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First Report on Business Modelling

Work Package 8: Impact, Outreach and Collaboration

affecTive basEd iNtegrated carE for better Quality of Life: TeNDER Project

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The TeNDER consortium consists of the following Partners.

Table 1: Consortium Partners List

No	Name	Short name	Country
1	UNIVERSIDAD POLITECNICA DE MADRID	UPM	Spain
2	MAGGIOLI SPA	MAG	Italy
3	DATAWIZARD SRL	DW	Italy
4	UBIWHERE LDA	UBI	Portugal
5	ELGOLINE DOO	ELGO	Slovenia
6	ETHNIKO KENTRO EREVNAS KAI TECHNOLOGIKIS ANAPTYXIS	CERTH	Greece
7	VRIJE UNIVERSITEIT BRUSSEL	VUB	Belgium
8	FEDERATION EUROPEENNE DES HOPITAUX ET DES SOINS DE SANTE	HOPE	Belgium
9	SERVICIO MADRILENO DE SALUD	SERMAS	Spain
10	SCHON KLINIK BAD AIBLING SE & CO KG	SKBA	Germany
11	UNIVERSITA DEGLI STUDI DI ROMA TOR VERGATA	UNITOV	Italy
12	SLOVENSKO ZDRUZENJE ZA POMOC PRI DEMENCI - SPOMINCICA ALZHEIMER SLOVENIJA	SPO	Slovenia
13	ASOCIACION PARKINSON MADRID	APM	Spain

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Acronyms and Abbreviations

Acronym/Abbreviation	Description
AD	Alzheimer's Disease
PD	Parkinson's Disease
CVD	Cardiovascular Diseases
EU	European Union
ICT	Information and Communication Technology
TeNDER	affecTive basEd iNtegrateD carE for better Quality of Life
QoL	Quality of life
DALYs	Disability-adjusted life years
ICT	Information and Communication Technology
B2B	Business to Business
B2C	Business to Consumer
IPR	Intellectual Property Right
GDP	Gross domestic product
IoMT	Internet of Medical Things
CARG	Compound Annual Growth Rate
BMC	Business Model Canvas
HR	Human resources
SC	Service cluster
SWOT	Strengths Weakness Opportunities Threats

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Executive Summary

This deliverable provides the first approach on the business model. It includes the intellectual property model, as well as two distinct analysis – Business Model Canvas and SWOT analysis – that will guide the definition of the final business model. With these two approaches we were able to identify our relations with other stakeholders, namely those who could be seen as partners. It also allowed the understanding of our cost structure and revenue model, that will guide the definition of a sustainable business model alongside the project. Our strengths were also identified as well as some innovative elements, which will be the basis to overcome the challenges that technological solutions operating in healthcare sometimes face.

This document also includes the business and go-to-market strategy, where prices and sales strategies are defined, along with other variables. The focus goes to both B2B and B2C approaches, and three commercialization strategies are detailed. Respectively, since TeNDER is a modular solution, the option of each service being commercialized independently is considered, as well as the option of adopting TeNDER as whole solution. In between, two other packs were developed, that include clusters of services, therefore allowing to adapt the solution to different need of potential customers as well as to different economic scenarios. This document is the basis for developing the Business Development Plan as well as it will guide the entry in each market.

1. Introduction

1.1. Purpose and scope

The TeNDER project aims to develop an integrated care solution by using affective-based micro tools. The solution in development consists of an extensive set of products and services that aim to support the provision of healthcare mainly to the elderly who are affected by chronic conditions, specifically Alzheimer's disease (AD), Parkinson's disease (PD), and Cardiovascular Diseases (CVD); with or without comorbidities. With this mission in mind, TeNDER will be validated in 5 pilots across Europe, involving more than 1,500 people in total, from patients, healthcare professionals, social workers, caregivers, and others. Each pilot will fit into a different scenario ranging from home, day-care centre, rehabilitation centre, and hospital. In parallel with piloting, testing the possibilities of the platform and analysing its outcomes and results, it is necessary to define an adequate business model, based on sustainable business strategies that will guide the TeNDER solution market entry and reach the highest number of clients and users possible.

This document aims to set the grounds for the successful exploitation and commercialisation of the TeNDER outcomes. Towards this end, the consortium has adopted a systematic exploitation and business strategy that will be refined and updated throughout the project's duration as results become more mature and stable.

This strategy comprises the following steps:

- 1) Identifying the key exploitable assets to be produced during the project duration, whether these are technological components or sub-systems (e.g., TeNDER platform, multi-sensorial capturing module, affective computing model, data analytics and recommendation algorithms, virtual assistant, etc.).
- 2) Documenting the Intellectual Property Rights (IPR) model, which will guide the joint and individual exploitation plans of the consortium partners, according to the general principles outlined in the Consortium Agreement.
- 3) Formulating all possible commercial and non-commercial exploitation, as well as business scenarios for each group (industrial, academic/research, and pilot partners).
- 4) Defining the economic and financial sustainability and viability of possible business models to be adopted for the provisioning of the TeNDER platform and services to target stakeholders; including licensing schemes, pricing models, etc.

5) Validating the business analysis for the five market-driven pilots across Europe.

This deliverable is the output of Task 8.5 Business Modelling included in Work Package 8: Impact, Outreach, and Collaboration. Based on D8.4 Market Analysis, Targeting and Positioning, this report will cover deeply the opportunities and barriers for TeNDER, and identify promising business cases for TeNDER technologies. A comprehensive business plan for the commercialisation of selected TeNDER outcomes will also be presented, covering different approaches to the market.

1.2. Relation to other deliverables

This deliverable is related to D8.4 Market Analysis, Targeting and Positioning Based on the research and outcomes of that report, we will define the best suitable market approach, as well as develop a SWOT analysis including the opportunities and challenges already identified in D8.4. This document will also be related with D8.9 and D8.12.

2. Exploitation Assets and IPR Model

All software development activities to be undertaken within the TeNDER project are carried out by various consortium partners. The actual source code produced will be a joint effort of the technological providers who have participated in its development and will be protected under a joint or set of individual IPR schemes. However, this copyright protection should not violate the terms and conditions of the license of the background systems, sub-systems, and components adopted, customised, and integrated in the TeNDER system (see Table 1).

Based on the services clusters identified in the outcome of the project, IPR must be established, to guide each partner's commercialisation process. These are described in the present section.

2.1. Background Technologies and Know-How

The table below lists all background technologies and know-how that the consortium partners have used for the implementation of the TeNDER project, with particular emphasis on the associated IPR.

Background technology/know-how	Owner	TRL (if applicable)
Standard Tool for Information Gathering (CKAN and RabbitMQ)	UBI	6-7
Scanning and obtaining information from BT devices	ELG	7-8
Authentication and Authorization Framework (Keycloak)	MAG	7-8
Health Tracking System (HeTra)	CERTH	7

Table 2: IPR Ownership of Background Technologies and Know How used in TeNDER

2.2. TeNDER Key Exploitable Assets

The table below provides preliminary information regarding the envisaged IPR ownership of the TeNDER outcome(s). However, this information should be considered a draft since it will be updated and finalised towards the end of the project. Indications regarding IPRs ownership are provided based on the development of the relevant outcome(s) by specific partners. Moreover, the table provides an overview of rights for using the foreground, and in certain cases, the specific software license for future use at the end of the project lifecycle.

Foreground technology/knowhow		Owner	Expected TRL	Delivery Date	Background needed to use this foreground	Rights to use the foreground
TeNDER Integrated platform		ALL technical partners		M31		Licensing IPR
LLS Module Layer	Multi-Sensorial Capturing module	CERTH	7	M28	HeTra	Licensing IPR
	Affective Computing module	CERTH	5	M28	-	Licensing IPR
	Digital Interaction module	ALL	5	M28	-	Licensing IPR
	Abnormal Behavioural Detection module	UPM	7-8	M28	-	Licensing IPR
	Localization Tracking module	ELG	7-8	M28	Scanning and obtaining information from the BT devices	Licensing IPR
	Rehabilitation Tool	CERTH	7	M28	-	Licensing IPR
HLS Module Layer	Multi-Modal Fusion	CERTH	6-7	M31	-	Licensing IPR
	Interoperable HER	UBI	8-9	M22	-	Licensing IPR
	Data Analytics and recommendation	UPM	6-7	M31	-	Licensing IPR
	Pathway Registering	UPM, CERTH, DW	6-7	M22	-	Licensing IPR
	Virtual Assistant	DW	7-8	M31	-	Licensing IPR



Foreground technology/knowhow		Owner	Expected TRL	Delivery Date	Background needed to use this foreground	Rights to use the foreground
Services Layer	Monitoring, Warning and Reporting	UPM	6-7	M31	-	Licensing IPR
	Social Services Matching	UPM	6-7	M31	-	Licensing IPR
	Recommendations	UPM	6-7	M31	-	Licensing IPR
	Pathway Tracking	UBI	6-7	M31	-	Licensing IPR
	Virtual Assistant	DW	6-7	M31	-	Licensing IPR
	Communications	ALL	7-8	M31	-	Licensing IPR
	QoL Assessment	UBI	7-8	M31	-	Licensing IPR
Front-end layer	Patients and Caregivers hybrid application	DW/UBI	7-8	M31	-	Licensing IPR
	Professionals web interface	UBI/MAG	7-8	M31	-	Licensing IPR

Table 3: IPR Ownership of Foreground Technologies and Know How

3. SWOT Analysis

In our deliverable 8.4, in which we performed an initial market analysis, we explored the opportunities and challenges of our business environment, which would guide the development of our strengths and strategies to take advantage of the opportunities of the healthcare sector and face the challenges identified. In this way, these inputs feed the SWOT analysis. The following figure provides the preliminary SWOT analysis for TeNDER solution.

Environmental factors		Opportunities	Threats
Own specific factors	Strengths	Ageing population. ICT access increase and widespread of the use of wearables. Increased prevalence of chronic conditions. Increasing need from healthcare professionals and organizations, for more direct interaction with patients and close to real-time status update the psychological and physical status. EU and national e-/m-Health policies.	Data security. Elderly low digital literacy. Resistance from conservative healthcare professionals. Gaps on legal framework to implement m-Health tools. Emergence of competing solutions. Restrictions on budgetary resources.
	Weaknesses	Integration of more chronic diseases. Communication strategies.	Communication strategies. User friendliness – adaptation to the capabilities of the elderly. Aggregate knowledge about each market represented in the consortium. Adaptation to real needs – identified through the users.
		Make use of each partner reputation. Continuous improvement of the platform based on feedback from pilots.	Reach relevant stakeholders and potential customers even before market entry. Continuous update about market tendencies and customer needs.

Figure 1: TeNDER SWOT Analysis

3.1. Strengths

By evaluating the project’s characteristics and value proposition, we can identify the strengths which will contribute to TeNDER’s success and help distinguish it from other players in the market, specifically the following:

- QoL assessment feature
- Social services integration
- Personalised recommendations
- Strong links with other EU/National projects, institutions, organisations
- European consortium with diversified expertise
- Co-design with end users

- Real-time deployment and showcases
- Scalability
- Modularity of the system
- Co-creation / co-design with end users – accuracy of the solution and guarantee its wide acceptance from both patients and citizens, as well as the health professionals' community.

QoL assessment feature, social services integration, and personalised recommendations – refer to some of the most significant components of the TeNDER platform, which distinguish it from the competitors and turn it into a more comprehensive solution, highlighting diversified aspects other than health. This allows TeNDER to target an audience that not only has some form of disease (or the institutions responsible for those persons) but also to tackle other issues regarding time management and to outsource activities that are not core.

The strong links with other EU/National projects, institutions, organisations, and the fact that TeNDER is being developed by a European consortium with diversified expertise are beneficial both from the perspective of developing a strategic network that will be relevant when entering various markets, as well as because it consolidates various skills and knowledge from the side of industry partners, technical partners, healthcare institutional partners, and legal and communication experts. In this way, all the necessary competences are satisfied internally, therefore, it is not necessary to outsource and become dependent on other organisations. Furthermore, this particular strength guarantees market knowledge, making it easier to identify relevant stakeholders in each country, which will be helpful when direct contact activities begin for entering the markets. Additionally, these relations constitute an advantage that will minimise the constraints that could arise from not having any reputation at the beginning and might even be of value to make TeNDER a reference in the European market.

The inclusion of end users in the diversified consortium constitutes an advantage in that it allows co-design with end users, thereby ensuring the suitability of the solution. Additionally, the real-time deployment contributes to test the adequacy of what is being developed and help in the measurement of the benefits TeNDER can bring to the user. In this way it is also possible to identify the best practices in the use of the platform and how it can be applied in different scenarios – home, day-care centre, rehabilitation centre/rooms, and hospital. With these joint efforts the final version of TeNDER's solution will be the most accurate in

answering the needs of patients with AD, PD and CVD, as well as the needs of their families, formal and informal carers, and health professionals.

TeNDER's ecosystem extendibility and interoperability, allows for additional components, devices, and sensors to be easily integrated in the future, enabling the implementation of forthcoming technologies and the inclusion of patients suffering from other diseases. All this makes TeNDER a live platform that can adapt to technological advances but also to the needs of customers due to its scalable nature.

The possibility to integrate more chronic diseases will guarantee the growth of the platform in the long run, as it can be considered a strategy to continuously increase of the number of potential customers, not only by taking advantage of an increasing life expectancy in Europe, but also from the growing prevalence of chronic diseases which will affect more and more citizens all over the world. This strength will also contribute to the extension of the product life cycle, if combined with a constant update of the technologies integrated in the whole solution.

3.2. Weaknesses

The solution also presents a few weaknesses such as:

- Lack of market reputation;
- Time pressure to provide results;
- Multiple data sources;
- Complexity of component connectivity;
- Possibility that specific B2B customers become competitors.

The fact that the solution has many modules and is so comprehensive poses some challenges at the technical and execution levels. At the time, since there are various data sources – sensors, devices, manually inserted, etc. – there is still room for improvement, and it is crucial to enrich the connectivity and interoperability of all components. However, this is to be done during the course of the project and the deployment among end users and will also in light of their feedback.

The need to provide results regularly can cause pressure and may lead to missing some problems, resulting in less-than-ideal results due to a rush to meet deadlines, as this limits the time allotted to perform development and analysis of the platform in the field.

A lack of brand recognition will naturally prevail in the first years of TeNDER's market entry. This may lead potential customers to opt for other similar solutions with more years of market presence.

Lastly, the possibility that B2B customers may become competitors constitutes a risk since the solution is shared with healthcare providers, SMEs or senior living corporations who may eventually seek to develop their own solution.

Although these disadvantages are somewhat challenging, the majority can be minimised through defined strategies. Particularly, it is possible to overcome initial lack of brand recognition can be by taking advantage of each partner's reputation and market knowledge as well as development of strategic relations with important players in both international and project networks. Regarding the risks associated with knowledge sharing, it is imperative to be meticulous about contracts and make use of close relations between consortium partners and external entities in order to increase our market share and keep the product updated in accordance with the continuously arising needs of end users.

3.3. Opportunities

As identified in our market analysis, several social and economic trends are driving paradigm shifts in healthcare which present extraordinary opportunities for TeNDER, namely:

- Ageing population;
- EU and national policies in e-/m-Health;
- Public sector authorities are advocating for technologies to assist people;
- Further services integration;
- ICT access increase (smartphones + tablets + computers + Wi-Fi);
- Widespread use of wearables;
- Increased prevalence of chronic conditions;
- Increasing need from healthcare professionals and organisations for more direct interaction with patients and close to real-time psychological and physical status updates;
- Social willingness to participate in healthcare;
- COVID 19 pandemic.

Starting with the demographic picture explored in the market analysis (D8.4), the number of citizens that report having dementia is of great relevance. In 2018, Germany had more than 1,5 million dementia patients, which corresponds to more than 2% of the population. In Italy

there were 1,3 million, and Slovenia and Spain reported 34 thousand and 850 thousand cases each. At a world scale, numbers are expected to reach 82 million by 2030 and 152 million by 2050. In 2050 the above-mentioned countries will face higher shares of population with these diseases, respectively 3,5%, 4,1%, 3,4% and 4%. In this governments must prepare to provide the necessary care to citizens and anticipate for the pressure that this increasing number will put on the economy and working-aged people.

In 2019 Alzheimer's disease, the most common form of dementia, was the 4th main cause of disability-adjusted life years (DALYs), and Parkinson's disease was ranked 20th, for people aged 75 and older. The growing prevalence of the disease itself drives the innovative solutions needed to tackle it. TeNDER, for instance, targets patients already diagnosed with such conditions. It incorporates a variety of features to address the needs of Alzheimer's patients, with the goal of empowering them via greater independence as well as by supporting caregivers in day-to-day care scenarios.

The incentive for creating TeNDER is not only the intended to ease the burden placed on formal and informal caregivers and institutions, but also to address the larger issue of a rapidly ageing Europe, that was identified in the market analysis (D8.4). Longer life expectancies do not necessarily mean more productive years, or even living with a reasonable quality of life and social engagement, but the additional years may consist of severe illness and dependency.

In addition to dementia, cardiovascular diseases represent another major concern in the healthcare field, particularly when associated with other co-occurring conditions. Alone, CVD caused almost 18 million deaths at a world scale; 3,9 million in Europe, which represents 45% of total deaths. In 2015, there were more than 85 million people living with CVDs, and although DALYs has been falling, CVDs are still responsible for the loss of more than 64 million DALYs in Europe³ and 365 million at world scale. Similar to dementia patients, those with CVD and other comorbidities, particularly in advanced stages, need a regular care and require much time from formal and informal carers.

Most TeNDER services address this issue by providing tools that will increase the independence of all targeted patients. Besides the remote health monitoring service, which allows users to keep track of vital signs and other health indicators, and easing communications with health professionals, TeNDER differentiates itself by integrating the

³ Reference to D8.4 Market Analysis, Targeting and Positioning (p.17)

quality of life (QoL) assessment, which takes into consideration the emotional status of the patients, as well as centralising social services information.

With these features, TeNDER contributes to a closer control of the patient health status and conditions, without overwhelming care providers. This is achieved by managing patient needs through the platform and software. TeNDER includes the expertise of psychologists throughout the process, to monitor the patient's psychological and emotional well-being as he/she uses the technology, monitoring his/her behaviour during increased independence, as well as during disease progression.

As identified in the market research (D8.4, p21), the need for these technologies in addition to home-based care also arises from globalisation and population movements towards urban areas. These circumstances create scenarios where fewer older people have family members to care for and support them during the years when they experience a higher incidence of dependency and decreased functionalities.

These mobility tendencies tend to overwhelm the institutions responsible for care, which reveal few resources, both financial and human, contrasting with the growing number of people in need of their services. On the side of the carer, TeNDER may assist as a management tool and additionally as a work overload reliever, since it allows for remote monitoring, it includes warning services as well as alerts in case of emergencies and it may include a virtual assistant tool.

Today less people are getting married and having kids, accordingly to our research for the market analysis (D8.4, p.21). Such demographic shifts increase the need to adopt better information and tools that will improve health care access for older generations as support from families and informal caregivers will likely be scarer in the future.

The healthcare needs associated with above-mentioned trends are reinforced by a general increase in healthcare investment in Europe, particularly in more sustainable health systems and in technologies. Healthcare spending is expected to increase, with spending in long-term care rising faster than in any other domain in the health system. Our market analysis (D8.4, p.21) found that Information and communication technologies (ICT) solutions for chronic and long-term care needs, developed to empower ageing population to remain active and independent longer, will be one of the main investments and spending areas. This willingness of public and private stakeholders to fund the adoption of disruptive technologies, represents an opportunity for TeNDER. The existence of specific funding programs for ICT technologies

in healthcare and particularly programs focused on solutions for patients with dementia or CVD may promote and enhance the adoption of TeNDER by healthcare institutions.

The advantages of TeNDER do not end with improving patients experience and reducing the burden of formal or informal carers, but it is also beneficial to increase effectiveness and reduce costs associated with healthcare. This is visible through the capability of TeNDER to reduce premature mortality (“more than 1,2 million deaths could have been avoided in European Union (EU) countries in 2015 through better public health policies or more effective and timely health care”⁴), as it identifies abnormalities instantaneously and alerts the healthcare professional or institution or the carer immediately, therefore reducing the time until action and consequently reducing the number of premature deaths.

Finally, another factor that identified during our market research is the COVID-19 pandemic, which demonstrated the importance of telehealth services. Social distancing and lockdowns and the overload of healthcare facilities compelled to public and private decision-makers’ to seek the advantages of remote care and the potential for new technologies to improve the work and decision-making capabilities of health professionals. The pandemic has accelerated several trends in the healthcare sector, such as telemedicine and robotics, and it has expanded the marketplace for ICT and IoMT options. TeNDER offers a solution for the problems imposed by the pandemic since it enables remote care and constant monitoring of patients’ health indicators, which is particularly relevant since these patients are more vulnerable to infections and would be extremely affected if they were to contract the virus.

By enabling the collection of data and its analysis by healthcare professionals, this platform avoids postponing consultations, a situation that could result in a deterioration of the health status of a patient. The QoL assessment, the emotion detection service, and the possibility of psychological support constitute extremely important features (which every stakeholder will now be aware of following this pandemic) once they allow us to measure the impact of isolation. In this way, besides the health tracking service, TeNDER also helps to mitigate the emotional consequences of the pandemic.

The COVID-19 pandemic also accelerated technological innovation and promoted the development of a wider range of solutions to address challenges identified in the healthcare sector and the need to have remote access to care. It also brought to light that different diseases can arise and there is a need to guarantee that other problems do not lack attention

⁴ Reference to D8.4 Market Analysis, Targeting and Positioning

and people are not left without care. In this scope, TeNDER is developed in a modular framework that endorses extendibility and interoperability, allowing for additional components, devices, sensors to be easily integrated in the future. In this way, the final product to be developed will be able to adapt to forthcoming technologies and include patients suffering from other diseases.

Another aspect that came to light during the pandemic was the scarcity of human resources in some countries, which also represents an opportunity for platforms like TeNDER. This solution supports carers in reaching more patients as well as in prioritising a system's alert component and health tracking, thus allocating HR where it is needed most. Additionally, access to real-time data about a patient's health status is helpful in decision-making by increasing the grounds for decision about treatment and, subsequently, monitoring the results of the treatment.

Based on the tendencies previously stated it is clear that the eHealth market, particularly the telehealth market, is becoming more dynamic and will be growing faster over the next few years. Under the eHealth market we can consider the evolution of patient monitoring market, telemedicine market, and wearable medical devices market, all of them expected to grow rapidly in the future. The predictions about the growth of the markets and ecosystems around technological integration in healthcare, create room for specific products, however not all countries and markets behave the same and reveal the same needs and suitable ways of approach. In this sense, TeNDER benefits from a diversified consortium, which includes technical partners, commercial partners, researchers, and users from 7 European countries, therefore combining insights and perspectives from organisations with different backgrounds, allowing for the identification of specificities that promote or discourage market entry in each country.

Besides the positive economic forecasts, the e-/m-Health market benefits from a favourable political and regulatory scenario, since more and more public authorities are advocating for technological solutions that assist in healthcare and solve societal problems. Particularly, in the case of the European Union and its members states, legislation regarding medical devices, telemedicine, remote patient monitoring, mobile applications, and other tools associated with digital healthcare has been arising and under development by strategic stakeholders. This increased awareness and efforts to define the standards and regulation on these themes, associated with the fact that there are not yet totally defined, consist of an opportunity in the

sense that TeNDER has the possibility to become a reference in good practices and in the market.

3.4. Threats

According to our initial market analysis, technological solutions in the healthcare sector still face threats and challenges to success. The penetration of telehealth, digital health and mHealth solutions have shown effectiveness in monitoring patients with chronic diseases and facilitating patient self-management. However, even though its popularity has been increasing over the years, and its worldwide implementation is expected, these technologies still face several challenges of different natures, namely technical issues, patient-related obstacles, and healthcare barriers.

For instance, although some studies are starting to be published, there is still lack of clinical evidence that proves the positive impact of the use of technologies in the health of the patient. Such uncertainty often leads to reduced confidence in the technological capabilities and system efficiency and reliability. The healthcare community is concerned about the amount of work it would entail to adopt new technologies and integrate them into already existing systems. This reticence amongst doctors and other health professionals (including formal caregivers) reveals doubts about the interoperability, data integrity, and quality that can be offered by these sorts of solutions. Additionally, clinicians are worried about the lack of knowledge and training that would give them the skills and capabilities to correctly use new digital tools. In this sense, TeNDER benefits of the ongoing pilots, in two different perspectives. On the one hand, it is a scenario where the solutions are tested, and the results can be used as grounds to incentivise other professionals to adapt the solution and as a means of communication with the healthcare community. While, on the other hand, these pilots allow to continuously improve the solution and customize it to the end users' needs, making sure that it is the most useful and helpful tool.

Another barrier considered in the market analysis is the systems interoperability, mainly due to the complexity, of integrating various digital technologies without compromising the individual efficiency of each platform. The goal of interoperability is to allow a comprehensive vision about the patients, regardless of the technology or system used to create the information. However, this can be compromised sometimes during the process of systems integration, leading to gaps in the communications between them. It is foreseen that interoperability may also be a challenge when it comes to integrating the platform system with public healthcare information systems, on account of the need for market validation and

lack of standardization. The efforts are ongoing in the direction of polishing the interoperability and ease the process to make it able to integrate different modules in the future increasing the adaptable to different need and scenarios nature of TeNDER.

Another identified challenge is the need to consider social and cultural aspects, namely about the acceptability of technological devices, particularly those related with healthcare. This is important from the perspective of the patient, who most likely will be of an older age, reveal little personal motivation, low digital literacy, and possibly lower income. Furthermore, the perspective of their families or informal caregivers must be taken into consideration as they may not feel comfortable about depending on digital technology or a gadget they do not understand or trust, especially when it is viewed as potential substitution for personal face-to-face contact. Low digital literacy is likely to be the main barrier of this nature. Older patients tend to exhibit a decline in certain cognitive abilities that could help them understand the usability of different tools. This may cause them to become overwhelmed by the speed of technological innovation, which they cannot keep up with. Particularly, the platform to be used by patients is being developed in a user-friendly way. This topic, in particular, will benefit from the pilots' feedback. Furthermore, long-term adherence to telemonitoring or home-based care represents a challenge, particularly if results and improvements are not visible from the beginning. As it was already reflected in the market analysis developed before (p.23), it is noticeable that there is a general decrease in the use of technologies over time, ranging from 90% adherence when the study started to 55% in half a year.

There is also a need to be cost-effective, contribute to the reduction of healthcare expenses, and be sustainably financed.

Finally, the market research (D8.4, p.23) also showed that the lack of data security regulations and standards and the issues around privacy and security, represent a technical obstacle to implementing mHealth platforms and tele-health. The process involves the transfer of physiological data, from external or internal sensors to a centralised platform, encompassing the use of wireless communication networks, processing units, software, and algorithms for data capture and processing. This complex transfer of data and information about the patients is of major concern to the competent authorities and the patients themselves.

4. Business Model Canvas

The Business Model Canvas (BMC) is a strategic tool for developing new or documenting existing business models. It is a visual chart with elements describing the company's or product's value proposition, infrastructure, customers, and finances. It assists companies in aligning their activities by illustrating potential trade-offs. The BMC was initially developed by Alexander Osterwalder in 2004. The goal of the canvas is to introduce a standardised way for designing business models.

This canvas includes all the relevant building blocks a business needs to have to be operational. The advantage is an overall understanding of the business environment and where the value fits in. It includes nine building blocks to generate business models, and defines a business model, which describes the rationale of how an organisation creates, delivers, and captures value. These building blocks give insight about what to include in a business model, but the main building block is the value proposition. The other building blocks are supportive to this value proposition to deliver, capture and activate the value proposition. The harmony between the different building blocks leads to a unique business model, in other words the combination of and the mechanisms between different building blocks count, not the sole unique and individual building block.

For TeNDER, the following is the Business Model Canvas defined and discussed with the consortium partners.

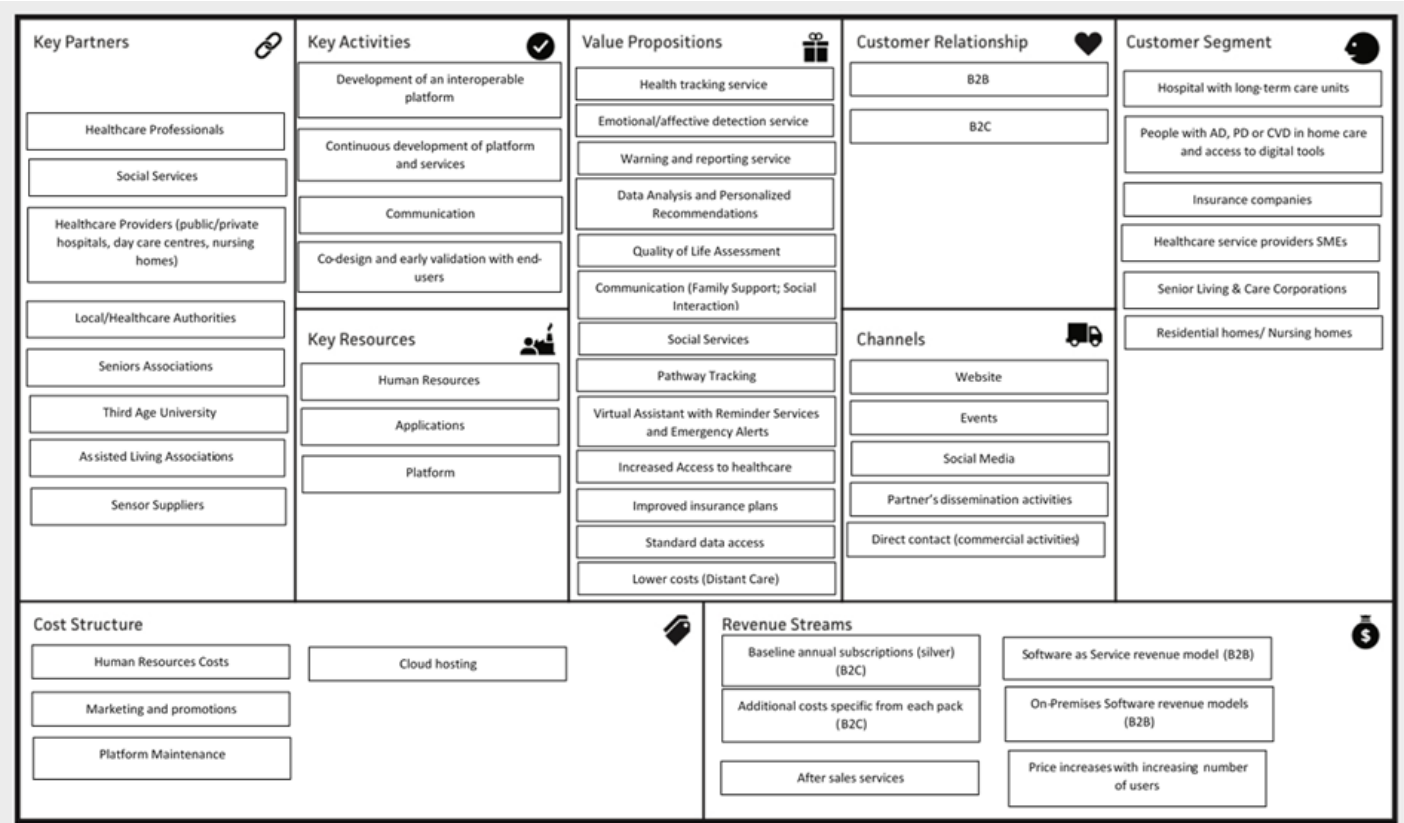


Figure 2: TeNDER Business Model Canvas

4.1. Key partners

Given the goals and expected outcomes of the TeNDER project, several key stakeholders were identified.

The common goal of improving the quality of life of elders with chronic conditions enables the collaboration with partnering individuals and organisations who work in the field of overseeing, caring for, treating, and also educating these types of patients. Healthcare professionals, social services, healthcare providers, authorities, senior associations, third-age universities, and assisted living associations represent the end users of the solution as they are the ones working with the elderly directly and are most familiar with their patients' needs, as well as how such a solution could benefit them and facilitate their work processes. These partners are the ones who best recognise the benefits of such a solution as it does not just ease their work, but also benefits their patients. They are the solution demanders and represent the opportunity for long-term business partnerships establishment.

Given that the TeNDER solution consists of sensory products capable of providing beneficial functionalities, sensors suppliers are equally important partners. Not only do they provide the existing solutions but also have the knowledge and competencies to further develop, enhance

and improve their technologies. They are essential for a sustainable long-term business operation.

4.2. Key activities

Key activities that are essential for the success of TeNDER include the constant development of an interoperable platform, the TeNDER platform, and services. A regular communication between professionals, caregivers, and patients is also the focus as well as the co-design and early validation activities with the end users. This will allow us to achieve a high level of suitability of the platform, in order to cover the needs and requirements of patients, professionals, and caregivers.

The purpose of activity focusing on communication, is to enable social communication between the various users who will be interacting with the platform, leading to increased social comfort concerning different privacy levels, between professionals (treatment knowledge sharing), caregivers and patients (socialisation and motivation). The platform and all corresponding services will therefore have to be continuously developed with the intent to provide as streamlined and functionally adequate solution as possible.

4.3. Revenue streams

The main sources of revenue streams will be via B2C (business to consumer) and B2B (business to business) models. The baseline model for B2B will consist of a silver annual subscription that will be priced according to the number of users. Two pricing schemes are predicted – price per user per year in the case of smaller groups of users, which will vary according to the number of users; and a second scheme which will be used with large groups of users, the price of which will be paid by the whole group and will always stay the same. The number of users will therefore have a large impact on the final price (higher price for higher numbers). On the other hand, B2C model will be priced only per patient per year. Both B2B and B2C models will have the possibility of additional “Gold” and “Platinum” subscriptions that will include additional services and will consequently result in a price increase.

The prices will be adapted to fit the socioeconomic context of each individual relevant country. After sales services are also planned to be included in the pricing. B2B will implement SaaS (Software as a Service) software licensing and delivery revenue model in which software is licensed on a subscription basis and is centrally hosted (by the vendor/provider or by a 3rd party). Additionally, for B2B On-Premises Software revenue models are also a possibility. On-

premises software is a type of software delivery model that is installed and operated from a customer's in-house server and computing infrastructure. It uses an organisation's native computing resources and requires only a licensed or purchased copy of software.

4.4. Value propositions

The core values that will be provided to customers by TeNDER project are a health tracking service, emotional/affective detection service, warning and reporting service (Reminder Services and Emergency Alerts), data analysis and personalised recommendations, quality of life assessment, family support and social interaction (communication), social services, pathway tracking, virtual assistant with Reminder Services and Emergency Alerts, increased access to healthcare, improved insurance plans, standard data access, lower costs (distant care).

The health tracking service will monitor the patient's biological and behavioural variables, reaction to stimulus, social behaviour. The system will capture relevant data from the patient and the environment to detect abnormal situations. Additionally, the emotional/affective detection service will recognise the patient's mood in order to support their status and mobilise support services that might help him/her when dealing with negative emotions, for example, in the case of sadness or depression-like behaviour. When abnormalities in the patient's health and behavioural status will be detected, the adequate stakeholder such as caregiver, family member or informal caregiver will be notified about type of the event, the urgency of the event, and the action required.

Data analysis and personalised recommendations will be based user data, gathered through different services and through the analysis of the interaction among all involved parties. The target of this proposition is to acquire knowledge by continuous data analysis, identifying patterns and models of best practices, as well as treatment and other types of recommendations offered, gamification integration, interaction design, etc. Analysed data will be the foundation for recommendation services.

The quality-of-life assessment service will be in charge of certifying and guaranteeing that data shared among TeNDER actors will be in compliance with GDPR.

The value of the proposition associated with the communication service is to provide social communication among all users of the platform, including patients, family, caregivers, medical and social professionals, which is the fundamental in decreasing patient's loneliness

and increasing their motivation for socialisation with peers or family members. It will be used to facilitate knowledge-sharing across patients' care paths.

Social services include medication, medication intake, exercises, nutrition, non-medical assistance functionalities (daily routines, from cleaning to administration, shopping, occasional travel, or basic finances like paying bills), and related monitoring into connected modules which local carers can access and rely on for decision-making/provide support. Through this component patients can select and obtain services or some type of assistance, chosen from a locally available list. Based on the selection, patients can then follow their own well-being and receive suggestions/instructions about nutrition and exercise.

The pathway tracking service will offer analysis of the non-clinical activity of the patient, which will provide relevant information to all stakeholders with the purpose of optimising time management in the patient healthcare chain.

The virtual assistant will include general information collection through TeNDER interfaces that will be employed in the reminder services, such as general information about appointments, etc.

4.5. Customer relationship

To develop customer loyalty and retain valuable, long-term customers, TeNDER looks to build strong customer relations. TeNDER's modular approach will help customers adapt to the needs and budgetary possibilities of each user, making it more financially accessible for a wider array of healthcare institutions and allowing to acquire individual components. This is also reflected in the TeNDERS pricing scheme, since it not only accounts for both B2C and B2B models, but also the buyer's country of origin and number of users. Given the technical nature of the solution and the two distinct customer segments (individuals and businesses) the customer relationship strategy will also consist of assisting and supporting in setting up the system.

To promote and commercialise the solutions and services TeNDER provides, we will use several available communication channels. The website will serve as a central access point for all the information a potential customer might require. The solution would also be promoted via dedicated segment in events, social media promotion campaigns, partners' dissemination activities, and direct contact with targeted prospective buyers.

4.6. Key resources

Key resources present the main inputs that the TeNDER consortium will use to create its value proposition, serve its customer segment, and deliver the product to end users. These are the main and most important assets in the business model and are based on a number of tangible and intangible resources, namely human resources, applications, and the TeNDER platform. Key human resources central to the realisation of project's success include technical professionals, medical professionals, social professionals, caregivers, administration professionals (project management).

4.7. Customer segment

The TeNDER services are creating value for and consequently targeting several key prospects who are looking to either ease their work processes, provide additional value to their existing business models, and/or provide better care for their patients or the targeted individuals. TeNDER is, in this regard, targeting hospitals with long-term care units, individuals with AD, PD or CVD in home care and with access to digital tools, healthcare service providers SMEs, senior living & care corporations, and residential/nursing homes. Although these organisations are directly involved in patient care and see more value in the improvement of patient's QoL, insurance companies were also identified as an important customer segment, as they are indirectly involved with the patient care but are looking to provide more value in their health insurance packages by including the TeNDER solution.

4.8. Cost structure

The cost structure of the TeNDER business model is composed of Human Resources costs, marketing and promotions costs, platform maintenance costs and cloud hosting costs. The indicated value-driven cost structure predicts the human resources costs, which include, recruitment, retention, training & development costs and employee benefits of the involved HR types, and also the HR administration. Next to marketing salaries and fees, the marketing and promotions costs include all the costs necessary to run a successful marketing campaign. These among others include website establishment, advertising costs, analytics, event attendance, and content management.

Next to these are platform maintenance and cloud hosting costs, which are necessary to ensure the sustainability of the business model by keeping the solution operational. As the pricing of the TeNDER solution will consist of an annual subscription, the platform will have to be maintained by replacing or servicing the equipment provided in case of malfunction,

thus incurring costs in this regard next to other related costs. The solution will also require cloud hosting services for its operation, which includes maintenance and other operational costs.

5. Exploitation and Business Strategy

5.1. Exploitation Models

The TeNDER project recognises three main exploitation models for the project results:

- 1) The commercial exploitation model, which implies the paid provision of the project results to the end-users, complying with a licensing scheme;
- 2) The research exploitation model, which implies the re-utilisation of the research know-how acquired in future research activities and projects; and
- 3) The technological exploitation model, which implies the re-utilisation of the technological know-how acquired for the development of innovative products and the provision of advanced services built on top of them.

However, not all partners and interested stakeholders may exploit the project results using the three models defined above.

The exploitation models of the TeNDER project results will be dependent on three main parameters:

- a) the nature and interests of the project partners;
- b) the distribution model (commercial or non-commercial) of the project results; and
- c) the distribution of the IPRs amongst the project partners.

Following the abovementioned parameters and individual exploitation plans developed by consortium partners, we may state the following:

- 1) the TeNDER industrial partners (MAG, DW, UBI and ELG) are mainly interested in commercially exploiting the project results and/or for integrating the developed tools and technologies into their existing portfolio and/or developing new products and services;
- 2) the academic/research partners (UPM and CErTH) are mainly interested in adopting the research exploitation model for project results that will be provided, integrating them in their research and/or teaching activities and/or setting up future research projects;
- 3) The pilot partners (SERMAS, SKBA, UNITOV, SPO and APM) are mainly interested in enhancing existing processes and/or adopting novel tools, mechanisms, systems, technologies and the overall TeNDER platform.

- 4) other partners (VUB and HOPE): the experience from the TeNDER project will enable access a to broad audience that permits the knowledge transfer to providers of eHealth solutions and services.

5.2. Components Commercialisation

Scenario 1: NewBusinessVenture comprising all consortium partners (excluding the pilots)

In this scenario, all technical partners – who are responsible for one or more components/subsystems/know how (as detailed in Table 2) – will license their IPRs to the NewBusinessVenture (to be established) through bilateral commercial agreements and provide their technical support for such components/sub-systems, as necessary.

TeNDER is a modular platform that aggregates different service clusters (SCs). In this way it is possible to address various variables and a complete set of areas assisting patients, from clinical, social, and quotidian views. By delivering a solution for each field, the TeNDER platform will be able to improve patient's QoL and better involve healthcare professionals and carers in the patient's pathway. Additionally, this modular approach makes the solution adaptable to the needs of each possible user as well as their budgetary possibilities, becoming purchasable for more healthcare institutions and allowing them the possibility to acquire only the component that is useful and needed.

Therefore, the modules developed under the TeNDER platform were divided into service clusters that are explained below.

Service Cluster 1: Active Sensorial Continuous Monitoring, Warning and Reporting.

This SC will provide three components based on the multi-sensorial infrastructure. On one side, the **health tracking service** included in this SC will offer the monitoring of patient biological, behavioural variables such as blood pressure, weight, reaction to stimulus, social behaviour (among others). The system will capture relevant data from the patient and the environment to detect abnormal situations. Additionally, the **emotional detection service** intends to detect the patient's mood to support their status and enable services that might help him in case of negative feelings, such as sadness or depression-like behaviour. Finally, the **warning and reporting service** will track the patient variables and report any special/abnormal event to the adequate stakeholder (caregiver, informal caregiver, and family) according to the type of event, the relevancy and the action required.

Service Cluster 2: Social Services Matching.

This SC integrates **medication, medication intake, exercises, nutrition, non-medical assistance functionalities** (daily routines, from cleaning to administration, shopping, occasional travel, or basic finances like paying bills), and related monitoring into connected modules which local carers can access and rely on for decision-making and support. Through this component, patients can select and obtain services or some type of assistance, chosen from a list available locally. Based on the selection, patients can follow their own status and well-being, and obtain suggestions/instructions about nutrition or exercise. This component can also be accessed and managed by the carer to analyse and monitor the patient's situation and start/adjust the level of support and select adequately trained staff to provide assistance. Carers, or healthcare professional with granted access, can also monitor patients' adherence to previously agreed activities (from exercises to medication or taking adequate nutrients, vitamins, etc.). Based on the monitoring of the patient's reaction to the assistant types selected it is possible to modify the level of support, by adding or ending with particular social services.

Service Cluster 3: Data Analysis and Personalised Recommendations.

This SC is professional-oriented (contrarily to the above-mentioned, which is user-oriented) as it provides patient data, gathered through different services and through the analysis of the interaction among all involved parties. With this SC it is possible to generate knowledge by a continuous data analysis focus on all patients' information, identifying patterns and models of best practices, in coordination, treatment, recommendations offered, gamification integration, interaction design, etc. This service automatically recommends forms and questionnaires to identify patient situation, while recommendations will also be targeted to caregivers that take care of patients on a daily basis, based on chronic conditions protocols, that assist in understanding the evolution of the condition and patient's specific needs at all stages. The service will include different protocols depending on the disease of the patient and will be open to new protocols when future targets are incorporated into the platform.

Service Cluster 4: Pathway Tracking.

This service employs all data flow across the system and will analyse the patient's non-clinical activity, providing all stakeholders with relevant information to optimise time management in the patient healthcare chain. The clerical pathway will feed from all information available to register the entire repository of events associated to healthcare attention to the patient. The ambition of this service is that the data of the patient clerical activities (i.e., visit to primary attention, visits to the neurologist, GPs, among others) would be available

ubiquitously to all health-related institutions. This service is highly dependent on data quality as it enables TeNDER to continuously improve, in the manner that information is retrieved and presented to health professionals. This service, therefore, will define the mechanisms to have continuous feedback on the quality (usefulness) of recommendations, graphs, evolutions, and inferences to attain the optimal efficiency of the system.

Service Cluster 5: Virtual Assistant

This SC will collect general information, through TeNDER interfaces, especially from patients and carers, that will be employed in the reminder services, such as general information about appointments, medication intake. This will generate two kinds of reminders: medication administration and medical appointments. In this way, this service consists of a key module to analyse treatment adherence objectives in the project. The reminders will be depicted in the user interface screens (TV set and smartphone) in a graphical and synchronised manner. The needs and skills matching services will be one of the core available components that will support patients, careers, and social workers to guide the patients to find their best fit in accordance with their needs, as well as offering the best habits to engage them into an active social life and healthy empowerment.

Service Cluster 6: Communication

This service purpose is to offer social communication among users of the platform at different privacy levels and with different objectives, such as family support, communication among family members, caregivers and patients that will contribute to reducing patient loneliness, personal services for the patient, social interactions among patients with similar situations to motivate them via socialisation, care support that consists of regular communication between professionals and caregivers or patients, coordination among medical and social professionals and, finally, allowing professionals to share treatment knowledge and best practices.

Service Cluster 7: GDPR & Quality of Life Assessment

This service will be in charge of certifying and guaranteeing that data shared among TeNDER actors will be in compliance with GDPR. This SC will allow users to measure and know the impact of their communications via TeNDER channels as well as it will allow to match questionnaires related to QoL (e.g., SF-36, SF-12, OP-QoL, PDQ8, PDQ39 or QoL-AD) in an interactive manner by using interface dynamic tools and serious games.

5.3. Service Packs Commercialisation

Scenario 2: One consortium partner (e.g., MAG as system integrator) will take the responsibility to commercialise the platform in the European market.

In this second scenario, all technical partners – who are responsible for one or more components/subsystems/know how (as detailed in Table 2) – will license their IPRs to the MAG through bilateral commercial agreements and provide their technical support for such components/sub-systems, as necessary.

MAG will then sell a commercial solution (on the cloud or on-premises), consisting of the TeNDER platform and different combinations of services (according to the customer needs), and provide technical support to potential customers who will pay monthly fees.

Technical partners (in particular industrial partners/SMEs – DW, ELG, UBI) could also sell specific licenses for their IPRs to other entities. In this model the basic offering would include:

The **Silver Pack** is the simplest one, aggregating the components of three service clusters – SC1, 3, and 7 – such as the health tracking service (through active sensorial continuous monitoring: blood pressure, weight; reaction to stimulus), the warning and reporting service (detection of abnormal situations and reporting to caregiver/doctor/family, according to the type of event), the emotion/affective detection service (detection of patient’s mood and possible negative feelings), data analysis, personalised recommendations, and quality of life assessment. This will constitute the baseline pack; therefore, it won’t be possible to acquire only 2 of these SC, nor it will be possible to purchase one of these SC (1, 3 or 7) together with any of the remaining (SCs 2, 4, 5, 6).

The **Gold Pack** will include the service clusters from the Silver Pack, but it will be more complete as it also includes SC 2 and SC4. In this way, the additional solutions in this pack will be the social services (cleaning, delivering meals, shopping, assist in exercises, etc.) and the pathway tracking, that allows an interaction with doctors and caregivers, since it needs the contributions of all stakeholders to update the clerical information of the patients, as it will guide in the decision-making process.

Finally, the **Platinum Pack** is the most comprehensive. The solution brings together the service clusters from the Silver and Gold Packs but also includes the virtual assistant and the communication services.

5.4. Other strategies

Besides commercialising TeNDER as a whole solution, commercialising each module or component or even commercialising it in packs that aggregate different service clusters, in the ways described above, are possible alternative strategies that may be considered. However, this is still under development and its viability needs to be analysed further.

This strategy would be more focused on the B2C approach, particularly if targeting patients that are under home based care (without the assistance of any formal carer), as it consists of establishing a potential consortium-external partnership with sensors and devices suppliers in order to commercialise the platform together with the necessary devices. This strategy arises from the understanding that potential customers may be interested in the platform but may not have the knowledge about the necessary devices. Even though we could provide information on that topic, as we will in a first phase, it is relevant to consider that they probably will not know where to buy or how to identify the most adequate ones – better functioning, higher longevity, more secure, better connection with TeNDER system, better price-quality relation, etc. However, the consortium might have that knowledge or at least, it has better chances and resources to find it.

Advantages for the consortium partners also arise regarding the pricing deals, as they might be able to negotiate better prices, making the solution more affordable to potential clients. In this sense, it might be more valuable to develop a complete solution, in which we commercialise not only the platform, but the sensors and devices that will collect the data to the platform as well. If it is not sufficiently strategic to commercialise sensors as well, it might be interesting to develop comprehensive guidelines about the sensors and devices, including possible suppliers to customers, particularly in the B2C scenario.

However, this hypothesis is still under analysis and, if considered strategic, it will be explained in detail in the Final Report on Business Modelling.

6. Go-to-market Strategy

As a modular platform that aggregates different services, TeNDER is adaptable to user needs, therefore, we can target different consumers and end users. The solution includes the app for patients use, the supporting services, tools for distant communication between patients and healthcare professionals, home call service, and the platform for health professionals' use. In this sense, we can look at different market segments, and distinguish between different customers according to each service provided or the solution as a whole. Consequently, TeNDER may be able to directly target patients with chronic conditions such as Alzheimer's disease, Parkinson's disease, and cardiovascular diseases.

In the scenario of a B2B approach, we can target different types of businesses such as insurance companies, public and private hospitals, and other healthcare providers such as residential homes, nursing homes, home-care providers, physiotherapy clinic or others. In this case, the solution is set out considering that the buyer may not be the end user, for example in the case of hospitals, where the end user will be the health professional and the patients and in the case of insurance companies. In a B2B perspective the target market will also consist of healthcare providers SMEs and other senior living and care corporations.

This section will ground the definition of the business development plan: the next steps include the definition of the sales predictions, at least for the next 5 years.

6.1. Target Markets

In the table below there is an estimated quantification of the target markets in each country. We expect the numbers to increase in the following years, at least population with these chronic conditions and population receiving long term care, as well as providers for long term care, as a result of the demographic tendencies displayed above.

Table 4: Target Market

	Spain	Germany	Slovenia	Italy
Total population	47 million	84 million	2 million	60 million
Population aged > 65	20%	22%	20%	23%
Population with dementia (per 1000)	19	21	12	23
Population with CVD	4 million	8 million	0.3 million	5.4 million
Long term care (LTC) recipients in institutions aged > 65	179 470	724 118	18 772	-
LTC recipients in institutions aged < 65	44 061	108 980	4 132	-
LTC recipients at home aged > 65	687 858	2 014 278	26 217	849 199
LTC at home aged < 65	266 622	666 205	15 312	-
Hospital LTC beds	20 469	0	292	8 526
LTC beds in residential facilities per 1000 aged > 65	44	54	54	19
Hospitals	779	3 084	29	1 063
Insurance Companies	110	44	13	126
Private Health Insurance	17%	34%	86%	-
Public Health Insurance	100%	89%	100%	100%

Source: own elaboration based on data from (11) (12) (13) (14) (15) (16)

6.2. Pricing Scheme

The expectations are that the solution TeNDER will be adopted by different types of customers, as well as it will be adopted in different European countries.

The different customers, as identified in the Business Model Canvas, will consist of hospitals with long-term units, residential homes/nursing home, people with AD, PD, CVC in home care and access to digital tools, insurance companies, healthcare providers SMEs, Senior Living &

Care Corporations. The prices were established according to B2C and B2B approaches, since the potential customers mentioned before can be considered as sub-categories for B2C and B2B. Another option that will be considered in the final business model is the B2PA approach, which is still under analysis.

After this division, there was a need to define the pricing scheme that will be adopted in each country. Following the selection of the pilot countries for the market analysis, the prices were adapted to the socioeconomic context of the four countries – Germany, Italy, Slovenia and Spain – according to the GDP and the average earnings in each country, based on the European average price.

The tables bellow represent the first suggestions of the prices to practice, for each of the packs detailed above, according to the country and type of customer.

B2C			
	SILVER	GOLD	PLATINUM
	annual subscription/per patient		
Europe	160 €	220 €	370 €
Germany	210 €	290 €	480 €
Italy	140 €	190 €	320 €
Slovenia	110 €	150 €	260 €
Spain	130 €	170 €	290 €

Table 5: Pricing scheme for B2C

In the case of B2C, the price represented in the table consists of the price to be paid **per patient per year**. The prices increase from the silver pack to the gold pack and then to the platinum one, due to the additional services included in the pack.

B2B						
	Nº Users	SILVER	GOLD		PLATINUM	
	users	total	additional costs	total	additional costs	total
Europe	1	140 €	30 €	170 €	50 €	190 €
	100	14 000 €	30 €	14 030 €	50 €	14 050 €
	1001-2000	125 000 €	20 000 €	145 000 €	55 000 €	180 000 €
	2001-5000	245 000 €	25 000 €	270 000 €	55 000 €	300 000 €
	5001-10000	350 000 €	20 000 €	370 000 €	50 000 €	400 000 €
	> 10001	420 000 €	30 000 €	450 000 €	60 000 €	480 000 €
Germany	1	180 €	30 €	210 €	50 €	230 €
	100	18 000 €	30 €	21 000 €	50 €	23 000 €
	1001-2000	165 000 €	20 000 €	18 000 €	55 000 €	220 000 €
	2001-5000	320 000 €	25 000 €	345 000 €	55 000 €	375 000 €
	5001-10000	460 000 €	20 000 €	480 000 €	50 000 €	510 000 €

B2B						
	Nº Users	SILVER	GOLD		PLATINUM	
	> 10001	550 000 €	30 000 €	580 000 €	60 000 €	610 000 €
Italy	1	120 €	30 €	150 €	50 €	170 €
	100	12 000 €	30 €	15 000 €	50 €	17 000 €
	1001-2000	110 000 €	20 000 €	130 000 €	55 000 €	165 000 €
	2001-5000	215 000 €	25 000 €	240 000 €	55 000 €	270 00 €
	5001-10000	305 000 €	20 000 €	325 000 €	50 000 €	355 000 €
	> 10001	370 000 €	30 000 €	400 000 €	60 000 €	430 000 €
Slovenia	1	100 €	30 €	130 €	50 €	150 €
	100	10 000 €	30 €	13 000 €	50 €	15 000 €
	1001-2000	90 000 €	20 000 €	110 000 €	55 000 €	145 000 €
	2001-5000	170 000 €	25 000 €	195 000 €	55 000 €	225 000 €
	5001-10000	245 000 €	20 000 €	265 000 €	50 000 €	295 000 €
	> 10001	295 000 €	30 000 €	325 000 €	60 000 €	355 000 €
Spain	1	110 €	30 €	140 €	50 €	160 €
	100	11 000 €	30 €	14 000 €	50 €	15 000 €
	1001-2000	100 000 €	20 000 €	120 000 €	55 000 €	155 000 €
	2001-5000	195 000 €	25 000 €	220 000 €	55 000 €	250 000 €
	5001-10000	275 000 €	20 000 €	295 000 €	50 000 €	325 000 €
	> 10001	330 000 €	30 000 €	360 000 €	60 000 €	390 000 €

Table 6: pricing scheme for B2B

In the case of B2B the prices and the scheme applied change according not only to the country and to the pack, but also to the number of patients/users.

If there are **less than 1.000 users**, the prices will be charged **per user per year** (see the example on the table for 1 user and for 100 users). If the number of users is **between 1.001 and 2.000** the price is always the same, as it is charged for the **whole group per year**, and the same process applies for the following number of user ranges.

These prices are preliminary and may suffer some changes until the end of the project since they are contingent on the market as well as the prices of each component and costs associated, that are not yet defined. In this sense, for the final version of the business model the prices of each component will be defined in advance to allow the adjustment of these prices.

After that, we will consider the possibility to perform a survey among potential customers to study how much they would be willing to pay for such services. Based on the outcomes of that survey, the necessary changes will be made again in order to define the final version of the prices.

7. Conclusion

This document gives us a clear view of different relevant aspects for the definition of a sustainable business model, taking into consideration the natures of the partners participating in TeNDER's development as well as the goal of reaching various European and international markets.

In here, the opportunities and challenges are also identified, such as the strengths and weaknesses of the product, which will serve as a guideline for future development and allow us to tackle the less positive points during the remainder of the project, to guarantee the highest readiness level when entering the market.

The first business strategies were defined. Besides commercialising TeNDER as a whole solution, the possibility of commercialising each service individually or specific set of services is also considered, as an answer to the need for more personalised services, that target specific constraints of each customer. Additionally, a first proposal of the prices to be applied in the different considered markets are already defined, based on the different business strategies identified.

This deliverable will be the basis for the final business model, the second iteration of the deliverable (D8.12), that will include the final pricing policy and financial projections, as well as the corresponding balance sheet for a 5-years roll out of TeNDER in the market. Lastly, a more accurate and complete SWOT analysis and Business Canvas Model will be provided, as well as deeper descriptions for the business strategies that are still under study.