUTURE-PROOF AND PUBLIC INTERESTS MUST BE SAFEGUARDED.

2.1 Role of the government

It is the government's task to focus on the following issues: stimulating the development and application of knowledge; education and lifelong learning; safeguarding of a high-quality and secure digital infrastructure; and privacy protection. As a significant proportion of digital legislation and policy is of EU origin, effective influence on EU policymaking is of great importance.

Given the broad impact of digitisation, the role of the government extends further than the simple reinforcement of preconditions and safeguarding public interests. The government is also an actor in this transition, for example, as a buyer of innovative ICT products and services and as a digital service provider for citizens and businesses. And more importantly, as an initiator of and driver for public-private collaboration. By participating in the process, the government can make an important contribution to the digitisation of socially and economically important sectors such as healthcare, energy and the manufacturing industry.

2.2 Short-term action

Following on from the previous Digital Agenda (2011 – 2015), the new Digital Agenda contains a number of short-term activities (2016 – 2017). The government will work on these activities based on the following lines of action:

1. Education, knowledge and innovation
2. Open and high-speed infrastructure
3. Security and trust
4. More scope for entrepreneurs
5. Digitisation of sectors (industry, healthcare, energy and mobility)

While the focus of the previous Digital Agenda (see Appendix 1 for an extensive review) was predominantly on the reinforcement of preconditions and the digitisation of the government itself (services to citizens and businesses), this Digital Agenda contains a more comprehensive approach and a broader scope to include the digitisation of sectors such as healthcare and mobility (action line 5). The digitisation of these sectors is the responsibility of the minister of Health, Welfare and Sport and of the minister of Infrastructure and the Environment respectively. In line with the advice[11] from the Advisory Council for Science, Technology and Innovation (AWTI), they ensure that the importance of digitisation is at the very heart of their policy.

Dutch digital delta

"Collectively we know so much more than isolated businesses, knowledge institutes and government bodies. Together, we can help realise a Dutch digital delta to attract international investors to the Netherlands."

René Penning de Vries, ambassador of Team ICT

11 Advisory Council for Science, Technology and Innovation (AWTI) (2015), *Klaar voor de toekomst?*

3

ACTION LINE
EDUCATION, KNOWLEDGE AND INNOVATION

DIGITISATION OF PRODUCTS AND SERVICES RESULTS IN A RAPID TRANSFORMATION OF THE ECONOMY AND SHIFTING LABOUR DEMAND. THE DEMAND FOR CERTAIN KNOWLEDGE AND SKILLS WILL DECLINE, WHILE OTHER KNOWLEDGE AND SKILLS WILL BE IN GREAT DEMAND. AT THE MOMENT, THERE IS AN INCREASING SHORTAGE OF SOFTWARE PROGRAMMERS. THE DEMAND FOR CYBERSECURITY SPECIALISTS AND DATA ANALYSTS IS ALSO INCREASING.

FOR 2016, THE NATIONAL EMPLOYEE INSURANCE AGENCY (UWV) IS PREDICTING AROUND 40,000 VACANCIES IN THE INFORMATION AND COMMUNICATION SECTOR AND A 5% GROWTH IN ICT JOB VACANCIES. MORE THAN 50% OF THE BUSINESSES IN THIS SECTOR SAYS THEY HAVE VACANCIES THAT ARE DIFFICULT TO FILL[12]. AT THE SAME TIME, THE STRONGEST GROWTH IN JOB OPPORTUNITIES IS EXPECTED IN THE ICT AND TECHNICAL SECTORS[13].

THE SUPPLY OF SUFFICIENT TALENT AND PROFESSIONALS WITH THE RIGHT SKILLS IS A MAJOR CHALLENGE FACED BY THE DIGITAL ECONOMY IN THE NETHERLANDS, AND REQUIRES CONTINUAL EFFORTS FROM THE GOVERNMENT, THE BUSINESS SECTOR AND THE EDUCATION SECTOR, BEGINNING IN PRIMARY AND SECONDARY EDUCATION.

12 Employee Insurance Agency (UWV) (2016), *Factsheet Arbeidsmarkt ICT*
13 Research Centre for Education and the Labour Market (ROA) (2015), *De arbeidsmarkt naar opleiding en beroep tot 2020.*

Digitisation is changing education and science

Training students in 21st century skills is not only placing new requirements on curricula: digitisation is also changing the nature of education and science. The Ministry of Education, Culture and Science is closely following the digital transition and is investigating its effect on education, culture and science. It examines matters such as infrastructure requirements and the free exchange of knowledge and data, the role of big data, for example.[14]

3.1 Education and ICT

The development of skills for a digital society requires effective use of ICT within the education sector. This has been confirmed in recent reports by the World Bank, the Scientific Council for government Policy (WRR) and the Advisory Council for Science, Technology and Innovation (AWTI). In line with this factor, the 'Platform Onderwijs2032', a Dutch government advisory body on education, advocates making digital literacy part of the core curriculum in primary and secondary schools.[15] In this way, students will acquire basic knowledge of ICT, develop ICT skills, become familiar with many types of media and come to understand how information technology works. They will learn to operate computers and ICT as both consumers and producers by learning to code and developing apps. They will develop computational thinking. At the moment, Platform Onderwijs2032 is examining in detail how the advice can be applied in practice and what will be necessary to facilitate this.

As part of the Education & ICT (Onderwijs & ICT) breakthrough project, the primary and secondary education sectors are working to develop learning resources that are compatible with the talents of individual students and provide vital 21st century skills. Personalised digital learning offers even more opportunities in this regard, although its implementation asks a lot of schools. It has a major impact on the primary process and the school organisation, and new knowledge and expertise is required. The Education & ICT breakthrough project has set up learning laboratories in which 140 secondary schools are gaining experience with personalised learning. In the autumn of 2016, 60 more schools will join them. In the so-called learning labs, schools explore matters such as how to implement digital teaching, how to arrange digital content and how students can take control of their individual learning process.[16] Forerunners in the primary education sector are being guided in the development of tailor-made education, which includes features such as a dashboard for teachers that enables them to monitor their students' progress.

The objective is to use the breakthrough project in the near future to further stimulate the market for digital learning by boosting demand from schools: the better the service providers understand what schools need, the easier the coordination between both parties will be. For this purpose, school boards will explore promising collaborations with regard to purchasing. The Primary Education Council (PO-raad) supports schools in the process of combining their wishes and requirements and challenging suppliers to offer competitive and suitable products and services.
The implementation of personalised digital learning requires the storage and use of data relating to the students' individual learning performances. The sector councils for primary and secondary education and suppliers of digital learning resources have agreed a privacy covenant to protect students' data.
A legislative proposal to use pseudonyms to protect the students' data is expected to be presented to the House of Representatives at the end of this year. Furthermore, agreements are being made and standards established regarding how digital learning resources will be offered, making it easier for teachers to vary and combine learning tools. These standards must ensure that the suppliers' systems interact efficiently and reliably. This will ensure, for example, that teachers do not have to enter grades manually. Finally, investigation has been conducted into how many schools have access to high-speed Internet. An action plan for the connection of all schools is expected to be completed in the summer of 2016. In the autumn, the State Secretary of Education, Culture and Science will provide Parliament with more detailed information on the progress of the Education & ICT breakthrough project.

14 https://www.rijksoverheid.nl/documenten/kamerstukken/2016/06/28/kamerbrief-over-big-data-in-onderwijs-cultuur-en-wetenschap
15 Commissie-Schnabel (2016), *Ons onderwijs2032*.
16 For an extensive explanation of the issues and results, visit the Leerling2020 website (www.leerling2020.nl).

Personalised digital learning

"Schools and teachers want to provide tailor-made digital education in order to get the very best out of their students."

Remco van Lunteren, voorzitter stuurgroep Doorbraakproject Onderwijs & ICT

The minister of Education, Culture and Science, together with administrative partners, is striving to realise responsive secondary vocational education (MBO) that anticipates the changes made by innovation and digitisation and provides the skills that will be necessary in the future.[17] Specialist professional knowledge and skills will remain the core of secondary vocational education, but 21st century skills are growing in importance. New forms of teaching, such as maker education, can help to develop and encourage students' skills. Secondary vocational schools are also working on opportunities to optimise the application of ICT in education. The Four in Balance model devised by Kennisnet, a Dutch public organisation for education and ICT, describes the factors that schools must take into account in order to achieve good results.[18] In 2016, Kennisnet, in collaboration with Sambo-ICT (a Dutch organisation for knowledge-sharing and ICT in senior secondary vocational education), will consult with a number of institutes to take stock of their ambitions, how ICT can contribute to these ambitions and how this affects the institutions' individual support needs. They will also examine the preconditions within the individual institutes and the sector as a whole. In 2016, pilots on the implementation of ICT into the learning process are being conducted at three regional training centres. Based on these results, it will be decided in 2017 whether and how these pilots will be scaled up.

Furthermore, the Ministry of Education, Culture and Science is working on excellent higher education that promotes the development of students' individual capacities and reduces learning deficits. To achieve this goal, digital learning resources will be deployed such as 'Open Educational Resources', 'OpenCourseWare', learning analytics and 'Massive Open Online Courses'. To encourage the implementation of these resources, the Ministry of Education, Culture and Science has made €1 million per year available to SURF, a collaborative organisation for Dutch education and research.

Connection between education and the labour market

To improve the connection between supply (education) and demand (the business sector) and to encourage lifelong learning (retraining and further training), a Human Capital Agenda for ICT (HCA ICT) has been set up under the leadership of Team ICT. The goal of this agenda is to increase the supply of highly qualified ICT professionals, including cybersecurity specialists and data experts. Actions taken by the HCA ICT include providing scholarships, internships and graduation places for excellent students in senior secondary vocational education (MBO), higher professional education (HBO) and academic higher education (WO), and organising guest lessons on ICT within secondary schools. In addition, five centres will be established focusing on ICT for higher professional education (Centres of Expertise) and senior secondary vocational education (Centres for Innovative Workmanship).
In September at the latest, the minister of Social Affairs and Employment will send a letter to the House of Representatives regarding job market-related issues concerning digitisation, including a reaction to the pending report by the Social and Economic Council (SER).

3.2 Knowledge and innovation

The Netherlands is one of the world leaders in the field of ICT research. This is shown by recent studies such as the one conducted by the informatics research assessment committee (Commissie Visitatie Informatica Onderzoek).[19] However, the application of new digital technology and knowledge in the

17 Parliamentary papers 31524, no. 250.
18 https://www.kennisnet.nl/artikel/het-vier-in-balans-model-optimaal-rendement-met-ict/
19 De Onderzoekerij (2016), *Research Review Computer Science 2009-2014*.

Netherlands is lagging behind somewhat on the international stage.[20] For example, only around 6% of businesses with more than 50 employees makes use of the opportunities offered by big data.[21] Public-private collaboration is an effective way to encourage the development and application of ICT knowledge. The Scientific Council for Government Policy (WRR) has established that the speed of innovation is significantly influenced by the degree to which businesses and knowledge institutes develop knowledge together.[22] The European Commission (EC) also endorses the importance of public-private partnership. In its statement 'Digitising European Industry', the EC mentions the importance of collaboration in national programmes, for example, with regard to smart industry.

Regional collaboration in training more big-data scientists

In the south-east of Brabant, 300 additional big-data scientists are needed every year. For this reason, Tilburg University, Eindhoven University of Technology, the Province of Noord-Brabant and the Municipality of 's-Hertogenbosch have made agreements to coordinate the supply of regional education with the business sector's demand for talent, knowledge (ICT, entrepreneurship) and innovation (technical, organisational). In September 2016, the Jheronimus Academy of Data Science (JADS) will begin offering a Bachelor's programme in Data Science (maximum capacity of 80 students) and a Master's programme in Data Science Entrepreneurship (maximum capacity of 40 students). This academy was inspired by the painter Jheronimus Bosch, who inventively built upon existing motifs with new compositions.

This kind of approach is also a source of inspiration for other regions. In the Utrecht region, which has a strong service sector, a collaboration including Utrecht University, HU University of Applied Sciences Utrecht, ROC Midden Nederland, the Netherlands Organisation for Applied Scientific Research (TNO) and the regional business sector is working on the establishment of an IT Competence Centre. This contributes to one of the lines of action of Team ICT's Human Capital Agenda for ICT.

ICT as a cross-sectoral theme for PPPs

To promote the development and application of ICT knowledge, ICT has been designated as a cross-sectoral theme within the national Top-Sector Policy. Part of this is the establishment of Team ICT, with René Penning de Vries as its figurehead. This team's job is to initiate and encourage public-private partnerships with regard to ICT innovation. In this regard, Team ICT closely collaborates with the designated Top Sectors and the Team Smart Industry. Together with businesses, knowledge institutes and the top sectors, Team ICT has established a cross-sectoral working agenda. In addition to the aforementioned Human Capital Agenda, this contains two activities aimed at encouraging ICT innovation.

Team ICT's first task focuses on executing the Knowledge and Innovation Agenda for ICT (KIA ICT) for the period 2016 – 2019. This agenda focuses on tackling ICT challenges relevant to all sectors and top sectors, such as the use of big data and cybersecurity. For 2016 and 2017, the Netherlands Organisation for Scientific Research (NWO), the Netherlands Organisation for Applied Scientific Research (TNO) and the Ministry of Economic Affairs have made a total of €40 million available in order to boost ICT innovation via public-private partnerships.

The second activity relates to Commit2Data: the big-data research and innovation programme. In 2016 and 2017, Team ICT will initiate new public-private partnerships in four sectors in which the application of big-data analysis can provide a solution to social issues. These sectors are energy (smart networks), healthcare (prevention, diagnostics, personal care and nutrition), cybersecurity and smart industry (production and maintenance). The knowledge and insights developed will be shared with and between the various sectors. The first calls for research proposals have already been made. Within Commit2Data, the SME sector will be given the opportunity to gain experience with data analysis. For this reason, Team ICT is also collaborating with the Royal Netherlands Academy of Arts and Sciences (KNAW) on the elaboration of the example route for big data within the National Science Agenda. The results are due to be published in the summer of 2016.

20 World Economic Forum (WEF) (2015); European Commission (EC) (2016)
21 Central Economic Commission (CEC) (2014)
22 Scientific Council for Government Policy (WRR) (2013), *Naar een Lerende Economie.*

Culture and digitisation

Digitisation also creates opportunities in the creative and cultural sectors. Researchers, entrepreneurs and policymakers are therefore working together via the 'CLICKNL' network to formulate an innovation agenda. For example, a research line into new revenue models has been initiated. Digitisation also plays an important role in cultural conservation. Via the National Strategy for Digital Heritage, the Ministry of Education, Culture and Science wishes to stimulate the digitisation of Dutch heritage. Within the scope of this strategy, a variety of institutions are working on the digitisation of large amounts of data. This will make collections and publications more easily accessible and facilitates research, e.g. by means of linking collections of material. Digitisation also contributes to cultural conservation as it means original sources do not have to be consulted as frequently. The Digital Heritage Network (Netwerk Digitaal Erfgoed) helps to combine knowledge in the various heritage sectors and coordinate activities.

Wherever possible, Commit2Data quickly and flexibly anticipates the opportunities created by new technologies. Team ICT and Team Smart Industry are going to investigate the opportunities stemming from public-private partnerships in the field of 'blockchain technology'. Blockchain is a new platform technology for digital transactions. It enables monitoring of the accuracy of data for registers, transactions and contracts without the intervention of a trusted third-party such as a notary, a bank or the Chamber of Commerce (*Kamer van Koophandel*). By the end of 2016, it should become clear whether a national blockchain coalition is desirable and feasible. The FinTech sector has also been an enthusiastic proponent of blockchain. For this reason, Willem Vermeend, a member of Team Smart Industry, was appointed to the position of FinTech ambassador in February 2016[23]. Furthermore, Team ICT is working on the so-called legacy problem together with a large coalition of businesses, public and semi-public organisations and academic institutions. Due to many years of adjustment of ICT systems, a large proportion of organisations' ICT budgets are taken up by management and maintenance. This restricts new development and innovation. By developing and sharing knowledge, skills and instruments, we can design and use ICT systems in a more future-proof, flexible and cost-efficient manner.

The Netherlands, Digital Gateway to Europe

Foreign businesses can use their knowledge and expertise to make an important contribution to the innovative capacity of the Dutch economy. Via the programme 'The Netherlands, Digital Gateway to Europe', active and targeted measures are taken to attract, maintain and further expand foreign investment in ICT. The focus is on the strategic acquisition of businesses with supplementary knowledge and expertise, which enables reinforcement of ICT activities in the Netherlands. The Netherlands Foreign Investment Agency (NFIA) is also investigating foreign ICT companies that could provide innovative applications for our top sectors, for example, in the field of eHealth.

Generic innovation schemes

In addition to this specific policy, businesses can also make use of generic schemes. The ICT sector makes relatively frequent use of these schemes. In 2015, around €185 million of the budget for the research and development work rebate, in the context of the Promotion of Research and Development Act (WBSO), was granted to the ICT sector, which accounts for 24% of the total budget. This was granted, among others, to innovative ICT applications in the field of big data, eHealth, cybersecurity and the Internet of Things.

Strategic battle plan for The Netherlands: Digital Gateway to Europe

One of the goals of this plan was to attract 20 strategic projects to the Netherlands in the period 2013 – 2016.[24] Since the launch of the plan, the NFIA has acquired 30 investment projects. Examples of innovative businesses that have established themselves in the Netherlands are: Applied Duality (big-data analysis), HackerOne (platform for ethical hackers) and Shutterstock (an image search engine). In light of this success, I have decided to extend the project until the end of 2017.

23 Parliamentary papers 29338, no. 150.

24 *Strategic battle plan for The Netherlands: Digital Gateway to Europe'*. Appendix to parliamentary papers 32637, no. 70.

3.3 Infrastructure for research, innovation and education

'Open Science' is becoming more and more prevalent in the field of science. This relates to the 'Open Access' of scientific publications and optimum access to research data gained via publicly funded research. As a result, more and more research data will comply with FAIR principles, i.e. they are findable, accessible, interoperable and reusable. In the EU's Competitiveness Council meeting held on 27 May 2016, it was decided to work towards the immediate Open Access of scientific publications by 2020 and to establish optimal reuse of research data as a basic premise.

These developments will affect the ICT infrastructure. Research, innovation and education will be increasingly data-driven, which will establish high requirements for hardware, software and data infrastructure. The 'National Science Agenda of the Netherlands' (*Nationale Wetenschapsagenda*) also recognises this development. At the moment, the Netherlands has access to SURF's high-quality digital infrastructure for education and research. Thanks in part to this collaborative organisation, students, lecturers and researchers in the Netherlands have access to excellent ICT facilities for research and talent development.

The SURF infrastructure can also provide added value to businesses. For example, SURF modernises and develops new services on behalf of its members in collaboration with partners from the business sector. Businesses and PPP research projects can make use of data facilities such as high-performance computing (HPC). It is important that SURF optimally capitalises on the opportunities for public-private partnerships, primarily because of their contribution to innovation, but also as a way of supplementing its long-term budget.

In recent years the Ministry of Education, Culture and Science and the Ministry of Economic Affairs have made significant financial contributions to SURF.[25] This year, another €11.1 million of the Future Fund (Toekomstfonds) has been earmarked for ICT infrastructure for education and scientific research, as conducted by the SURF partnership.[26]

It is important that the quality of infrastructure for research, innovation and education remains high both now and in the future. For this reason, it is necessary to ensure effective coordination and control of future investment in the infrastructure of SURF and other large-scale research facilities of universities, TO2[27] institutes and via the Netherlands Organisation for Scientific Research (NWO). For this purpose, the ICT Committee of the NWO's Permanent Committee for Large-Scale Research Facilities (Permanente Commissie voor Grootschalige Onderzoeksfaciliteiten) initiated an analysis of this issue at the beginning of 2016, which will be completed in the autumn. The results of this analysis will make it possible to determine which resources will be required for a high-quality digital infrastructure for research and innovation.
In this regard, international developments are also relevant. For example, the European Commission is seeking opportunities to combine data facilities. The Commission has established that, in Europe, the demand for high-performance computing outstrips the supply. As Member States lack the financial resources to independently invest in a high-performance computing (HPC) ecosystem, efforts must be made to create a European HPC ecosystem. It is important that the Netherlands remains closely connected to these developments.

25 Parliamentary papers 31288, no. 431.
26 Parliamentary papers 31288, no. 543.
27 TO2 is a federation of Dutch institutes for applied research

Quantum technology

Quantum technology is an important development for the computing power, capacity and security of ICT. Quantum computers are the next generation of computers and possess exponentially more computing power than existing computers. The use of quantum bits, which can simultaneously be both 0 and 1 thanks to the laws of quantum mechanics, will enable calculations that would be beyond the capabilities of even the most powerful supercomputers. One example is calculating properties of molecules and materials, which has applications in energy provision, healthcare (personalised medicine) or agri-food (enzymes and artificial fertiliser). Quantum technology also provides new solutions for data protection. Using quantum entanglement, it is possible to establish a connection that cannot be hacked, as the secure connection is broken as soon as a third party is on the line. This enables new types of encryption and data transfer.

In the Netherlands, Delft University of Technology (TUD) and TNO, united in the institution QuTech, are conducting groundbreaking research in the field of quantum technology, together with a number of other partners. Last year, QuTech made a scientific breakthrough by performing a Bell test (quantum entanglement) over a distance of 1.3km. Within the scope of its national icon status, the public funding of QuTech is managed by the Ministry of Economic Affairs. An agreement has been made in which the partners (the Ministry of Economic Affairs, the Ministry of Education, Culture and Science, NWO, TUD, TNO and Holland High Tech (HTSM)) commit €146 million over the course of 10 years. Microsoft and Intel are the most important private financiers of QuTech: in 2015, Intel pledged a total investment of $50 million over a 10-year period. QuTech participated in a variety of state visits and trade missions, which resulted, amongst other achievements, in a collaboration agreement with the Niels Bohr Institute. During its EU Presidency this year the Netherlands, together with the European Commission, strongly made the case for the introduction of an FET flagship programme within H2020, with a budget of €1 billion. The Ministry of Economic Affairs and QuTech also strive to reinforce and broaden the quantum ecosystem in the Netherlands.

4

ACTION LINE
OPEN AND HIGH-SPEED INFRASTRUCTURE

THE RAPID ADVANCE OF DIGITISATION IS PLACING EVER-HIGHER REQUIREMENTS ON THE DIGITAL INFRASTRUCTURE. DEVELOPMENTS SUCH AS THE INTERNET OF THINGS MEAN THAT EVERYTHING IS CONNECTED TO EVERYTHING ELSE AT ALL TIMES AND IN ALL PLACES. DATA IS INCREASINGLY BEING STORED IN THE CLOUD AND MUST BE QUICKLY ACCESSIBLE. APPLICATIONS LIKE THESE REQUIRE RELIABLE CONNECTIONS WITH LITTLE TO NO DELAY.

BOTH THE FIXED AND MOBILE NETWORKS IN THE NETHERLANDS ARE OF EXCELLENT QUALITY, AS IS SHOWN BY A VARIETY OF INTERNATIONAL RANKING LISTS.[28] THESE NETWORKS HELP ENSURE AN ADVANTAGEOUS BUSINESS CLIMATE. FOR EXAMPLE, GOOGLE AND MICROSOFT BUILT THEIR EUROPEAN DATA CENTRES HERE AND THE NETHERLANDS IS ALSO HOME TO ONE OF THE LARGEST INTERNET EXCHANGES IN THE WORLD.

28 The World Economic Forum's Networked Readiness Index and the European Commission's Digital Economy and Society Index.

The availability of sufficiently reliable and high-speed networks is a precondition for economic growth in the Netherlands. Following on from the Verhoeven motion[29], I indicated that I consider the digital infrastructure to be the third mainport in the Netherlands.[30] Via the measures contained in this Digital Agenda, I wish to directly or indirectly support the reinforcement of this mainport.

To maintain a strong position in the future, it is important to know how the demand for connectivity will develop and to what extent the existing fixed and mobile networks can satisfy this demand. I will therefore conduct a survey into the future supply of and demand for connectivity in the Netherlands and how compatible these two developments are with each other. I will inform the House of Representatives of this by the end of this year.

4.1 Fixed connections

Of all households in the Netherlands, 97% has access to a fixed Internet connection of at least 30 Mbps. For businesses, this figure is 91%.[31] The connection can be via fibre-optic cables or copper cables (VDSL). The Dutch high-speed Internet networks are therefore amongst the best in the world. To maintain this position, continual investment in networks is vital. Access regulations for fixed networks must provide incentives for investment in connectivity and guarantee competition. This is also one of the themes in the upcoming review of the European regulatory framework for electronic communications networks and services, known as the Telecom framework. In Brussels, the Netherlands is advocating an adjustment to the regulatory framework for both of the fixed network parties in order to maintain competition and establish more symmetrical regulations between them in the Netherlands. European regulations must be suitable for diverse circumstances within member states, including the Netherlands.

In addition, I am working hard to facilitate the rollout of broadband in so-called remote or white areas.[32] At the start of 2015, approximately 330,000 households and businesses were unable to access high-speed Internet. These addresses were situated in sparsely populated areas throughout the Netherlands, mainly in rural areas. Thanks to the efforts of market parties, government bodies and citizens' initiatives, the number of addresses unable to access high-speed Internet is steadily decreasing. In this regard, the Central Government must play a facilitative role and inform municipalities about the various aspects of broadband projects. It will ensure the exchange of knowledge and best practices and provide an overview of current developments. The Central Government also thinks along with government bodies about public funding and provides clarity regarding opportunities permitted within the European state-aid rules. Citizens' initiatives will also be supported. One example is 'samensnelinternet.nl', an online platform for high-speed Internet that citizens' initiatives can consult for information on the various aspects of broadband projects. I wish to intensify these efforts by forming a High-Speed Internet Knowledge Platform and by taking stock of the demand for a national umbrella scheme for public funding of broadband projects by decentralised government bodies. Such an umbrella scheme would relieve government bodies from the obligation to individually develop a support scheme and present it to the European Commission. In the autumn, I will provide you with more information in the progress letter on high-speed Internet in remote or white areas.

29 Parliamentary papers 34300, no. 45.
30 Parliamentary papers 34300, minutes of the meeting held on 15 October 2015.
31 Stratix (2015), *Onderzoek LTE-dekking in Nederland.*
32 Parliamentary papers 24095, no. 380; 26643, no. 361, 384 and 610.

4.2 Wireless connections

In addition to the fixed networks, the Netherlands also has four high-speed 4G mobile networks. Data usage via the mobile networks is continually increasing, and following the launch of 4G, it nearly doubled within a single year.[33] The opportunities created by modern technology such as 4G (LTE) will result in continued growth of demand for telecom in the years to come. The general trend in society for being online anywhere and anytime continues to increase, reinforced by the rise of the Internet of Things. As a result, there has been an increase not only in the demand for frequencies, but also in the social dependence on wireless networks, and hence in the vulnerability of connections.

The aforementioned developments will be included in the 2016 Frequency Policy Memorandum, in which the frameworks of the new frequency policy will be described for the next five to ten years. The Memorandum will be published in the autumn of 2016 and will be followed by a Strategic Memorandum on Mobile Communication at the beginning of 2017. This will describe the outlines for the future issue of permits for mobile broadband, beginning with the allocation of the 700, 2100 and 1452 – 1492 MHz frequency bands. The allocation itself will probably take place in 2019. For the 1452 – 1492 MHz band, an expansion of the bandwidth limits would be one of the options.

5G Field Lab

To increase innovation in relation to 5G, businesses and government bodies in the Netherlands have initiated a 5G Field Lab. Parties contributing to this initiative include telecom companies (KPN, Vodafone, Ericsson, Huawei), knowledge institutes (University of Groningen, TNO), Hanze University of Applied Sciences, SURF, the Ministry of Economic Affairs and the Groningen Economic Board. Over the next few years, the 5G Field Lab will enable businesses to gain experience with innovative applications for agriculture, healthcare, energy, the living environment, traffic and logistics. By the end of 2016, the first demo set-up will be available.

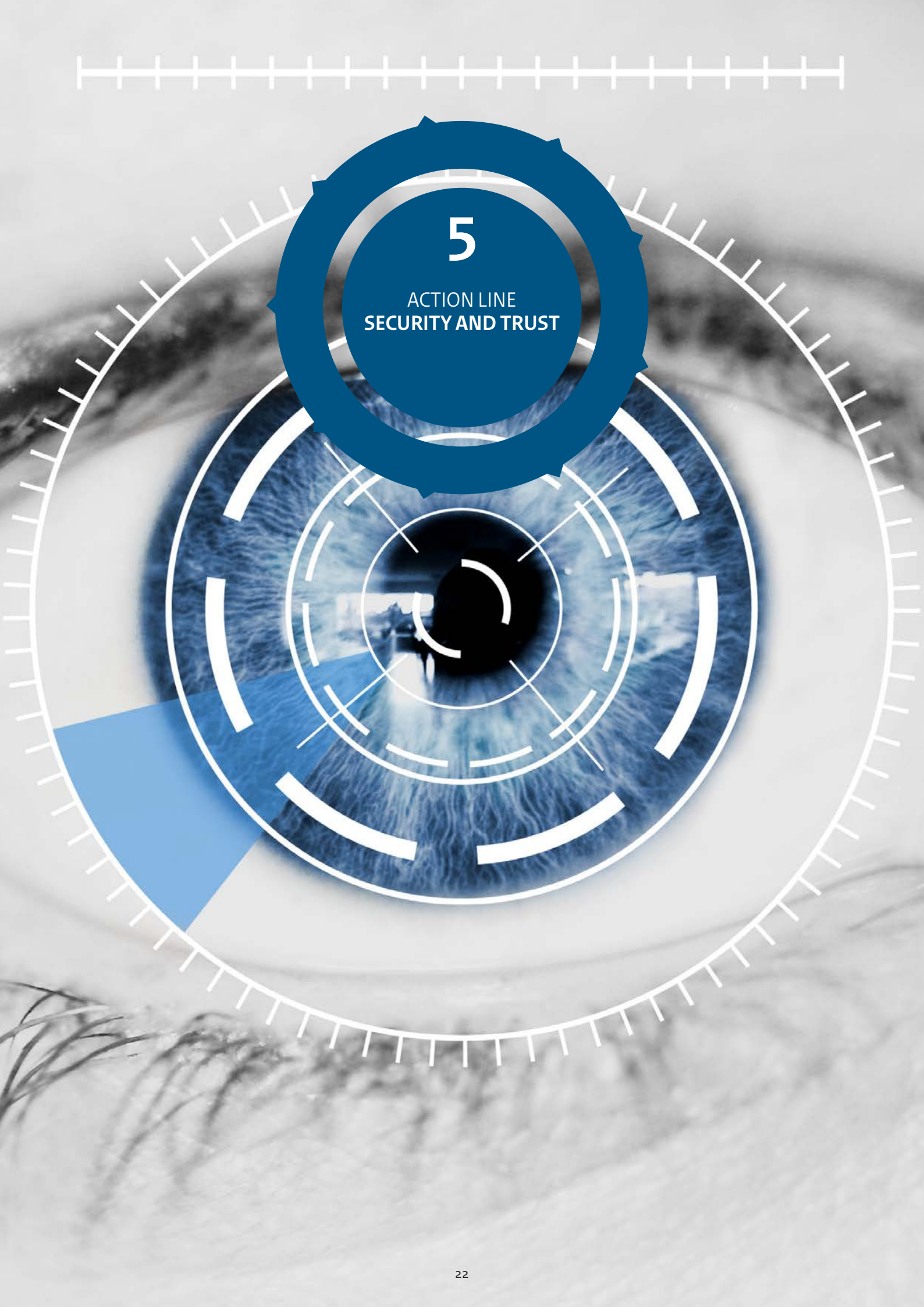
Work is also being conducted at the European level to realise new and faster fifth generation mobile networks (5G). As part of the Radio Spectrum Policy Group (RSPG), the Netherlands and other Member States will advise the European Commission regarding a strategic road map for 5G in Europe. The goal of this advice is to promote the development of a European strategy for a smooth transition from the current wireless systems and spectrum usage to 5G systems that are accessible to all citizens of Europe. The advice will also address the allocation of additional frequency bands for 5G, in particular the bands above 6 GHz. This advice is expected to be ready by the beginning of 2018.

5G

"5G enables entirely new applications. The 5G Field Lab is open to all businesses and institutes that want to participate in and test the development of this new standard."

Rene Vroom, Head of Innovation at Radiocommunications Agency Netherlands (Agentschap Telecom)

33 Netherlands Authority for Consumers and Markets (ACM) Telecom Monitor, Q2 2015



5

ACTION LINE
SECURITY AND TRUST

TRUST IN THE SECURITY OF THE DIGITAL INFRASTRUCTURE AND DATA IS AN IMPORTANT CONDITION FOR CITIZENS' AND BUSINESSES' WILLINGNESS AND ABILITY TO TAKE OPTIMAL ADVANTAGE OF THE OPPORTUNITIES CREATED BY ICT. CYBERSECURITY IS THEREFORE A CRITICAL SUCCESS FACTOR FOR ECONOMIC GROWTH. CYBERSECURITY IS BECOMING INCREASINGLY IMPORTANT TO THE DUTCH BUSINESS CLIMATE. BY ENSURING THAT PRECONDITIONS SUCH AS PRIVACY AND SECURITY ARE OF HIGH QUALITY, THE NETHERLANDS CAN CONTINUE TO POSITION ITSELF AS A SECURE AND RELIABLE LOCATION FOR BUSINESS.

Cyber crime and espionage

Unfortunately, the Netherlands is suffering an increasing number of cyber attacks from abroad. The threat posed by cyber crime and digital espionage is very real and increasing all the time. Geopolitical developments have had a major influence on the development of this threat. Cyber attacks are an attractive alternative to conventional military and espionage resources. Conflicts and rising political tensions are increasingly fuelling cyber attacks and cyber espionage. In 2014, cyber crime and cyber espionage are estimated to have caused damage to the value of €400 billion worldwide. Deloitte calculated the figure for the Netherlands to be around €10 billion per year[34]. The growth of the digital economy increases this vulnerability.

In the Netherlands, a great deal of work is being done to improve digital security. This creates opportunities for innovative entrepreneurs. The market for cybersecurity solutions is growing. Research shows that turnover in the Dutch cybersecurity sector in 2014 was around €7 billion, and the added value of the sector amounted to €4 billion. In the 2010 – 2014 period, this turnover grew by 14.5% each year and job opportunities in this sector increased from 12,700 to 16,400.[35]

The government's aim is to work towards reinforcing digital security and resilience in the Netherlands whilst simultaneously capitalising on the economic and other opportunities created by cybersecurity.

National Cybersecurity Strategy 2

The government has set down its strategy within the National Cybersecurity Strategy 2 (NCSS2). This strategy[36] has five objectives:

1. The Netherlands is resilient against cyber attacks and protect its vital digital interests.
2. The Netherlands tackles cyber crime.
3. The Netherlands invests in secure and privacy-boosting ICT products.
4. The Netherlands builds coalitions for security and peace in the digital domain.
5. The Netherlands possesses sufficient cybersecurity knowledge and expertise and invest in ICT innovation in order to achieve our cybersecurity-related objectives.

In October 2015, the State Secretary of Security and Justice informed the House of Representatives on the state of affairs regarding these five objectives.[37] A further structural development of the Dutch approach to cyber crime in line with the development of the threat is however required. The development of cyber threats in combination with an increasingly unstable geopolitical climate and increasing dependence on ICT requires structural attention to be paid to further developing the strategy and capacity to boost Dutch cyber resilience. At the moment, this is taking place within the scope of the NCSS2 action programme (2014 – 2016). To anticipate developments in the cyber domain, the vision for cybersecurity must be further developed from 2016 onwards and an updated and – if necessary – intensified approach must be put in place. As was the case during the establishment of NCSS2, this further development will be conducted together with public and private stakeholders in order to realise a broadly supported cybersecurity approach in the Netherlands for 2017 onwards.

In the following paragraphs, I will explain a number of specific activities that will be conducted in the short term. In this regard, a number of issues such as cybersecurity and privacy protection are distinctly transboundary in nature. At the European level, a new data-protection regulation has been agreed that will further harmonise privacy legislation in Europe. In addition, an agreement was concluded regarding the new Network and Information Security Directive. This directive offers a framework for security standards for the European business sector within which cybersecurity within the EU can be more effectively safeguarded.

34 Deloitte (2016), *Cyber Value at Risk in the Netherlands.*

35 SEO Amsterdam Economics (SEO) and Verdonck, Klooster and associates (2016), *Economische Kansen Nederlandse Cybersecurity-sector.* See Appendix 3.

36 Parliamentary papers 26643, no. 174.

37 Parliamentary papers 26643, no. 369.

5.1 Cyber espionage

The targets of economic cyber espionage detected in the Netherlands include the top of innovative business sectors, such as high-tech, gentech, agriculture, horticulture, maritime industry, energy and chemistry. These attacks mainly aim to steal valuable company information that is crucial to the survival and competitiveness of Dutch businesses.

To protect vital sectors of the economy against cyber threats, 13 Information Sharing and Analysis Centres (ISACs) have been set up. These are public-private partnerships in which businesses share information and experiences with regard to cybersecurity. In a secure environment, businesses can learn from each other and provide mutual assistance in the event of problems. The ISACs create sufficient scale to enable adequate protection against complex attacks in a way that would not be possible for individual companies alone.

As a result of the good experiences gained by the vital sectors via the ISAC structure, it may be possible to expand this approach to other sectors of the economy, particularly knowledge-intensive businesses. The collaborative structures that exist within the current top sectors and the innovative SME sector may offer a good basis for this expansion. An exploratory study regarding this matter will be carried out soon.

5.2 Platform for research and higher education (dcypher)

To combat cyber threats, state-of-the-art knowledge and expertise is required. Therefore, on 5 April 2016, the Dutch Cybersecurity Platform for Higher Education and Research, known as dcypher, was launched in order to help realise objective 5 of the NCSS. (This is an initiative by the Ministries of Security and Justice, Economic Affairs, Education, Culture and Science and NWO and is the successor of the ICT Innovation Platform 'Securely Connected' (*Veilig Verbonden*, hereinafter referred to as IIP-SC), which published two editions of the National Cybersecurity Research Agenda during its active years. It is more than just a continuation of the IIP-SC though: higher education has also been incorporated into the mission.)

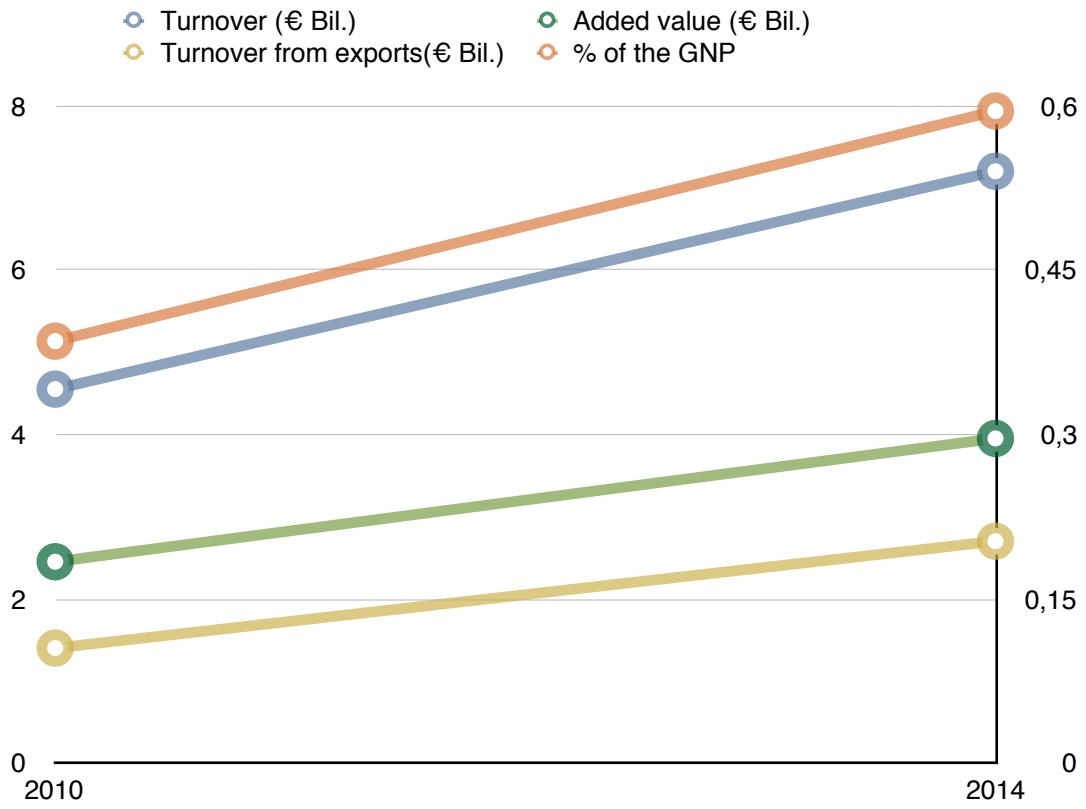
The underlying vision is that the Netherlands positions itself as a country that conducts excellent scientific research in the field of cybersecurity, offers first-rate education, ensures that both the public and private sectors benefit from the academic and professional knowledge and expertise gained from research, and provides these sectors with highly qualified and skilled professionals. The public-private nature of dcypher is reflected by the composition of the advisory council, which represents the entire breadth of the cybersecurity field.

Amongst other benefits, the platform will develop a new national research and higher-education agenda for cybersecurity and will organise matchmaking meetings and showcases for research, development and education. The platform must ensure better coordination between the supply of and demand for knowledge and human capital in the field of cybersecurity. In this way, it will also contribute to realising programmes such as Commit2Data and the Human Capital Agenda for ICT.

The Hague Security Delta is currently coordinating an inventory (feasibility study) of needs, added value and support for the realisation of a national facility for critical-infrastructures testing, research, education and demonstration. Dcypher is involved in this process in order to help Dutch research and researchers benefit from this facility and to connect it with test beds in other parts of the world.

It is important that the national strategy is also compatible with the European public-private cybersecurity programme. The European Commission is expected to launch this programme at the end of 2016 as part of the Digital Single Market Strategy, with the goal of reinforcing European cybersecurity.

Increasing importance of cyber security in the Netherlands



Omzet, toegevoegde waarde en omzet van export in miljard euro. Omzet als percentage van het BBP.

5.3 Expert group on big data and privacy

It is important to the government that the economic potential of data is capitalised upon whilst safeguarding the security and the trust of citizens in the digital environment. The recently concluded EU General Data Protection Regulation is integral to the responsible handling of personal details. This will come into force in 2018.

Due to the huge variety of privacy issues, the government has decided to establish an expert group on big data and privacy.[38] This expert group will provide clarification regarding European rules on personal data protection and give a rough idea of how much conflict could arise between innovative use of personal data on the one hand and privacy protection on the other. The expert group will provide guidance in dealing with these conflicting interests by offering transparency and checks and by applying the right technology and organisational structures. The more aware citizens are of the choices available to them, the more businesses will be able to use data handling as a competitive factor. Parliament will be informed of the results of this exploratory study after the summer of 2016.

38 Parliamentary papers 32761, no. 78.


6
ACTION LINE
MORE SCOPE FOR
ENTREPRENEURS
23:35:60
Business Strategy
Innovation
Branding
Solution
Marketing
Analysis
Ideas
Success
Management
23:35:60

THE DUTCH GOVERNMENT WANTS TO GIVE ENTREPRENEURS MORE FREEDOM TO RUN THEIR BUSINESSES AND MAKE OPTIMUM USE OF ICT. WE ARE DOING THIS BY EASING REGULATORY BURDEN, ESTABLISHING FUTURE-PROOF RULES, IMPROVING THE GOVERNMENT'S DIGITAL SERVICES AND REMOVING BARRIERS WITHIN THE SINGLE MARKET. IN THIS REGARD, START-UPS DESERVE SPECIAL ATTENTION. THEY ARE A SOURCE OF INNOVATION AND OFTEN FOCUS ON SMART APPLICATION OF ICT.

6.1 Start-ups and scale-ups

Start-ups and scale-ups are important innovators within the economy. They create new activity and challenge the established order to modernise. They also contribute to solutions to social challenges such as a future-proof healthcare system, cybersecurity and sustainable agriculture. They do this with the aid of groundbreaking technologies such as photonic chips, blockchain and 3D printers.

Via the StartupDelta initiative, the Netherlands is internationally positioned as the number one location for start-ups and scale-ups, and the ecosystem has been improved. The Netherlands is now the third-fastest growing ecosystem in Europe and occupies fourth position in the rankings for best start-up ecosystem behind London, Berlin and Paris.[39] Various government initiatives have contributed to this.[40] Furthermore, as of next year, the government will be providing an annual €50 million for fiscal measures for start-ups and SMEs. In the years to come, StartupDelta 2020 will build upon the success of StartupDelta, with a greater focus on scale-ups and by building further upon existing networks. Constantijn van Oranje-Nassau has been appointed to the position of Special Envoy for StartupDelta for the next year and a half. He will be an excellent promoter of the Netherlands as a location for start-ups and scale-ups.

AFM and DNB Innovation Hub

Start-ups and other newcomers in the financial world are being given greater opportunities by the regulators to experiment with innovative products and services. On 9 June 2016, the Netherlands Authority for the Financial Markets (AFM) and the Dutch Central Bank (DNB) launched an innovation hub. This also gives new providers of SME funding the opportunity to enter the market sooner and more effectively.

6.2 Digital services

ICT makes an important contribution to the improvement of government services. It lowers the transaction costs for businesses and gives entrepreneurs more time to run their businesses. The digital government operates based on facilities and standards which are used by government service providers to an increasing degree in their interaction with businesses and citizens. For most entrepreneurs, contact with the government only represents a small proportion of their total business contact. However, it is often crucial to the business's primary process as contact with the government involves issues such as the issuing of permits, personnel, monitoring, tax returns and registration. Many processes between the government and the business sector still include non-digital links. For these processes, the information already known to the government is not always reused: the entrepreneurs are asked to provide it again and again. As of 2017, in accordance with the coalition agreement, citizens and businesses will have the right to digitally conduct all their affairs with the government. This is due to an amendment to the General Administrative Law Act (*Algemene wet bestuursrecht*).

Digital government

'Online services are extremely beneficial to all. The government and the business sector should strengthen one another in further developing these services.'

Daniel Ropers, CEO of Bol.com and promoter of the Mass Digital (Massaal Digitaal) breakthrough project

39 Compassie (2015), *Global Startup Ecosystem Report 2015*.
40 Parliamentary papers 32637, no. 241.

The Dutch government promotes digital service provision to businesses by means of a government-wide Generic Digital Infrastructure (GDI). Under the authority of the Digital Commissioner, all government service providers will make use of the facilities and standards within the GDI. This includes facilities for offering government information (overheid.nl, answersforbusiness.nl (ondernemersplein.nl)), identification and authentication (DigiD, Idensys and iDin), message traffic (Message Boxes for citizens and businesses) and standardised data exchange (Standard Business Reporting, e-invoicing, open standards). Parliament has already been informed of the development and implementation of these facilities via the 2017 Digital Progress Report[41] (*Voortgangsrapportage Digitaal 2017*) and the Regulatory Reform Progress Report[42] (*Voorgangsrapportage Regeldruk*).

As announced, the government is currently working to establish a legal basis for the facilities and standards in the Generic Digital Infrastructure (GDI) by means of the GDI legislative proposal. This legislative proposal will – in stages – arrange the necessary uniform digital infrastructure within government bodies to enable businesses to handle their business matters easily and unequivocally. The facilities will be recorded in the law in a technology-independent manner. This way, the law will not have to be changed every time a technical adjustment is made. The first stage of the GDI Act (*Wet GDI*) will include a number of existing and frequently used facilities contained in the GDI such as answersforbusiness.nl (ondernemersplein.nl); mygovernment for entrepreneurs, MijnOverheid voor Ondernemers; and the message box for businesses. Online access to public services via highly reliable public and private authentication tools will also be enshrined in law. This will enable digitisation of services for which personal contact via a service desk is currently still required.
To realise a less non-committal digital service regime within government bodies, the government is working on a basis that will make it compulsory for government bodies to use certain (as yet undefined) open standards. Within this basis, the minister of the Interior and Kingdom Relations will be authorised to assign open standards. The aim is to submit the GDI legislative proposal for consultation by the end of 2016.

As citizens and businesses are increasingly involved in cross-border activity, it would be best to devote attention to digital services for citizens and businesses at the European level as well. For this purpose, the European Commission has introduced an updated e-government action plan for the period 2016 – 2020 in order to accelerate the transition to digital government. This action plan is part of the Digital Single Market Strategy.

6.3 The Answers for Business website (*Ondernemersplein*)

To satisfy the information needs of entrepreneurs, the Answers for Business website answersforbusiness.nl (Dutch: Ondernemersplein.nl) was launched at the beginning of 2014. Entrepreneurs can use this website to handle their affairs with the government. As well as knowing which rules, permits and taxes apply to them, it is also important that entrepreneurs can see what opportunities are available to them and which transactions are possible.

Over the course of two years, answersforbusiness.nl has undergone successful development.
A substantial number of entrepreneurs visit the website, and via the user satisfaction survey, they say that the website is appealing to them. However, continual usage monitoring shows that entrepreneurs only to a limited degree directly access answersforbusiness.nl. Other providers of government services, such as the Chamber of Commerce (Kamer van Koophandel), the Tax Authorities and the Employee Insurance Agency (UWV), are more well-known. Entrepreneurs therefore more frequently use these websites for information, products and services. To increase the reach of answersforbusiness.nl, it will also be made accessible via the websites of other government organisations. This represents a new phase for answersforbusiness.nl. Various government bodies are working together to provide entrepreneurs with tailor-made information via the websites that entrepreneurs primarily use to find information.
As many entrepreneurs see the Chamber of Commerce as the number one source of general government information for entrepreneurs, investigation will be conducted into whether the Chamber of Commerce

41 Parliamentary papers 26643, no. 381.
42 Parliamentary papers 29515, no. 389.

should use the government's corporate identity. Gradually, the marketing of answersforbusiness.nl will be conducted via the aforementioned government organisations and will no longer focus on the answersforbusiness.nl brand. This strategy should significantly increase the reach of the information and user satisfaction, as well as cutting costs. In 2017, the results of this approach will be included in the evaluation of the Chamber of Commerce Act (*Wet op de kamer van koophandel*).

6.4 'MijnOverheid voor Ondernemers'

The Company Dossier (*Ondernemingsdossier*) was initiated in 2012 to facilitate transactions with the government and enable reuse of previously entered data. This is a secure digital environment for data exchange between entrepreneurs and the government. During the General Consultation on Enterprise and Corporate Finance on 30 September 2015, I announced that the Company Dossier would be developed further in conjunction with answersforbusiness.nl. 'MijnOverheid voor Ondernemers' will be a facility for all entrepreneurs, designed in accordance with entrepreneurs' wishes. This facility will give insight into your own company details and includes the Message Box for Businesses. The facility also contains tailor-made information in addition to the general information contained on answersforbusiness.nl. Based on input from businesses and government bodies, the first version of 'MijnOverheid voor Ondernemers' is currently in development. This facility will be connected in the same way as answersforbusiness.nl: via existing portals belonging to government service providers that the entrepreneur already uses. I am striving to realise user volume by means of large administrative agencies and a phased expansion of transactions with governments. Due to the large number of users, the Chamber of Commerce will also help to increase reach and usage. For example, upon registering a new business with the Chamber of Commerce, entrepreneurs could be given a 'MijnOverheid voor Ondernemers' starter package as standard.

In September 2016, I will provide Parliament with further information on the development of 'MijnOverheid voor Ondernemers'. I will also explain the development plan, provide a more detailed schedule and give further specification of the functions of this facility. The funding of 'MijnOverheid voor Ondernemers' will be included in the decision on the funding of the Generic Digital Infrastructure (GDI).

6.5 Open data

Government bodies hold vast quantities of data, obtained both for the purposes of and during the course of their work. By making this data accessible, government activities become more transparent and the reuse of this data can generate social and economic added value. Greater insight into available data also enables the government to cut costs, work smarter and make policy more effective. In 2015, the minister of the Interior and Kingdom Relations established the National Open Data Agenda (NODA).[43] The basic principle of this agenda is 'open, unless'. The NODA is now being implemented by all departments. The minister of the Interior and Kingdom Relations has recently informed Parliament of this matter.[44] Currently, in line with the Verhoeven motion[45], research is being conducted into the possibilities to make the Trade Register (*Handelsregister*) available as open data. I will inform Parliament of this issue before the summer of 2016.

Insight through open data

'We can already do so much with open data. We can even give clear insight into the quality of life in individual neighbourhoods. It is important that the government continues to make open data available and accurate, as there is so much more to gain.'

Florian Witsenburg, CEO of Tygron

43 Parliamentary papers 32802, no. 20.
44 Parliamentary papers 32802, no. 26.
45 Parliamentary papers 32637, no. 210.

6.6 Future-proof legislation

It is important to the government that legislation provides enough room for modernisation and innovation. For this reason, the future-proof legislation approach has been initiated.[46] This approach examines both how legislation can stimulate innovation in practice and how the legislative process can be made more responsive to increasingly rapid developments. At the same time, we must ensure that public interests remain sufficiently safeguarded.

Specific cases

Within the scope of this approach, work is being conducted to realise a system for the taxi market in which legislation is formulated in a more result-oriented manner and in which the market has greater freedom to decide how to achieve these results. With regard to private rental of homes to tourists via digital platforms like Airbnb, clarity has been created regarding the conditions under which this innovation can be facilitated by local government. In this regard, the policy of the Municipality of Amsterdam is used as a guiding example.

Based on research into the impact of digital platforms and the sharing economy,[47] I conclude that as a government, we should not be too quick to formulate general rules and that we should first carefully examine how public interests are affected in practice. Often, legal and other instruments already exist that can resolve issues relating to digital platforms. For example, competition laws and inspection offer sufficient starting points for tackling abuse of economic dominance. This topic is also high on the agenda of both national competition authorities and the European Commission (both as creator and regulator of the policy).

In this regard, when specific problems occur, any intervention by the government should focus on the specific sector, region or management level affected by this problem rather than just implementing a generic platform approach. After all, there is no such thing as 'the platform', nor generic platform regulations. Another conclusion is that digitisation also creates opportunities to better safeguard public interests. Digitisation and the use of the Internet usually result in markets functioning more effectively due to factors such as greater transparency regarding quality and prices, and better functioning reputation mechanisms. This can create opportunities to design future legislation differently and with fewer burdens.

Policy and legislative process

As well as paying attention to specific cases, it is also important that the government effectively internalises the importance of innovation within its own policy and legislative cycle. The same applies to EU legislation. I will provide more detailed information on this matter to Parliament before summer. This will also include an indication of how more attention can be paid in the legislative process to instruments that will make legislation more future-proof and innovation-friendly, such as result-oriented legislation, legal experimentation and the right to challenge.

6.7 Digital single market

The removal of barriers to international trade via the Internet has resulted in economic growth for the European Union of up to 4% of GDP.[48] The establishment of the digital single market is an important priority for both the Dutch government and the European Commission. Via the Digital Single Market strategy for Europe, the Commission provides a strategic framework for the establishment of the digital single market and the optimal preconditions for it. For this purpose, the European Commission has launched 16 initiatives aimed at (1) encouraging cross-border online economic activities, (2) reinforcing the digital infrastructure, and (3) capitalising on the potential of the European data economy. The Dutch contribution in this regard focuses on timely and ambitious implementation of the Digital Single Market strategy. In this respect, it is important to the Netherlands that EU legislation is future-proof and does not obstruct innovation.

46 Parliamentary papers 33009, no. 10.
47 Parliamentary papers 33009, no. 12.
48 European Policy Centre (2010), Digital Single Market.


7
ACTION LINE
DIGITISATION
OF SECTORS
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2
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1
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8

IN RECENT YEARS, THE GOVERNMENT, PRIVATE PARTIES AND KNOWLEDGE INSTITUTIONS HAVE WORKED TOGETHER TO OPTIMISE THE PRECONDITIONS FOR THE DIGITAL ECONOMY AND SOCIETY. THIS INVOLVES MATTERS SUCH AS INFRASTRUCTURE, HUMAN CAPITAL, INNOVATION AND SECURITY.

IN ADDITION TO THIS, THE GOVERNMENT HAS INITIATED BREAKTHROUGH ICT PROJECTS TO ACCELERATE THE APPLICATION OF ICT WITHIN NINE SECTORS AND THEMES. THIS PROGRAMME IS CURRENTLY BEING CONCLUDED (SEE APPENDIX 2 FOR A REVIEW OF THESE BREAKTHROUGH PROJECTS). IT CAN BE CONCLUDED THAT THE BREAKTHROUGH APPROACH HAS HAD A POSITIVE EFFECT ON THE ENCOURAGEMENT AND EXPANSION OF ICT USAGE AND THE SCALING UP OF PROMISING ICT INNOVATIONS. USING THE EXPERIENCE GAINED DURING THE BREAKTHROUGH PROJECTS, THE GOVERNMENT IS NOW WORKING ON FURTHER DIGITISATION OF A NUMBER OF SOCIALLY AND ECONOMICALLY IMPORTANT SECTORS.

Lessons from the ICT breakthrough projects

Many SMEs benefited from ICT innovation and the projects helped to create greater attention and awareness within businesses and government bodies regarding the opportunities that ICT offers. This approach also shows that there is no silver bullet or simple solution for the scaling up of ICT innovations. Working with external promoters proved extremely useful: they were the driving force behind the successes achieved. The lasting value of the approach is evidenced by the fact that a number of projects have been continued by the parties involved.

Via the breakthrough projects, useful practical experience has been gained with a sector-specific approach to digitisation. Using this experience, the government is now working further on the development and smart application of ICT within a large number of sectors, including via the Top-Sector approach, in which ICT is a cross-cutting theme. There is also a number of sectors that the government considers important with regard to social challenges and economic potential, includes the healthcare, energy, manufacturing and mobility sectors. The Netherlands can play a leading role in the digital transition by making better and broader use of the opportunities created by ICT within these sectors.

New flavours

'Large-scale DNA research in the food industry will be greatly facilitated by the computing power of supercomputers. As a result, new products such as natural sweeteners can be introduced to the market much quicker.'

Walter Pirovano, Director of Bioinformatics at Baseclear

7.1 Smart industry

The digitisation of industry is of great importance to the competitiveness of the Netherlands. In order to promote this, the government set up Team Smart Industry, which was then asked to devise an action agenda. This action agenda came into force last year and is being conducted successfully.[49] It is conducted in accordance with three action lines: capitalisation on existing knowledge, acceleration in field labs and reinforcement of foundations.

The rollout of the field labs is the main priority. Businesses and knowledge institutes collaborate in field labs to develop and test ICT applications. Nine field labs are already operational. Private investment is the basic principle in the funding of new and existing field labs. Depending on the quality of the proposals, field labs can also supplement this funding by making use of various financial instruments such as the SME Innovation Scheme for Top Sectors (MIT) and the Top Consortium for Knowledge and Innovation (TKI) supplement schemes, Horizon 2020, regional programmes and European Regional Development Fund (EFRO) resources. In addition, another €10 million in loans is available from the Future Fund (*Toekomstfonds*), and the Van Veen amendment[50] has made an extra one-off sum of €5 million available for field labs. It is my ambition to use these combined resources for both new and existing field labs. Consultation with the Smart Industry steering group is already in progress. I aim to have a programme ready for this purpose by the second half of 2016.
Results are also being achieved and new activities developed regarding the other lines of action. For example, the 'Smart Industry Lectors' network has been set up and a call for R&D projects relating to Smart Industry has been issued. These projects can begin in 2016.
Furthermore, in the coming period, a set of legal instruments will be developed to make it easier for businesses to make data-sharing agreements, and efforts will be made to establish a standardisation agenda. Standardisation enables business processes, machines and computer systems to be uniformly

49 Parliamentary papers 29826, no. 66.
50 Parliamentary papers 34300, no. 12.

connected. The set of legal instruments and the standardisation agenda should be complete by the end of summer.

7.2 Digitisation of healthcare

The smart application of ICT can make an important contribution to high-quality, affordable and accessible healthcare. Digitisation and data usage can create new and improved medical services, products and operating processes. Examples include remote health monitoring for cardiac patients or robot-assisted surgery. By using big data, complex medical conditions such as Alzheimer's disease and Parkinson's disease can be diagnosed sooner. The availability of data can also be used to increase transparency in healthcare.

Digital operations and standardised data exchange boost the healthcare sector and must therefore become the standard. It is the minister of Health, Welfare and Sport's ambition to ensure that within three years, 80% of chronically ill patients and 40% of the rest of the population will have direct access to certain medical data. An additional goal is to enable 75% of the chronically ill to independently monitor their health and to make on-screen communication with a care provider available 24 hours a day to everyone receiving care and support at home.

In recent years, healthcare has mostly undergone incremental innovation. Improvements to healthcare have been made in a step-by-step manner within the scope of the innovation and modernisation of healthcare programme (*Innovatie en Zorgvernieuwing*). However, large-scale application of eHealth in the healthcare sector is often lacking. Various studies show that telemonitoring of medical conditions, such as COPD and heart failure, has a positive effect on patients' quality of life. It means they do not have to go into hospital as often. However, only a small percentage of chronically ill patients and vulnerable senior citizens are currently able to electronically share their self-test results with their doctor. This lack of widespread application of eHealth is caused by a number of factors such as the cost-benefit imbalance and obstacles relating to information exchange and interoperability. These obstacles are caused by a lack of resources for highly reliable identification and standards for logging into systems. These obstacles must be removed in order to cope with consumer demand for innovation. This demand will rapidly increase due to the rapid development of instruments for home testing and monitoring of health data by healthcare consumers themselves.

Health Deal
In June 2016, the first Health Deal was signed by 13 public and private parties within the ICT and healthcare sectors. The goal of Health Deals is to apply and scale up healthcare innovations in practice by bringing the parties involved together and/or by removing barriers. The initiative for a Health Deal must originate from within the professional field, and at the same time patients and users are very closely involved. The goal of the first Health Deal focuses on the embedding of ICT-based Decision Support Systems in the field of oncological research. These systems should facilitate earlier diagnosis of cancer and individually tailored treatment. By intelligently combining data, the system can recommend the optimal course of treatment for individual patients to the oncologist.

The Ministry of Health, Welfare and Sport is tackling the aforementioned obstacles together with other ministries and professionals in the field. In the coming years, action will be taken in accordance with four lines of action:

Action line 1: Right data, right place, right time

The patients' federation NPCF is working towards the further development of Personal Health Record (PHR). In addition, the members of the Healthcare Information Council (*Informatieberaad Zorg*) will make the case for the short-term establishment and use of standards for data exchange. There is

a wide base of support for this line of action. Healthcare consumers want to have access to their own data. This requires standards and facilities for data exchange and an identification tool with the highest level of security. An common system and national standards will be quickly developed and established with overriding authority.

Action line 2: Funding that gives more room for innovation and performance

The Ministry of Health, Welfare and Sport is making more room for performance agreements within the funding arrangements. For this purpose, the ministry is working together with other parties such as the Dutch Healthcare Authority (*Nederlandse Zorgautoriteit*) and making use of the results from the testing grounds. The ministry is also encouraging innovation in healthcare purchasing by insurers and municipalities. Modernisation of the Long-Term Care Act (*Wet langdurige zorg*) will expand the experimental areas.

Action line 3: Sharing knowledge to accelerate innovation

The Ministry of Health, Welfare and Sport promotes the scaling up of start-ups and innovation by means of 'knowledge sharing'. The ministry, insurers, sector organisations and professional groups are supporting practical initiatives and bringing innovators together via a network of patients, healthcare providers, financiers, legal experts and technologists. In addition, the ministry invites hands-on experts and contrarians to critically assess its policy.

Action line 4: Raising awareness of eHealth amongst patients and professionals

All parties involved ensure that awareness of the opportunities offered by eHealth is increased amongst professionals and – in particular – amongst patients, as these parties are the driving force behind healthcare innovation. The Ministry of Health, Welfare and Sport is currently in consultation with stakeholders in order to promote the use of healthcare in line with the 'supported self-care programme' (*Zelfzorg Ondersteund!*), for various conditions and in various sectors, such as eMental Health.

Within the scope of the Dutch EU Presidency, the 2016 eHealth Week was organised in June. During this week, citizens, patients, healthcare providers/institutions, entrepreneurs, financiers and government bodies shared their wishes, ambitions and solutions with each other. In addition to international initiatives, a great deal of attention was also paid to Dutch initiatives in the field of eHealth. The Start-up2Scale-up Day focused specifically on Dutch SMEs that wish to make their eHealth solutions more widely available in the Netherlands and abroad.

Fasttrack Initiative

During eHealth Week, the minister of Health, Welfare and Sport announced the Fasttrack Initiative. This initiative aims to support SMEs and start-ups and give them guidance in scaling up successful eHealth initiatives. The goal of this public-private partnership is to make promising innovations available to patients sooner and to make room for them in the Dutch healthcare sector. To that end, €20 million will be made available over the next four years. In addition to the government's contribution, funding agreements have also been made with private parties such as banks, pension funds, investors and health insurers. In the coming months, the initiative will be elaborated and implemented in collaboration with the Ministry of Economic Affairs. For this purpose, collaboration with StartupDelta2020 will also be sought. The initiative should be launched in October of this year.

In the autumn, the minister of Health, Welfare and Sport will provide the House of Representatives with more detailed information on the way things stand and new developments regarding digitisation in the healthcare sector.

7.3 ICT in the energy sector

The Energy Agreement for Sustainable Growth, implemented in 2013, has made important advances in the transition of the energy sector. The use of fossil fuels will decrease, and the decentralised and increasingly flexible supply of sustainable local energy will increase. ICT is already facilitating this large-scale transition and the contribution it makes will only increase in the future. The Energy top sector is encouraging this development, particularly within the Top Consortium for Knowledge and Innovation in Urban Energy (TKI). The High Tech Materials and Systems top sector is also stimulating the implementation of ICT systems that promote the energy transition whilst simultaneously boosting the competitiveness of the Netherlands.

Opportunities for significant energy conservation in offices and businesses

Energy management systems (EMSs) are an example of ICT systems that facilitate the energy transition. EMSs provide better insight into energy consumption and enables more efficient management of the heating and cooling of buildings. Within the scope of the Energy & ICT breakthrough project by the Ministry of Economic Affairs, investigation has been conducted into how much energy this could save. Research by the Energy Research Centre of the Netherlands (ECN) shows that potential savings of 20 to 30 PJ can be realised (see Appendix 4).
The Environmental Management Act (*Wet Milieubeheer*) obliges offices and businesses to implement measures that will pay for themselves within five years or less. In the Energy Agreement, it is stipulated that the execution of the Environmental Management Act takes priority. Investing in an EMS can pay for itself within a year. Making this type of system the general standard could make an important contribution to realising the conservation objective in the Energy Agreement. The competent authorities will therefore give more priority to compliance with the Environmental Management Act. This also includes monitoring by municipal and provincial government bodies of the application and optimal adjustment of ICT (efficient management). As of 2016, efficient management will be added to the recognised lists of energy conservation measures to enable better monitoring of compliance.

Saving energy with ICT

'Dutch ambitions for CO_2 reduction can be realised via a combination of energy conservation and sustainable energy. ICT can facilitate both of these aspects.'

Bernard Fortuyn, promoter of the Energy & ICT breakthrough projects and member of the Executive Board of Siemens Nederland

Smart grids as an essential part of the energy transition

The term smart grid, also known as a smart energy system, is a collective term for ICT-related innovations within or surrounding the energy infrastructure. These innovations create technical opportunities to coordinate the supply and demand of energy in a smarter manner.
In consultation with all parties involved in the provision of energy, Netbeheer Nederland and Energie Nederland are working together via the Energy Consultation Forum (*Overlegtafel Energie*) to create solutions that will enable this kind of smart system. Flexible connections and the data traffic required will be important discussion topics in this regard.

ICT puts consumers in control

Via devices such as smart energy meters/thermostats, consumers can gain insight into how much energy they are consuming or are generating themselves via solar panels. This enables smarter and more efficient energy usage.

Large-scale provision of smart energy meters began on 1 January 2015. By 2020, a smart energy meter will have been offered to every household and business.
In the future, consumers will be able to operate more and more devices remotely or via apps. Home energy-management systems enable better and smarter energy consumption by domestic appliances, for example, by powering washing machines with electricity generated by one's own solar panels installed on the roof.

New application possibilities for big data

The use of big data also creates new opportunities for innovation in the energy sector. One example is the development of geographical maps that display the energy consumption of specific regions, districts and buildings. By linking the generation of energy and other functions relevant to the region, useful information can be obtained for the purposes of management and infrastructure, for the development of spatial policy and for offering energy and energy conservation-related products and services.

Another example is the improvement of weather forecasts by using data gathered by windmills and solar panels. Furthermore, data from generators and consumers of energy can be linked by means of digital platforms. This creates opportunities for new and existing market players to focus more on this market and develop new products and services.
This autumn, a call for PPP projects will be issued within the scope of the Commit2Data programme in order to encourage the application of big data in the energy sector.

Big data

'Big data is the new oil. The Netherlands has all of the ingredients required to develop big data, such as one of the best data infrastructures in the world and targeted education.'

Eric van Tol, promoter of the Big Data breakthrough project and Director of the Big Data Expertise Centre at Fontys University of Applied Sciences

7.4 Smart mobility

In the years to come, major changes are expected in the field of mobility. Transport is getting smarter, e.g. via the introduction of driverless cars. Intelligent transport systems are in development, making traffic safer, more efficient, more reliable and more sustainable by implementing ICT into transport resources and into the infrastructure. By offering integral transport concepts, passengers can combine a variety of modes of transport in order to get to their destination. Making mobility more sustainable is a major shift that will require the use of ICT.

Further development of smart mobility will require a flexible approach by the government and the willingness to learn by doing. The importance is rising and the number of users increasing, but the direction and the speed of technological developments are not set in stone. The government has made a start on this matter by collaborating with knowledge institutes and the business sector, for example via the 'Optimising Use' (*Beter Benutten*) programme, the 'Declaration of Amsterdam with regard to connected and automated driving', and the 'European Truck Platooning Challenge'.

Smart mobility not only changes the way in which transport is conducted, but also the exchange of transport-related data. One example of this is the introduction of the digital consignment note. Every year, 100 million paper consignment notes are issued. By digitising consignment notes, the business sector can realise significant savings. In addition, digitisation creates new opportunities to simplify

transport administration, provide information to clients, make transport more efficient and eco-friendly and make better use of transport resources and infrastructure. By combining this with open data, the data generated by transport can provide new insights. Analysing this big data can create even more opportunities for the various parties in the logistics chain and the government bodies involved.

Various activities are being conducted in the field of smart mobility and data sharing. Standardisation is an important theme in these activities. The way in which the data is made available within the logistics sector will change in the years to come. The Neutral Logistics Information Platform (NLIP) works to optimise data sharing between businesses, for both trading partners and third parties. Standardisation of the way in which the carrier and recipient identify themselves and the way organisations grant permission to share data are essential for large-scale digitisation. The current fragmented approach in many lines of industry is therefore an obstacle to this goal. Standardisation will therefore affect the entire logistics process, including carriers, loaders, entrepreneurs and regulators.

The government is also working on optimisation of data exchange with the business sector. By developing a Single Window for Trade and Transport, the government wishes to help the business sector to report less data and use data for its own operations. In due course, coordination between government bodies regarding monitoring and inspection will enable the establishment of a one-stop shop. Initiatives have been launched for the provision of a one-off digital report to the government and multiple use of shipping details by government services, the Maritime Single Window, and for the handling of air freight at Schiphol Airport.

Big data and logistics

Over the coming period, work will be conducted on the big data and logistics programme within the scope of 'Commit2Data', a public-private partnership (PPP) for the use of big data. Important themes in the programme are digital data sharing, cybersecurity and the optimisation of goods channels via information platforms. A call for PPP projects is scheduled to be issued in the autumn of 2016. For this purpose, a budget of €4 million has been made available.

8

CONCLUSION

Conclusion

Due to the economic and social importance of digitisation, the government is implementing a variety of measures to encourage digitisation and reinforce the preconditions for digitisation. We are doing this across the full spectrum of the economy and society, as is evidenced by the Digital Agenda. The measures in this Digital Agenda focus on the short term (2016 – 2017).

However, the challenges we face will extend further into the future, such as tackling cyber threats, training the talent of today and tomorrow, and smart application of ICT in sectors such as healthcare. It is therefore extremely important that the collective efforts made by entrepreneurs, scientists and policymakers with regard to the digital economy are continued and – wherever possible – intensified. This challenge must be taken up and shaped further by the next government. In my opinion, the new Digital Agenda will amply facilitate them to do so.

July 2016

Ministry of Economic Affairs

Published by:
The Ministry of Economic Affairs
Regulatory Reform and ICT Policy Department

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2500 EK The Hague

rijksoverheid.nl/digitaleagenda

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