



# SMESEC

Protecting Small and Medium-sized Enterprises digital technology through an innovative cyber-SECurity framework

## D6.5 Business model definition

Document Identification			
<b>Status</b>	Final version	<b>Due Date</b>	31/03/2020
<b>Version</b>	1.0	<b>Submission Date</b>	05/05/2020
<b>Related WP</b>	WP6	<b>Document Reference</b>	D6.5
<b>Related Deliverable(s)</b>	N/A	<b>Dissemination Level (*)</b>	PU
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This document is issued within the frame and for the purpose of the SMESEC project. This project has received funding from the European Union's Horizon2020 Framework Programme H2020-DS-SC7-2016 under Grant Agreement No. 740787 and supported by Swiss State Secretariat for Education, Research and Innovation (SERI) under contract number 17.00067. The opinions expressed and arguments employed herein do not necessarily reflect the official views of the European Commission.

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Document History			
Version	Date	Change editors	Changes
0.1	03/12/2019	ATOS	Table of contents
0.2	14/01/2020	All partners	Input from partners
0.3	07/03/2020	All partners	Input from partners
0.4	20/03/2020	ATOS	Input from partners
0.5	20/03/2020	ATOS	Input from partners
0.6	20/03/2020	ATOS	Final draft version ready for peer review
0.7	04/04/2020	EGM, FHNW	Review comments
0.8	02/04/2020	ATOS	Review comments updated
1.0	05/05/2020	ATOS	Quality control and submission

<b>Document name:</b>	D6.5 Business model definition				<b>Page:</b>	2 of 48
<b>Reference:</b>	D6.5	<b>Dissemination:</b>	PU	<b>Version:</b>	1.0	<b>Status:</b> FINAL

# Table of Contents

Document Information .....	2
Table of Contents .....	3
List of Tables.....	4
List of Figures .....	5
List of Acronyms.....	6
Executive Summary .....	7
1 Introduction.....	8
1.1 Purpose of the document .....	8
1.2 Relation to other project work.....	8
1.3 Structure of the document .....	8
2 Business Models .....	9
2.1 SMESEC Framework Business Model .....	11
2.2 SMESEC Pilots’ sustainability approach.....	21
2.2.1 Scytl Business Model Canvas (e-Voting).....	21
2.2.2 UoP Business Model Canvas.....	28
2.2.3 GridPocket Business Model Canvas .....	33
2.2.4 WoS Business Model Canvas.....	39
Conclusions .....	47
References .....	48

<b>Document name:</b>	D6.5 Business model definition				<b>Page:</b>	3 of 48	
<b>Reference:</b>	D6.5	<b>Dissemination:</b>	PU	<b>Version:</b>	1.0	<b>Status:</b>	FINAL

## List of Tables

<i>Table 1: Business Model Canvas for SMESEC framework</i>	12
<i>Table 2: SMESEC framework customer segmentation forecast</i>	15
<i>Table 3: SMESEC framework pricing structure per package</i>	17
<i>Table 4: SMESEC framework revenue streams Y1-Y3</i>	17
<i>Table 5: SMESEC framework cost structure Y1-Y3</i>	20
<i>Table 6: SMESEC framework Business model indicators</i>	20
<i>Table 7: Scytl customer segmentation forecast</i>	22
<i>Table 8: Scytl revenue streams Y1-Y3</i>	24
<i>Table 9: Scytl cost structure Y1-Y3</i>	27
<i>Table 10: Cost assumptions for the e-Voting pilot</i>	27
<i>Table 11: Scytl business model indicator</i>	28
<i>Table 12: SMESEC functionalities in sense.city</i>	28
<i>Table 13: sense.city customer segmentation forecast</i>	29
<i>Table 14: sense.city revenue streams Y1-Y3</i>	30
<i>Table 15: sense.city cost structure Y1-Y3</i>	32
<i>Table 16: sense.city Business model indicator</i>	33
<i>Table 17: Gridpocket customer segmentation forecast</i>	34
<i>Table 18: Gridpocket revenue Stream Y1-Y3</i>	35
<i>Table 19: Gridpocket cost structure Y1-Y3</i>	38
<i>Table 20: Gridpocket business model indicator</i>	38
<i>Table 21: LoadSensing go-to-market strategy</i>	40
<i>Table 22: LoadSensing customer segmentation forecast</i>	42
<i>Table 23: LoadSensing revenue streams Y1-Y3</i>	43
<i>Table 24: LoadSensing cost structure Y1-Y3</i>	45
<i>Table 25: WoS business model indicator</i>	46

<b>Document name:</b>	D6.5 Business model definition				<b>Page:</b>	4 of 48	
<b>Reference:</b>	D6.5	<b>Dissemination:</b>	PU	<b>Version:</b>	1.0	<b>Status:</b>	FINAL

---

## List of Figures

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<i>Figure 1: Business Model Canvas</i>	9
<i>Figure 2: WoS business model Canvas</i>	39
<i>Figure 3: LoadSensing customers and distributors worldwide</i>	41

<b>Document name:</b>	D6.5 Business model definition				<b>Page:</b>	5 of 48	
<b>Reference:</b>	D6.5	<b>Dissemination:</b>	PU	<b>Version:</b>	1.0	<b>Status:</b>	FINAL

## List of Acronyms

Abbreviation / acronym	Description
BAU	Business as usual
CAPEX	Capital expenditure
CPI	Consumer price index
EC	European commission
EU	European union
HTTP	Hypertext transfer protocol
ICT	Information and communication technology
IoT	Internet of things
IT	Information technology
OPEX	Operational expenditure
PM	Person month
R&I	Research and innovation
ROI	Return on investment
ROP	Return-oriented programming
SECaaS	Security as a service
SIEM	Security information and event management
SME	Small or medium-sized enterprise
VaS	Value-added service
WAF	Web application firewall
WP	Work package

<b>Document name:</b>	D6.5 Business model definition				<b>Page:</b>	6 of 48	
<b>Reference:</b>	D6.5	<b>Dissemination:</b>	PU	<b>Version:</b>	1.0	<b>Status:</b>	FINAL

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## Executive Summary

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SMESEC intends to deliver a lightweight unified framework to ensure cybersecurity of SMEs, which are considered key players, towards creating additional value for the technical ecosystem of the Europe.

Combining consortium member's solutions, benefiting from the experience of 4 use cases in Internet of Things, Smart cities, Smart grid, and eVoting, SMESEC aims to offer SMEs an advanced budget-friendly and easily accessible and deployment solution, ready to go in short period of time, without the need of a deep cybersecurity background or a dedicated team nor a demanding budget.

The consortium has defined appropriate business models, based on the Canvas methodology, which include multiple players in the value chain (i.e. the consortium itself -as joint exploitation- , the consortium pilots and target users) where several details (9 building blocks) will be extensively described.

Such models provides a tangible approach to the project sustainability and the commercial exploitation beyond the project lifespan.

This deliverable's approach to the business model generation is twofold:

- On one hand and primarily, the consortium **joint exploitation** of the project results with an updated Business model Canvas with the final forecast figure of costs and revenues, addressing the joint exploitation of the **SMESEC platform** (an early version was anticipated in D6.3).
- On the other hand, and additionally, showing the impact and the sustainability of the project results after its end, a tailor-made Canvas generated by each of the 4 **project pilots** based of their fair assumption on how the project results will impact their operational activities once they are implemented.

The results of this document give a wide overview of the sustainability of the project results after its end (this document includes the SMESEC framework business model and the sustainability approach of the project pilots ) with special emphasis.

<b>Document name:</b>	D6.5 Business model definition				<b>Page:</b>	7 of 48	
<b>Reference:</b>	D6.5	<b>Dissemination:</b>	PU	<b>Version:</b>	1.0	<b>Status:</b>	FINAL

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# 1 Introduction

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## 1.1 Purpose of the document

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This document, D6.5 Business model definition, presents the final version of the business model approach for both SMESEC framework and the suitability approach of project pilots. It gives a consolidated overview of all the activities carried out by the consortium in its strategy to effectively transfer to the market the project outcomes.

This final deliverable, as a self-contained document, completes the initial approach to the business model methodology initially presented in deliverable D6.2, where the canvas methodology was presented [3] and D6.3, where the first versions of the canvas were presented (SMESEC framework business model and WoS pilot canvas) [6] at M12 and M24. This final document includes a detailed description of the financial approach of the consortium to the commercialization of the SMESEC framework (customer segment forecast, pricing benchmark, costs structures and revenue stream).

## 1.2 Relation to other project work

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This work is totally aligned with the project work conducted in WP6 and extends the initial approach to the canvas methodology presented during the early iterations of D6.2 [3] and D6.3 [6] at M12 and M24.

Also, this work has received inputs from WP2 (security awareness plan, D2.3 [14] and WP5 (open call, D5.5 [12]) that contributed to the definition of the business model value proposition taking into account the feedback provided by the participants.

## 1.3 Structure of the document

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This document is structured in two major chapters

**Section 1** Introduction

**Section 2** presents the business model approach of the SMESEC project. This chapter is divided into two main subsections:

- **Subsection 1:** presents the business model of the SMESEC Framework.
- **Subsection 2** presents the sustainability approach of the consortium pilots (i.e. Internet of Things, Smart cities, Smart grid, and eVoting).

<b>Document name:</b>	D6.5 Business model definition				<b>Page:</b>	8 of 48	
<b>Reference:</b>	D6.5	<b>Dissemination:</b>	PU	<b>Version:</b>	1.0	<b>Status:</b>	FINAL



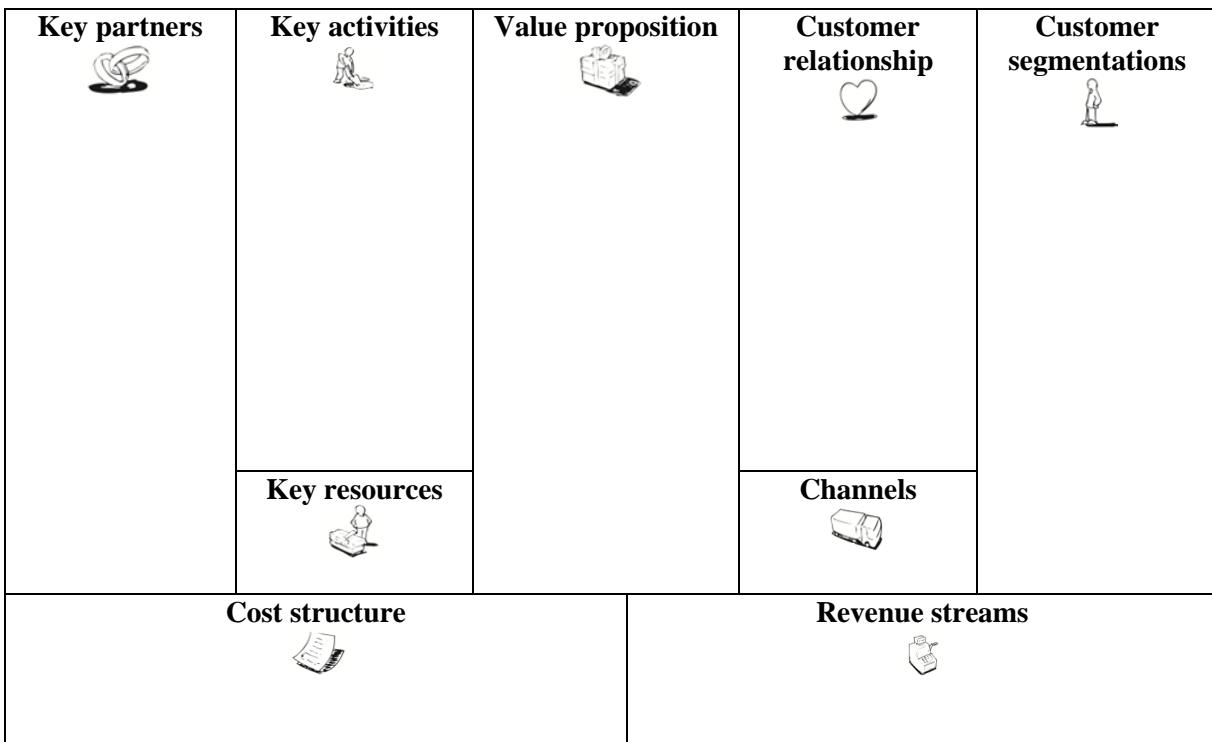
## 2 Business Models

“A business model describes the rationale of how an organization creates, delivers, and captures value” [5] Based on the market analysis initiated in D6.2 [3] and the initial version of the SMESEC framework business model presented in D6.3 [6], this document presents the final approach of the consortium to the generation of tailor-made business models which shows a sensitive consideration of the end users current needs, as identified in some potential competitors during the market analysis [4] [11], Gartner’s reports [15] and also the feedback received during the open call [12]:

- Reduce Escalations
- Reduce time to respond
- Budget impact (low or free)
- Awareness creation and training

This approach tries to address all these needs linking the consortium and individual pilots offer to a wide range of target customer segment as shown in the following business models generated.

The methodology used for this task is the canvas model [5], represented by the 9-building blocks map below:



**Figure 1: Business Model Canvas**

This methodology, answers to each of the following building blocks used to create the Canvas model:

- **Value proposition:** Which is the added value SMESEC can provide and a user would be willing to pay for?

<b>Document name:</b>	D6.5 Business model definition				<b>Page:</b>	9 of 48	
<b>Reference:</b>	D6.5	<b>Dissemination:</b>	PU	<b>Version:</b>	1.0	<b>Status:</b>	FINAL

- **Customer Segment:** Which are the target customers of the SMESEC framework? Which is a fair estimation? Who are the most important?
- **Distribution channels:** How will we communicate and contact our customers to deliver the SMESEC framework?
- **Customer Relationships:** Types of relationships established with the customer. What are our customer segments' expectations related to the type of relationship with us?
- **Revenue streams:** How will we generate incomes from the different customer segments? Are they all eligible to pay the same? Which is the pricing structure we are going to implement?
- **Key activities:** Which are the main actions we must carry out to make this business model work? What do we need to generate our value propositions and make it available to our customers?
- **Key Resources:** Which are the key resources needed to make our business model work?
- **Key partners:** The network of suppliers and partners that make the business model work
- **Cost Structure:** The cost structure describes all costs incurred to operate business activities. What are the main costs associated to our activity? Which Key Resources/Activities have a higher cost?

<b>Document name:</b>	D6.5 Business model definition				<b>Page:</b>	10 of 48
<b>Reference:</b>	D6.5	<b>Dissemination:</b>	PU	<b>Version:</b>	1.0	<b>Status:</b> FINAL

## 2.1 SMESEC Framework Business Model

As part of the SMESEC overall business plan, the consortium has prepared this business model, to ensure it would be financially sustainable to be implemented aligning it with real market needs in the EU and beyond. The main purpose is to help transform the innovation of SMESEC into tangible market uptake prospects in targeted market segments.

The business plan has been a living document and has been acting as a continuous reference to ensure that the technical dimension, as it evolved, was fully focus on the market needs and to prepare an effective products and services launch once the project is finished.

The approach to the transfer to the market of the SMESEC framework solution is based on the following four main commercial lines of the SMESEC Framework [6]:

- **SECaas.** The outsourcing of very specific and continuously-changing cybersecurity services allows the in-house IT teams to focus on their BAU activities. This model is quite flexible as can be tailor-made to the customer needs and there is no need for a vast experience or a dedicated team in-house as all activities can be outsourced (depending on the contract). As the main focus of the project are the SMEs this service offering is flexible enough to cover a wide range of customer need, from training activities, to incident management.
- **In-house deployment.** SMESEC framework will be deployed at the customer's premises and run by in-house personnel too. Experts support could be provided for training and maintenance purposes upon request by the customers. This model allows SME's with a technical department to minimize the implementation and operating costs.
- **SMESEC Hub.** Access to the data base repository of the Hub for analysis' purposes. The consortium will allow the access to third parties to the information collected by the SMESEC framework components in order to conduct advance data analysis.
- **3rd party's application integration.** SMESEC framework will be available, via API, to external Service Provider's applications as a marketplace to distribute their cybersecurity components to SMEs. This model is interesting from a synergy creation point of view as both (the consortium and the third parties) can provide complementary services and tools to their customers.

The Canvas map below, initially described in D6.3 [6], has been updated with the final considerations of the consortium and the 9 building blocks (the building blocks are the 9 segments the map is divided in) defined are detailed in the depth in the following subsections:

<b>Document name:</b>	D6.5 Business model definition				<b>Page:</b>	11 of 48	
<b>Reference:</b>	D6.5	<b>Dissemination:</b>	PU	<b>Version:</b>	1.0	<b>Status:</b>	FINAL

<b>Key Partners 8)</b> <ul style="list-style-type: none"> <li>➤ ATOS</li> <li>➤ WoS</li> <li>➤ UoP</li> <li>➤ FORTH</li> <li>➤ EGM</li> <li>➤ SCY</li> <li>➤ GRIDP</li> <li>➤ FHNW</li> <li>➤ CITRIX</li> <li>➤ IBM</li> <li>➤ BD</li> <li>➤ UU</li> <li>➤ SMES associations</li> </ul>	<b>Key Resources 7)</b> <ul style="list-style-type: none"> <li>➤ Persons <ul style="list-style-type: none"> <li>○ Technology/ Sales force</li> </ul> </li> <li>➤ Knowledge</li> <li>➤ Software/Hardware</li> <li>➤ Financial support</li> </ul>	<b>Value proposition 1)</b> Increase level of security against cyber-security threats (via SMESEC toolkit): <ul style="list-style-type: none"> <li>• App Firewall and Secure Web Gateway</li> <li>• Security information management tool (SIEM)</li> <li>• End Point Protection Platform</li> <li>• Early Warning Intrusion Detection (honeypots)</li> <li>• Intrusion Detection System</li> <li>• ROP exploits protection</li> <li>• Security assessment</li> <li>• Testing Platform</li> <li>• Training platform</li> <li>• SMESEC Hub</li> </ul> Budget and knowledge accommodated to SMEs restrictions (via a tailor-made analysis of customer needs) 3rd party's application integration in the SMESEC framework	<b>Customer relationship 4)</b> <ul style="list-style-type: none"> <li>➤ Personal assistance</li> <li>➤ Self-service</li> <li>➤ Communities</li> <li>➤ Co-creation</li> </ul>	<b>Customer segment 2)</b> <ul style="list-style-type: none"> <li>➤ Technology providers</li> <li>➤ Services providers</li> <li>➤ Direct end users</li> </ul>
	<b>Key activities 6)</b> <ul style="list-style-type: none"> <li>➤ Market Analysis/Presales</li> <li>➤ Dissemination / Awareness</li> <li>➤ Consulting (Market Analysis, GAP analysis, Customization,)</li> <li>➤ Integration / Implementation</li> <li>➤ Training</li> </ul>		<b>Channels 3)</b> <ul style="list-style-type: none"> <li>➤ Own</li> <li>➤ Partner</li> </ul>	
<b>Cost structure 9)</b> Operational costs Capital costs		<b>Revenue Streams 5)</b> Asset sales, Usage fees, Subscription fees, Licensing		

**Table 1: Business Model Canvas for SMESEC framework**

<b>Document name:</b>	D6.5 Business Model definition			<b>Page:</b>	12 of 48	
<b>Reference:</b>	D6.5	<b>Dissemination:</b>	PU	<b>Version:</b>	1.0	<b>Status:</b> FINAL

### 2.1.1.1 Value proposition

The value proposition of the SMESEC framework will provide an increased level of security against cybersecurity threats (via SMESEC toolkit described below). It also offers a budget friendly approach and knowledge accommodated to SMEs restrictions.

- App Firewall and Secure Web Gateway
- Security information management tool (SIEM)
- End Point Protection Platform
- Early Warning Intrusion Detection (honeypots)
- Intrusion Detection System
- ROP exploits protection
- Security assessment
- Testing Platform
- Training platform

The SMESEC components have been extensively detailed in D6.2 [7] in a dedicated exploitation fiche per component

As part of the value proposition of the SMESEC platform and, in order to solve a customer problem or satisfies a customer needs, the consortium also contemplated the possibility to provide the following additional services:

- **3rd party’s application integration.** SMESEC framework will be available, via API, to external Service Provider’s applications as a marketplace to distribute their cybersecurity components to SMEs. This service will generate synergies for both the consortium and the 3<sup>rd</sup> parties (increase their products visibility and also of
- **SMESEC Hub.** All the information collected by the SMESEC framework components can be put in value by granting access to third parties in order to use that information to increase their analysis capabilities.
- **Training platform.** This framework component provides a wide range of training courses and material that will help SMEs to increase their cybersecurity knowledge but also create awareness among their employees.

### 2.1.1.2 Customer segments

This building block shows the customers segments and a target customer estimation forecast, made to illustrate the business case and based on fair and extremely conservative assumptions. The feedback from our contacts with stakeholder (i.e. SME associations, SMEs and service providers participating in the open call of the project [12]) gave us a rationale to assume the market penetration possibilities of the framework in the current cybersecurity market.

In order to better satisfy customer’s needs, the customers segmentation is based on common needs and commercial approach:

<b>Document name:</b>	D6.5 Business model definition				<b>Page:</b>	13 of 48	
<b>Reference:</b>	D6.5	<b>Dissemination:</b>	PU	<b>Version:</b>	1.0	<b>Status:</b>	Final version

- **Technology providers.** Companies that would like to adopt the Framework as an additional item in their commercial portfolio.
- **Services providers.** A 3<sup>rd</sup> party that will integrate its service in the framework.
- **Direct end users.** Companies that directly will use the framework services for the BAU.

This customer forecast, detailed in Table 2 includes:

- **Target countries.** The forecast includes the target countries for the three years after the end of the project based on the stakeholders contacted by the consortium partners during the project. The approach includes a progressive extension of the countries during the three years
- **Target Industry.** As per the consortium experience, based also in the project pilots both, public and private sector are eligible for using SMESEC framework
- **Target customer type.** Customers included here belong to the horizontal approach explained above in this section.
- **Target final customers (estimation per customer type).** This number represent the forecasted contracts with a final customer (per customer category):
  - **Direct end user.** The consortium has a special focus in this customer segment as the SMEs and the enhancement of their cybersecurity are key objectives of this project. At that respect communication and dissemination activities included discussions with several SMEs associations about the acceptance of SMESEC solution for their affiliates. A conservative estimation of the number of SMEs represented by the contacted associations (e.g. MEDEF [8], ONTPE [9], EU Digital SME alliance, ANIS [16]) is **200k** affiliates .The consortium aims for an achievable market penetration and a quite conservative approach, an assumption of 0,0075, 0,0125 and 0,020 % of the total number of SMEs affiliates for each of the three-year forecast
  - **Service provider.** This customer segment is interesting for the SMSEC consortium as the synergies generated for both, the provider and the consortium will maximize the impact of the cybersecurity offer of the SMESEC framework. The consortium customer target includes 2 new service provider per year.
  - **Technological provider.** The consortium do not consider these big players as important as the SMEs end user due to the vocation of SMESEC to generate an impact in the SMEs community. Nevertheless, any commercial opportunity will be followed.

Concept	Year 1	Year 2	Year 3
<b>Target countries</b>	France, Spain, Greece, Romania,	France, Spain, Greece, Poland, Romania, Switzerland, Denmark	France, Spain, Greece, Poland, Romania, Israel, Switzerland, Netherlands, Denmark,

<b>Document name:</b>	D6.5 Business model definition			<b>Page:</b>	14 of 48
<b>Reference:</b>	D6.5	<b>Dissemination:</b>	PU	<b>Version:</b>	1.0
				<b>Status:</b>	Final version

Target Industry	Private Sector	Public Sector Private Sector	Public Sector Private Sector
Target customer type	1-Technology providers 2-Services providers 3-Direct end users	1-Technology providers 2-Services providers 3-Direct end users	1-Technology providers 2-Services providers 3-Direct end users
Target customers (estimation per customer type)	1-0 2-2 3-15	1-0 2-4 3-40	1-1 2-6 3-80

Table 2: SMESEC framework customer segmentation forecast

This progressive increase of customers is also based on the feedback received from these associations:

- Create awareness and revitalize the cybersecurity topic among end users (assessment on cyberthreats and the potential impact in their organization, webinars, training courses).
- Free initial approach to SMESEC functionalities will lead to an extension of the services needed by the SME's, and therefore adoption of SMESEC framework functionalities in a pay per use program.

All these steps will lead to a wider range of contacts and potential late adopters.

### 2.1.1.3 Channels

As the initial presented in D6.3 [6], the main ways to communicate and contact our potential customers are:

- Own by the consortium: the project website, social media, etc.
- Partner: stores-retail or wholesale, partner's web sites, etc.
- Third parties. External to the project as SMEs associations, other H2020 peer projects websites, etc.

### 2.1.1.4 Customer Relationships

The relationships maintained with our customer segments, as the initial presented in D6.3 [6] should be flexible enough to cover their expectations therefore the consortium should be flexible enough to tailor-made different approaches depending on customer needs:

- Personal assistance. There is a direct interaction between customer and product provider (the consortium or an individual partner).
- Self-service. The customer has at his disposal all means to deploy and operate the SMESEC framework himself.
- Communities. Which allow knowledge and experience exchange between users.
- Co-creation. Enhancing the product functionalities via feedback from customer/users.

<b>Document name:</b>	D6.5 Business model definition			<b>Page:</b>	15 of 48
<b>Reference:</b>	D6.5	<b>Dissemination:</b>	PU	<b>Version:</b>	1.0
				<b>Status:</b>	Final version

### 2.1.1.5 Revenue streams

The revenue streams represent the incomes that the consortium will generate with the commercial activity of the SMESEC framework and can be grouped in:

- One-time. This option is focused on selling or licensing the SMESEC solution to a technology provider interested in commercializing the framework and its components.
- Recurring. Based on a fee structure (subscription, usage) that service provider or end users will pay on a yearly basis

The revenue streams of the SMESEC framework are calculated by the combination of the target final customer forecast and the pricing scheme.

The consortium has generated a pricing scheme based on the aggregation of components in different packages with different functionalities (three packages are described below in this section) and also considering the premium and trial versions of the components to minimise the pricing impact (the lower pricing range include the free/trial version of some components) as part of budget friendly approach of the consortium to the SMEs.

This pricing scheme has been transferred to the customer segments as follows:

- Technology provider. The consortium sells an SMESEC framework licence and the price is generated by adding a margin to the aggregated cost of the components described in the D6.3 [6] with a range of prices from 100k basic to 250k the full version of the framework.
- Services providers. The price paid by this service provider, 4.000€, reflects the maintenance and hosting costs plus a benefit margin. This price is based on a yearly service.
- Direct end users. The pricing range may vary from the lower rank for a limited version of the framework to the full version for the higher price range: 7.500 to 84.000€. This price is based also on a yearly service. This customer segment is key for the SMESEC business model, therefore any customer request related to the pricing structure will be considered case by case in order to accommodate as much as possible any particular customer budget restrictions.

As mentioned before, the three different SMESEC framework packages offered with a different functionality coverage (from basic to full functionality) are:

1. SMESEC Basic. This basic package includes the following tools: CYSEC, EWIS, Training platform, XL-SIEM and Gravity Zone.
2. SMESEC Advance. Extended framework functionality which includes additional SMESEC components to the basic version: Basic + Citrix ADC and Angel Eye
3. SMESEC Full . Framework functionality which includes all SMESEC components: Advance + Anti-Rop and TaaS

The table below shows the customer segment pricing scheme per package:

<b>Document name:</b>	D6.5 Business model definition				<b>Page:</b>	16 of 48	
<b>Reference:</b>	D6.5	<b>Dissemination:</b>	PU	<b>Version:</b>	1.0	<b>Status:</b>	Final version



Target customer	Basic	Advance	Full
1- Technology provider	100.000€	150.000€	250.000€
2- Services providers	4.000€	4.000€	4.000€
3- Direct end users	7.500€	11.000€	84.000€

**Table 3: SMESEC framework pricing structure per package**

With all these data and the target customer's forecast, the consortium's approach to the revenue streams, Table 4, is reflected in a conservative three-year forecast for the three potential target customers segments (i.e. technology provider, services providers and direct end users):

Differential Pricing (Service feature dependent)	Price User/Year	Income Year 1	Income Year 2	Income Year 3
Technology provider	100.000€/per TP/per year	0€	0€	100.00€
Services providers	4.000€/per SP/per year	8.000€	16.000€	24.000€
Direct end users	7.500€/DU/per year	112.500€	300.000€	600.000€
<b>Total</b>		<b>120.500€</b>	<b>316.000€</b>	<b>724.000€</b>

**Table 4: SMESEC framework revenue streams Y1-Y3**

During the open call activities [12] [13], participants fulfilled a survey in which financial questions were also included. The answers about the price gave a range of "budget affordable prices" that vary, depending on the organization and its dimension and specific needs, from 400 to 10.000€ per year.

These prices are related to individual functionalities each organization were interested to have, not a complete package. Based on these answers the consortium assumes its pricing structure approach can be attractive for the end users.

#### 2.1.1.6 Key activities

This building block, as the initial presented in D6.3 [6], lists the most important actions to be conducted in order to make viable this model:

- Market Analysis/Presales
- Dissemination / Awareness
- Consulting (Market Analysis, GAP analysis, Customization,)
- Integration / Implementation
- Training

#### 2.1.1.7 Key Resources

The main resources involved to support the value propositions, as the initial presented in D6.3 [6], are :

- Persons (who are going to deliver the value proposition itself)

<b>Document name:</b>	D6.5 Business model definition			<b>Page:</b>	17 of 48
<b>Reference:</b>	D6.5	<b>Dissemination:</b>	PU	<b>Version:</b>	1.0
				<b>Status:</b>	Final version

- Knowledge (brands, patents, copyrights...)
- Software/Hardware (specific SMESEC components)
- Economic/Finance (credit lines, grants...)

#### 2.1.1.8 Key Partners

The group of partners (or collaborators) that can make the business model work have to include among others:

- Public/Semipublic sector
  - EC (European Commission)
  - FORTH
- Private sector
  - ATOS
  - EGM
  - WOLDSENSING
  - IBM
  - GRIDPOCKET
  - BITDEFENDER
  - CITRIX
  - SCYTL
  - SMESEs associations
- Academic sector
  - UoP
  - UU
  - FHNW

#### 2.1.1.9 Cost Structure

The cost structure approach is based on an effort dedication in PM (6.500€/per month) based on the average wage of the consortium partners, updated with the consumer price index (CPI) and the specific activities needed to run the SMESEC Framework. This forecast includes both operational and capital costs (OPEX : an expense required for the day-to-day functioning of a business. CAPEX: an expense a business incurs to create a benefit in the future).

The different cost elements considered, which include consulting services, marketing activities, integration and deployment, maintenance activities, and hosting in cloud providers (to reduce costs), are described in the table below:

<b>Document name:</b>	D6.5 Business model definition				<b>Page:</b>	18 of 48	
<b>Reference:</b>	D6.5	<b>Dissemination:</b>	PU	<b>Version:</b>	1.0	<b>Status:</b>	Final version

ID	Cost Element	Description	Type (CAPEX/OPEX)	Y1	Y2	Y3
<b>C.1</b>	<b>IT Platform Implementation Costs</b>			<b>€ 23.400</b>	<b>€ 46.800</b>	<b>€ 70.200</b>
C.1.0	Customer integration	Analysis, Design, Development, Testing, Deployment and Roll-out of the Platform + Contingencies	CAPEX	€ 23.400 0,3PM	€ 46.800 0,6PM	€ 70.200 0,9PM
C.1.1	HW Procurement	HW Costs to be sustained (Eventual backup systems implementation costs have to be considered to guarantee a high level of reliability). (If a Cloud-based solution is chosen you should not fill this field and see C.2.1)	CAPEX	€ -	€ -	€ -
C.1.2	SW Procurement	SW Costs to be sustained (If a Cloud based solution is chosen you should not fill this field and see C.2.1)	CAPEX	€ -	€ -	€ -
<b>C.2</b>	<b>IT Platform Operating Costs</b>			<b>€ 81.600</b>	<b>€ 134.700</b>	<b>€ 192.300</b>
C.2.1	Infrastructure Costs (Infrastructure/Software Usage Fee in case of IAAS/SAAS)	Facilities, Hosting, Personnel, Service Desks Support (Infrastructure/Software Usage Fee in case of IAAS/SAAS)	OPEX	€ 27.000	€ 45.000	€ 67.500
C.2.2	IT Help Desk Support	Cost for maintain a Help Desk Support (from first to third support level)	OPEX	€ -	€ -	€ -
C.2.3	HW Maintenance	This field should be skipped in case of Cloud-based solution	OPEX	€ -	€ -	€ -
C.2.4	SW Maintenance	Development in software components after deployment/integration	OPEX	€ 19.500 0,25PM	€ 31.200 0,4PM	€ 39.000 0,5PM
C.2.5	SW Corrective	Software correction after errors identification	OPEX	€ 15.600 0,2PM	€ 31.200 0,4PM	€ 46.800 0,6PM
C.2.6	Operating costs	Framework operations personnel	OPEX	€ 19.500 0,25PM	€ 27.300 0,35PM	€ 39.000 0,5PM
<b>C.3</b>	<b>Business Operating Costs</b>			<b>€ 19.500</b>	<b>€ 39.000</b>	<b>€ 58.500</b>
C.3.1	Business Integration	Definition and implementation of Commercial Agreements with users (consider also a technical analysis of feasibility to be performed in the negotiation process)	OPEX	€ 19.500 0,25PM	€ 39.000 0,5PM	€ 58.500 0,75PM
C.3.2	Archive Maintenance	Documents, logs and other data to be stored for regulatory, fiscal purposes (if any)	OPEX	€ -	€ -	€ -

<b>Document name:</b>	D6.5 Business model definition			<b>Page:</b>	19 of 48
<b>Reference:</b>	D6.5	<b>Dissemination:</b>	PU	<b>Version:</b>	1.0
				<b>Status:</b>	Final version

C.4	Marketing and Distribution Costs			€ 5.000	€ 7.000	€ 10.000
C.4.1	Marketing Activities	Marketing activities to sustain customer acquisition campaigns. (Service Providers)	CAPEX	€ 5.000	€ 7.000	€ 10.000
C.4.2	Distribution Costs	Costs to be sustained to reach the target customers (cover the five-dimension phases of distribution channels)	OPEX	€ -	€ -	€ -
	<b>Total CAPEX</b>			<b>€ 28.400</b>	<b>€ 53.800</b>	<b>€ 80.200</b>
	<b>Total OPEX</b>			<b>€ 101.100</b>	<b>€ 173.700</b>	<b>€ 250.800</b>
	<b>TOTAL COSTS/YEAR</b>			<b>€ 129.500</b>	<b>€ 227.500</b>	<b>€ 331.000</b>
	<b>Total COSTS CUMULATIVE</b>			<b>€ 129.500</b>	<b>€ 357.000</b>	<b>€ 688.000</b>

**Table 5: SMESEC framework cost structure Y1-Y3**

The total figures aggregate the opex / capex costs. The total cost year represents the aggregate figure of opex and capex costs per year. The total costs accumulative aggregate the total costs till and specific year (e.g. cumulative year 3 =total cost year 1+ year 2+ year 3)

### 2.1.1.10 Conclusions

The main conclusions can be seen in the below in Table 6. This three-year forecast shows the financial sustainability of the exploitation of the project results from a cost/benefit perspective. Incomes described in Table 4 and costs in Table 5 are used to identify the breakeven point (point where total revenues of a product are equal to the total costs) will occur early in year 2. It also provides inputs for the calculation of another financial ratio, the Return on Investment (ROI measures the amount of return on a particular investment compared with the cost invested to obtain it).

This approach is also based on the consideration that the heavy weight of the initial costs (development and testing) has been already carried out during the project lifecycle and the investment has not been considered as part of the cost structure of the sustainability phase.

All figures are fair assumptions based on the information provided by project partners related to their personnel costs and stakeholder related to their price expectations (e.g. association feedback during dissemination and communication activities, open call surveys [12]).

Concept	Y1	Y2	Y3
<b>Total Income</b>	<b>120.500€</b>	<b>316.000€</b>	<b>724.000€</b>
<b>Total Costs</b>	<b>€ 129.500</b>	<b>€ 227.500</b>	<b>€ 331.000</b>
<b>ROI (Return on Investment)</b>	<b>-7%</b>	<b>38,9%</b>	<b>118,7%</b>
<b>Breakeven point/Year</b>		<b>Y2</b>	

**Table 6: SMESEC framework Business model indicators**

<b>Document name:</b>	D6.5 Business model definition			<b>Page:</b>	20 of 48
<b>Reference:</b>	D6.5	<b>Dissemination:</b>	PU	<b>Version:</b>	1.0
				<b>Status:</b>	Final version

## 2.2 SMESEC Pilots’ sustainability approach

The SMESEC pilots have provided evidences about how consortium outcomes can fortify different types of SMEs operating in a range of market sectors with a variety of services provided to their existing customers. These evidences are reflected in the added value that pilots can provide to their existing customers (and also extending it to new customer segments) but also in the financial sustainability, reflected in the cost and revenue stream described in detail in the following subsections.

Consortium pilots are in a position at this later stage of the project to adopt in their current service portfolio the SMESEC developments and extend their current offering with an extra layer of cutting-edge cybersecurity functionalities.

Regardless of any join approach, the pilots’ initial positioning to the business model is based on a **Value-Added Service (VaS)** model to their existing product and service portfolio in their respective domain: e-Voting, Smart-City, Industrial IoT and Smart Grids.

VaS value added service key characteristics [3] can be summarized as follows:

- Focused Primarily on **Customer Needs**. Value added services must be focused primarily on customer need.
- **Duration** Based on Need. Value added services may be either one-time or ongoing in nature.
- Are **Timely**. While timing on some offerings may vary, they always have their greatest value at a particular point in time.
- They **Lead to More**. Well-built VAS offerings pull (or include) additional products or services as well.
- Showcases Your **Expertise**. Good value-added services tend to position your team as “problem solvers”.
- Drives **New products / services**. May result in the development of new product or services.

### 2.2.1 Scytl Business Model Canvas (e-Voting)

The following sub-section describes the Scytl approach to the business model and the impact of the different building blocks of the Canvas model.

The following building blocks descriptions are based on Scytl’s assumptions related to market penetration and customer acceptance and try to reflect in a fair manner the commercial viability of the Value-added services (VAS) to the existing services portfolio of the company.

#### 2.2.1.1 Value proposition

SMESEC will provide the security layer for hardening, monitoring, attack detection and prevention as well as a method to ensure the availability of the election process. The integration of both technologies will provide a joint solution that will allow entities with limited budget to implement secure online voting processes with the highest levels of security, availability and transparency. Moreover, SMESEC will

<b>Document name:</b>	D6.5 Business model definition			<b>Page:</b>	21 of 48
<b>Reference:</b>	D6.5	<b>Dissemination:</b>	PU	<b>Version:</b>	1.0
				<b>Status:</b>	Final version

address the requirement for last minute code and service modifications to meet the peculiarities of each specific voting process.

### 2.2.1.2 Customer Segment

SMESEC will be sold to online voting customers including Government bodies at national, regional and local levels as well as non-government organizations such as associations, universities, political parties or unions. As the sales channels could imply selling through resellers that would have online voting installed in their premises, partners have also been considered as potential customers for SMESEC.

Concept	Year 1	Year 2	Year 3
<b>Target countries</b>	France, Spain, Italy, Finland, US, Canada, Brazil, Colombia, Australia	France, UK, Spain, Italy, Finland, Norway, Germany, Holland, Belgium, US, Canada, Brazil, Colombia, Chile, Mexico, Argentina, Peru, Uruguay, Australia, New Zealand	France, UK, Spain, Italy, Finland, Norway, Germany, Holland, Belgium, US, Canada, Brazil, Colombia, Chile, Mexico, Argentina, Peru, Uruguay, Australia, New Zealand
<b>Target Industry</b>	Public Sector Private Sector	Public Sector Private Sector	Public Sector Private Sector
<b>Target customer type</b>	<ul style="list-style-type: none"> <li>• Governments</li> <li>• Universities</li> <li>• Associations</li> <li>• Political Parties</li> <li>• Unions</li> <li>• Partners</li> </ul>	<ul style="list-style-type: none"> <li>• Governments</li> <li>• Universities</li> <li>• Associations</li> <li>• Political Parties</li> <li>• Unions</li> <li>• Partners</li> </ul>	<ul style="list-style-type: none"> <li>• Governments</li> <li>• Universities</li> <li>• Associations</li> <li>• Political Parties</li> <li>• Unions</li> <li>• Partners</li> </ul>
<b>Target final customers (estimation)</b>	49	104	251

**Table 7: ScytI customer segmentation forecast**

### 2.2.1.3 Distribution channels

The SMESEC toolkit will be offered as a bundle to current online voting offering. It is not aimed at being offered as a standalone product.

SMESEC will integrate seamlessly to currently available online voting solutions, providing an added value to their providers.

<b>Document name:</b>	D6.5 Business model definition			<b>Page:</b>	22 of 48
<b>Reference:</b>	D6.5	<b>Dissemination:</b>	PU	<b>Version:</b>	1.0
				<b>Status:</b>	Final version

SMESEC will be sold either directly by online voting providers or through reseller agreements they may already have with 3<sup>rd</sup> parties.

#### 2.2.1.4 Customer Relationships

Governments and private sector organizations are increasingly concerned about cyber-security threats and are releasing funds to increase their protection against these risks. As an example, the US Government has recently made available \$380M to States to improve the security of their election systems.

Also, security has been seen as an accelerator of digital transformation: since 2016 an increasing number of organisations across many industries have recognized the potential of cybersecurity to enable their move to become digital businesses. While this trend started with Fintech businesses, it has now reached any type of organization willing to adopt online processes and online voting is part of them.

Therefore, SMESEC is seen as a clear added value to any customer willing to embrace online voting as part of their digital transformation. SMESEC would therefore be sold as a premium toolkit.

#### 2.2.1.5 Revenue streams

The SMESEC toolkit will be offered as a bundle to current online voting offering, with a 20% price increase to the usual pricing of the online voting platform.

The following table describes the revenue during the Y3 forecast of the business model:

	2017 - 2020	2020		2021		2022	
		# Projects	Revenue	# Projects	Revenue	# Projects	Revenue
<b>Revenue</b>		<b>19</b>	<b>1,225,000</b>	<b>43</b>	<b>2,600,000</b>	<b>87</b>	<b>6,275,000</b>
Europe		19	475,000	43	1,075,000	87	2,175,000
<i>France</i>		5	125,000	10	250,000	15	375,000
<i>UK</i>		-	-	2	50,000	5	125,000
<i>Spain</i>		12	300,000	20	500,000	25	625,000
<i>Italy</i>		1	25,000	4	100,000	5	125,000
<i>Norway</i>		-	-	2	50,000	10	250,000
<i>Finland</i>		1	25,000	1	25,000	2	50,000
<i>Germany</i>		-	-	2	50,000	15	375,000

<b>Document name:</b>	D6.5 Business model definition				<b>Page:</b>	23 of 48	
<b>Reference:</b>	D6.5	<b>Dissemination:</b>	PU	<b>Version:</b>	1.0	<b>Status:</b>	Final version

<i>Holland</i>	-	-	1	25,000	5	125,000
<i>Belgium</i>	-	-	1	25,000	5	125,000
<b>North America</b>		425,000		625,000		2,125,000
<i>United States</i>	2	50,000	5	125,000	35	875,000
<i>Canada</i>	15	375,000	20	500,000	50	1,250,000
<b>Latin America</b>		300,000		775,000		1,675,000
<i>Chile</i>	-	-	1	25,000	2	50,000
<i>Mexico</i>	-	-	2	50,000	3	75,000
<i>Brazil</i>	10	250,000	20	500,000	44	1,100,000
<i>Colombia</i>	2	50,000	4	100,000	8	200,000
<i>Argentina</i>	-	-	1	25,000	2	50,000
<i>Uruguay</i>	-	-	2	50,000	6	150,000
<i>Peru</i>	-	-	1	25,000	2	50,000
<b>Asia Pacific</b>		25,000		125,000		300,000
<i>Australia</i>	1	25,000	4	100,000	10	250,000
<i>New Zealand</i>	-	-	1	25,000	2	50,000
% Price increase due to SMESEC		20%				
<b>\$ Price increase due to SMESEC</b>		<b>245,000</b>		<b>520,000</b>		<b>1,255,000</b>

**Table 8: ScytI revenue streams Y1-Y3**

### 2.2.1.6 Key activities

In order to ensure widespread adoption of the SMESEC toolkit among key customers and partners, several activities are to be considered:

<b>Document name:</b>	D6.5 Business model definition				<b>Page:</b>	24 of 48
<b>Reference:</b>	D6.5	<b>Dissemination:</b>	PU	<b>Version:</b>	1.0	<b>Status:</b> Final version



- **Dissemination / Awareness**

Communication will be a key activity to raise awareness on the SMESEC toolkit and generate demand:

- *Landing page / microsite*  
Considering that the SMESEC will be offered as a bundle to current online voting offering, the creation of a landing page or microsite linked to existing online voting provider webpages is recommended. This will provide visibility on the toolkit, raise awareness about its functionalities and benefits while making it clear that the toolkit is not to be sold as a standalone product. The landing page or microsite should be made available in several languages.
- *Promotional material*  
Promotional material in the form of brochure and PowerPoint presentation should also be considered. This would allow the sales force to easily communicate on the toolkit's features and benefits and share information off-line to potential customers.
- *Communication through media and social media*  
Also, the SMESEC toolkit should be promoted through media and social media as additional measures that secure online voting processes. Campaigns should then be carried out in each target country. Considering the customer profiles listed previously, social media campaigns should focus on Twitter and LinkedIn while media campaigns should focus on main media as well as technological media.  
The opportunity with media and social media campaigns will be to gain visibility with new audiences, who may not have heard of SEMSEC otherwise.
- *Campaign addressed to current and future potential partners*  
The SMESEC toolkit should also be promoted through marketing campaigns to current and potential online voting customers as well as partners. These campaigns should be carried out via email to existing contact databases.
- *Search Engine Optimization (SEO)*  
In order to boost traffic from search engines, implementing a proper SEO campaign and strategy will be a must. This will imply optimizing for mobile devices and targeting strategic niche keywords phrases.
- *Promotion through events*  
While event participation should not be planned to specifically promote SMESEC, online voting vendors and their partners should leverage the events they plan to attend to promote SMESEC as a bundle to their offering.

### 2.2.1.7 Key Resources

In order to be able to provide our customers with our solutions enhanced with SMESEC framework, the following resources will be needed:

- Human resources: different teams in the company need to be involved in order disseminate the benefits of the framework, contact possible costumers, define the specific solution to each costumer, deploy it and use it:
  - Marketing team

<b>Document name:</b>	D6.5 Business model definition				<b>Page:</b>	25 of 48	
<b>Reference:</b>	D6.5	<b>Dissemination:</b>	PU	<b>Version:</b>	1.0	<b>Status:</b>	Final version

- Sales team
- Delivery team
- Product team
- IT team
- Software/Hardware:
  - ATOS XL-SIEM agent
  - Citrix Netscaler
  - Forth Honey Pots
  - IBM AngelEye
  - 5 AWS Instances

### 2.2.1.8 Key Partners

- Public/Semi-public sector
  - FORTH
- Private sector
  - ATOS
  - IBM
  - CITRIX

For the online voting itself, following potential partnerships are being negotiated:

- Kanto (UK)
- Carvajal (Colombia)
- Union Calling (Canada)
- Idox (UK)
- Winkhardt Spinder (Germany)

### 2.2.1.9 Cost Structure

The SMESEC toolkit will be offered as a bundle to current online voting offering. Therefore, costs considered in this building block are the extra delivery costs (additional costs to those necessary to deploy our voting platform) to deploy SMESEC framework.

	2017 - 2020	2020	2021	2022
<b>Extra Delivery costs</b>		<b>(100,000)</b>	<b>(145,400)</b>	<b>(259,800)</b>
Licences		(16,000)		
Maintenance		(1,000)		
Staff		(49,400)	(111,800)	(226,200)
Hosting		(33,600)	(33,600)	(33,600)
<b>Sales and Marketing</b>		<b>(62,500)</b>	<b>(111,000)</b>	<b>(170,500)</b>
Staff dedication		(47,500)	(86,000)	(130,500)

<b>Document name:</b>	D6.5 Business model definition			<b>Page:</b>	26 of 48
<b>Reference:</b>	D6.5	<b>Dissemination:</b>	PU	<b>Version:</b>	1.0
				<b>Status:</b>	Final version

Campaigns allocation (15,000) (25,000) (40,000)

**General and Administration (23,750) (43,000) (65,250)**

Staff allocation (23,750) (43,000) (65,250)

**Table 9:Scytl cost structure Y1-Y3**

Assumptions:

License			
Upfront	16,000 €		
Maintenance (Y1)	1,000 €		
Variable:			
Staff	2,600 €	x election	
AWS	2,800 €	x month	
- Deployment and configuration of internal and external Honeypots:			4
- Deployment and configuration of NetScaler:			8
- Deployment and configuration of XL-SIEM agent:			2
- Configuration of syslog redirection to XL-SIEM agent:			4
- Training of AngelEye: 32h per IV-API release			32
- Configuration of AngelEye in NetScaler:			2
- Cost x hour	50 €	<b>Total hours</b>	<b>52</b>

**Table 10:Cost assumptions for the e-Voting pilot**

### 2.2.1.10 Conclusions

As a result of those estimations of costs, revenues and customer forecasting, the breakeven of the project will occur in Y3, considering the initial costs (development and testing) carried out during the three years of the project.

If this initial investment is not taken into account, the breakeven of the project is already achieved in Y1 of the project.

	2017 - 2020	2020	2021	2022
		Revenue	Revenue	Revenue
% Price increase due to SMESEC		20%		
<b>\$ Price increase due to SMESEC</b>		<b>245,000</b>	<b>520,000</b>	<b>1,255,000</b>
<b>Extra Delivery costs</b>		<b>(100,000)</b>	<b>(145,400)</b>	<b>(259,800)</b>
Licences		(16,000)		
Maintenance		(1,000)		
Staff		(49,400)	(111,800)	(226,200)

<b>Document name:</b>	D6.5 Business model definition			<b>Page:</b>	27 of 48
<b>Reference:</b>	D6.5	<b>Dissemination:</b>	PU	<b>Version:</b>	1.0
				<b>Status:</b>	Final version

Hosting	(33,600)	(33,600)	(33,600)
<b>Sales and Marketing</b>	<b>(62,500)</b>	<b>(111,000)</b>	<b>(170,500)</b>
Staff dedication	(47,500)	(86,000)	(130,500)
Campaigns allocation	(15,000)	(25,000)	(40,000)
<b>General and Administration</b>	<b>(23,750)</b>	<b>(43,000)</b>	<b>(65,250)</b>
Staff allocation	(23,750)	(43,000)	(65,250)
<b>R&amp;D development</b>	<b>(432,500)</b>		
<b>Net result</b>	<b>(432,500)</b>	<b>58,750</b>	<b>220,600</b>
<b>Net result - accumulated</b>	<b>(432,500)</b>	<b>(373,750)</b>	<b>(153,150)</b>

**Table 11:Scytl business model indicator**

## 2.2.2 UoP Business Model Canvas

### 2.2.2.1 Value proposition

The current services portfolio provided to municipalities by sense.city has been expanded (e.g. services for people with special needs) which also involve diverse public institutions, from municipalities, as mention before, but also other emergency services like the fire or police departments.

All these new features increase the commercial offer of sense.city platform which implicitly demands a higher security benchmark.

SMESEC consortium has provided UOP with a cybersecurity toolkit that enhances its sense.city platform’s cyberthreat resilience.

Pillars (main functionalities)	Additional services
<ul style="list-style-type: none"> <li>SMESEC toolkit</li> </ul>	<ul style="list-style-type: none"> <li>Awareness creation</li> <li>Consulting</li> <li>Training</li> </ul>

**Table 12: SMESEC functionalities in sense.city**

### 2.2.2.2 Customer Segment

Sense.city is a platform which allows citizens report to their municipalities problems they face in their everyday life in their city. There are many similar platforms from which Greek municipalities can choose to communicate and receive their citizens’ requests. Based on this observation, the sense.city team implemented a new service which can be provided as standalone, but also as a full package with the sense.city. This service is called “Safe AMEA” and allows municipalities to locate people with special needs and inform emergency services in case of a critical situation. This new service seems to be a game

<b>Document name:</b>	D6.5 Business model definition			<b>Page:</b>	28 of 48
<b>Reference:</b>	D6.5	<b>Dissemination:</b>	PU	<b>Version:</b>	1.0
				<b>Status:</b>	Final version

changer and has drawn a lot of attention from the Greek municipalities. Already even before the official release of the “Safe AMEA” service, two new municipalities adopted sense.city and one has made contact to evaluate the platform. SMESEC security framework plays a significant role for the security of these services and the sensitive data (especially for people with special needs) they host.

Concept	Year 1	Year 2	Year 3
<b>Target countries</b>	Greece	Greece	Greece, Italy, Spain
<b>Target Industry</b>	Public Sector	Public Sector	Public Sector Private Sector
<b>Target customer type</b>	1-Services providers (municipalities)	2-Services providers (municipalities)	2-Services providers (municipalities) 3-Direct end users (developers)
<b>Target final users (estimation)</b>	1- 4 SP (6.000 users)	1- 8- SP (10.000 users)	1- 15- SP (>20.000 users) 2- 10 DEU

Table 13:sense.city customer

segmentation forecast

### 2.2.2.3 Distribution channels

Main channels to distribute the sense.city will be:

#### B2c (Business to customer)

- **Website:** sense.city is and will be provided to the municipalities as a service through its website and mobile app for android and iOS.
- **Open data, Open source:** sense.city will provide open access to developers

### 2.2.2.4 Customer Relationships

The main relationship with the customer will be carried out via:

- **Personal assistance and service support:** For sense.city municipalities communicate with the sense.city creators/developers through emails in order to report problems with the service. Special sessions at customers premises for training are implemented per se. End users can communicate with the sense.city service and their municipalities via email or through a reporting system in the app. A helpdesk line does not exist at the moment since there is no any evidence of its usefulness.

<b>Document name:</b>	D6.5 Business model definition			<b>Page:</b>	29 of 48
<b>Reference:</b>	D6.5	<b>Dissemination:</b>	PU	<b>Version:</b>	1.0
				<b>Status:</b>	Final version

This initial approach can be accommodated to the needs identified during the interaction with future customers

### 2.2.2.5 Revenue streams

Main revenue stream approach will come from Fee structure (subscription, usage, broker, etc.) or licensing although the option to sell components could be considered if a commercial opportunity pops up.

The following table describes the pricing differentiation per customer and the revenue during the Y3 forecast of the business model:

Scenario 1: Differential Pricing (Service feature dependent)	Price User/Year	Year 1	Year 2	Year 3
1- Services providers 2- Direct end users	1- 3.000€/per SP/per year 2- free	1- 12.000€	1- 24.000€	1- 45.000€

**Table 14: sense.city revenue streams Y1-Y3**

### 2.2.2.6 Key activities

The main activities to be conducted by UoP in order to maximize the market penetration and attract new municipalities to its commercial are include among others:

- Dissemination / Awareness creation
- Marketing and Presales
- Consulting (Market Analysis, GAP analysis, Customization, etc.)
- Integration / Implementation
- Training

### 2.2.2.7 Key Resources

The critical resources that are needed to carry out the daily activities are, among others:

- Persons (who are going to deliver the value proposition itself)
- Knowledge (brands, patents, copyrights...)
- Software/Hardware (specific SMESEC components)
- Economic/Finance (credit lines, grants, etc.)

### 2.2.2.8 Key Partners

The main partners that are going to interact in this model include among others:

- Public/Semi-public sector
  - EC (European Commission)
  - FORTH
  - Greek Municipalities
- Private sector

<b>Document name:</b>	D6.5 Business model definition			<b>Page:</b>	30 of 48
<b>Reference:</b>	D6.5	<b>Dissemination:</b>	PU	<b>Version:</b>	1.0
				<b>Status:</b>	Final version

- ATOS
- EGM
- IBM
- CITRIX
- Academic sector
  - UoP
  - FHNW
  - UU

### 2.2.2.9 Cost Structure

The Cost Structure describes all costs incurred to operate business activities.

This building block represents the economic expenditure to be carried out by the consortium to run a new business operation including a range of expenditure items such as **Capex** (Capital expense, investment regardless of the volume produced) and **Opex** (Operating expense heavily dependent on the volume of output generated):

ID	Cost Element	Description	Type (CAPEX/OPEX)	Y1	Y2	Y3
<b>C.1</b>	<b>IT Platform Implementation Costs</b>			<b>€ 5.000</b>	<b>€ 5.000</b>	<b>€ 5.000</b>
C.1.0	System Integration (Platform - ID Providers)	Analysis, Design, Development, Testing, Deployment and Roll-out of the MPAS Platform + Contingencies	CAPEX	€ 5.000	€ 5.000	€ 5.000
C.1.1	HW Procurement	HW Costs to be sustained (Eventual backup systems implementation costs have to be considered to guarantee a high level of reliability). (If a Cloud-based solution is chosen you should not fill this field and see C.2.1)	CAPEX	€ -	€ -	€ -
C.1.2	SW Procurement	SW Costs to be sustained (If a Cloud based solution is chosen you should not fill this field and see C.2.1)	CAPEX	€ -	€ -	€ -
<b>C.2</b>	<b>IT Platform Operating Costs</b>			<b>€ 5.500</b>	<b>€ 9.000</b>	<b>€ 12.500</b>
C.2.1	Infrastructure Operation Costs (Infrastructure/Software Usage Fee in case of IAAS/SAAS)	Facilities, Hosting, Personnel, Service Desks Support (Infrastructure/Software Usage Fee in case of IAAS/SAAS)	OPEX	€ 5.000	€ 7.500	€ 10.000
C.2.2	IT Help Desk Support	Cost for maintain a Help Desk Support (from first to third support level)	OPEX	€ -	€ -	€ -

<b>Document name:</b>	D6.5 Business model definition			<b>Page:</b>	31 of 48
<b>Reference:</b>	D6.5	<b>Dissemination:</b>	PU	<b>Version:</b>	1.0
				<b>Status:</b>	Final version

C.2.3	HW Maintenance	This field should be skipped in case of Cloud-based solution	OPEX	€ -	€ -	€ -
C.2.4	SW Maintenance	Development in software components after deployment/integration	OPEX	€ -	€ -	€ -
C.2.5	SW Evolution	Software correction after errors identification	OPEX	€ 500	€ 1500	€ 2500
C.2.6	Connectivity costs	Connectivity related costs (redundancy, different paths and providers, etc)	OPEX	€ -	€ -	€ -
<b>C.3</b>	<b>Business Operating Costs</b>			<b>€ 20.000</b>	<b>€ 25.000</b>	<b>€ 30.000</b>
C.3.1	Business Integration (Service Providers)	Definition and implementation of Commercial Agreements with Service Providers (consider also a technical analysis of feasibility to be performed in the negotiation process)	OPEX	€ 10.000	€ 15.000	€ 20.000
C.3.2	Archive Maintenance	Documents, logs and other data to be stored for regulatory, fiscal purposes (if any)	OPEX	€ 10.000	€ 10.000	€ 10.000
<b>C.4</b>	<b>Marketing and Distribution Costs</b>			<b>€ 500</b>	<b>€ 1.000</b>	<b>€ 2.500</b>
C.4.1	Marketing Activities	Marketing activities to sustain customer acquisition campaigns. (Service Providers)	CAPEX	€ 500	€ 1.000	€ 2.500
C.4.2	Distribution Costs	Costs to be sustained to reach the target customers (cover the five-dimension phases of distribution channels)	OPEX	€ -	€ -	€ -
	<b>Total CAPEX</b>			<b>€ 5.500</b>	<b>€ 6.000</b>	<b>€ 7.500</b>
	<b>Total OPEX</b>			<b>€ 25.500</b>	<b>€ 34.000</b>	<b>€ 42.500</b>
	<b>TOTAL COSTS/YEAR</b>			<b>€ 31.000</b>	<b>€ 40.000</b>	<b>€ 50.000</b>
	<b>Total COSTS CUMULATIVE</b>			<b>€ 31.000</b>	<b>€ 71.000</b>	<b>€ 121.000</b>

**Table 15: sense.city cost structure Y1-Y3**

Sense.city business approach is to become an independent company as soon as the financial sustainability is guaranteed. During this transition period, part of the operational costs (mainly employees' wages) will be supported by UoP as part of the incubator activity to promote and create Start-ups and spin-offs. Therefore, the figure reflected in this cost structure just shows the costs directly related to the new organization at this point. As the independence will occur, as we mentioned, once the financial sustainability could be real, we state that a 50% of costs are assumed by the UoP. This % will decrease after this transition period and the start-up will be financially independent.

<b>Document name:</b>	D6.5 Business model definition			<b>Page:</b>	32 of 48
<b>Reference:</b>	D6.5	<b>Dissemination:</b>	PU	<b>Version:</b>	1.0
				<b>Status:</b>	Final version



### 2.2.2.10 Conclusions

As a result of those estimations of costs, revenues and customer forecasting, the breakeven of the project will occur in Y3-Y4. The main conclusion can be seen in the below, this three-year forecast shows how the new start-up will reach the financial sustainability between years three and four from a cost/benefit perspective.

As it has been mentioned the new organization (start-up) will become more and more independent from the UoP as soon as revenue stream facilitate its financial independence.

Concept	Y1	Y2	Y3
<b>Total Income</b>	€ 12.000	€ 24.000	€ 45.000
<b>Total Costs</b>	€ 31.000	€ 40.000	€ 50.000
<b>ROI (Return on investment)</b>	-60%	-40%	-10%
<b>Breakeven point/Year</b>			<b>Between Y3-Y4</b>

Table 16:sense.city Business model indicator

## 2.2.3 GridPocket Business Model Canvas

### 2.2.3.1 Value proposition

SMESEC provides robust tools for protection against cyber threats. Therefore, the added value it's providing to our company and users also consists of several different aspects. First, and probably the most important one is training and awareness in the cybersecurity field, provided to GridPocket's employees.

Another important aspect of SMESEC added value for our company is ability to discover and solve vulnerabilities occurring in our products and inside our inner network. It is solving security problems we weren't aware of and preventing potential future breach or data leaks. Moreover, besides protection,

SMESEC framework provides us several means to response for possible cyber threats. All these aspects combined together create the most important for GridPocket value – reliability and credibility. Thanks to it, our customers can be sure, that information they entrust us, are in safe hands.

SMESEC might be commercialised by GridPocket as part of its **PowerVAS solution** to energy distribution and commercialisation companies. In fact, small and medium size utilities **lack internal competences on IT security**. Currently, some utilities are consulting GridPocket in order to understand better how to secure their IT systems.

<b>Document name:</b>	D6.5 Business model definition				<b>Page:</b>	33 of 48	
<b>Reference:</b>	D6.5	<b>Dissemination:</b>	PU	<b>Version:</b>	1.0	<b>Status:</b>	Final version

### 2.2.3.2 Customer Segment

The main targeted groups and an estimation of the customers for a three years period is described in the table below:

Concept	Year 1	Year 2	Year 3
<b>Target countries</b>	France	France	France
<b>Target Industry</b>	Private Sector	Private Sector	Private Sector
<b>Target customer type</b>	2-Services providers	2-Services providers	2-Services providers
<b>Target final users (estimation)</b>	2- 1 SP (5.000 users)	2- 2- SP (7.500 users)	2- 3 SP (10.000 users)

**Table 17: Gridpocket customer segmentation forecast**

### 2.2.3.3 Distribution channels

Main channels to distribute the toolkit will be:

- **Partner** (from stores-retail or wholesale- to partner's web sites)  
GridPocket do not have resources to allocate in framework distribution, it's not our main product, so It will be distributed by our partners.  
In same case, GridPocket might propose the platform to energy service providers directly as part of its offer.

This initial approach can be accommodated to the needs identified during the interaction with future customers among this wider range of distribution channels:

#### **B2b** (Business to business)

- **VAS:** SMESEC framework generates value-added service to our main product addressed to utility companies. It makes our product more secure and reliable, and assures our customers that we can protect their data
- **Bundle:** The SMESEC framework is bundled with our main product, PowerVAS. It works seamlessly, protecting our application without notifying end users.
- **Open sourcing:** Providing as open source one part of the functionalities of the framework can help increase the number of people (or companies) using the framework. These people will be willing to pay more for more protection, and then to use much more functionalities.

<b>Document name:</b>	D6.5 Business model definition			<b>Page:</b>	34 of 48
<b>Reference:</b>	D6.5	<b>Dissemination:</b>	PU	<b>Version:</b>	1.0
				<b>Status:</b>	Final version

### 2.2.3.4 Customer Relationships

Our customers' expectations related to the relationship with our company, require constant balancing between their high needs, and our limited resources. Our customers require good, but not too expensive solutions, while we as a company want to deliver state-of-the-art products, which sometimes require high workload, and therefore bigger expenses on the GridPocket's side.

The main relationship with the customer will be carried out via:

- **Automated services:** We don't provide any direct communication channel for our end users, but we provide automated services to our customers, allowing us to communicate with them, such as email newsletters and text messages.
- **Communities:** GridPocket is open for suggestions on the subject of improving the framework. We consider seriously each opinion from our customer, that may help us improve it, or fix some problem.
- **Personal assistance for our customer:** We provide personal assistance for our direct customers, which are utilities. Our employees are in constant contact with the customer agents, allowing them to participate in the process of development of the product, from the very beginning to its finalization.

This initial approach can be accommodated to the needs identified during the interaction with future customers

### 2.2.3.5 Revenue streams

Main revenue stream approach will come from Fee structure (subscription, usage, broker, etc.) or licensing although the option to sell components could be considered if a commercial opportunity pops up.

The following table describes the pricing differentiation per customer and the revenue during the Y3 forecast of the business model:

Scenario 1: Differential Pricing (Service feature dependent)	Price Utility/Year	Year 1	Year 2	Year 3
Services providers	40.000€/per utility/year	40.000€	160.000€	320.000€

**Table 18: Gridpocket revenue Stream Y1-Y3**

### 2.2.3.6 Key activities

The main activities to be conducted are, among others:

- Dissemination / Awareness
- Consulting (Market Analysis, GAP analysis, Customization, etc.)
- Pre-Sales (requirements analysis)

<b>Document name:</b>	D6.5 Business model definition			<b>Page:</b>	35 of 48
<b>Reference:</b>	D6.5	<b>Dissemination:</b>	PU	<b>Version:</b>	1.0
				<b>Status:</b>	Final version

- Sales and promotion
- Integration / Implementation
- Training
- Maintenance

### 2.2.3.7 Key Resources

The critical resources that are needed to carry out the daily activities are, among others:

- Human resources (sales, pre-sales, engineering, support)
- Knowledge (brands, patents, copyrights...)
- Software/Hardware
- Economic/Finance

### 2.2.3.8 Key Partners

The main partners that are going to interact in this model include among others:

- Public/Semi-public sector
  - EC (European Commission)
  - FORTH
  - Public administrator (Regulator)
- Private sector
  - Energy service providers
  - Stores-retail or wholesale
  - ATOS
  - GRIDPOCKET
  - EGM
  - IBM
  - CITRIX
- Academic sector
  - FHNW
  - UU

### 2.2.3.9 Cost Structure

This building block represents the economic expenditure to be carried out by the consortium to run a new business operation including a range of expenditure items such as **Capex** (Capital expense, investment regardless of the volume produced) and **Opex** (Operating expense heavily dependent on the volume of output generated):

<b>Document name:</b>	D6.5 Business model definition				<b>Page:</b>	36 of 48
<b>Reference:</b>	D6.5	<b>Dissemination:</b>	PU	<b>Version:</b>	1.0	<b>Status:</b> Final version

ID	Cost Element	Description	Type (CAPEX/OPEX)	Y1	Y2	Y3
<b>C.1</b>	<b>IT Platform Implementation Costs</b>			<b>€ 10.000</b>	<b>€ 20.000</b>	<b>€ 30.000</b>
C.1.0	System Integration (Platform - ID Providers)	Analysis, Design, Development, Testing, Deployment and Roll-out of the MPAS Platform + Contingencies	CAPEX	€ -	€ -	€ -
C.1.1	HW Procurement	HW Costs to be sustained (Eventual backup systems implementation costs have to be considered to guarantee a high level of reliability). (If a Cloud-based solution is chosen you should not fill this field and see C.2.1)	CAPEX	€ -	€ -	€ -
C.1.2	SW Procurement	SW Costs to be sustained (If a Cloud based solution is chosen you should not fill this field and see C.2.1)	CAPEX	€ 10.000	€ 20.000	€ 30.000
<b>C.2</b>	<b>IT Platform Operating Costs</b>			<b>€ 31.000</b>	<b>€ 63.000</b>	<b>€ 95.000</b>
C.2.1	Infrastructure Operation Costs (Infrastructure/Software Usage Fee in case of IAAS/SAAS)	Facilities, Hosting, Personnel, Service Desks Support (Infrastructure/Software Usage Fee in case of IAAS/SAAS)	OPEX	€ 9.000	€ 27.000	€ 45.000
C.2.2	IT Help Desk Support	Cost for maintain a Help Desk Support (from first to third support level)	OPEX	€ 10.000	€ 15.000	€ 20.000
C.2.3	HW Maintenance	This field should be skipped in case of Cloud-based solution	OPEX	€ -	€ -	€ -
C.2.4	SW Maintenance	Development in software components after deployment/integration	OPEX	€ 2.000	€ 6.000	€ 10.000
C.2.5	SW Evolution	Software correction after errors identification	OPEX	€ 10.000	€ 15.000	€ 20.000
C.2.6	Connectivity costs	Connectivity related costs (redundancy, different paths and providers, etc)	OPEX	€ -	€ -	€ -
<b>C.3</b>	<b>Business Operating Costs</b>			<b>€ 5.000</b>	<b>€ 5.000</b>	<b>€ 5.000</b>
C.3.1	Business Integration (Service Providers)	Definition and implementation of Commercial Agreements with Service Providers (consider also a technical analysis of feasibility to be performed in the negotiation process)	OPEX	€ 5.000	€ 5.000	€ 5.000
C.3.2	Archive Maintenance	Documents, logs and other data to be stored for regulatory, fiscal purposes (if any)	OPEX	€ -	€ -	€ -

<b>Document name:</b>	D6.5 Business model definition			<b>Page:</b>	37 of 48
<b>Reference:</b>	D6.5	<b>Dissemination:</b>	PU	<b>Version:</b>	1.0
				<b>Status:</b>	Final version

C.4	Marketing and Distribution Costs			€ 15.000	€ 30.000	€ 55.000
C.4.1	Marketing Activities	Marketing activities to sustain customer acquisition campaigns. (Service Providers)	CAPEX	€ 5.000	€ 15.000	€ 35.000
C.4.2	Distribution Costs	Costs to be sustained to reach the target customers (cover the five-dimension phases of distribution channels)	OPEX	€ 10.000	€ 15.000	€ 20.000
	<b>Total CAPEX</b>			<b>€ 15.000</b>	<b>€ 35.000</b>	<b>€ 65.000</b>
	<b>Total OPEX</b>			<b>€ 46.000</b>	<b>€ 83.000</b>	<b>€ 120.000</b>
	<b>TOTAL COSTS/YEAR</b>			<b>€ 61.000</b>	<b>€ 118.000</b>	<b>€ 185.000</b>
	<b>Total COSTS CUMULATIVE</b>			<b>€ 61.000</b>	<b>€ 179.000</b>	<b>€ 364.000</b>

**Table 19: Gridpocket cost structure Y1-Y3**

### 2.2.3.10 Conclusions

The estimation of costs, revenues and target customers, reflect a breakeven point during Y2. The most significant part of the development costs have been spent during the project lifespan, so their impact in the cost structure have not been considered in this sustainability approach.

The added value-added services that GridPocket will provide with integration of the SMESEC functionalities have also attracted interest of potential new end customer, as per feedback received. These late adopters will also have a positive impact in the forecast, although the approach selected has been a conservative one

The main financial conclusions can be seen in the below, this three-year forecast shows the financial sustainability of the exploitation of the project results from a cost/benefit perspective.

Concept	Y1	Y2	Y3
<b>Total Income</b>	<b>€ 40.000</b>	<b>€ 160.500</b>	<b>€ 320.000</b>
<b>Total Costs</b>	<b>€ 61.000</b>	<b>€ 118.000</b>	<b>€ 185.000</b>
<b>ROI (Return on investment)</b>	<b>-34%</b>	<b>36%</b>	<b>72%</b>
<b>Breakeven point/Year</b>		<b>Year 2</b>	










**Table 20: Gridpocket business model indicator**

<b>Document name:</b>	D6.5 Business model definition			<b>Page:</b>	38 of 48
<b>Reference:</b>	D6.5	<b>Dissemination:</b>	PU	<b>Version:</b>	1.0
				<b>Status:</b>	Final version

### 2.2.4 WoS Business Model Canvas

The following section describes the Worldsensing’s approach to the SMESEC business model and the impact of the different building blocks of the Canvas methodology. Worldsensing’s Canvas was initially presented in D6.3[6], as its model was mature enough to provide an early overview of the sustainability of the project results . Subsections below additionally include a more accurate approach to the financial impact in WoS business.

**Figure 2: WoS business model Canvas**

<p><b>Key partners</b></p>  <ul style="list-style-type: none"> <li>-HW components manufacturers</li> <li>-Communication providers</li> <li>-Digital security experts</li> <li>-Data scientists</li> <li>-System integrator</li> <li>-HW installers entities</li> </ul>	<p><b>Key activities</b></p>  <ul style="list-style-type: none"> <li>-End-to-end solution for digital transformation in critical infrastructure (HW + SW)</li> <li>-Infrastructure monitoring</li> <li>-IT system monitoring</li> <li>-Alerts management</li> </ul>	<p><b>Value proposition</b></p>  <p><b>Customer needs</b></p> <ul style="list-style-type: none"> <li>-Improve detection, maintenance and response to emergency</li> </ul> <p><b>Services</b></p> <ul style="list-style-type: none"> <li>-Helpdesk and support</li> <li>-Deployment</li> <li>-Training</li> <li>-Consulting</li> </ul>	<p><b>Customer relationship</b></p>  <ul style="list-style-type: none"> <li>-After sale services: deployment, training, support, etc.</li> </ul>	<p><b>Customer segmentations</b></p>  <ul style="list-style-type: none"> <li>-Critical infrastructure managers</li> <li>-Utilities</li> <li>-Maintenance service providers</li> </ul>
	<p><b>Key resources</b></p>  <ul style="list-style-type: none"> <li>-HW components</li> <li>-SW sub-systems and modules</li> <li>-Security SW tools</li> </ul>		<p><b>Channels</b></p>  <ul style="list-style-type: none"> <li>-Local and global Distributors</li> <li>-Trade fares, workshop, seminars, etc.</li> <li>-Direct sales: meeting with CTOs</li> </ul>	
<p><b>Cost structure</b></p>  <ul style="list-style-type: none"> <li>-HW/SW components and sub-system</li> <li>-HW/SW development</li> <li>-Trainings and support organization</li> <li>-Sales network</li> <li>-Distributors fee</li> </ul>			<p><b>Revenue streams</b></p>  <ul style="list-style-type: none"> <li>-Direct HW product sale</li> <li>-SW product with Basic and Gold SaaS licence</li> <li>-Solution project (customized SW product)</li> <li>-Related service: training, HW deployment, consulting, etc.</li> </ul>	

The company’s business model approach relies on the adoption of the SMESEC cybersecurity framework in the **Loadsensing portfolio**, enriching the value proposition of this vertical product (industrial IoT). As a

<b>Document name:</b>	D6.5 Business model definition			<b>Page:</b>	39 of 48
<b>Reference:</b>	D6.5	<b>Dissemination:</b>	PU	<b>Version:</b>	1.0
				<b>Status:</b>	Final version

matter of fact, the final objective is launching to the market the first “securized” IoT technology with a user-friendly interface for non-cybersecurity experts.

### 2.2.4.1 Value proposition

The value proposition that SMESEC provides cannot be decoupled from that offered by Loadsensing as a whole (hardware + software). Actually, the SMESEC added value is to increase the resilience of IoT infrastructures to cyberattacks, providing well-defined response and mitigation actions for non-expert users’ profiles.

Loadsensing is marketed following two different routes; as a product or a solution.

In the first one, IoT nodes (HW) and the data platform (SW) are sold either independently or merged. While the revenues directly linked to the IoT nodes (HW) is obtained only once (nodes trading), the software generates a steady flow of cash proportional to the total number of interconnected gadgets and systems, through a license invoicing mechanism.

Considering the pilot’s architecture, the SMESEC security elements will be basically added to the SW layer as an optional extra of the final product. In fact, incorporating cybersecurity tools to the data platform should impact the final fee (license) to be paid per connected sub-system.

On the other hand, Loadsensing can be also marketed as a solution in which a particular deployment is generated from scratch in a tailor-made project (consulting). Here, the security elements (SW layer) are also optionally added to Loadsensing.

Independently from the marketing option, up to four services can be offered on the top of the mere technology elements (HW & SW). SMESEC elements will be present in each of them as a submodule, whose scope and contents need to be defined along the project implementation.

Table 21 summarized the above description of the go-to-market strategy of Loadsensing. Here, gold support is defined as the service with the highest Quality of Service to be offered by Worldensing.

Sales business model	Components	Price / Cost	Security	Service			
				Training	Support	Consulting	Deployment
Product	HW	Fixed x unit	No, by default	Yes, optional	Gold or Basic	Yes, optional	Yes, optional
Product	SW	Fixed x sub-system connected	Yes, optional	Yes, optional	Gold or Basic	No	Yes, optional
Solution	SW	Customized	Yes, optional	Yes, optional	Gold or Basic	Yes	No, by default

**Table 21: Loadsensing go-to-market strategy**

<b>Document name:</b>	D6.5 Business model definition			<b>Page:</b>	40 of 48		
<b>Reference:</b>	D6.5	<b>Dissemination:</b>	PU	<b>Version:</b>	1.0	<b>Status:</b>	Final version



## 2.2.4.2 Customer Segment

Loadsensing is a technology which is present worldwide (see Fig.1) but nonetheless the bulk of end-users have been restrained to infrastructure operators only. The progressive enrichment of the software layer which includes new features like operational intelligence capabilities will progressively increase the range to utilities (i.e. water and gas) and above all maintenance service providers.

For this new segment of customers, the prediction about the infrastructure status (not only real-time monitoring) is crucial to optimize their processes, resulting in a more efficient process. This progressive change has already started, and it is the cornerstone of the growth rate foreseen for Worldsensing in the coming years.

As a rule of thumb, most of the target customers up to now have been direct end users. This is expected to change to services providers and to a lesser extent, technology providers, who will adopt Loadsensing to optimize their core businesses.



**Figure 3:LoadSensing customers and distributors worldwide**

Depending on the infrastructure and each country idiosyncrasy, both the public and private sectors are target industries, particularly in Europe. Nevertheless, the private sector takes over the current market and this situation is not expected to change in the mid-term.

How the market will bring in the new features offered by Loadsensing is subject to a long discussion, particularly in verticals like construction in which the digitalization remains in its infancy.

Table 22 aims to summarize the current situation: the main market of Loadsensing will progressively shift from Europe to America, in which the private sector is dominant. For the first year, the product will continue

<b>Document name:</b>	D6.5 Business model definition	<b>Page:</b>	41 of 48
<b>Reference:</b>	D6.5	<b>Dissemination:</b>	PU
		<b>Version:</b>	1.0
		<b>Status:</b>	Final version

reaching end users but according to the abovementioned plan will diversify the type. What is clear that Loadsensing will penetrate different verticals, being construction and rail the first targeted ones.

Concept	Year 1	Year 2	Year 3
<b>Target countries</b>	EC Europe, UK and Australia	South America	US
<b>Target Industry</b>	Public Sector Private Sector	Public Sector Private Sector	Public Sector Private Sector
<b>Target customer type</b>	1-Technology providers 2-Services providers 3-Direct end users	1-Technology providers 2-Services providers 3-Direct end users	1-Technology providers 2-Services providers 3-Direct end users
<b>Target final users (estimation)</b>	1 vertical (infrastructure)	2 verticals (infrastructure and rail)	3 verticals (infrastructure, rail and new one)

**Table 22: Loadsensing customer segmentation forecast**

#### 2.2.4.3 Distribution channels

Worldsensing reach the market in a two-side approach. Using the own channels (website and company’ sales force) and the participation of key vendors worldwide with high knowledge of the local markets.

The first one has been the main choice up to know for Loadsensing and it will continue like this in the “solutions” business model. However, the exponential growth of Loadsensing makes necessary seeking alliances with key commercial players like Geomotion and Geosense which sells the product in a more systematic way (HW + SW). These alliances have already been established and SMESEC features could be easily added to the existing portfolio.

#### 2.2.4.4 Customer Relationships

Due to the immaturity of the IoT market, most of the customers do not fully understand the value proposition that Worldsensing’ solutions provide. For this reason and despite some of our devices are sold by third parties (vendors), Worldsensing keeps a direct relationship with customers through helpdesk facilities. It goes without saying that this binding is even more strength in “solutions” projects (consultancy). This can be crucial to articulate the SMESEC services in general and the “support” and “training” in particular

<b>Document name:</b>	D6.5 Business model definition			<b>Page:</b>	42 of 48
<b>Reference:</b>	D6.5	<b>Dissemination:</b>	PU	<b>Version:</b>	1.0
				<b>Status:</b>	Final version

### 2.2.4.5 Revenue streams

Main revenue stream approach will come from Fee structure (subscription, usage, broker, etc.) or licensing although the option to sell components could be considered if a commercial opportunity pops up.

The following table describes the pricing differentiation per customer and the revenue during the Y3 forecast of the business model:

Scenario 1: Differential Pricing (Service feature dependent)	Price User/Year	Year 1	Year 2	Year 3
1. Product	Loadsensing HW: 1 k€			
2. Solutions	Loadsensing SW: TBD	1- 5.6 M€ 2- - M€	1 8.4 M€ 2 0.7 M€	1 13.9 M€ 2. 6.9 M€
	Solution project: 250 k€			

**Table 23: LoadSensing revenue streams Y1-Y3**

### 2.2.4.6 Key activities

The main activities to be conducted in order to maximise the impact of the pilot results, include among others:

- Dissemination / Awareness
- Presales
- Consulting (Solutions project)
- Training on SMESE tools to end-users

### 2.2.4.7 Key Resources

SMESEC tools can be easily added to the existing Loadsensing's distribution channels without major problems. Nevertheless, it is obvious that Worldsensing will need access to the specific SMESEC software components to enrich the product with a cybersecurity layer. To that end, it is mandatory that Worldsensing and SMESEC partners (solution providers) establish a stable and long-term collaboration framework in which the license and fees to be paid per product use are clearly defined.

### 2.2.4.8 Key Partners

Main partners that can contribute to the WoS business model are, among others:

- Public/Semi-public sector
  - EC (European Commission)
  - FORTH
- Private sector
  - ATOS
  - WORLDSENSING
  - EGM
  - IBM

<b>Document name:</b>	D6.5 Business model definition			<b>Page:</b>	43 of 48
<b>Reference:</b>	D6.5	<b>Dissemination:</b>	PU	<b>Version:</b>	1.0
				<b>Status:</b>	Final version

- CITRIX
- Academic sector
  - UoP
  - FHNW
  - UU

### 2.2.4.9 Cost Structure

Considering the above description, the main costs are directly linked to the accommodation of SMESEC tools to the Loadsensing data platform (OneMind) can be labelled as Capex, and it has been covered by EU funds (SMESES project) and own resources. From a practical point of view, most of the cost elements for specific projects can be labelled as Opex except for ad-hoc systems integrations derived from “Solutions-Consulting” projects and the flat-rate expenses linked to marketing activities.

These figures may evolve as SMESEC functionalities are just a % of the total business of Loadsensing.

ID	Cost Element	Description	Type (CAPEX/OPEX)	Y1	Y2	Y3
<b>C.1</b>	<b>IT Platform Implementation Costs</b>			<b>€ 0</b>	<b>€ 35.000</b>	<b>€ 345.000</b>
C.1.0	System Integration <sup>1</sup> (Platform - ID Providers)	Analysis, Design, Development, Testing, Deployment and Roll-out of the MPAS Platform + Contingencies	CAPEX	€ 0	€ 35.000	€ 345.000
C.1.1	HW Procurement	HW Costs to be sustained (Eventual backup systems implementation costs have to be considered to guarantee a high level of reliability). (If a Cloud-based solution is chosen you should not fill this field and see C.2.1)	CAPEX	€ -	€ -	€ -
C.1.2	SW Procurement	SW Costs to be sustained (If a Cloud based solution is chosen you should not fill this field and see C.2.1)	CAPEX	€ -	€ -	€ -
<b>C.2</b>	<b>IT Platform Operating Costs</b>			<b>€ 105.000</b>	<b>€ 170.000</b>	<b>€ 270.000</b>
C.2.1	Infrastructure Operation Costs (Infrastructure/Software Usage Fee in case of IAAS/SAAS)	Facilities, Hosting, Personnel, Service Desks Support (Infrastructure/Software Usage Fee in case of IAAS/SAAS)	OPEX	€ 90.000	€ 120.000	€ 220.000

<sup>1</sup> 5% Solutions invoicing

<b>Document name:</b>	D6.5 Business model definition				<b>Page:</b>	44 of 48
<b>Reference:</b>	D6.5	<b>Dissemination:</b>	PU	<b>Version:</b>	1.0	<b>Status:</b> Final version

C.2.2	IT Help Desk Support <sup>2</sup>	Cost for maintain a Help Desk Support (from first to third support level)	OPEX	€ 15.000	€ 30.000	€ 30.000
C.2.3	HW Maintenance	This field should be skipped in case of Cloud-based solution	OPEX	€ -	€ -	€ -
C.2.4	SW Maintenance	Development in software components after deployment/integration	OPEX	€ -	€ -	€ -
C.2.5	SW Evolution	Software correction after errors identification	OPEX	€ -	€ 20.000	€ 20.000
C.2.6	Connectivity costs	Connectivity related costs (redundancy, different paths and providers, etc)	OPEX	€ -	€ -	€ -
<b>C.3</b>	<b>Business Operating Costs</b>			<b>€ 20.000</b>	<b>€ 60.000</b>	<b>€ 120.000</b>
C.3.1	Business Integration (Service Providers)	Definition and implementation of Commercial Agreements with Service Providers (consider also a technical analysis of feasibility to be performed in the negotiation process)	OPEX	€ 20.000	€ 60.000	€ 120.000
C.3.2	Archive Maintenance	Documents, logs and other data to be stored for regulatory, fiscal purposes (if any)	OPEX	€ 0	€ 0	€ 0
<b>C.4</b>	<b>Marketing and Distribution Costs</b>			<b>€ 15.000</b>	<b>€ 30.000</b>	<b>€ 30.000</b>
C.4.1	Marketing Activities	Marketing activities to sustain customer acquisition campaigns. (Service Providers)	CAPEX	€ 15.000	€ 30.000	€ 30.000
C.4.2	Distribution Costs	Costs to be sustained to reach the target customers (cover the five-dimension phases of distribution channels)	OPEX	€ -	€ -	€ -
	<b>Total CAPEX</b>			<b>€ 15.000</b>	<b>€ 65.000</b>	<b>€ 375.000</b>
	<b>Total OPEX</b>			<b>€ 125.000</b>	<b>€ 230.000</b>	<b>€ 390.000</b>
	<b>TOTAL COSTS/YEAR</b>			<b>€ 140.000</b>	<b>€ 295.000</b>	<b>€ 795.000</b>
	<b>Total COSTS CUMULATIVE</b>			<b>€ 140.000</b>	<b>€ 435.000</b>	<b>€ 1.230.000</b>

**Table 24: LoadSensing cost structure Y1-Y3**

### 2.2.4.10 Conclusions

As a VaS approach to WoS activities, the overall revenue streams directly considered a SMESEC development adoption is estimated in a 5% of the overall income generated by Loadsensing business. The

<sup>2</sup> Proportional part ascribable to SMESEC

<b>Document name:</b>	D6.5 Business model definition			<b>Page:</b>	45 of 48
<b>Reference:</b>	D6.5	<b>Dissemination:</b>	PU	<b>Version:</b>	1.0
				<b>Status:</b>	Final version

combination of costs in Table 24 and revenues described in Table 23, reflects an early breakeven point during Y1 (moment in time where costs and incomes are equal).

The main conclusion can be seen in the table below, this three-year forecast shows the financial sustainability of the exploitation of the project results from a cost/benefit perspective.

<b>Concept</b>	<b>Y1</b>	<b>Y2</b>	<b>Y3</b>
<b>Total Income<sup>3</sup></b>	<b>€ 280.000</b>	<b>€ 465.000</b>	<b>€ 1.040.000</b>
<b>Total Costs</b>	<b>€ 140.000</b>	<b>€ 295.000</b>	<b>€ 795.000</b>
<b>ROI (Return on investment)</b>	<b>100%</b>	<b>54%</b>	<b>30%</b>
<b>Breakeven point/Year</b>	<b>Y1</b>		

**Table 25: WoS business model indicator**

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<sup>3</sup> Total Income 5% of total Loadsensing business

<b>Document name:</b>	D6.5 Business model definition			<b>Page:</b>	46 of 48
<b>Reference:</b>	D6.5	<b>Dissemination:</b>	PU	<b>Version:</b>	1.0
				<b>Status:</b>	Final version

## Conclusions

An effective transfer of the project result to the market is one of the central objectives for the SMESEC consortium. Partners are involved in maximizing impacts in the EU citizens with special focus on the central target of the project, the SMEs.

The outcomes that this document has presented, always based on a fair assumption of the market penetration and conservative forecast of the pricing structure and cost structures, show in a tangible way the project sustainability base on a twofold approach: financial and acceptance sustainability.

The SMESEC framework financial sustainability has been described along this document and is reflected in the Canvas business model results between cost structures and revenue streams which show the economic viability with an estimated breakeven point during year 2.

The acceptance of the project results is also reflected on the stakeholders interest to better understand how SMESEC solution can help their organizations (e.g. consortium dissemination and awareness creation activities) but also reflected on the results of the SMESEC open call [12][13] (e.g. 75% of the participants highlighted that SMESEC framework meet their expectations related to cybersecurity coverage or 77% of the participants mentioned that they considered it as an innovative approach to cybersecurity for SMEs)

A key objective of the project is to create a “budget friendly” cybersecurity solution for SMEs. This budget friendly approach has to take into consideration the budget limitations of the SMEs that want to adopt the SMESEC framework. The price ranges mentioned by the open call participants they will be willing to pay for individual components of the SMESEC framework varies from 400 to 10.000€ a year (SMESEC framework price for its basic package is 7.500€ a year). Based on these the consortium assumes its offer can be attractive the end users.

The pricing generation has been determined by the aggregation of the partners’ components per product package with the inclusion of trial or free versions of the SMESEC framework components to minimize the pricing impact. The consortium has also a flexible approach on regards the pricing structure and will consider, based on a tailor-based analysis, any potential customer’s needs.

Finally, and as part of the sustainability of the project results, the project pilots have described their willingness to integrate the project outcomes and how services will be enhanced with the value added provided by the integration of the SMESEC framework in their systems.

<b>Document name:</b>	D6.5 Business model definition				<b>Page:</b>	47 of 48	
<b>Reference:</b>	D6.5	<b>Dissemination:</b>	PU	<b>Version:</b>	1.0	<b>Status:</b>	Final version

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<b>Document name:</b>	D6.5 Business model definition				<b>Page:</b>	48 of 48	
<b>Reference:</b>	D6.5	<b>Dissemination:</b>	PU	<b>Version:</b>	1.0	<b>Status:</b>	Final version