



Ministry of Foreign Affairs

# THE DUTCH E-HEALTH SECTOR

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# THE DUTCH E-HEALTH SECTOR

This chapter was commissioned by the Netherlands Enterprise Agency (RVO) in The Netherlands. It is delivered by Task Force Health Care (TFHC). It provides an analysis of the Dutch eHealth sector and is focused on mapping Dutch companies and their expertise in order to identify areas where Dutch and South African parties can collaborate to increase the uptake of Dutch solutions in South Africa.

## 1. Method

In order to analyse the Dutch eHealth sector, data from Task Force Health Care and network partners were referenced and combined with a desk research. In total, 278 companies were identified (December 2019). This data was categorized into type of company, type of solution (strength), and market which are targeted with those solutions. Based on a report on the HealthTech business opportunities in South Africa delivered by FTI Consulting South Africa, potential matches between Dutch eHealth strengths and opportunities in South Africa were identified, including a roadmaps to foster these potential matches.

### 1.1. Scope and definitions

The analysis in this chapter focuses on the Dutch companies that provide one or more eHealth solutions targeting one or more type of markets and end-users. Dutch companies are companies that are registered at the Netherlands Chamber of Commerce (KvK registration) and add value from the Netherlands. It excludes registered (foreign) companies that solely act as a sales office for the Dutch market. Companies are categorised as ‘multinational’ if they employ over 250 FTE in multiple country offices and have their headquarter or origin in the Netherlands, ‘large’ if they employ over 250 FTE in the Netherlands, and ‘small and medium size enterprise’ (SME) with up to 250 FTE. Companies can either be internationally active (export of solutions), not (yet) internationally active, or this may remain unclear if this was not yet identified.

In the Netherlands, eHealth is commonly defined as the application of digital information and digital communication tools to support and improve health and the provision of healthcare.<sup>1</sup> eHealth solutions seamlessly bring care and cure to patients and citizens and substantially increase the efficiency and functionality of care provision.<sup>2</sup> In this chapter, eHealth solutions are divided into thirteen (13) solution categories, which are listed in table 1.

**Table 1: Description of eHealth solution categories**

eHealth solution category	Description
Administrative	IT solutions for administrative services of health facilities
Clinical Decision Support Tools	Integrated IT for real-time guidance and support of clinicians engaged with patients

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<sup>1</sup> Wouters, M., Huygens, M., Voogdt, H., Meurs, M., De Groot, J., Lamain, A., De Bruin, K., Brabers, A., Hofstede, C., Friele, R., Van Gennip, L. (2019). Samen aan zet – eHealth-monitor 2019. The Hague & Utrecht: Nictiz & NIVEL.

<sup>2</sup> Task Force Health Care (2016). TFHC Brochure. The Hague: Task Force Health Care. <https://www.tfhc.nl/wp-content/uploads/2016/12/TFHC-Brochure-2016.pdf>

Connected Care & Interoperability	IT for smooth exchange of data between different IT systems (intra- and extra-mural), including data security/privacy solutions and exchange between formal and informal care takers
Consumer Health Informatics & Guidance	IT portals for patients to access their clinical health data and information
Data, analytics & AI	IT for analysing (actionable) data, automating tasks, providing insights and guidance for health professionals
EHR & HIMS	IT for managing & exchanging health data and workflows (intra-mural) <i>EHR = Electronic Health Records</i> <i>HIMS = Hospital Information Management Systems</i>
eLearning	IT for training and education of health professionals
ePharmacy	IT for the pharmacy supply chain and medication management
Home Care	Assistive IT for the home environment (hard- and software combined)
Public Health Systems	IT for managing & exchanging population health data
Rehabilitation	IT specifically focussed on rehabilitation
Telemedicine	IT for healthcare delivery (by health professional) from a distance
Wearables & Tracking	IT for personal monitoring & tracking with the use of personal devices or apps

For the purpose of matching, this chapter also identified eleven (11) type of markets that are targeted by the identified Dutch companies and their eHealth solutions. These markets and their description are listed in Table 2.

**Table 2: Description of market categories**

Market category	Description
Hospitals	Solutions that mainly target more specialist or complex healthcare providers, including secondary and tertiary care facilities. Key decision-makers might include c-level hospital staff, department-based KOLs, and purchasing departments.
Consumers	Solutions that mainly target the general consumer market.
Long-Term, Elderly & Home Care	Solutions that mainly target providers of long-term, elderly, senior, and home care, and consumers of solutions targeting this end-user group.
Primary care	Solutions that mainly target providers of primary care, including general practitioners, community care, mother and child care.
Mental care	Solutions that mainly target providers of mental care.
Research & Industry	Solutions that mainly target organizations that are involved in R&D, including universities, research institutes, and industry.
Rehabilitation	Solutions that mainly target providers of physical rehabilitative care, including physiotherapy.
Health insurers	Solutions that mainly target health insurers involved in administrative, monitoring and guiding functions.
Governments	Solutions that mainly target governments that involved in (overarching) public health functions and related administration systems and health programs.
Pharmacy	Solutions that mainly target pharmacies and the pharmacy supply chain.
Dental care	Solutions that mainly target providers of dental care.

## 2. The Dutch eHealth Sector

According to the *Healthcare Information and Management Systems Society* (HIMSS), the Netherlands is one of the frontrunners in the digitalisation of healthcare.<sup>3</sup> The Dutch government actively stimulates and supports the development and adoption of health technology and digitalisation through task forces and subsidized innovation programmes, knowledge platforms and events targeting both innovators and health providers.<sup>4</sup> The academic and research ecosystem is vibrant with multiple high-ranked university medical centres<sup>5</sup> that carry out research in field of digitalisation of healthcare. Health providers, which are not-for-profit private entities that operate in a ‘managed competition’ health system, tend to be entrepreneurial and innovation minded, resulting in many providers that connect with academia, industry and ICT developers (companies) to work towards facility and/or condition specific eHealth solutions to improve their efficiency and effectiveness.

### 2.1. Government priorities

The Dutch Ministry of Health, Welfare & Sport has recognised the importance of the role of digital health (eHealth) in addressing the pressing issues facing the Dutch healthcare system, being an ageing population, rising healthcare costs, and a shortage of competent medical staff. Current overarching themes that the ministry focuses on are the transition from traditional hospital-based care to home-care, increasing patient involvement in the care process, and facilitating the safe exchange of patient information between providers, and between provider and patient. Table 3 highlights the main ambitions and interventions related to digitalisation and eHealth.<sup>6</sup>

**Table 3: Priorities for eHealth of the Dutch ministry of Health, Welfare & Sport<sup>6</sup>**

Ambition	Description
Access to medical data	At least 80% of chronically ill patients and 40% of all patients should have access to their own medical data by 2019.
Self-measurement	75% of chronically ill patients and those requiring long-term care can independently measure their medical signs such as blood pressure or cholesterol by 2019. This information can then be shared with their caretaker or physician.
Online contact with care provider	Persons receiving home care are able to contact their care provider via a screen (e.g. computer screen, mobile phone, tablet) in 2019. These services should be provided 24/7.
Action	Description
Promoting eHealth	Through websites, brochures, events, and information teams that visit hospitals and other health providers, education fairs, and libraries.

<sup>3</sup> HIMSS Analytics Annual European eHealth Survey 2018. <https://www.himss.eu/himss-analytics-annual-european-ehealth-survey>

<sup>4</sup> <https://www.icthealth.nl/nieuws/vws-komt-met-visie-op-gebruik-zorgtechnologie/>

<sup>5</sup> The Netherlands has 7 university medical centres: Amsterdam UMC, UMC Groningen, Leiden UMC, Maastricht UMC, Radboud UMC, Erasmus MC and Utrecht UMC.

<sup>6</sup> Stimuleer gebruik e-health. Rijksoverheid. <https://www.rijksoverheid.nl/onderwerpen/e-health/overheid-stimuleert-e-health>

Subsidizing (academic) research & development	Through the Netherlands Organisation for Health Research and Development (ZonMW).
Scaling up innovations	Through subsidies and support for (SME) innovators.
Facilitating information exchange	Through guidelines and standards for safe, secure and interoperable exchange of medical data.

## 2.2. Research, development and innovation

The Life Sciences & Health sector is one of the most research, development and innovation intense sectors in the Netherlands. Current research, development and innovation will lead to new eHealth insights, solutions and companies. Table 4 provides an overview of the main areas related to digitalisation and eHealth that are being focused on by universities and knowledge institutes in the Netherlands<sup>7</sup>. Table 5 lists the number of university medical centers working on the eHealth solution categories specified in this chapter and the number of eHealth innovation projects listed in the Dutch health innovation database *Zorginnovaties.nl*.

There are several hubs in the Netherlands that focus on digitalisation and health, with the ambition to stimulate and facilitate innovation. Most notable examples of such initiatives are *The Netherlands eHealth Living Lab* (NeLL) and *The Innovation Center for Artificial Intelligence* (ICIA). The *Landelijke Kennisbank eHealth* (National Knowledge Bank eHealth) is currently being developed with the ambition to provide a comprehensive overview of eHealth initiatives recently being undertaken in the Netherlands and also incorporates user feedback.<sup>8</sup>

**Table 4: Main areas of research, development and innovation (Netherlands, eHealth)**

Area	Description
The right care at the right place <i>De juiste zorg op de juiste plek</i>	Efforts towards providing care in a cost-efficient yet effective manner, including a shift from hospital care towards home care. eHealth solution categories linked to this theme are Wearables & Tracking, Telemedicine, Home Care, and Consumer Health Informatics & Guidance.
Patient empowerment	Efforts towards shared decision-making processes and taking control of your own health. eHealth solution categories linked to this theme are Wearables & Tracking, Home Care, Consumer Health Informatics & Guidance, and, to a lesser extent, Telemedicine.
Safely sharing patient medical data	Efforts towards safe, secure and interoperable exchange of data within and between health providers to benefit efficiency and quality of care. eHealth solutions category linked to this theme is Connected Care & Interoperability.

<sup>7</sup> TFHC analysis of publications on digital health and eHealth by Dutch university medical centres and knowledge institutes.

<sup>8</sup> Kennisbank eHealth: Over de Kennisbank. <https://www.kennisbankehealth.nl/over/>

Using Artificial Intelligence and data analytics for prevention	Efforts towards to predict and prevent cases in which expensive specialist treatment is unnecessary. The eHealth solutions category linked to this theme is: Data, analytics & AI.
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**Table 5: Research, development and innovation efforts per eHealth solutions category**

eHealth solution category	Number of university medical centers with recent publications within solution category <sup>7</sup>	Number of innovation projects in Dutch health innovation database (ranging from concept to implementation phase) <sup>9</sup>
Wearables & Tracking	7/7	69
Home Care	6/7	60
Data, analytics & AI	4/7	54
Telemedicine	6/7	54
Consumer Health Informatics & Guidance	4/7	49
Connected Care & Interoperability	2/7	32
Clinical Decision Support	n/a	27
EHR & HIMS	n/a	20
Rehabilitation	n/a	22
eLearning	2/7	18
Administrative	n/a	14
ePharmacy	n/a	11

### 2.3. eHealth companies

In total, 278 Dutch companies that provide one or more eHealth solutions were identified in this study. Table 6 shows that the vast majority of companies can be categorized as a small and medium sized enterprise (SME). The Netherlands is home to only 3 multinational companies that have eHealth solutions in their portfolio, being Philips, Elsevier, and Nedap. Next, there are 3 large Dutch companies with over 250 employees with eHealth solutions in their portfolio, being Chipsoft, KPN, and Topicus.

<sup>9</sup> Digital platform of the public agency for the Life Sciences & Health sector (Health~Holland) to share and search health innovations. <https://www.zorginnovatie.nl/>

**Table 6: Dutch companies by size of organisation**

Size of organisation	Frequency	Percentage
Multinational	3	1%
Large	3	1%
SME	272	98%
<i>Total</i>	<i>278</i>	<i>100%</i>

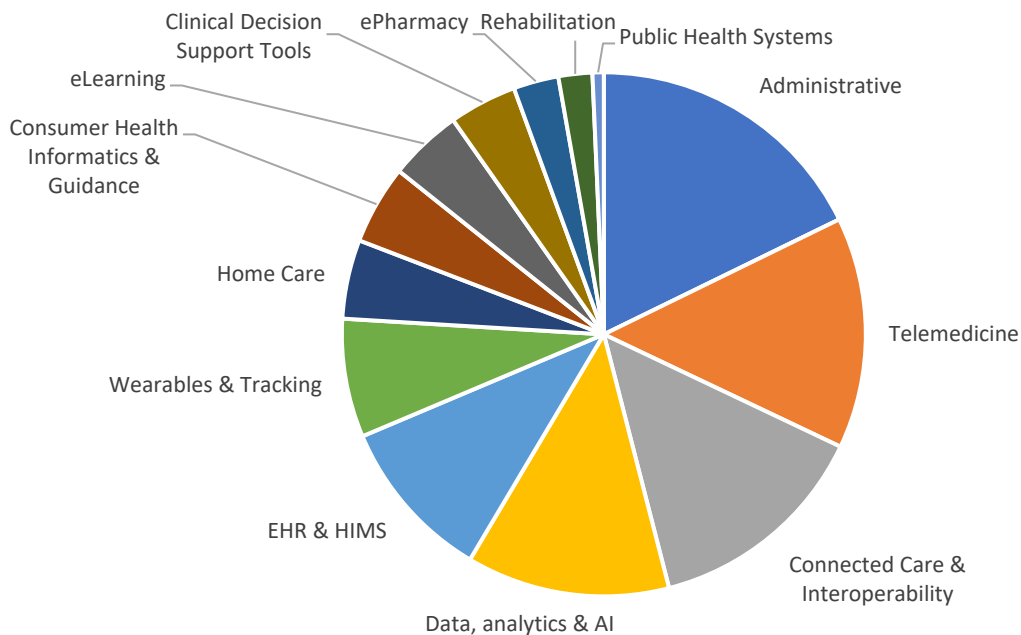
**Table 7: Dutch companies by international activity**

Internationally active	Frequency	Percentage
Yes	155	56%
No	58	21%
Not yet identified	65	23%
<i>Total</i>	<i>278</i>	<i>100%</i>

Table 7 shows that slightly more than half of the Dutch eHealth companies are already internationally active. This indicates that many providers of solutions do have the experience and hold a track record of working in foreign countries with different contexts and requirements.

Companies can provide more than one type of eHealth solutions and target more than one market. An example is a company that offers electronic health records (EHR) which is a vital function of patient data flow and administration within a hospital (Hospital Information Management Systems; HIMS), and also offer solutions to connect data between different health facilities and external (patient) portals (Connected Care & Interoperability).

Figure 1 visualizes the results of the analysis of the (core) solutions provided by Dutch companies. Table 8 provides an numerical overview of this data, including examples of solutions provided by Dutch companies within each solution category.



**Figure 1: Solutions (core) provided by Dutch companies**

**Table 8: Solutions (core) provided by Dutch companies**

Solution (core)	Description	Frequency	Percentage	Data set characteristics (Dutch solutions)
Administrative	IT solutions for administrative services of health facilities	51	18%	Generic IT solutions for the IT (hardware) infrastructure and organizational processes in health facilities like software for patient (flow) and facility planning and management, human resources management (HRM), and financial administration. Several of the providers of these type of solutions are also active in other sectors.
Telemedicine	IT for healthcare delivery (by health professional) from a distance	41	14%	Multiple solutions for video consults for (self)diagnosis, intake, and treatment of various (chronic) conditions or in the primary care domain, including serious gaming.
Connected Care & Interoperability	IT for smooth exchange of data between different IT systems (intra- and extra-mural), including data security/privacy solutions and exchange between formal and informal care takers	40	14%	Multiple specialised IT companies that focus on facilitating data exchange between various IT systems and connected devices, without advanced analytics, that did not communicate before. Often with a strong focus on security and collaboration. Also multiple providers of personal digital medical dashboards that display data from various sources, often with features like a (personal) alarm, and communication, care planning, medication and information tools.
Data, analytics & AI	IT for analysing (actionable) data, automating tasks, providing insights and guidance for health professionals	36	13%	Analytical software solutions that use algorithms to analyse medical data stemming from monitoring and imaging devices and other patient-related data. Examples are advanced (clinical) patient monitoring and work flow optimization (strong link with 'value-based healthcare'; VBHC), computer-aided radiology, and chatbots. It also includes medical data management solutions for research purposes.
EHR & HIMS	IT for managing & exchanging health data and workflows (intra-mural) <i>EHR = Electronic Health Records</i> <i>HIMS = Hospital Information Management Systems</i>	29	10%	Multiple specialist providers of EHR & HIMS systems for individual health facilities. <i>Chipsoft</i> is the market leader in the Netherlands for EHR & HIMS within hospitals (complex care) with a market share of approximately 60%. Other providers focus on a specific domain, for example primary care (GP, dental, physiotherapy, mental care) or long-term care.

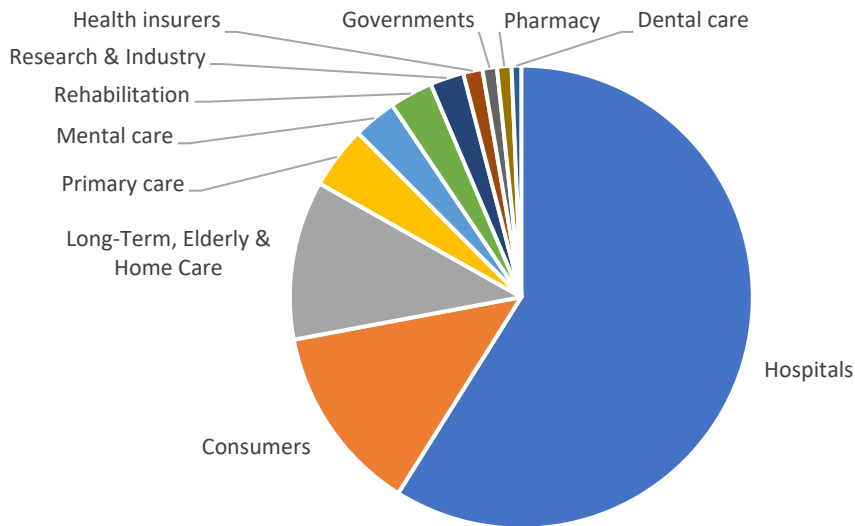


Wearables & Tracking	IT for personal monitoring & tracking with the use of personal devices or apps	21	7%	Multiple solutions to track medical and lifestyle indicators with a mobile app, watch, bracelet or specialised sensor (e.g. heart, bladder) that is connected to a monitoring and alarming application.
Home Care	Assistive IT for the home environment (hard- and software combined)	14	5%	Solutions ranging from home monitoring and alarming systems, care robots, apps that help or trigger the memory function, to more integrated platforms for managing care and medication in the home environment.
Consumer Health Informatics & Guidance	IT portals for patients to access their clinical health data and information	14	5%	Solutions ranging from search portals for specialist care, to information portals and animation videos to inform, prepare, guide and coach patients in their care pathway.
eLearning	IT for training and education of health professionals	13	5%	Solutions ranging from training and education medical staff to improve specific medical skills (e.g. surgical, or required for their field of work), work with medical equipment, engage with patients (dialogue trainer), to workforce evaluation and management via online feedback tools and patient feedback.
Clinical Decision Support Tools	Integrated IT for real-time guidance and support of clinicians engaged with patients	12	4%	Solutions ranging from integrated solutions or portals for real-time access to the latest clinical (research) knowledge, to real-time 3D and VR solutions that help to visualise or treat conditions.
ePharmacy	Solutions that mainly target pharmacies and the pharmacy supply chain.	8	3%	Solutions ranging from personal medication records, medication management, and ePrescription, to automated dispensers for (self)medication.
Rehabilitation	IT specifically focussed on rehabilitation	6	2%	Several solutions with an IT component, like VR simulation and smart rehabilitation devices with a bio-feedback mechanism.
Public Health Systems	IT for managing & exchanging population health data	2	1%	IT platforms that facilitates public health stakeholders in monitoring and managing populations exposed to certain risk factors, like breast or colon cancer, or fragility (elderly).
<i>Total</i>		<i>287</i>	<i>100%</i>	

For the purpose of matchmaking, Table 9 provides an overview of the main markets targeted by the Dutch companies in this data set. This shows that a large majority of Dutch eHealth solutions are applicable in secondary or tertiary hospitals. Figure 2 visualizes the results of the analysis of the (main) markets targeted by Dutch companies.

**Table 9: Markets (main) targeted by Dutch companies**

Main market	Description	Frequency	Percentage
Hospitals	Solutions that mainly target more specialist or complex healthcare providers, including secondary and tertiary care facilities. Key decision-makers might include c-level hospital staff, department-based KOLs, and purchasing departments.	175	59%
Consumers	Solutions that mainly target the general consumer market.	39	13%
Long-Term, Elderly & Home Care	Solutions that mainly target providers of long-term, elderly, senior, and home care, and consumers of solutions targeting this end-user group.	33	11%
Primary care	Solutions that mainly target providers of primary care, including general practitioners, community care, mother and child care.	13	4%
Mental care	Solutions that mainly target providers of mental care.	9	3%
Rehabilitation	Solutions that mainly target providers of physical rehabilitative care, including physiotherapy.	9	3%
Research & Industry	Solutions that mainly target organizations that are involved in R&D, including universities, research institutes, and industry.	7	2%
Health insurers	Solutions that mainly target health insurers involved in administrative, monitoring and guiding functions.	4	1%
Governments	Solutions that mainly target governments that involved in (overarching) public health functions and related administration systems and health programs.	3	1%
Pharmacy	Solutions that mainly target pharmacies and the pharmacy supply chain.	3	1%
Dental care	Solutions that mainly target providers of dental care.	2	1%
<i>Total</i>		<i>297</i>	<i>100%</i>



**Figure 2: Markets (main) targeted by Dutch companies**

### 3. Matching Dutch eHealth supply with SA opportunities

This section elaborates on the matches between the Dutch eHealth supply and the HealthTech business opportunities in South Africa identified by FTI Consulting South Africa. Annex 1 provides a comprehensive analysis and classification of the match of the Dutch supply with each SA opportunity. The first and second tier opportunities that are identified in this analysis are addressed in section 3.1. and 3.2.

#### 3.1. First tier

First tier opportunities refer to those solution areas for which there is Dutch supply and a (severe) demand and limited amount of market entry barriers in South Africa. These opportunities provide (high potential) areas of cooperation. Annex 1 identifies these first tier opportunities, which are summarized in table 10. An important selection criteria is the international experience of the Dutch solution providers, which indicates that they have the ambition, experience and resources to explore a distant market which will require commitment, patience and serious business development investments. This is measured by their participation in previous activities related to international business development (globally). The interest and commitment is however not yet specified for South Africa.

**Table 10: First tier opportunities for matches**

Area of opportunity	Type of solutions	Dutch supply
Health Knowledge Management	Electronic Health Records software	Multiple Dutch providers with international business development experience and interest (see Annex 2). Data analytics is an important field of Dutch R&D and innovation, indicating potential growth of Dutch supply.
	Hospital Information Management Systems	
	Analytical solutions to improve efficiency of healthcare delivery	

Telemedicine	Technology to enable doctor-patient consultation	Multiple amount of Dutch solution providers with international business development experience and interest (see Annex 2). Important field of Dutch R&D and innovation, indicating potential growth of Dutch supply.
Artificial analysis of medical data and images	Artificial Intelligence for diagnosis support	Multiple Dutch advanced imaging and clinical data analytics providers with international business development experience and interest (see Annex 2). Important field of Dutch R&D and innovation, indicating potential growth of Dutch supply.
	Artificial Intelligence for treatment decision support	

### 3.2. Second tier

Second tier opportunities refer to those solution areas for which there is Dutch supply and for which demand in South Africa tends to grow or will grow in the future, but the market is not (yet) ready due to (multiple) generic and solution area specific market entry barriers. Annex 1 identifies these opportunities that will require a more longer term business development approach. The second tier opportunities are identified in Annex 1 and summarized in Table 11. The selection criteria for Dutch solution providers is the same as described in section 3.1.

**Table 11: Second tier opportunities for matches**

Area of opportunity	Type of solutions	Dutch supply
Virtual healthcare	Multi-disciplinary team communication tools	Multiple Dutch solution providers with international business development experience and interest (see Annex 2). Area of Dutch R&D and innovation, indicating potential growth of Dutch supply.
	Technology to optimise patient journey	
Teaching tools	Digital learning platforms, including gamification	Multiple Dutch eLearning solutions providers with international business development experience and interest (see Annex 2). Area of Dutch R&D and innovation, indicating potential growth of Dutch supply.
	Learning experiences with Augmented/Virtual Reality	

## 4. Roadmap for collaboration

The analysis of the Dutch eHealth sector and mapping of Dutch companies and their solutions (section 2) was used to identify areas in which Dutch and South African parties can collaborate to increase the uptake of Dutch solutions in South Africa (section 3). In this section, we suggest a roadmap to facilitate and support this uptake. The roadmap takes into consideration the currently available Dutch support functions and is aimed to benefit both the first and second tier opportunities and the bilateral (longer-term) relationships within the field of HealthTech that will benefit new demand and supply in the future.

In order to achieve the goal of increasing the uptake of Dutch solutions in South African in the areas of opportunity:

*First tier:*

1. Health Knowledge Management
2. Telemedicine
3. Artificial analysis of medical data and images

*Second tier:*

4. Virtual health
5. Teaching tools

The following objectives are defined:

- A. Promote the identified opportunities in both the Netherlands and South Africa.
- B. Validate and further specify the interest and commitment of the identified Dutch companies to engage with South Africa within the areas of opportunity.
- C. Identify the South African stakeholders involved in each area of opportunity in order to further validate and specify the areas of opportunity from a South African perspective.
- D. Position and promote The Netherlands in general and the identified Dutch companies in specific as an expert partner in South Africa within the identified areas of opportunity;
- E. Connect the identified Dutch and South African stakeholders in a sustainable, structured and demand-driven way;
- F. Support the identified Dutch and South African stakeholders in building awareness, mutual understanding, relationships and trust in that is needed to develop partnerships, projects, and business relations within the identified areas of opportunity.
- G. Stimulate the testing and implementation of Dutch solutions in South Africa, by facilitating pilot projects and project implementations.

Table 12 provides the suggested roadmap deliverables stemming from the objectives. As each of the five (5) areas of opportunity require similar steps, it is suggested to combine the roadmap steps to make efficient use of available resources, relationships, and budgets for support, and create synergies. For multiple opportunities, the same SA stakeholders are identified as 'potential buyers', for example the private hospital (groups).

**Table 12: Roadmap for increasing the uptake of Dutch solutions in South Africa**

<b>Timing</b>	<b>Activity</b>	<b>How</b>
2020 Q2	<p><b>Seminar ‘Opportunities for Health Technology in South Africa’</b> Seminar in the Netherlands to present the study results, to create awareness and validate the identified market opportunities and interest amongst the Dutch LSH sector, especially for the first and sector tier opportunities to collaborate (e.g. break-out sessions). At the end of the seminar, the specific interests of Dutch companies in developing business in South Africa will be discussed, the type of support needed and willingness to participate in (collective) activities. Potential next steps (see below) will be discussed. The use of a (market) expert speaker(s) is highly valued amongst the Dutch sector, resulting in a lot of Dutch seminar participants.</p>	Organised by RVO, EKN Pretoria and TFHC, financed by RVO
2020 Q2	<p><b>Launch report ‘Overview of the health technology sector in South Africa’</b> Digital launch of the publication ‘Overview of the health technology sector in South Africa: Opportunities for collaboration’, explicitly communicating the opportunities to do business in the South African HealthTech sector. Creating general awareness, keeping track of downloads (via a registration link), and a call to action to participate in follow-up activities. Diffused via the networks of the EKN Pretoria and CG Cape Town, RVO, and TFHC.</p>	Organised by RVO, diffused via the networks of the EKN Pretoria and CG Cape Town, RVO, and TFHC.
2020 Q2	<p><b>Development of Holland Branding targeting South Africa</b> Developing marketing &amp; communication resources (website, brochure, presentations, etc.) to expose and communicate Dutch health expertise and supply in the areas of opportunity in South Africa, which will benefit the positioning and profiling of the Netherlands in general and the identified Dutch companies in specific.</p>	Developed by RVO and/or TFHC, financed by ?
2020 Q3	<p><b>Inbound SA Health Technology Mission to Netherlands</b> A Health Technology mission to the Netherlands to facilitate knowledge sharing and connect SA health stakeholders that are identified in this report (potential buyers, see Annex 1) with the Dutch companies identified in this report (section 3, Annex 2). Visits, session, and meetings can be used to create mutual awareness and understanding, building trust, and to discuss potential collaboration models and partnerships in order to pilot and implement Dutch solutions in the SA context.</p>	Organised by RVO, EKN Pretoria and TFHC, financed by SA participants and/or co-financed by RVO.
2020 Q4	<p><b>Outbound SA Health Technology Mission to Netherlands</b> A Health Technology mission (preferably led by a Dutch official) to further connect the identified South African and Dutch stakeholders related to the first and second tier opportunities. During seminars, workshops and meeting, these stakeholders are facilitated to further discuss and develop concrete pilot studies, business opportunities, and partnerships individually and / or collectively (e.g. Dutch consortia with complementary expertise targeting larger challenges and projects).</p>	Organised by RVO, EKN Pretoria and TFHC, financed by NL participants and/or co-financed by RVO.
Demand driven	<p><b>Facilitate and support the pre-project phase leading to the uptake of Dutch solutions</b> Supporting matches between Dutch suppliers and SA potential buyers by providing a subsidy for a demonstration project, feasibility study or investment preparation project (DHI).</p>	RVO DHI

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Demand driven	<p><b>Development of a Dutch Health Technology consortium targeting SA</b></p> <p>A consortium composed of Dutch companies with a specific interest in South Africa that facilitates its partners in sharing knowledge and prioritizing (collective) activities in South Africa and the Netherlands that support their further business development and / or doing business together.</p> <p>This consortium could apply for a ‘Partners for International Business’ (PIB) programme, a public-private partnership which supports the consortium through further promotion and matchmaking, knowledge exchange and networking, and economic diplomacy.</p>
2021	<p><b>Further development of a Rolling Agenda</b></p> <p>Identify additional activities that facilitates further business develop of Dutch companies within the areas of opportunity. In other to facilitate an annual or bi-annual dialogue and meet &amp; greet between Dutch and South African stakeholders, it might be interesting to select an existing impactful event in South Africa to which a bilateral event can be connected.</p>

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## Annex 1: Aligning the South African opportunities with Dutch supply

**Table 13: Aligning the South African opportunities with Dutch Supply**

Sector	Subsector	Opportunity	Potential Buyers	Recommended Market Entry Strategies	Specific Market Entry Barriers Next to the five major barriers mentioned in section 4.9	Dutch Supply	Classification of SA-NL match	Additional remarks
Data Capture	Electronic Health Records	EHR software – private sector	Smaller hospital groups; primary care provider groups; GP and specialist practices	Direct exporting, Licensing and Franchising		Multiple providers of EHR solutions, ranging from multi-specialists hospital solutions (Chipsoft has 60% of market share in the Netherlands) to EHR solutions focusing on a	First tier (short term)	Risk of high-effort low-returns due to smaller scale of smaller hospital groups.
		EHR software – public sector	NHI Fund	Direct exporting, Licensing and Franchising	Lack of underlying IT infrastructure. NHI not yet in place. Need for solution track record in SA.	solutions focusing on a specific primary care function (GP, mental, dental, physiotherapy, chronic conditions) and EHR in low-resource settings (African eHealth solutions)	First tier (medium term)	Anticipate NHI developments
	Routine Health Management Information	Advanced data analysis systems	Large private hospital groups	Direct exporting, Licensing and Franchising; Partnering and Joint Ventures	EHR / data systems needs to be in place Lack of interoperability	Multiple providers of interoperability and (big) data processing and analysing solutions related to ‘hospital information management systems’ that benefit coordinated (connected) care	First tier (short term)	Various private operators already looking into these type of solutions.
Communication and Knowledge Transfer	Telemedicine	Technology to enable virtual doctor-patient consultations	GPs and specialists; public sector; hospital groups	Direct exporting, Licensing and Franchising	Internet connectivity Current regulatory framework	Multiple providers of telemedicine solutions, often for a specific Dutch health facility, condition	First tier (short term)	Code for teleconferencing already in system, demand



					Adoption by healthcare professionals	focused and/or integrated with a personal health portal with various functions to benefit coordination care	
		Referral tools (between nurses/GPs and specialists)	GPs and specialists; public sector	Partnering and Joint Ventures, Buying a Company	Private hospitals not allowed to employ doctors and specialists Public sector: NHI not yet in place.	Company 'Zorgdomein' is the main provider of GP referrals in the Netherlands (approx. 93% market share)	Limited (one NL provider)
	Virtual healthcare	Multi-disciplinary team communication tools	Private hospitals, GPs and specialists; public sector	Partnering and Joint Ventures, Buying a Company	Fierce (start-up) competition (however not many healthcare sector specific solutions except for wound care and diabetes)	Multiple providers of connected care solutions, with often doctors, nurses, informal care takers, and the patient connect	Second tier (medium term) Need in public sector, but limited funds Need for public and private doctor collaboration
		Technology to optimise patient journey	Medical aid schemes; public sector	Direct exporting, Partnering and Joint Ventures		Multiple providers of patient journey digital solutions, like 'PortaVita' and 'Patient Journey app' that provide condition-tailored solutions	Second tier (medium term)
		Sleep tracking technology	Consumers (potentially subsidised by Vitality)	Direct exporting		Only several sleep solution provider, like Sleep.ai and Philips for anti-snore, and Somnox with a sleep robot	Limited (niche market)
<b>Consumer Health Technologies</b>	Consumer health informatics	Meditation apps	Consumers (potentially subsidised by Vitality)	Direct exporting		'Minddistrict' is a provider of professional mental e-care. Some fitness and wellness stimulating solutions	Limited Vitality recently entered the Dutch market together with a Dutch health insurance company (A.S.R.), which might

								provide easy entry point.
		Nutrition tracking technology	Consumers	Direct exporting, Licensing and Franchising	Need for highly innovative and distinctive solutions	Some fitness and wellness stimulating solutions	Limited	
		Wearable with fraud mitigation technology	Consumers (potentially subsidised by Vitality)	Direct exporting		None. Vitality recently entered the Dutch market and the same challenges might be encountered and being working on in the Netherlands in the near future	Limited	
	Wearables	Fraud mitigation technology	Wearable manufacturers	Direct exporting, Licensing and Franchising				
		Wearable with creative commercial offering to Vitality	Consumers (potentially subsidised by Vitality)	Direct exporting		Multiple providers of senior care wearables and (in home) tracking solutions	Limited	Market for senior home care not yet developed in SA
<b>Artificial Intelligence and Robotics</b>	Artificial Intelligence	Diagnosis and treatment decision support systems	GPs and specialists; facilities	Direct exporting, Licensing and Franchising	Resource-constrained environment; Internet connectivity; Potential resistance from both patients and practitioners; Legislation	Multiple providers of solutions, including for radiology (x-ray, CT, MRI), personalised medicine (intelligence connected to EHR) and operating theatre analytics	First tier (short term)	Cost-effectiveness is an important consideration
		Precision medicine	GPs and specialists; facilities (private sector)	Licensing and Franchising, Partnering and Joint Ventures		Several Dutch research consortia working on 'personalised medicine'	Limited	

	DNA printing	GPs and specialists; facilities (private sector)	Licensing and Franchising, Partnering and Joint Ventures		Limited	
	Advanced imaging	GPs and specialists; facilities (private sector)	Partnering and Joint Ventures, Buying a Company	See 'Artificial Intelligence - Diagnosis and treatment decision support systems'	First tier (short term)	Cost-effectiveness is an important consideration
Robotics	Robotic and augmented reality teaching tools	Universities	Direct exporting, Demonstrations	Multiple providers of digital training platforms or VR (supported) training modules for various types of healthcare professionals (nurses to specialists)	Second tier (medium term)	
	Automated delivery and dispensing	Public sector	Direct exporting, Licensing and Franchising	Only providers of (in-Pharmacy) prescription collection units or in-home medicine dispensers. I+Solutions and IDA Foundation are experience in the supply chain of medicines.	Limited	Need for solutions for the medicine supply chain in rural areas

## Annex 2: Identified Dutch companies

List of Dutch companies with solutions matching the areas of opportunity.

Area of opportunity	Type of solution	Dutch supply	Main target market	
Health Knowledge Management	Electronic Health Records software & Hospital Information Management Systems	Dental Charting	Dental care	
		Africa eHealth Solutions	Hospitals	
		Carepoint Nederland BV	Hospitals	
		ChipSoft Nederland BV	Hospitals	
		Curasoft	Hospitals	
		ImageHub	Hospitals	
		Logis.P Nederland	Hospitals	
		MI Consultancy / Neo ZIS EPD	Hospitals	
		Pex life	Hospitals	
		PinkRocade	Hospitals	
		ProSoftware	Hospitals	
		Ecare	Long-Term, Elderly & Home Care	
		Nedap - Ons	Long-Term, Elderly & Home Care	
		Finalist	Mental care	
		Impulse Info Systems	Mental care	
		Simac	Primary care	
		Health data analytics	BrightFish	Hospitals
			De Praktijk Index BV	Hospitals
			DICA	Hospitals
			Edge Leap BV	Hospitals
	Evidencio		Hospitals	
	First Line Software		Hospitals	
	HealthplusAI		Hospitals	
	HippoFM		Hospitals	
	Logex BV		Hospitals	
	MRDM B.V.		Hospitals	
	NIHW BV (Mensken)		Hospitals	
	Orikami		Hospitals	
	Pacmed		Hospitals	
	Performation HOTflo		Hospitals	
	Philips		Hospitals	
	SAS Institute BV		Hospitals	
	Tessella		Hospitals	
	TOPIC Healthcare Solutions		Hospitals	
	Health data analytics		Value2health	Hospitals
			Virtask	Hospitals
		Zentis Medical	Hospitals	
		iThrive	Mental care	
		Bluebee	Research & Industry	
		Castor	Research & Industry	
Cognilab		Research & Industry		
Quaero Systems		Research & Industry		
Telemedicine	Technology to enable doctor-patient consultation	BeterDichtbij	Consumers	
		Earlydoc	Consumers	
		KSYOS	Consumers	
		Sleep.ai	Consumers	
		Umenz	Consumers	
		Virtual Care	Consumers	
		Vital10	Consumers	
		Yapili	Consumers	

		MEDx eHealthCenter B.V.	Governments
		SkinVision BV	Health insurers
		Advantech	Hospitals
		Boomerweb	Hospitals
		DigiContact	Hospitals
		i3 Groep	Hospitals
		Inmote MT BV	Hospitals
		Innovattic	Hospitals
		Karify	Hospitals
		Medic Info	Hospitals
		Mobiléa	Hospitals
		Nedap - Caren	Hospitals
		Nedap - Grip	Hospitals
		Nedtalk	Hospitals
		Regas	Hospitals
		Spectator Video Technology	Hospitals
		Swymed Europe	Hospitals
		Teleconsult Europe BV	Hospitals
		TelePsy	Hospitals
		Chipmunk Health	Long-Term, Elderly & Home Care
		New Health Collective	Mental care
		Minddistrict	Consumers
		Sensiks BV	Mental care
		Medical Booking BV	Primary care
		Phartheon	Primary care
		Therapieland	Primary care
		Tinyeye	Primary care
		Advantis Medical Imaging	Hospitals
		Delft Imaging Systems	Hospitals
		Kheiron Medical Technologies	Hospitals
		Philips	Hospitals
		ScreenPoint Medical	Hospitals
		Thirona	Hospitals
<b>Artificial analysis of medical data and images</b>	Artificial Intelligence for diagnosis support	Braincarta BV	Hospitals
		Clinical Science Systems	Hospitals
		Elsevier	Hospitals
		NewCompliance BV	Hospitals
		Philips	Hospitals
		Synappz	Consumers
		Zorgkluis BV	Consumers
<b>Virtual healthcare</b>	Multi-disciplinary team communication tools	AET Europe BV	Hospitals
		Alphatron Medical	Hospitals
		Avit Group	Hospitals
		BESURE.ONLINE	Hospitals
		BlueMed	Hospitals
		Caresharing	Hospitals
		Curavista	Hospitals
		Drimpy	Hospitals
		Enovation BV	Hospitals
		Fenestrae BV	Hospitals
		Finalist	Hospitals
		Forcare	Hospitals
		Fysicon BV	Hospitals

	ICT Healthcare Technology Solutions	Hospitals	
	Info Support	Hospitals	
	Inzentiz	Hospitals	
	IQ Messenger BV	Hospitals	
	Linkassist	Hospitals	
	Patient Journey App	Hospitals	
	PharmaPartners	Hospitals	
	Philips	Hospitals	
	Portavita BV	Hospitals	
	PsyNet	Hospitals	
	Qeys	Hospitals	
	RVC Medical IT	Hospitals	
	Technolution BV	Hospitals	
	Topicus	Hospitals	
	ZIVVER	Hospitals	
	ZorgDomein	Hospitals	
	Cubigo	Long-Term, Elderly & Home Care	
	Gino	Long-Term, Elderly & Home Care	
	Nedap - Helder	Primary care	
	VIR e-Care Solutions	Rehabilitation	
	Sphereon	Research & Industry	
Technology to optimise patient journey	Care Animations	Consumers	
	MyTomorrows	Consumers	
	Quli	Consumers	
	RenalTracker	Consumers	
	Shleep	Consumers	
	Solvo	Consumers	
	Solve Innovations	Consumers	
	ZwApp	Consumers	
	Funatic BV	Hospitals	
	Medworq	Hospitals	
	Teaching tools	Gamebus	Consumers
		Vici Games	Consumers
Yellow Riders		Consumers	
IJsfontein		Hospitals	
CareRate		Hospitals	
Doczero		Hospitals	
Elevate health		Hospitals	
Elsevier		Hospitals	
Frenetti		Hospitals	
Incision Group BV		Hospitals	
LeQuest		Hospitals	
Noordhoff Health		Hospitals	
QTracer BV		Hospitals	
Skillslab.tv		Hospitals	
VirtualMedSchool		Hospitals	
Learning experiences with Augmented/Virtual Reality		Cinoptics	Hospitals
		Doctor Kinetic	Rehabilitation
		DialogueTrainer	Hospitals
	MedKitVR	Hospitals	
	Noordhoff Health	Hospitals	
	Ps Medtech	Hospitals	
	Human XR	Rehabilitation	
	Doctor Kinetic	Rehabilitation	
Sensiks BV	Mental care		

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CleVR BV	Mental care
InMotionVR	Rehabilitation

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