

# ENSAFE – Business Plan Sweden Appendix

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Date: 18-02-2018  
Revision: V1.1  
Dissemination Level: PUBLIC



*Project Acronym:* ENSAFE  
*Project full title:* Elderly-oriented, Network-based Services Aimed at independent liFE  
*AAL project number:* AAL 2014-1-112  
*With support of:*



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# 1 Introduction

This document provides detail for elements of the business model for ENSAFE in the Sweden, it acts as an appendix to the main business plan document. Specifically, this document contains Market Analysis for Sweden.

## 1.1 Background

In March 2016, the Swedish Government decided on a new vision for e-health, in relation to both health care and social services. The vision declares that by 2025 Sweden will be the world leader in the use of digital health solutions that allow people to:

- achieve good health and welfare
- develop and strengthen their own resources for increased independence and social participation.

Care needs are increasing as the population grows - people are living longer and subsequently more people need more care. Healthcare costs in Sweden are therefore rising dramatically while the efficiency of the health care system continues to decline.

Swedish citizens are now increasingly well informed about their health. As a result, there is a need for a new relationship of shared decision making between patients and health care providers. Providers also need to be more attentive to patient values, preferences, and cultural backgrounds.

Although laws and other regulations require healthcare providers to coordinate an individual's care needs, in practice much of the responsibility lies with the patient herself, or with her relatives, to coordinate her own care. Currently, a lack of coordination between the different parts of the healthcare system entails not only unnecessary suffering for the patient, but also puts unnecessary strain on an already taxed health care system.

Patients who lack the correct information often seek care unnecessarily, usually due to ignorance or undue concern. Others may wait too long before contacting their GP, which often results in more costly and/or complicated treatment, and unhealthier patients.

Technological advances in information technology and an expanded evidence base gained from research on clinical practice have the potential to transform health care, but such advances have not been adequately harnessed.

It must become easier to get health care, easier to get in contact with health care providers, and easier to navigate the health care system. Health care needs a new overall concept. A concept that builds on digital services, and one which ensures effective delivery processes, and capitalises on the patient as a resource.

To improve the health care system it is also important that health service employees have a digital work environment that enables high quality and supports the processes in which staff operate.

New technologies, digitisation and the Internet are some of the keys to finding new efficient ways of working smarter. In Sweden, the government firmly believes that the digitisation of the healthcare system needs to be given greater priority, and has developed a strategy and action plan to achieve this.

Telia, Sweden’s largest provider of telecoms infrastructure & services, expects more than half of Sweden's 4.6 million households to be connected to health services in the home within three to five years. The company estimates that the market will by then be valued at "several billion SEK per year".

## 2 Market Analysis

The following sections outlines the results for the Sweden Market Analysis.

### 2.1 Market Drivers

Desk research and insight gathered from potential partners across the Sweden provides us with a strong foundation to build the ENSAFE as a service offer. These are summarised below.

Political	Economic
<ul style="list-style-type: none"> <li>• Policy changes</li> <li>• Political forces</li> <li>• Accreditations</li> <li>• Personalisation</li> <li>• Normalisation</li> <li>• Integration</li> <li>• Early intervention</li> <li>• Increased regulation</li> <li>• Scandals (Winterbourne)</li> <li>• The move from residential models to community models</li> </ul>	<ul style="list-style-type: none"> <li>• Budgetary pressures</li> <li>• Supporting people funding cuts</li> <li>• The macro and micro economy</li> <li>• Wage cost inflation</li> <li>• European funding</li> <li>• Cuts in mental health services</li> </ul>
Social	Technological
<ul style="list-style-type: none"> <li>• Population demographics</li> <li>• Staff</li> <li>• Customer knowledge</li> <li>• Increasing co-morbidities</li> </ul>	<ul style="list-style-type: none"> <li>• Advances in technology</li> <li>• Big data</li> <li>• The ‘internet of things’</li> <li>• Inter-operability</li> </ul>

<ul style="list-style-type: none"> <li>• Entrepreneurs</li> <li>• Collaborative design</li> </ul>	
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### 2.1.1 Political & Legal Factors

National governance and policy documents on the digitisation of Swedish social and health services have been around for a number of years. Sweden’s first e-health strategy was approved in 2006, and updated in 2010.

It is now almost a decade since the publication of the first e-health strategy, since then both the world and the Swedish health service system have developed and changed considerably. Sweden aims to centralise the national coordination of e-health initiatives in order to properly leverage the work being carried out by various public and private parties.

The basis of the continued development of eHealth solutions, is the Swedish Government’s and the Association of Local Authorities and Regions’ recent decision to endorse a common vision for e-health work by 2025. This Vision replaces the latest e-health strategy from 2010, while building upon its ideas.

The concept of e-health in Sweden is defined as the use of information and communication technologies (ICT) in accordance with the World Health Organization’s definition of health ( "a state of complete physical, mental and social well-being "). The concept of e-health and digitisation in this context includes all social services run by the state, municipalities or private actors, encompassing the entire Swedish health care system as well as some areas of dentistry.

The term includes both information *digitalisation*, ie the process whereby analog information is transferred to digital format, and societal *digitisation*, ie the broader societal process through which various ICT activities become more and more closely integrated with day-to-day society, thus affecting it profoundly.

In Sweden, the concept of welfare technology is closely related to e-health and digitisation, and sometimes overlaps these areas. Welfare technology is defined as the knowledge and use of technology to promote increased safety, activity, participation and independence for people with disabilities of all ages, and their families.

Increased digitisation provides the required operational support to ensure that social welfare, health care and dental services all attain a high level of quality.

Equality is the basis for social and healthcare services in Sweden. This includes the premise that people living in different socio-economic conditions should have equal access to healthcare, based on their individual needs and situation. By providing digital tools that support initiatives tailored to the users, clients and patients, digitisation can make it easier for health care providers to work for increased equality.

The digitisation of health care services will be carried out with a clear gender-neutral perspective to ensure equal service, resources and influence between girls and boys, women and men. The work will also take into account the individual's right to protection against invasions of privacy, the need for privileged access management to personal data, and consent issues.

Improved efficiency is another goal of the digitisation of social services and the healthcare system. An increase in efficiency will be necessary if we are to achieve the required long-term, sustainable improvements in health and social services in order to manage the challenges posed by an ageing population and its growing expectations.

Apart from the perspectives already mentioned, the digitisation process will be driven with regard to a number of basic principles such as accessibility, usability and digital participation, and with a respect for the protection of privacy and information security.

The e-health strategy of 2010 singled out three main target groups: The individual citizen, health and social care staff, and decision-makers.

Vision 2025 aims to enable the digitisation of healthcare to allow citizens to achieve a good level of health and welfare, and to develop and strengthen resources for increased independence and social participation.

This means providing digital tools and services that leverage the users' own resources to achieve important goals such as improved health, increased participation, and self-determination.

By providing access to information concerning their own person, personalized digital support and clear communication pathways, the Swedish government believes people can be given the opportunity to increase control over their own health and well-being. For the elderly and people with impaired decision-making capacity, digital health services can be a tool for empowerment and autonomy. Furthermore, access to social and health care services may be improved by providing digital solutions that enable people to interact with care providers, and receive support in their own home. Digital solutions can also increase opportunities for the participation of relatives in care provision, either through improved and simplified communication channels, or by improved access to medical information concerning their relative.

For this vision to be achieved, the Swedish government also believes it is important that employees have access to support systems so that they can provide a social service and health care of the highest quality. On a general level, this means creating a digital work environment that supports the processes in which health care employees operate.

Digitisation also contributes to the development of new career paths when new types of needs or services arises, this can be attractive for long-term supply of competence. Digitisation can also mean a better working environment for women and men working in health care operations.

Sweden has a strong IT sector that contributes to economic growth and employment. IT companies can also contribute in various ways to develop and streamline operations and at the same time find new business opportunities that can contribute to growth and job creation.

The main responsibility for social services and health care lies with Sweden’s municipalities and county councils. This includes organizing, managing, planning, developing, quality assurance and funding operations. The Government's responsibilities primarily concern legislative, regulatory, and grant allocation. There is also a general responsibility to both set goals and requirements when it comes to quality and accessibility of public activities social services and health care, and to follow them up.

Political and Priorities and Policies	Implications for ENSAFE
<p>Promote the use of digital e-health solutions through the provision of accessible, user-friendly, self-service systems.</p>	
<p>Ease and service for healthcare users</p>	<p>The ENSAFE GOLIVE phone when integrated with self care and self management platforms provides an additional opportunity for patients to make lifestyle improvements that will help them to live better and reduce their dependence upon clinical expertise and improve comorbidities that can make existing conditions escalate more quickly.</p>
<p>Electronic communication between healthcare providers and end users.</p>	<p>The Cuviva tablet when integrated with self care and self management platforms provides an additional opportunity for patients to communicate with relatives and care givers.</p>
<p>Enable and empower people to attain a high level of health and well-being by developing digital services that encourage and facilitate self-service within healthcare, and which promote independent living.</p>	
<p>We will empower patients and engage communities, increase patient choice and develop more personalised services</p>	<p>THE ENSAFE service offer provides the opportunity for individual patients and their families to take ownership of their health but using technology to help them and their carers healthier for longer.</p>
<p>Making better use of technology, further developing leadership and supporting scientific research and innovation.</p>	<p>THE ENSAFE service offer provides health and care services the opportunity to reduce reliance upon more expensive resources, thereby supporting improved efficiencies and return on investment to the Government and the tax payer.</p>
<p>Increase the level and amount of healthcare provided in the home. Give people more control over their health and well-being through greater involvement and self-sufficiency. Increase relatives’ involvementt in the care of the elderly.</p>	

<p>Awareness of the possibilities to the right of having access to medical information</p>	<p>ENSAFE sensors and digital data sources will help to support patients at home. Earlier detection facilitates earlier intervention and integrated support (digital and face to face). Links with formal care will be established.</p>
<p>We will empower patients and engage communities, increase patient choice and develop more personalised services</p>	<p>THE ENSAFE service offer provides the opportunity for individual patients and their families to take ownership of their health but using technology to help them and their carers healthier for longer.</p>

### 2.1.2 Legal factors

The focus in Sweden when it comes to legal and regulatory factors within digitisation and e-health, is the respect of the rights of the individual, i.e. the protection of personal integrity, data quality, safety and efficiency. The various laws and regulations that currently govern healthcare services in Sweden therefore focus strongly on the individual’s rights and interests. If laws and regulations need to be changed to meet the quality and efficiency requirements of digitised healthcare services, it is important that privacy and security needs also be met.

There are a number of laws currently governing Swedish healthcare policy, the following are the main ones:

- **Health Care Act (HSL) 1982: 763** - HSL is a framework that contains the basic rules for all health care. It states what the county, municipality or other health care providers are required to offer the patient. Among other things, treatment, rehabilitation and habilitation for those in need of these care.
- **Public Access and Secrecy 2009: 400** - The Act contains provisions on, for example, authorities handling the registration, disclosure and handling of public documents. The Act also contains provisions on confidentiality and the prohibition to disclose documents.
- **Patient Safety Act 2010: 659** - This law aims to increase patient safety in health care. The Act contains provisions on notification of activities, authority, confidentiality and revocation of the right to practice medicine.
- **Personal Data Act (PUL) 1998: 204** - The purpose of this Act is to protect people from having their privacy violated by the processing of personal data. This law gives patients the right to access their data stored in the healthcare systems various databases.
- **Social Services Act (SoL) 2001: 453** - The Social Services Act concerns municipalities’ responsibilities for social services and addresses the issue of the right to financial assistance, home care, housing and special housing. SoL gives all persons residing in Sweden the right to social and economic security.

- **Patient Data Act 2008: 355** - This law is used by healthcare providers processing personal data in the health sector. The Act also provides for the obligation to maintain patient records.
- **Patients' Act 2014: 83** - This law is aimed at strengthening and clarifying the position of the patient within the healthcare system, as well as to promote patient privacy, self-determination and participation.

### 2.1.3 Economic Factors

The total care expenditure in Sweden 2018 is expected to be approximately 7.8 billion euros, including both health care and welfare services (Source: Government budget 2018).

With an ageing population, it is estimated that 80-85% of healthcare expenditure is on chronic diseases, with co-morbidities generating 50% of these costs. It is estimated that healthcare costs in Sweden will increase by 30% between now and 2050.

Social services and health care are areas in which digitisation provides great opportunities for improvements in efficiency. These sectors account for a large part of Swedish public spending and are also sectors that the large majority of people come in contact with during their lifetime.

For social services and health care consumers, digitisation involves completely new opportunities for independence, participation and influence. Most people want to be independent, to participate and have both influence and control over issues and decisions that affect their health and social life situation. To meet these needs requires new tools for communication within and between health care service providers, and between these providers and their users, clients and patients.

### 2.1.4 Social Factors

Just like the rest of the world, Sweden is facing challenges posed by an increasingly ageing population, combined with the increasing influence of a new generation of healthcare consumers who will demand the same level of digitisation in healthcare as they find everywhere else.

Sweden is well positioned to reap the benefits of digitisation's opportunities. Swedes are among the most digitally skilled citizens in the world, and both the business and public sectors have to a large extent already digitised their operations. Sweden is also home to a relatively large number of the world's leading information and communications technology companies, many of whom have contributed greatly to pushing digital development forward internationally.

Access to the market will need to resolve two key issues:

#### 1. The digital capability of patients.

Despite generally high digital maturity there is still a large group of people in Sweden who don't have basic digital skills. Approximately 540 000 people in Sweden do not use the Internet, equivalent to 6 percent of the population. 44% of people over 75 are non-users, but only 8% of people between

66-75 years are non-users. Those over 75 are the people most likely to be suffering from poor health, or to be further disadvantaged by age, education, income, disability, or unemployment. There is also a general lack of awareness of products and services like ENSAFE amongst the general public.

However, compared to other EU countries, digital skills in Sweden are very high. Internet access in Sweden in recent years has been stable at just over 90 percent, and 76 percent of Swedes use the Internet daily. For daily access, mobile phones are the main device for users up to age 55, from age 56 and up computers still dominate. Surprisingly perhaps, only 31% of Swedes access the internet daily via tablets.

There are now on average just over 2 computers and 1.2 tablets per household. 93 percent of Swedish homes have a computer, 85 percent at least one smartphone and 69 percent a tablet. 62% of homes have all 3 types of device. From eleven years of age, 98% of Swedes have access to their own smart phone.

Sweden belongs together with The Netherlands, Denmark, and Finland to the countries where less than 10 percent of the population lacks digital skills. In Romania, Italy and Portugal this share is above 30 percent. One possible explanation is that people in these countries at home are less likely to have access to the internet.

## **2. The ability of professionals to adapt their methods of support to include a more digital approach.**

There is a level of fear that technology may be used to cut back care services and reduce human contact with service users. This may prove challenging for professionals who are used to delivering care in a certain way.

Despite these potential barriers, technology is being increasingly used either within the sector, or by the public who are starting to use trusted technology within a health context for example booking health centre visits via webservices and/or apps, using video services to interact with doctors and other medical practitioners.

### **2.1.5 Technological Factors**

Sweden is innovative in the use of technology, which is highly stimulated by the government. Also, the government has power to get new technologies implemented.

## **2.2 Market Structure**

In Sweden today health care is provided by county councils and local municipalities. Medical care is conducted as both outpatient and inpatient care. At outpatient may be examined at a health center, or in an emergency room, whereas inpatient care will be inscribed on a ward at the hospital, and cared for there.

In Sweden a physician, general practitioner or specialist, averages 900 patient visits per year.

There is a so-called health care guarantee, which means that you should receive care within a certain time. For example, you should never have to wait more than seven days to see a doctor at the health center.

The Swedish health care system is financed mostly by taxes, but patients pay a nominal fee for each visit to the hospital or health center. At private clinics or health centers that are part of the national health insurance system, patients pay the same patient fees as they would at the county council's health care facilities.

Exactly how much the patient fee is determined by each county, and will therefore vary depending on where you live. Most county councils provide free health care to those under 20 years of age.

If you go to hospital you have to pay a fee per day, which typically does not exceed 350 SEK/day. Visits to hospitals and health centers are different depending on whether you get to see a doctor, a specialist, or a nurse. For a visit to the nurse is usually charges around 100 SEK, while visits to the emergency room and doctor visits are usually priced at about 200 SEK. For specialists, you pay 100-150 SEK more. For those who often need care, these fees can be very costly even though each visit does not cost so much. Therefore, there is a so-called high-cost protection, which means that during a twelve month period you won't pay more than 1100 SEK, regardless of the number of visits to the doctor.

Another way of looking at the Swedish health care market is to divide it into three main areas of activity - health promotion, sickness prevention, and post-care services. Health care recipients can also be divided into three main categories, depending on whether health care is delivered to individuals, groups or to whole organisations.

By far the most cost-effective solution is to work on health promotion at a group or organisational level, by following a carefully-structured health strategy. The least economically viable solution is carrying out rehabilitation on an individual level.

Therefore, it is a paradox that only a few percent of resources are currently spent on health promotion and health strategy, while 60-70% of expenditure is spent on health checks and reactive operations without a long-term health strategic plan.

Telia expects more than half of Sweden's 4.6 million households to be connected to health services in the home within three to five years. The company estimates that the market will by then be valued at "several billion SEK per year".

### ***2.3 Competitor Products & Services***

Here follows a summary of some competitors within the Swedish market place.

#### **HIP SDK**

"Karolinska Institutet offers HIP SDK so that third parties can quickly and easily develop e-Health innovation solutions. Our idea is that third parties will be able to produce high-quality IT solutions

for patients and healthcare quickly using HIP SDK. HIP SDK has downloadable SDKs (connections) to all the county councils through the National Service Platform. HIP SDK has packaged, tested and quality assured data sets with experience from major national projects such as My Care Flows and New Patient Overview (NPÖ2). HIP SDK is run by Karolinska Institutet Information AB, which is owned by Karolinska Institutet Holding.”

HIP.se gives small and large operators access to quality-assured code, which allows companies to quickly develop new solutions within the e-health area at a fraction of what it would otherwise have cost.

The HIP Forum exists to support companies and organizations to use the framework for application development with tools, regulations and development environments that are available on hip.se. During HIP Forum meetings, entrepreneurs and innovation operators receive information about the HIP SDK, participate in workshops, and get help from experts in the field, as well as getting individual consultation.

The target group for HIP Forum is operators who are planning or are developing new e-services and see HIP SDK as an opportunity to accelerate and facilitate development.

## **Telia**

Telia is launching Sweden's first publicly available subscription service for online health services in the home. The idea is that Swedes should be able to measure everything from blood pressure and ECG to weight and lung capacity, from the comfort of their own homes. The information is sent automatically to a personal health account held by Telia.

The heart of Telia Home Care is a box that wirelessly communicates with caregivers through sensors in the home, and is entirely controlled by the user. Through Telia Homecare users gain control over what happens in their home and increase their contact with their caregivers. For example, users can get help with different types of services like blood tests or ECG measurement at home. The patient may also proactively monitor their health state to avoid illness, and share information with health professionals when they are ill. The system can also provide reminders when the user forgets things which are important in elderly care.

Telia Home Care is a scalable solution. Instead of the current requirement of a proprietary communications link for Security alarm, another for video communications, and a third for monitoring equipment etc. caregivers can use the same communication pathway for all services.

Telia Healthcare is built on open standards, which means that an organization that uses the platform is free to choose which device it wants to procure and install in the user's home. Telia also offers services over Telia Home Care.

Users may authorise that their health data be sent to a health center, a hospital or a relative. The data on the account is owned by the individual, not by Telia.

Telia is responsible for the health account and for the security, integrity and communication.

For this, Telia wants to charge 50 sek/month. In some cases, the service is paid for by the municipality or county council, sometimes by the consumer himself. The rental charge does not include the measurement equipment in the home, such as the electronic scales or the smart bracelet.

Telia's offering comprises a number of different services:

- HomeCare – a sensor network in users' homes
- ProCare – mobile work place for health care professionals
- CareView – the display health related data via a mobile device
- CareGuide – digital signage, web-based consultation, automated sign-in terminals
- CareIntegrator - IT services related to the integration of existing IT solutions with Telia's solutions.

## **Inera**

Inera is a limited company jointly owned by Sweden's county councils and regions. Inera coordinates, develops and implements e-health services, technological infrastructure and common standards for the benefit of residents, care staff and

providers. Inera's mandate includes co-operation with other actors; municipalities, government authorities, private health care providers, research and development actors, NGOs and market players.

Inera has developed more than 40 digital services for use by Swedish citizens and local healthcare providers. As of 2017 the cost of these services will not only be borne by the government, local municipalities, regions and councils, but also by private health care providers and other commercial parties (e.g. developers)

## **Hälsa för mig (Health for me)**

Health for me is a personal health account that will be available for anyone who wants to collect, view and share their health information. The personal health account makes it possible to subscribe to health information picked up medicines and vaccinations. Health for me continuously developed and eventually it will be possible to subscribe to additional information from health care, such as lab results and information from the account holder's medical record. Moreover, it will be possible to collect health information with the help of different applications, so called applications, which will be connected to the health for me.

The individual has full ownership and control over information in their personal health account. If you want, you can choose to share some of your information with the app that will be connected to the Health for me. This means that apps will be able to process your data and feedback to you.

Health for me is driven by Sweden's eHealth Authority (eHälsomyndigheten) on behalf of the Swedish government.

Health for me is a safe, secure and long-term storage of health data with the state as guarantor.