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PROPOSAL FOR THE DEVELOPMENT OF A STARTUP: THE ALIVEBUILDING PLATFORM

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ABSTRACT

This study aims to present a structured business plan of a hypothetical startup that aims to offer digital consulting services and in addition the sale of SAAS software for the construction sector.

The construction sector compared to other sectors of industry has a delay and a lack of digitization compared to other industrial sectors, and this represents a market opportunity. In particular, the company offers consulting services about two new trending technologies, namely BIM and BLOCKCHAIN, with a great growth potential. BIM is an acronym that means Building Information Modeling. This technology and discipline is a process that involves the creation and management of information during the entire life cycle of a construction project, through a three-dimensional infographic model. This model is based on information collected collaboratively and updated in the key phases of a project. One of the key outputs of this process is the digital description of every aspect of the built characteristic. Blockchain is a new technology created by Satoshi Nakamoto in 2008 and which consists of a shared and immutable ledger that facilitates the process of recording transactions and monitoring assets in a corporate network. Virtually anything of value can be tracked and traded on a blockchain network, reducing risks and costs for everyone involved.

Therefore, this study analyses the main characteristics of the business from a technical and economic point of view, analysing the market and the target of customers. This document proposes a configuration of the company from a technical and financial management point of view, identifying management strategies and key customers, trying to understand the degree of feasibility of the project over 10 years. From the financial point of view, the startup carry losses for the first 4 years of activity but reaching a final IRR of 17.81% during the 10th year of running.

The effectiveness of the project depends mainly on the ability to find initial investment funds for setting up the startup. Furthermore, structure an effective Marketing strategy in order to reach key customers (freelancers and general consultants) who in turn will share and disseminate the services and software offered by the company, reaching other important stakeholders.

Keywords: BIM, BLOCKCHAIN, Transaction, Building, Digitalization, Digital Archive.

RESUMEN

Este estudio tiene como objetivo presentar un plan de negocio estructurado de una hipotética startup que cuya finalidad es ofrecer servicios de consultoría digital, así como la venta de software SAAS para el sector de la construcción.

El sector de la construcción, en comparación con otros sectores de la industria, está rezagado y presenta falta de digitalización en comparación con otros sectores industriales. Esto representa una oportunidad de mercado. En particular, la startup ofrece servicios de consultoría sobre dos nuevas tecnologías de tendencia, BIM y BLOCKCHAIN, con gran potencial de crecimiento.

BIM es un acrónimo que significa Modelado de información de construcción (Building Information Modeling en inglés). Esta tecnología y disciplina constituye una metodología de trabajo que involucra la creación y manejo de información durante todo el ciclo de vida de un proyecto de construcción, a través de un modelo infográfico tridimensional. Este modelo se basa en información recopilada de forma colaborativa y actualizada en las fases clave de un proyecto. Uno de los resultados clave de este proceso es la descripción digital de cada aspecto de la característica construida. Por su parte, Blockchain es una nueva tecnología creada por Satoshi Nakamoto en 2008 y que consiste en la creación de un libro de contabilidad compartido que se distribuye mediante una red de ordenadores todos ellos conectados entre sí, pero administrados de forma independiente. Esto facilita el proceso de registro de transacciones sin necesidad de terceros verifiquen su validez.

Prácticamente cualquier cosa de valor se puede rastrear y comercializar en una red blockchain, lo que reduce los riesgos y costes para todos los involucrados.

Para ello, este estudio analiza las principales características del negocio desde un punto de vista técnico y económico, analizando el mercado y los clientes objetivo. Este documento propone una configuración de la empresa desde el punto de vista de la gestión técnica y financiera, identificando estrategias de gestión y clientes clave, intentando comprender el grado de viabilidad del proyecto en 10 años. Desde el punto de vista económico, la startup presenta pérdidas en los primeros 4 años de actividad aunque alcanza una TIR del 17,81% a los 10 años de funcionamiento.

La efectividad del proyecto depende principalmente de la capacidad de encontrar fondos de inversión iniciales para la puesta en marcha. Además, es importante estructurar una estrategia de Marketing eficaz para llegar a clientes clave (autónomos y consultores generales) quienes a su vez compartirán y difundirán los servicios y software que ofrece la empresa, llegando a otros grupos de interés importantes.

Palabras clave: BIM, BLOCKCHAIN, Transacción, Construcción, Digitalización, Archivo Digital.

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PICTURES INDEX

1. INTRODUCTION OF THE PROJECT

This document describes and analyses a hypothetical scenario of a project idea for setting up a new startup and particularly describes how the startup will be set up and how the business will be run.

Project's feasibility is assessed by the analysis and development of the different aspects and contents that compose the project. In the first part of the document, we introduce the problem, describing the project idea and the related services. In the technical section we explain in detail the technologies of our software platform, the targets, the revenues model, and we carried out a PEST and SWOT Analysis. In the second part we develop a market analysis to understand who the potential customers are interested to buy the Software. The target is understanding if the market is mature, and the product is scalable. In addition, we delivered a hypothesis of sales model. The third part describes the marketing strategy in order to promote the product and the related services. Management section talks about the organizational structure of the startup, the planning of human resources and the costs of running the business. Finally, the financial section, proposes a 10-year time simulation in which we hypothesize an economic scenario with the company cash flows prediction. This section also analyses the necessary initial capital, the Net Present Value (NPV) and identifies the break-even point, which are the minimum sales of the project that allow it to be profitable.

From development and the analysis of this scenario I made some general assessments understanding the benefits and disadvantages of the project, the critical points and evaluating the feasibility.
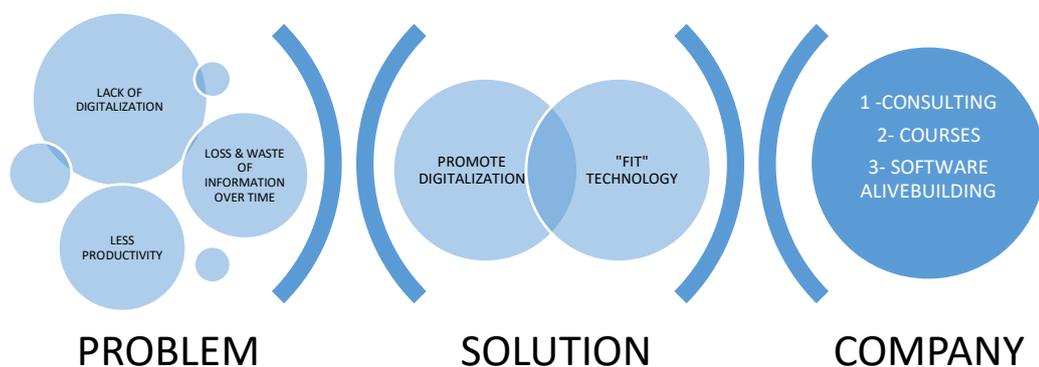
Figure 1 - Resume Scheme of the Business Idea

2. INTRODUCTION OF THE PROBLEM

The supply chain of the construction industry sector needs a revolution that allows a better coordination of the information contained within the projects in such a way as to allow the delivery of projects on time and within the pre-established budget. This is the conclusion of the report "Imagining construction's digital future" published in 2016 by the international management consultant firm McKinsey & Company, which offers consulting services to major companies in the world, governments, and non-profit institutions. The report analyses the construction sector from the point of view of meeting the delivery times of the projects in one hand and, in the other hand, analyses economic productivity, and these data information are compared to the total economy.

According with the figure 2 attached below, from the point of view of project scheduling we can notice that large projects across all asset classes typically take 20% more to complete than expected and are up to 80% over budget.

Figure 2 - Cost and schedule overruns - McKinsey&Company

According with the figure 3, in some markets, construction productivity has decreased since the 1990s and financial returns are often relatively low and volatile for contractors.

Construction labor productivity has not kept pace with overall economic productivity.

Labor productivity, gross value added per hour worked, constant prices,[1] index: 100 = 1995
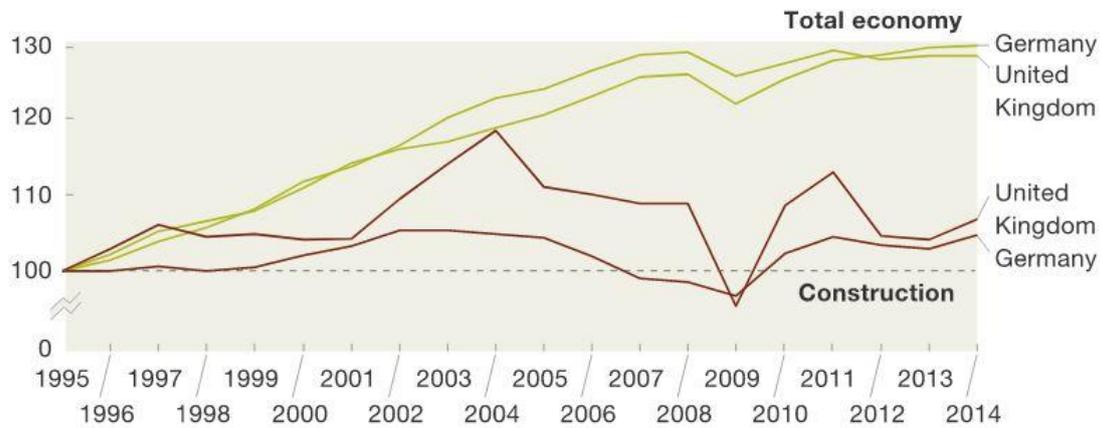
[1]Based on 2010 prices.

McKinsey&Company | Source: Organisation for Economic Co-operation and Development

Figure 3 - Construction labor productivity – Comparison of Labor productivity between Total economy and Construction
McKinsey&Company

These difficulties are mainly due the sector is slow to adopt technological and process innovations compared to other industrial sectors. According with the figure 4 we can notice that the level of digitalization of the construction is quite low compared with other sectors, indeed is second to last, only above Agriculture and hunting.

The construction industry is among the least digitized.

McKinsey Global Institute industry digitization index; 2015 or latest available data

Relatively low digitization → Relatively high digitization

● Digital leaders within relatively undigitized sectors

Sector	Assets			Usage					Labor			
	Overall digitization[1]	Digital spending	Digital asset stock	Transactions	Interactions	Business processes	Market making	Digital spending on workers	Digital capital deepening	Digitization of work
ICT[2]										
Media										
Professional services										
Finance and insurance										
Wholesale trade										
Advanced manufacturing										
Oil and gas										
Utilities										
Chemicals and pharmaceuticals										
Basic goods manufacturing										
Mining										
Real estate	●									
Transportation and warehousing	●									
Education	●									
Retail trade	●									
Entertainment and recreation										
Personal and local services										
Government	●									
Healthcare										
Hospitality	●									
Construction										
Agriculture and hunting										

[1]Based on a set of metrics to assess digitization of assets (8 metrics), usage (11 metrics), and labor (8 metrics).
[2]Information and communications technology.

Source: AppBrain; Bluewolf; Computer Economics; eMarketer; Gartner; IDC Research; LiveChat; US Bureau of Economic Analysis; US Bureau of Labor Statistics; US Census Bureau; McKinsey Global Institute analysis

Figure 4 - Digitalization index by sector - McKinsey&Company

This lack of digitalization falls on poor project planning, mostly on the approach of designing and building a new construction and produce a lack of coordination between the office and construction site, because usually the coordination activity of what it has been projected and what we are building in the field are managed and coordinated by paper sheets. In addition, supply chain practices are still unsophisticated and not digitized, for example the supply chain for providing materials to the construction site. Essentially through digitalization, the goal is to optimize processes and consequently increase productivity of the construction sector.

Public administrations still manage public assets through land registry archives based on paper documents where the retrieval of information is complex and not immediate.

This condition becomes a market opportunity for our idea as new digital technologies have not been adopted by the construction sector yet and are very far from a fully adoption.

Therefore, the ambitious idea of this startup is to "educate" and promote the digitization of the sector by consultant activities and by introducing on the market a digital platform based on two driving technologies BIM and BLOCKCHAIN, able to collect automatically all the information of the construction supply chain, from the designing process to site management up to the maintenance and management of the building by the owner.

2.1. Startup Mission

"Create intelligent cities with intelligent buildings".

2.2.   Objective

Our startup has two goals:

1. Sale of the digital platform ALIVEBUILDING (SaaS, Software as a Service) that allows the construction supply chain to disperse as little information as possible, collecting and recording all the transactions in a digital register, becoming immutable and certified. In short, create a historical memory of all events connected with the buildings.

2. As a consultant, providing services in the digital field, mostly connected with the technologies involved in ALIVEBUILDING Software, that are BIM and BLOCKCHAIN technologies. Promote and share knowledge of these two valuable technologies.

2.3.   Startup "Promotional message"

```
Can a building or any structure have its own memory?

#ALIVEBUILDING creates a building history by
automatically tracking all transitions and information
that occur, in a #digital File / record. A place where
history is recorded!
```

3. TECHNICAL DESCRIPTION OF THE SOLUTION

3.1. What is BIM Technology?

According with the definition provided by the National Bim Library, "BIM or Building Information Modelling is a process for creating and managing information on a construction project across the project lifecycle. One of the key outputs of this process is the Building Information Model, the digital description of every aspect of the built asset. This model draws on information assembled collaboratively and updated at key stages of a project. Creating a digital Building Information Model enables those who interact with the building to optimize their actions, resulting in a greater whole life value for the asset".

"BIM has grown tremendously over the years and is now the 'current expression of digital innovation' across the construction industry" (BIM Dictionary, n.d.) completely changing the approach of building project management and it is spreading more and more in the AEC industry (Architectural, Engineering and Construction).

In short as we can see in the figure 5 the design process (from feasibility design phase to the construction phase up to maintenance) is managed by 3D digital models.
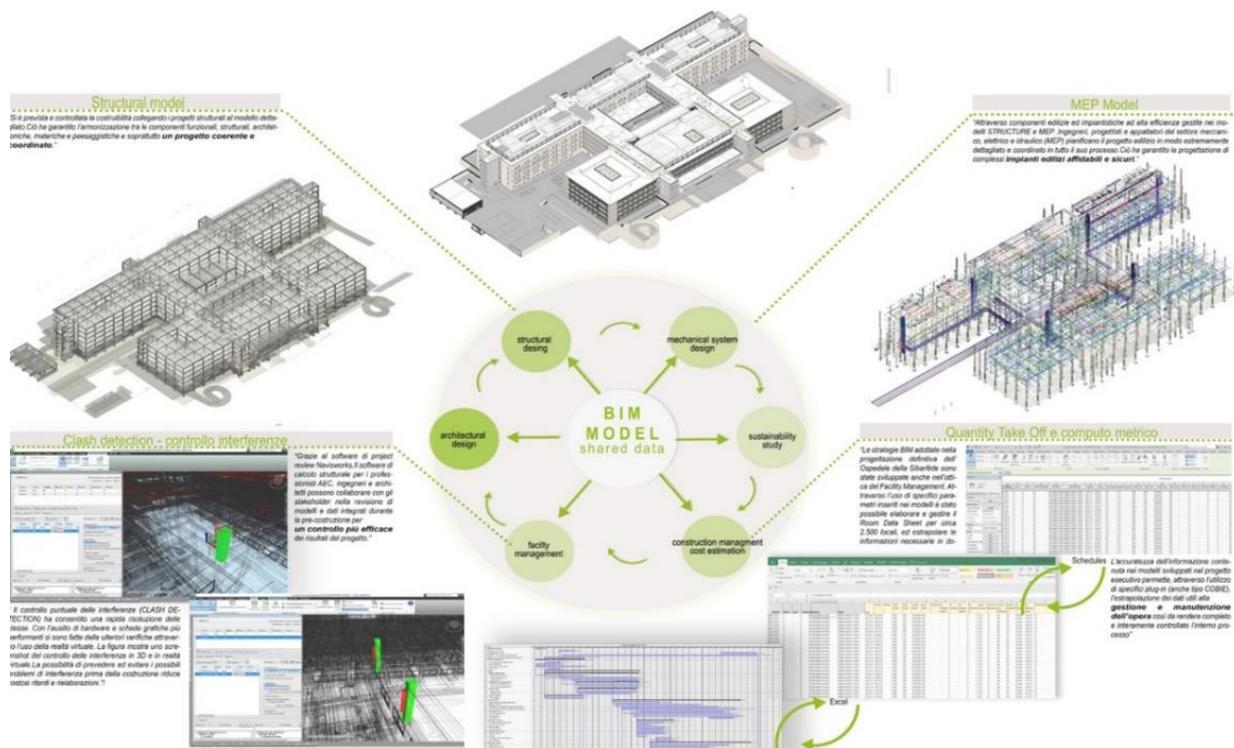
Figure 5 - Example of BIM 3D Model - Gioia Tauro Project

These 3D models are virtual prototypes representing the construction i.e. a real info-graphic database with the purpose of:

- Geometric representation of the real asset.

- "Information container" by parametric data associated inner every single 3D object.
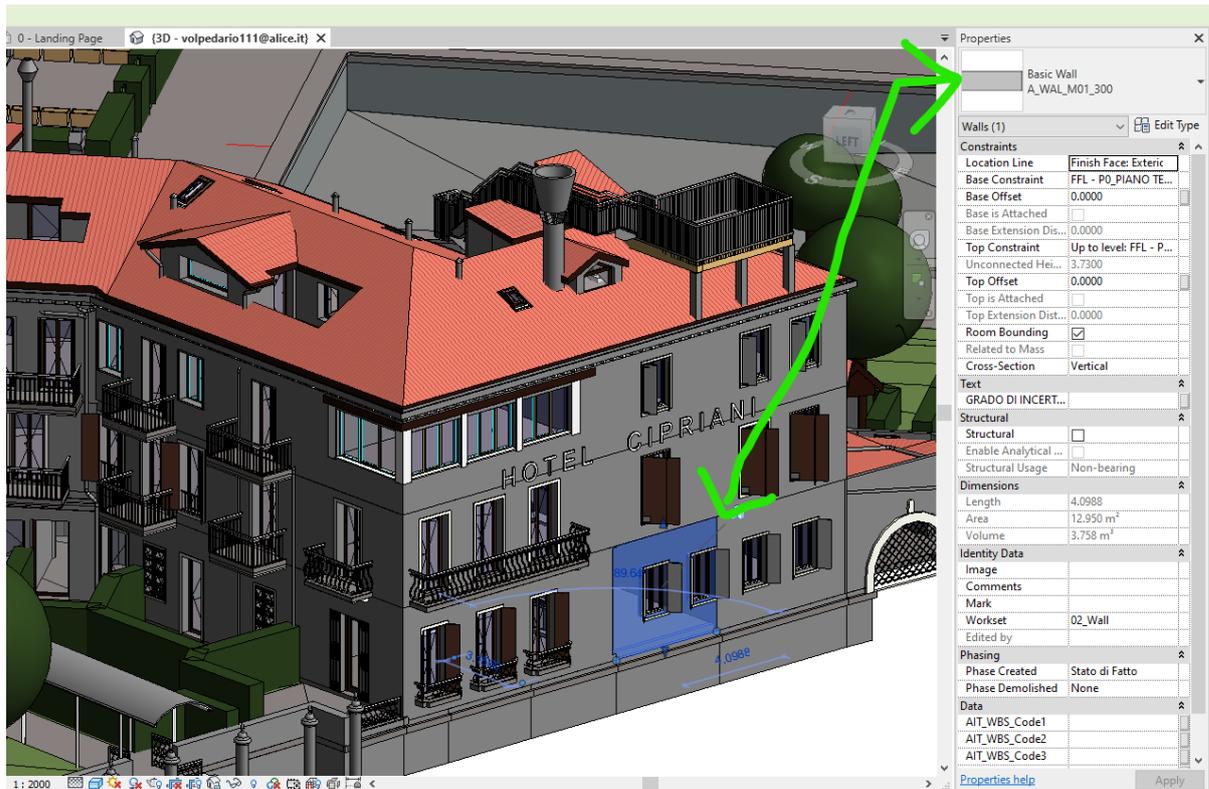
Figure 6 - HOTEL CIPRIANI BIM Model - Wall Parameters example

With the parametric information contained it is possible to carry out design analyses, such as structural, energy, cost, constructive feasibility analyses, etc. The virtual BIM 3D models are created by new Authoring application software (we can mention few for example Autodesk Revit, GRAPHISOFT ArchiCAD, Nemetschek Allplan, Trimble Tekla, etc) and used by the main stakeholders involved in the chain process, such as designers (plant engineers, structural engineers, architects, builders, installers, testers, etc.).

Essentially, for the stakeholders the digital reproduction of existing or newly built assets (buildings, bridges, roads, etc.) represents the decision-making basis for technical, economic, and political intervention on the asset itself.

BIM significantly improves the management and quality of information within the building process, reducing errors in the design and construction phases, thus effectively promoting a virtuous cycle in the construction chain that saves economies.

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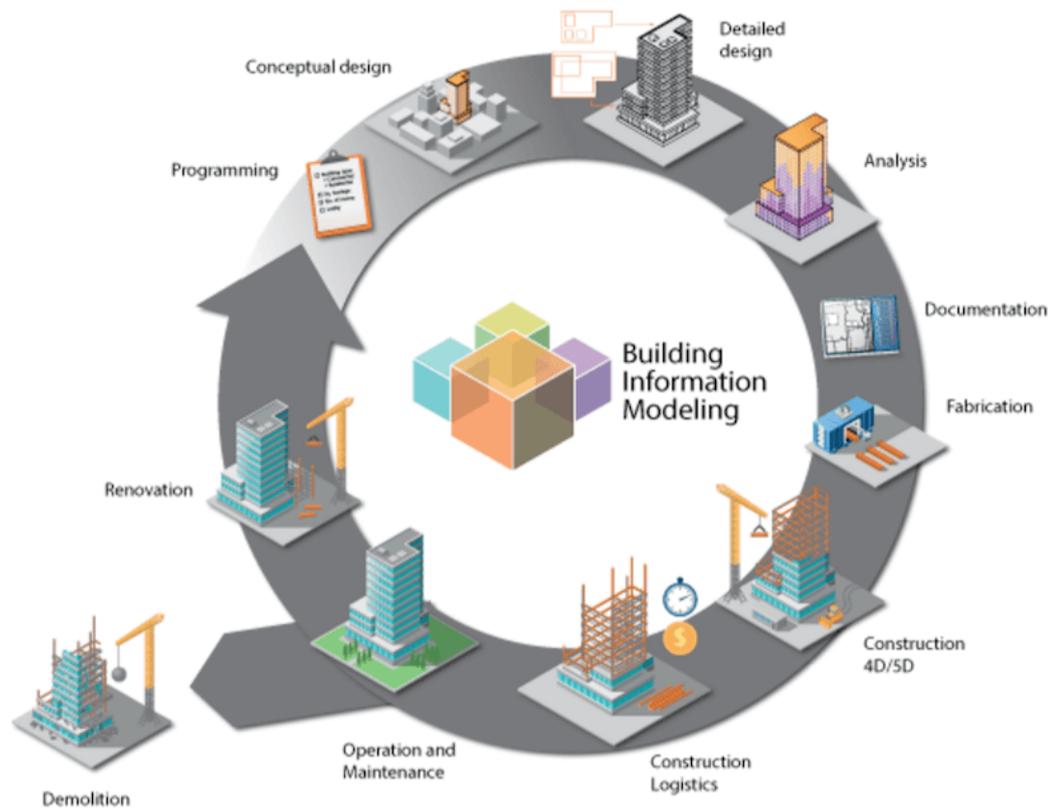
Figure 7 - BIM Management - LIFE Cycle process

In addition to a qualitative issue, the run-up to the endowment of these new technologies by companies and the main subjects belonging to the AEC industry is due (in some countries) to the regulatory obligation (figure 30 and 43) to use these new digital tools and methods to participate in public tenders.

In the future, planning and designing processes will be digitized more often, and information increasingly integrated and shared through digital media instead of expensive physical-paper media.

3.2.   What is BLOCKCHAIN Technology?

Blockchain is a new technology created in 2008 by Satoshi Nakamoto, which consists in "decentralized, distributed, and oftentimes public, digital ledger consisting of records called blocks that are used to record transactions across many computers so that any involved block cannot be altered retroactively, without the alteration of all subsequent blocks". (Blockchains: The great chain of being sure about things, 2015) (Armstrong, 2016)
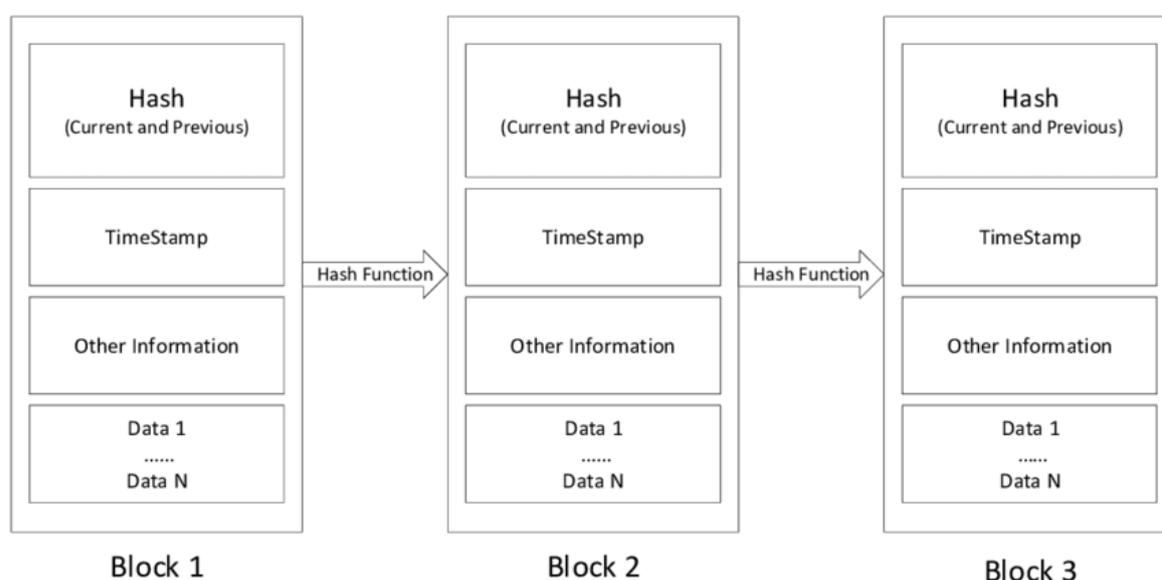
Figure 8 - Blockchain Structure - A SURVEY ON SECURITY AND PRIVACY ISSUES OF BLOCKCHAIN TECNOLOGY - Article in Mathematical Foundations of Computing · January 2018

The users belonging to this chain are owners of a digital block, in which all their transitions are registered. Each block is added in succession to the blocks created up to that moment. These blocks are not editable, and it is not possible to remove the information inside them. In this way, each transaction can be verified in relation to all the blocks contained in the chain and any anomaly, such as a user trying to enforce transactions that others do not recognize, becomes easily recognizable.

Blockchain's proposal is to move from a centralized consensus system to a decentralized system by creating a real digital register shared by all the participants of the blockchain.

The target of the technology is to verify the truthfulness of the facts, the data flows, processes, or events, no longer relying on a centralized system, managed by humans, but on a consensus, system managed mathematically by a computer network.

3.3. Revenues Model: Company Services Offered and SaaS.

In order to carry on its activities, the company will have two types of profit:
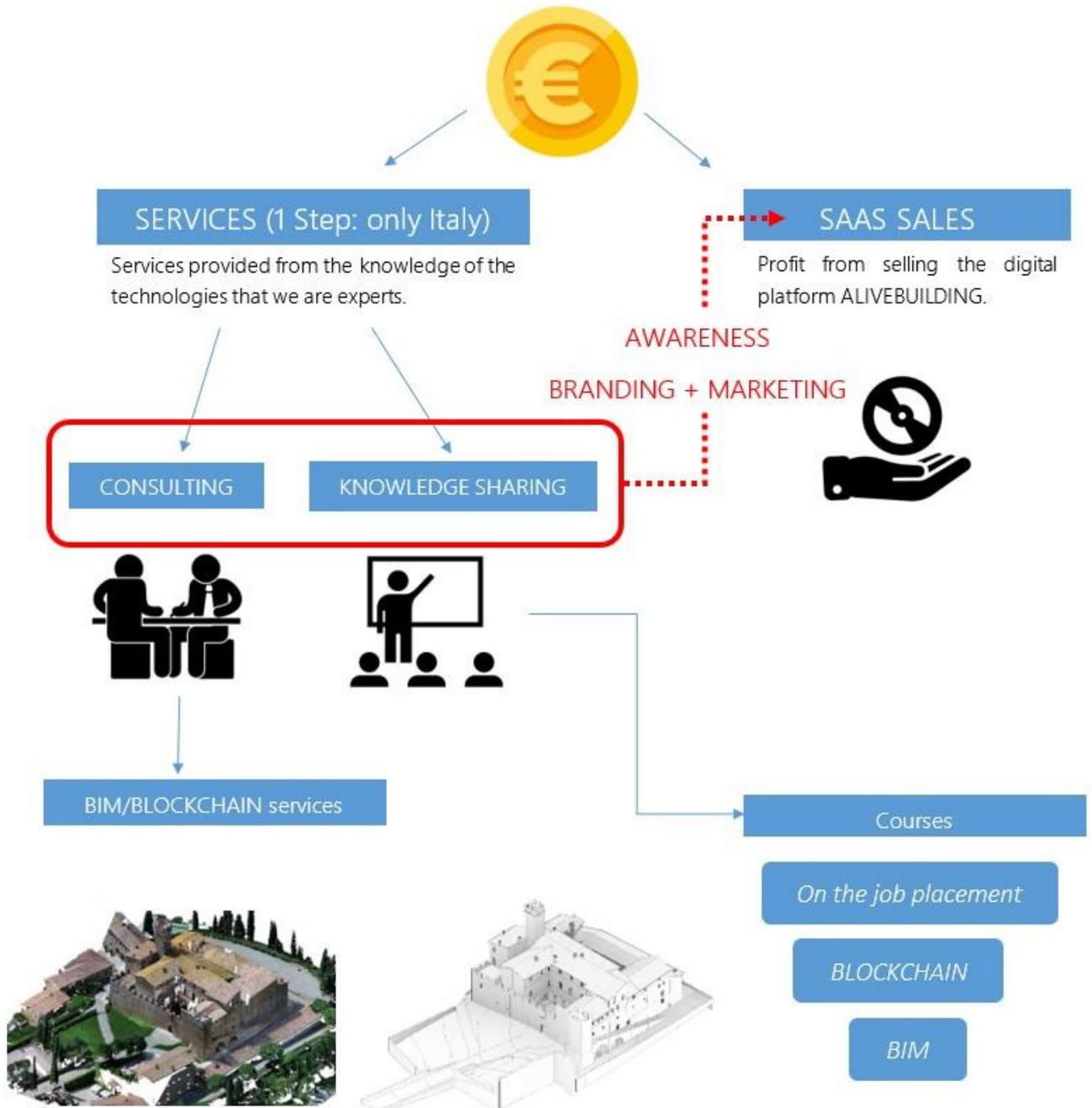
Figure 9 - Revenues Model of the company

3.4.   Description of the SaaS Platform

The project idea is to provide the AEC industry (Architectural, Engineering and Construction) with a new digital platform, called ALIVEBUILDING, which combines the potentialities of two innovative technologies, BIM and BLOCKCHAIN. ALIVEBUILDING integrates the potential of Blockchain technology with BIM technology, with the aim of starting in the long run a process of industrialization and digital automation in the construction sector, allowing the construction chain to disperse as little information as possible.

The purpose of the digital platform is to start a virtuous cycle inside the AEC industry where all the data flows, the entire design processes and the events related to them are automatically verified and certified on a decentralized Blockchain register, becoming made unchangeable and certified.

In short, the platform's aim to provide new information solutions and new digital services to the construction industry, automatically tracking all the transactions connected with the buildings industry process (figure 9). The target is *"Create an history, like a digital Memory inside the Real Construction"*.
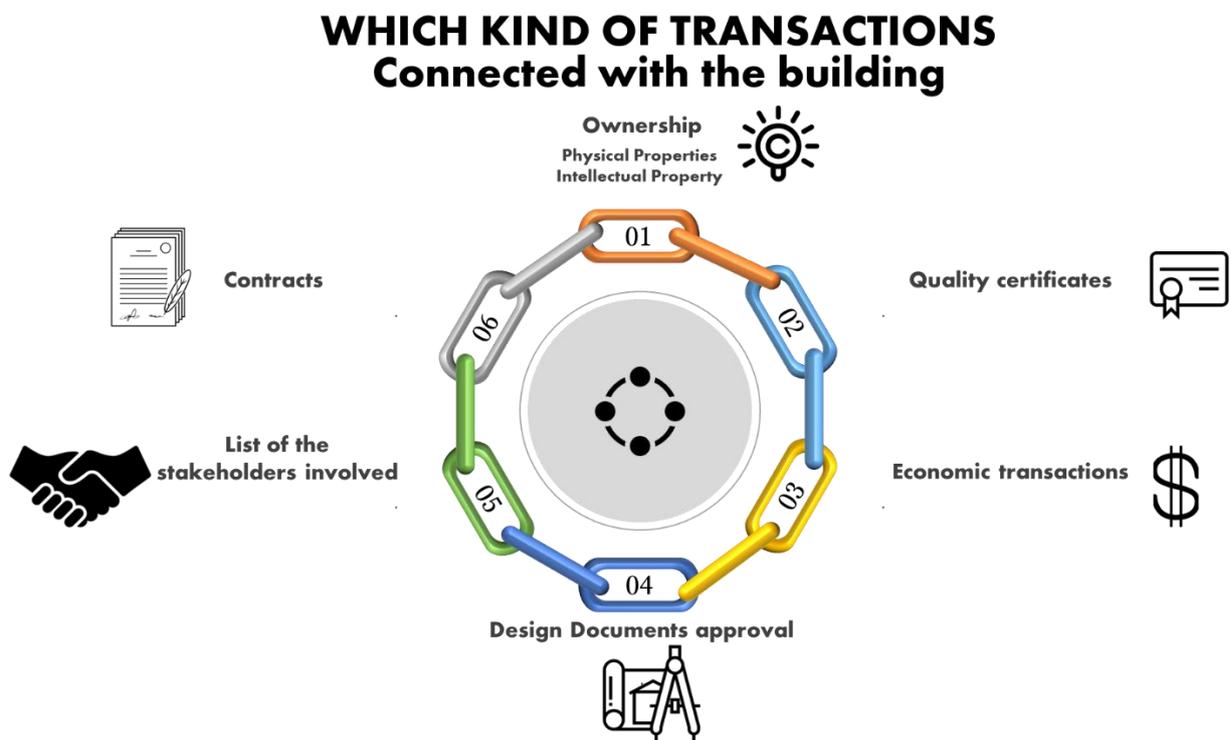
Figure 10 - Types of transactions of Alivebuildings app

This digital platform will be very helpful for the collaboration between all the different stakeholders involved, from the designing process until the construction and maintenance of the buildings. As we can see in the figure 10 above, the purpose is to connect with the Blockchain technology the different tasks of the building process with the different stakeholders.

The mission of the company is providing Consulting Services and in addition selling the SaaS platform (Software as a Service, in this case it will be a Vertical SaaS, which answers the needs of a specific industry AEC).

With the platform the revenues come from the different subscription plans offered, in relation with the different services offered by the platform.
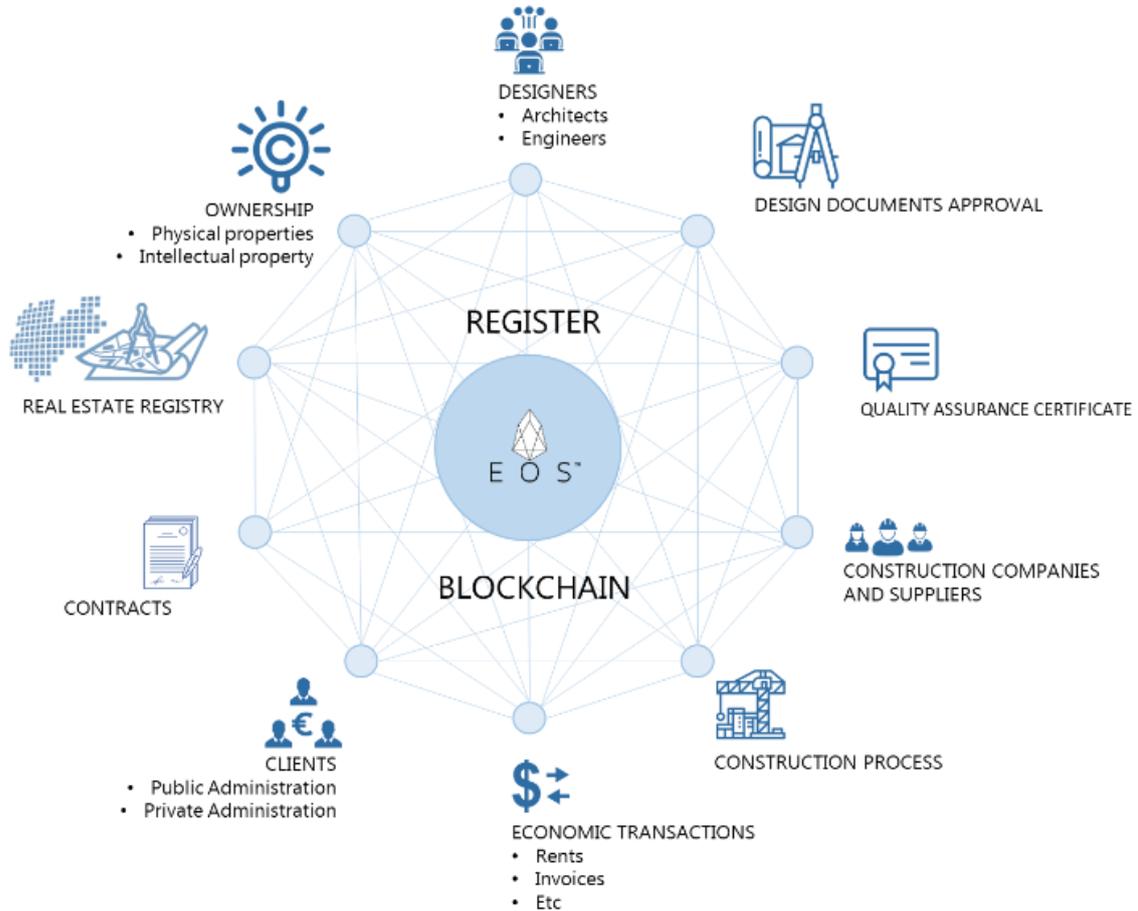
Figure 11 - Transaction's scheme. App features in relation with Stakeholders involved.

3.5.   Target of the platform in the long run

Alivebuilding's target is to create a digital archive where all the transactions of buildings and civil constructions are automatically tracked and recorded during their life cycle.
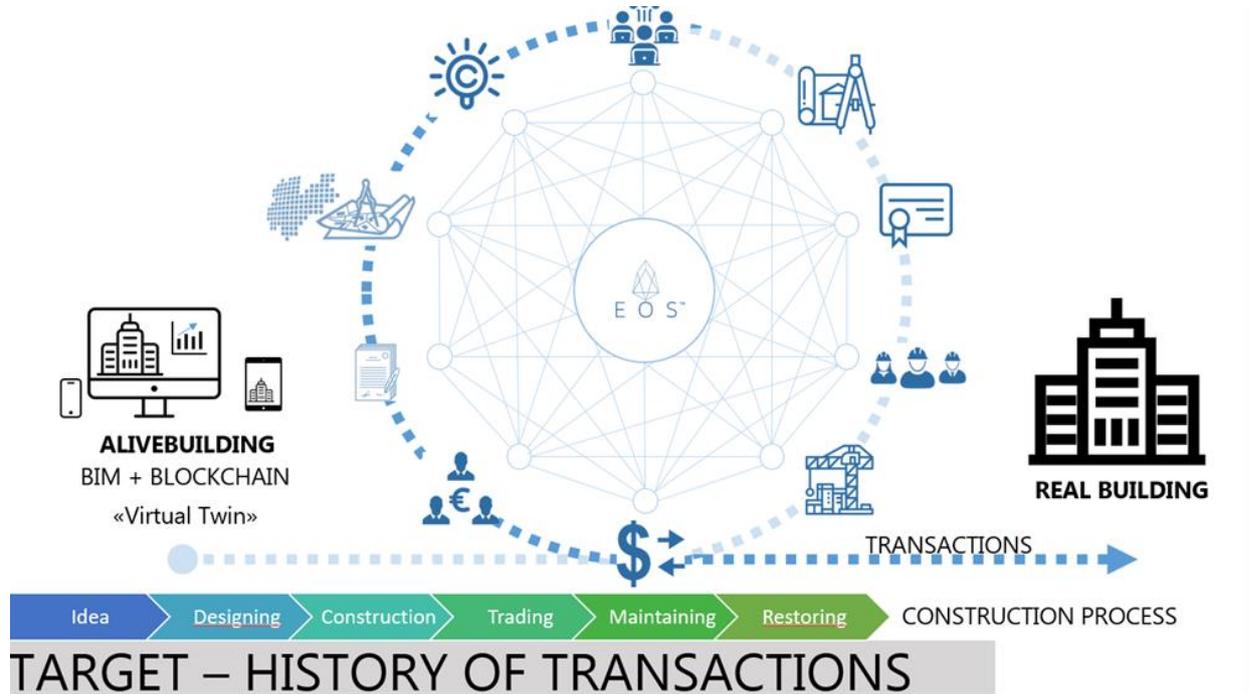
Figure 12 - Target of the Platform

From the early stage of the building process design, until the maintenance and restoring activities the platform will record all the transactions occurring in the life cycle process.

The aim is to measure the performance of the building assets during the entire life cycle in order to make the right sustainable strategies and decisions to manage better the real estate assets. In long run, the target of the platform is to manage the transactions of the entire cities starting from the management of each single building. The word "transaction" means "a completed agreement between a buyer and a seller to exchange goods, services, or financial assets" (Merriam-Webster, Transaction. In Merriam-Webster.com dictionary., s.d.) . Also "the transfer of ownership of something from one person to another for a price" (Merriam-Webster, Transaction. In Merriam-Webster.com thesaurus., s.d.). According with these definitions, we want to explicit what kind of transactions are involved and saved in the digital archive of Alivebuilding's application:

IN THE SHORT RUN

- INTELLECTUAL PROPERTY RIGHTS: For example, of the design, the technologies provided, patents or licences.

- ARCHIVE OF THE DESIGN DOCUMENTS: mostly when they are approved by the public administration.

- ARCHIVE THE 3D DIGITAL MODELS and all the data and parameters related in a Digital Real Estate Registry.

- ECONOMIC FUNDS TRANSFER: In this case, we are talking about the electronic exchange or transfer of money from one account to another. For example, the payment or the missing payment of design services, construction materials, each step of the field construction.

- REAL ESTATE TRANSACTION: the rights of property's unit is transferred between two or more parties. In the case of purchase of the building.

- COSTS TRANSACTION: The costs incurred in using assets. These costs can be identified in taxes, bills, invoices, and they produce an economic exchange from one account to another. For example, the rent of a house is a cost in using an asset without having ownership of the asset itself. LAW TRANSACTION: the practice of law concerning business and commerce. For example, registering contracts or ownership.

From the technical point of view, the platform works by creating a 3D digital model of the construction/building whereby the help of Blockchain's technology saves all the parameters and all the transactions in it. With this system, we realize a digital twin of the real Building. (Figure 13)
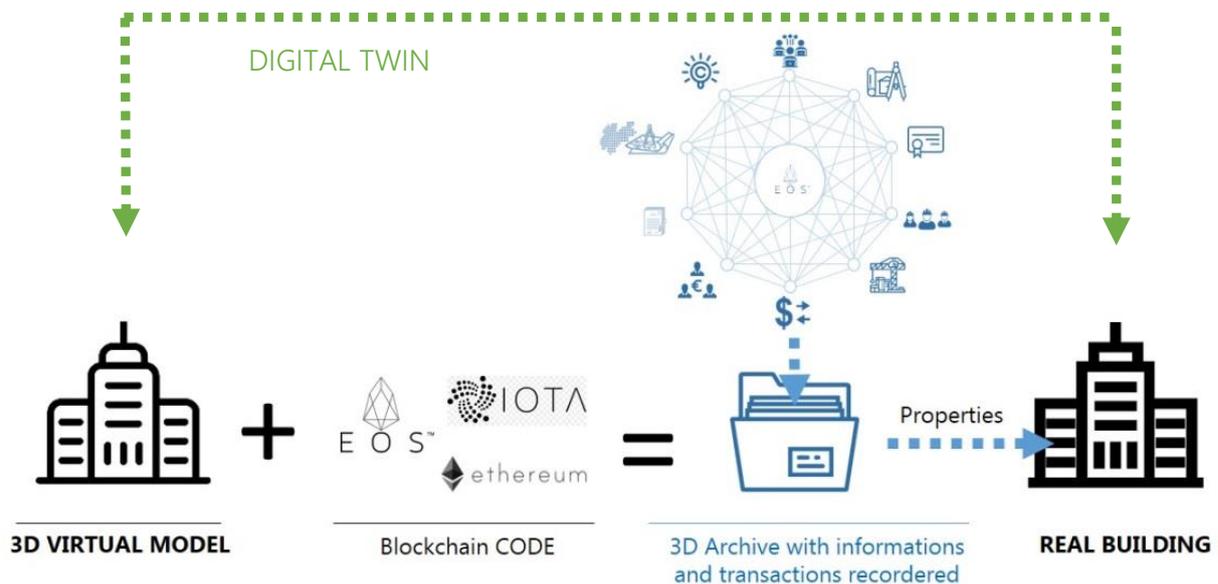
Figure 13 - Alivebuilding prototype

3.6. Target of the platform in the short run

We chose to achieve 3 targets in the short period due to are the most valuable and useful for the construction process. More specifically we refer:

- INTELLECTUAL PROPERTY RIGHTS:

To attribute the copyright to the three-dimensional BIM models of the constructions and certification of guarantee of conformity of the required design requirements.

Management and protection of intellectual property, copyright, and distribution rights of three-dimensional digital BIM models, used for the design of buildings. All the crucial steps in the design, construction and management process of the work will be implemented and managed through consensus algorithms necessary to ensure the achievement of the expected objectives in the various project phases.

- PROJECT MANAGEMENT: Optimization of the management of the single project.

Project management activity and all the information inside the BIM 3d models are decentralised by Smart Contracts.

- DIGITAL REAL ESTATE REGISTRY:

BIM models become a representative base of the state of art of the real asset.

- For the public administrations we provide a new method of stacking and certifying the state of the art of the buildings by the creation of a CERTIFIED DIGITAL LAND REGISTRY. In this Registry we will save the 3D BIM model with all the information certified with a Blockchain technology.

   Ordinary and Extraordinary maintenance activities will be, saved and certified through Blockchain models in digital BIM.

- For the private REAL ESTATE sector, CERTIFIED DIGITAL LAND REGISTRY will be a private registry, a sort of database where all the real estate assets belonging to the group will be saved and digitized.

   Through this private land registry, they will be able to easily control the costs of asset management, ordinary and extraordinary maintenance activities, and profits from rents.

Furthermore, these digital models and all the information contained could be linked in the future in a digital real estate marketplace, in such a way as to facilitate the sale, exchange or rental of the property, in a totally transparent way for the seller, the buyer, or the tenant, as the virtualization of the property and the information contained therein are transparent and certified by the Blockchain.

This is also due to the technological ability of Blockchain to allow a process of fragmentation of an asset, through the creation of digital tokens that represent the single unit that makes up the real asset. (Example real estate unit such as a flat)

3.7.   What is a SaaS?

"Software as a Service, also known as SaaS, is a cloud-based service where instead of downloading software your desktop PC or business network to run and update, you instead access an application via an internet browser. The software application could be anything from office software to unified communications among a wide range of other business apps that are available". (Turner, 2019)

According with this definition, we considered SaaS model the best solution for our business proposal mostly because we noticed that there are some advantages, resumed in the list below:

- SaaS selling models are easy to start.

- They have low implementation costs.

- SaaS business models are easy to use and maintain.

- They are readily available, in the sense that the user does not encounter difficulties of downloading and installing the software.

- For this kind of platforms are require a very limited staff.

- Mostly it's a scalable product.

In addition, with the pictures below we want to resume the differences between traditional Software and Saas software, in order to perceive some technical advantages of the choice.

Figure 14 - https://www.imaginovation.net/blog/how-to-know-if-saas-application-concept-will-be-profitable/
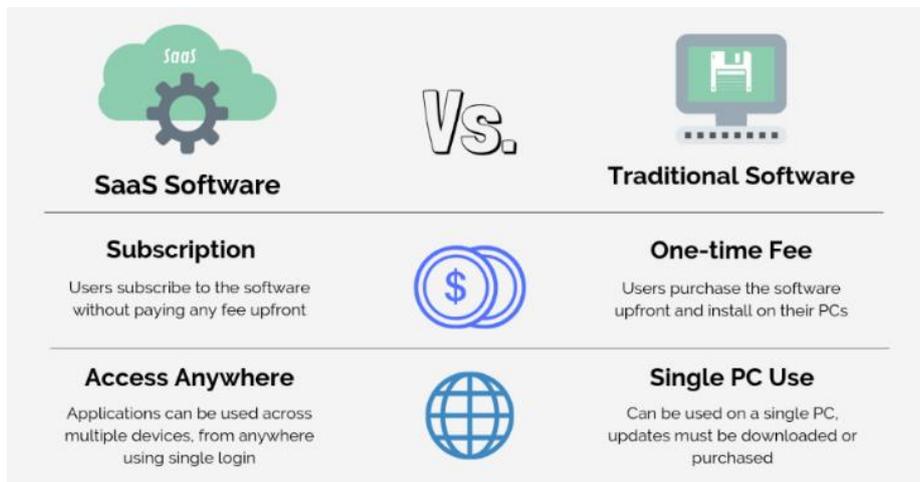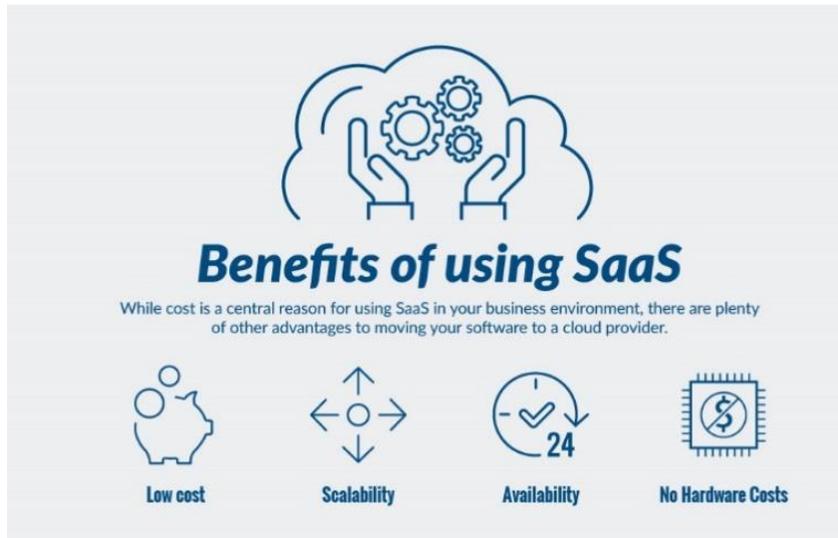
Figure 15 - Advantages of software as a service (SaaS) – it business case for smes

Another aspect that influenced the choice to develop a SaaS and not a traditional software is also market tendency. As reported in Synergy Research Group's review of enterprise IT markets and resumed with the graph attached below (figure 15), SaaS annual revenues exceed $100 billion in 2019.From 2009 to 2019 SaaS market has grown by an average of 39% of revenues per year, in the opposite perpetual license software have grown by an average of 4% of revenues per year. Share of the total Enterprise Software Market has reached 23% of the total market, starting to grow from 2% in 2009. We do not know if this trend will continue in the future, but currently this trend may be favourable to our business.
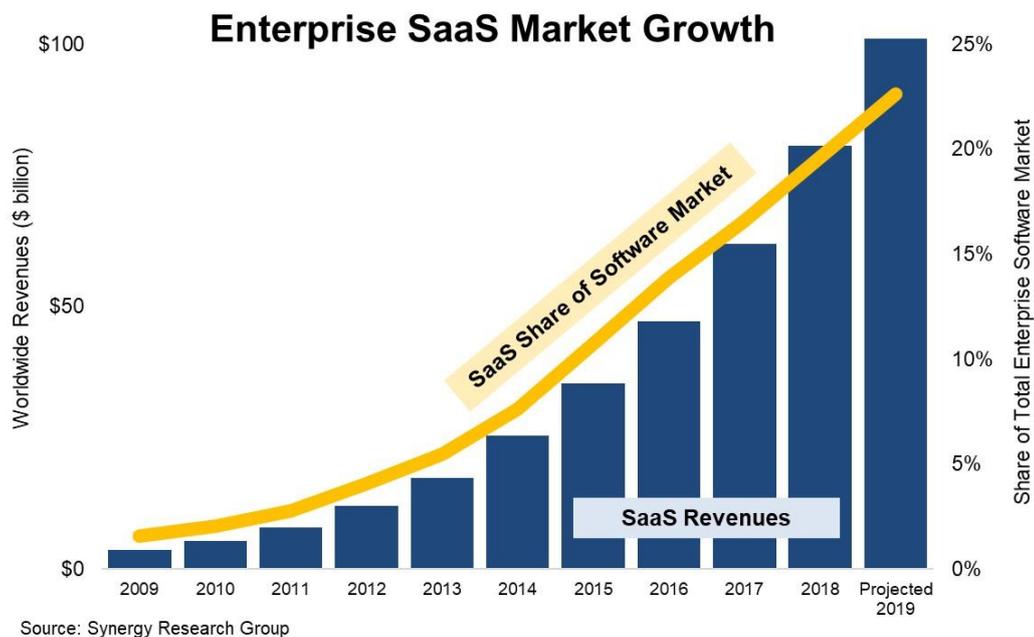
Figure 16 - Enterprice Saas Market Growth and Share of total Market https://www.srgresearch.com/articles/the-decades-megatrends-in-numbers-part-2

3.8. Where can I find the application/software?

As a SaaS software, ALIVEBUILDING can be used in different platforms depending by the device that the customer is using:

- WEBSITE - Personal Computer

- APPLICATIONS - Mobile devices Tablets and Mobile Phones according with the operation system (Android, IOS)

This ecosystem allows a single data collection platform that is always up to date and available from the different devices.
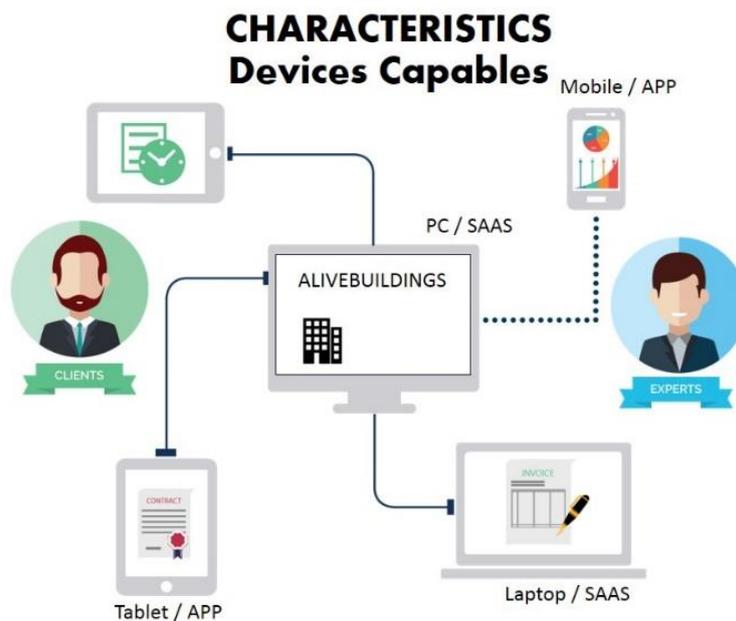
Figure 17 – Devices where Alivebuilding is available.

The application will be also downloadable from Company's website and furthermore by mobile application. In the early stage, the idea is to build the website with Wordpress because it is easier and cheaper. In addition, search engines treat Wordpress websites like any other website: their content is indexed and available to the entire Web community. WordPress platform is also the friendliest system for SEO, and we can easily optimize the pages of our website to achieve a high position in search engines. We can easily promote it through different social networks allowing the spreading of people who could be interested. In conclusion, making in the early stage a website without Wordpress could be a risk due to the complexity of features and the result could be very poor but at the same time expensive.

As a reference, I chose Slack's website that provide a SaaS Software with a subscription. (Figure 18) The target of Alivebuilding's website is to achieve the same Website setting, following the same framework.

We underlined the parts of the Slack Website that we want to follow and carry out in Alivebuilding website:

- [ ] - On the blue square of the picture's website there will be all the information of the product talking about the features, the prices and also talking about the customers stories that this section will be very helpful for reaching new costumers and also for the SEO in order to give order and create a page in relation of this topic.

- [ ] - On the green square, we underline the uses of the software and for which customer profiles it is useful.

- [ ] - On the yellow square, we will set up the resources like media, blog and tips.

- [ ] - Black square all the information of the company

- [ ] - Red square there are all the social links associated with SaaS product. There are the links of YouTube, Twitter, Facebook and LinkedIn, in short, all our social channels.
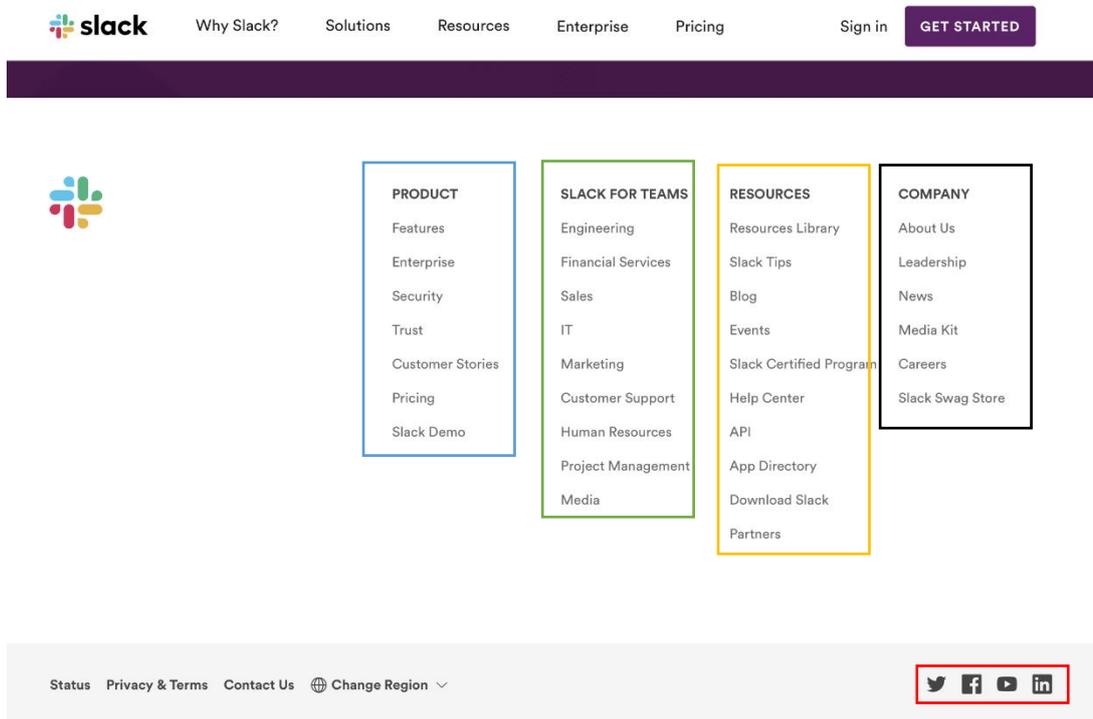
Figure 18 – Reference of the Website's Layout

On the bottom of the page, we will set up the companies' partners. In the picture below (Figure 19) we can see an example.
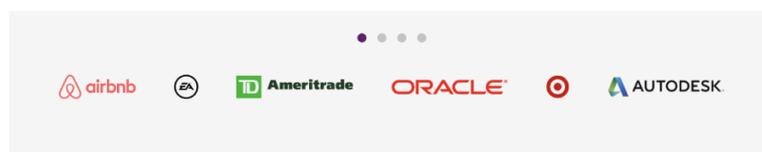
Figure 19 – Example of Ribbon partners

4. ANALYSIS OF THE ENVIRONMENT

4.1. PEST Analysis

"PEST is an acronym of four sources of change: political, economic, social, and technological. PEST analysis is a powerful and widely used tool for understanding strategic risk. It identifies the changes and the effects of the external macro environment on a firm's competitive position." (Sammut-Bonnici, 2014)

In the picture below the four factors of PEST analysis are resumed, comprising their components and values treated.

Figure 20 - PEST Factors -https://strategiccfo.com/pest-analysis/

In the picture below, we can see that there are some variants of PEST depending by the External Macro Environment. In addition, the application of the analysis changes depending on what we want to analyse inside a firm. Indeed, the analysis can be done for the entire firm, for its own products, for its business unit and for other firm interested to have a partnership or to invest. In this case, we applied the PEST analysis for my Business, for the product and the services provided.
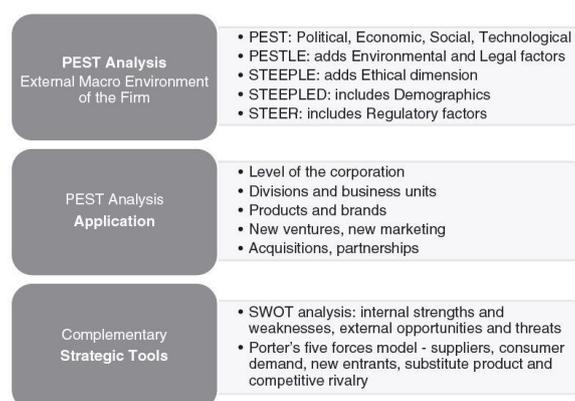
Figure 21 - Summary of PEST components, application, and complementary strategic tools - Source PEST ANALISYS - Wiley Encyclopedia of Management, edited by Professor Sir Cary L Cooper

Talking about the platform, the target will be Worldwide in the long term. Instead, in the short term, it will be delivered in Italy, the country where we will set up our start-up. Through the PEST analysis and chapter 5 (Characteristic of the Market), we mainly analyse the Italian market as the reference market where we will launch the application and we will slightly analyse the foreign markets in preparation for an expansion and launch of the application also in these countries.

POLITICAL FACTORS

Figure 22 - Political Factors - Source PEST ANALISYS - Wiley Encyclopedia of Management, edited by Professor Sir Cary L Cooper

In the early stage of the company, the reference market it will be Italy, mostly because the company will set up in this country. In Italy, we could have some Government instability, and this could be a problem when we want to achieve agreement of selling with one public administration. In addition, the big number of corporations can be a problem for trading our product. We need to certify our software with Italian certification bodies. Internationally speaking, political factors will change according to the country where we are selling the product. In order to achieve trustiness from our customers, we will need to certify our Software product with international certification bodies.

HAVING A LOOK OUTSIDE ITALY

Italy belongs to EU country, and we need to consider this position as a political opportunity. Indeed, European Union is making some strategical actions truth calls for project proposals. This could be helpful to find funds of investment and to make relationship with European companies or bodies interested in our project.

UK is no longer part of European Union, but we consider this country very important for our business because BIM technology is well developed there. Since 2016, UK adopted strong strategies and policies to introduce BIM technology in all their public projects. This spreading adoption represents a big market opportunity to sell our Software. We consider UK the most mature market of all Europe.

From a political point of view, it is often said that China is a country with political restrictions, more specifically censorship restrictions. However, China is one of the largest virtual markets in the world where millions of users shop online every day, mostly from smartphones. Politically speaking, if we want to sell our product, we need to understand how this market works and how we can reach many customers through the online platforms that the Chinese normally use.

Therefore, to make a legal website in China, we need to have a domain hosted on a server resident in the Chinese territory and for this reason it is necessary to apply for the ICP (internet content provider license), but it is not easy for a foreign company to do this. This could be an opportunity to open a collaboration relationship with Chinese companies in the AEC sector, ready to invest in our business or to help us to overcome the political restrictions.

ECONOMIC FACTORS

Market or industry profitability and overall attractiveness for sure depends by the impact of economic factors.

Figure 23 - Economic Factors - Source PEST ANALISYS - Wiley Encyclopedia of Management, edited by Professor Sir Cary L Cooper

We use GDP (Gross Domestic Production) to understand each country's market potential. GDP at Purchasing Power Parity (PPP) enables equitable comparisons amongst various countries, because each country has its currency and its cost of life. GDP PPP allows comparing the GDP in each country. Understanding the wealth and the lifestyle of one country is useful for our Economic analysis, because our product is not common and mostly, we can sell it to wealthy countries.
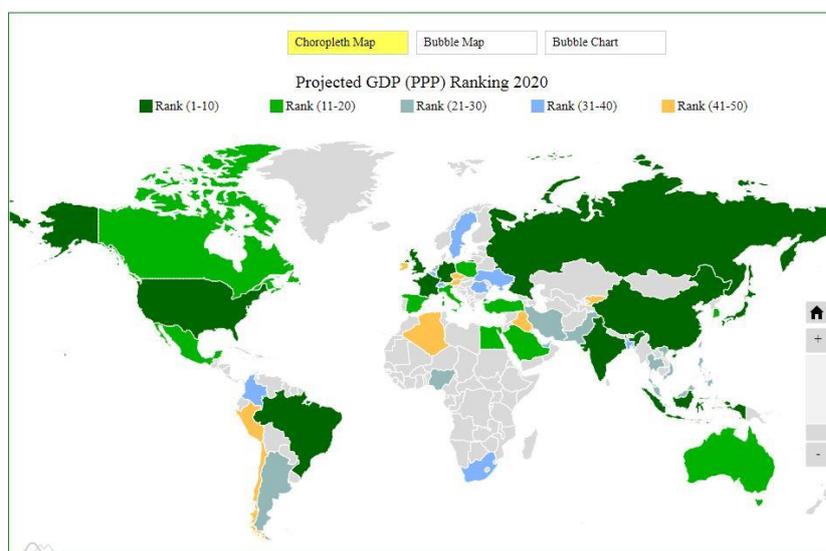
Figure 24 – GDP (PPP) http://statisticstimes.com/economy/projected-world-gdp-ranking.php

GDP (PPP) Ranking

Country/Economy	GDP (PPP) (billions of Int. $)						Growth (%)	GDP per capita (PPP) (Int. $)		Continent
	2019	Rank	2020	Rank	Share	diff	2020	2020	Rank	
China	23,393.00	1	24,162.44	1	18.6 %	-	1.85	17,206	77	Asia
United States	21,433.23	2	20,807.27	2	16.0 %	3,355	-4.27	63,051	7	North America
India	9,542.26	3	8,681.30	3	6.67 %	12,126	-10.29	6,284	129	Asia
Japan	5,450.65	4	5,236.14	4	4.02 %	3,445	-5.27	41,637	31	Asia
Germany	4,672.01	5	4,454.50	5	3.42 %	782	-5.98	53,571	18	Europe
Russia	4,135.99	6	4,021.73	6	3.09 %	433	-4.12	27,394	54	Europe
Indonesia	3,331.87	7	3,328.29	7	2.56 %	693	-1.50	12,345	99	Asia
Brazil	3,222.99	10	3,078.90	8	2.36 %	249	-5.80	14,563	87	South America
United Kingdom	3,254.85	8	2,978.56	9	2.29 %	100	-9.76	44,288	28	Europe
France	3,228.04	9	2,954.20	10	2.27 %	24.4	-9.76	45,454	26	Europe
Mexico	2,625.90	12	2,424.51	11	1.86 %	530	-8.95	18,804	71	North America
Italy	2,665.52	11	2,415.41	12	1.86 %	9.10	-10.65	40,066	34	Europe
Turkey	2,471.66	13	2,381.59	13	1.83 %	33.8	-4.99	28,294	52	Europe
Korea	2,304.83	14	2,293.48	14	1.76 %	88.1	-1.88	44,292	27	Asia
Canada	1,921.00	16	1,809.00	15	1.39 %	484	-7.14	47,569	24	North America
Spain	2,006.05	15	1,773.36	16	1.36 %	35.6	-12.83	38,143	39	Europe

Figure 25- GDP PPP Country Table - http://statisticstimes.com/economy/projected-world-gdp-ranking.php

Above is attached the global ranking of GDP PPP. We want to use these tables to choose the right countries where to arrange a marketing strategy. As we can see through the table, China, USA and India are countries with more powerful economies in the world. In the early stage, we would like to focus on these countries and in Europe in Germany, UK, and France.

As we can see in the table, Italy is the 12th country of the world by GDP but we will set up the company in this country, so we consider this country our headquarter.

SOCIO-CULTURAL FACTORS

Figure 26 - Social Factors - Source PEST ANALISYS - Wiley Encyclopedia of Management, edited by Professor Sir Cary L Cooper

Each country in which we want to develop our business has its own socio-cultural factors.

Demographically speaking, USA and China are the largest states where we want to make our business, and this may affect the sales volume of our software. Being diametrically opposed countries, it will be important to study the right marketing strategy. In fact, these countries use completely different social and e-commerce platforms, and we must consider them.

From a social and cultural point of view, North America, Europe, and China have different built heritage. Europe is "the old continent" with the largest building stock. It could be very old and

must be maintained and protected differently by China and the United States. The US real estate is newer than Europe. United States cities are full of new buildings and skyscrapers, and this means that US public administrations prefer to demolish and rebuild buildings instead to maintain them. With this reasoning, we need to set up a software able to manage both cases.

TECHNOLOGICAL FACTORS

Figure 27- Technological Factors - Source PEST ANALISYS - Wiley Encyclopedia of Management, edited by Professor Sir Cary L Cooper

Alivebuilding is a software that connect two innovative technologies Bim and Blockchain, and this can be a driving force for the growth of our business in the long term. Also, with the spreading of these two technologies, customers will need services to make possible the adoption and the implementation in their companies and this represent an income from the revenue model point of view.

As our product is technologically very advanced, we want to analyse the digital readiness of the countries to understand which are the most compatible to develop our business.

In 2020, Cisco Systems did a research in order to understand what it means for a country to be digitally ready. Cisco created a specific framework to measure for each country some aspects for example Ease of Doing Business Technology Infrastructure and Technology Adoption, Human Capital, Business and Government Investment, Basic Needs and Start-Up Environment.
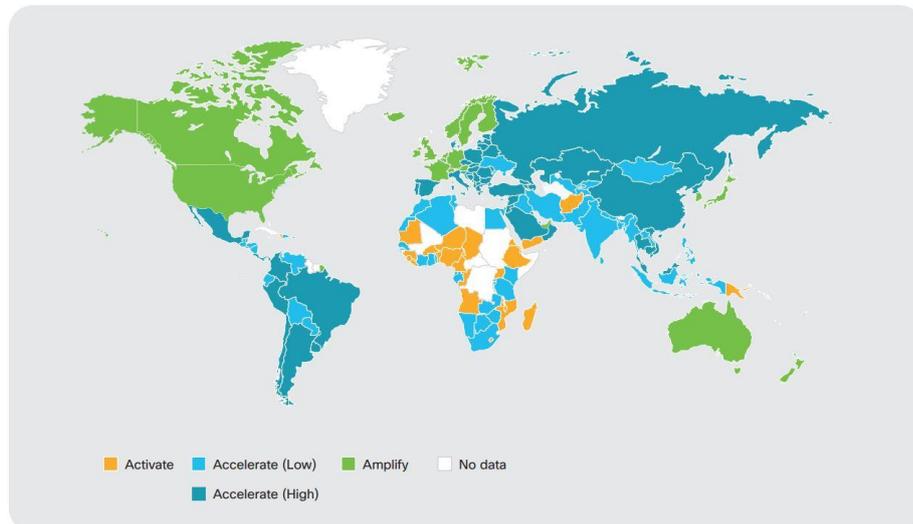
Figure 28 - Cisco Global Digital Index 2019

The analysis shows three stages of digital readiness: Activate, Accelerate and Amplify.

Now we want to understand what digital readiness is like in the country where we would like to start our business. Talking in short term the first country we want to check is Italy where we want to begin our business. As we can see that digital readiness is "accelerate" (high).

Having a look at which countries in the future we could start our business, we can see that in Europe UK, Germany and France is already amplify. Spain digital readiness is in Accelerate (high) stage as Italy. Northern America with US and Canada, digital readiness is amplified. Talking about Eastern countries, China is in Accelerate (high) stage.

For our business, we can consider positive the result of this research mostly the digital readiness of Italy the country where we will set up the company.

4.2. SWOT Analysis

"A SWOT analysis evaluates the internal strengths and weaknesses, and the external opportunities and threats in an organization's environment." (Tanya Sammut-Bonnici, 2014)

Analysis of internal strengths and weaknesses

We analysed the micro internal environment of the company and the organizational functions.

STRENGTH

From the strength points of view, there are 3 partners who set up the Startup.(This topic will be explain better in chapters 7.3 and 8.1). These 3 partners are highly trained and specialized profiles from the academic university environment and will also be part of the team with the role of BIM and BLOCKCHAIN Developer and therefore the function of supervisors and controllers of the software development process. In addition to this, they will also control the supply and consultancy part of digital services as regards BIM and BLOCKCHAIN technologies.

Having partners with an academic profile and specialization, allows the company to save costs of human resources with the same skills and competences. In addition, being partners and entrepreneurs means they bear less because they are directly involved in the project. In the first time the target of the partners is not earn money. In the early stage of the company the target of the partners is organize and manage a strong company's foundation in order to have a solid cashflow in the future. In addition, carrying on the business in three people could be strategic from the marketing point of view and

In our favour there are already existing relationships with some Italian standardization bodies, engineering companies and construction companies and these collaborations are already in place.

WEAKNESSES

As a startup we don't have too much experience, therefore we will need time to set up an effective workflow and refine the collaboration mechanisms.

We have the financial resources to open the company, arranged by the partners but we do not have the economic resources to finance the first years of activity. This point is crucial. The company will be able to start activities only when it has reached enough financial resources for paying employees' salaries, at least until the fulfilment of the product and the beginning of the sale. Therefore, it will be compulsory to identify strategies to finance our startup. Having two types of revenues is also an advantage, because the company will be profitable, but it can be less simple than having a single product to manage.

From a numerical point of view, our team will be planned to have the right number to design the software and in addition carry on the activities of consulting services with the technologies involved. Optimizing the number of human resources allows us to save costs and distribute resources according with the planned activities, but on the other hand, it could be a risk in the next phase, i.e. when we will enter in the market selling the software.

The risk will be that we need more people to manage the needs of the customers, for example software issues or needs of some implementation. According with this assumption, customers need to keep in touch with the development team in order to provide them information or solve the issues.

Analysis of external opportunities and threats.

We analysed the macro external environment of the company, General environment, Competitor environment and Industry environment.

OPPORTUNITIES

In the current market there are some competitors that are trying to introduce a software platform. Companies like BIMCHAIN and ARUP Group (Group, 2019) are studying and developing a solution, but they have not started selling their product yet.

This situation is a double strength. Firstly, because having competitors means that there is a market scope, mostly with a huge company like Arup that is investing resources for developing a product. Secondly, because right now there isn't a product in the market means that we could be among the first ones to introduce a product in the marketplace.

Moreover, both are foreign firms, (BIMCHAIN from France ARUP Group from U). Therefore, for us could be an opportunity to focus on in our country market (Italy) and see what the developments of these two companies are.

THREATS

Our competitors have been studying a solution since 2019 (Group, 2019) and this obviously is a weak point for us. We must make up for lost time and there are a lot of possibilities that we will enter in the market later than the other two companies.

The choice to go in different markets can lead to legal problems or to different regulatory provisions and legislative rules that can stop the development of the business or in some cases partially change the software.

5. CHARACTERISTIC OF THE MARKET

5.1. Business Model Canvas

Business Model Canvas is attached as ANNEX 1 at the end of the document.

5.2.   BIM Economic Environment and trend

The report "Building Information Modelling Market by Type (Software, Services), Application (Buildings, Civil Infrastructure, Industrial, Oil & gas), End-User (AEC, Contractors and Facility Managers), Project Lifecycle, and Region - Global Forecast to 2024" reports global BIM market value growing from $ 4.9 billion in 2019 to $ 8.9 billion by 2024.

According with this report is expected to reach a compound annual growth rate (CAGR) of 12.7%. The main factors driving the market growth are growing of BIM trends and government initiatives for BIM adoption.

Below we can see the projection of BIM market growth by regions. Market was classified with the follow division:

- North America
- EU
- APAC (Japan, China, India, and South Korea)
- RoW (South America, Middle East & Africa)

The graph below shows the current value and the market projection.
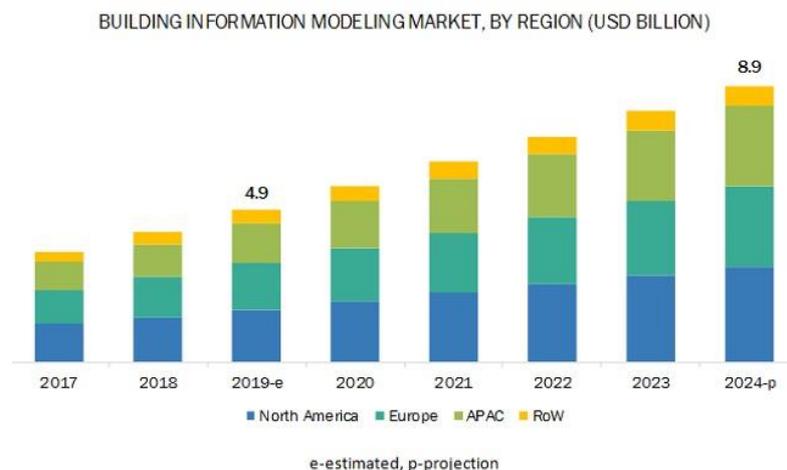
Figure 29 - BIM Value Market by Region -Building Information Modelling Market by Type (Software, Services), Application (Buildings, Civil Infrastructure, Industrial, Oil & gas), End-User (AEC, Contractors and Facility Managers), Project Lifecycle, and Region - Global Forecast to 2024

The report points out a steady growth of BIM, and the potential for success comes from more and more governments and public sector organizations getting involved, increasingly promoting the adoption of BIM at a national, regional, or public level at a strategic level.

As we can see in the ANNEX 2 at the end of the document, we have another comforting data is that this technology is it is being introduced little by little, and in the coming years adoption is expected to grow.

BIM Implementation in Europe (2016)
Mandatory use of BIM in public projects
Expected mandatory use of BIM in public projects
Regular use of BIM
Incipient use of BIM
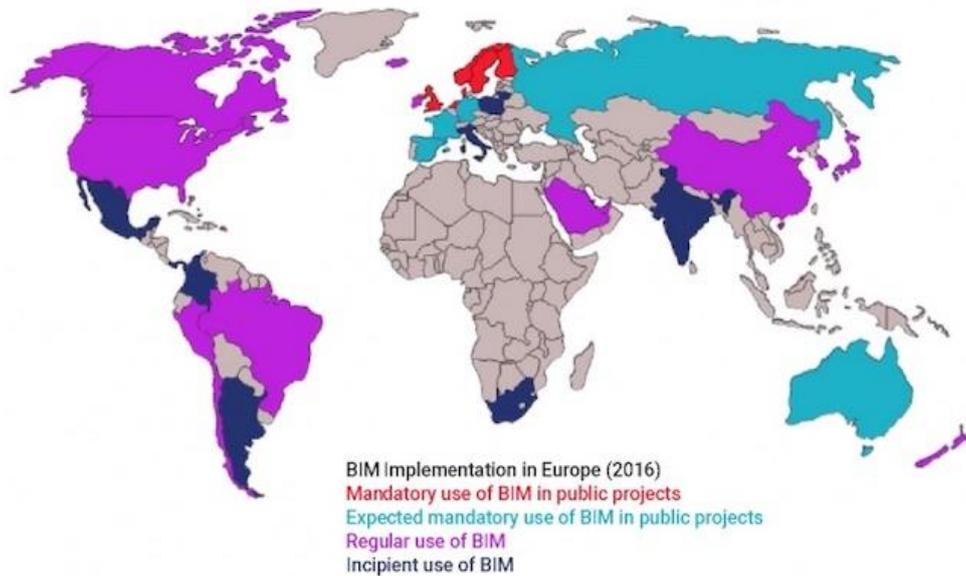
Source: Spanish Chapter Building Smart website

Figure 30 - Mandatory use of BIM - Source Spanish Chapter Building Smart

With the figure 30 we can see that although only in Scandinavian countries BIM is mandatory (red colour), it has a regular use in the countries high lined with magenta colour. As we said before, in the future we expect the full introduction in the other countries, mostly for the management of the public procurements.

5.3.   BLOCKCHAIN Economic Environment and trend

Investments in blockchain technologies, solutions and skills continue to grow at increasingly significant rates. The new edition of IDC's Worldwide Blockchain Spending Guide expects a worldwide shift from a forecast of $ 4.5 billion for 2020 to a forecast that brings this investment volume to $ 19 billion by 2024. IDC expects a compound annual growth rate (CAGR) in these five years by 48%.
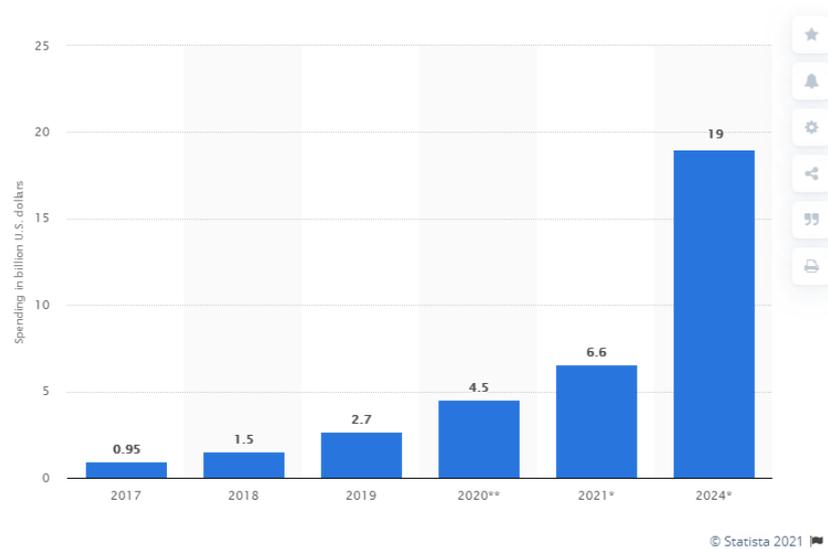
Figure 31 - Worldwide spending on blockchain solutions from 2017 to 2024 (in billion U.S. dollars) - Source https://www.statista.com/statistics/800426/worldwide-blockchain-solutions-spending/

Despite SaaS license sales are distributed by the website (therefore on the international market), it was prudently hypothesized to sell the product only in the Italian market, due to the company will be based in Italy and therefore easier to create a network of customers.

In addition, Italy is one of the countries that has activated a mandatory BIM adoption policy (from 2019) for participation in public tenders, so it is thought to have a greater "breakthrough impact" in this country.

5.4.   Market target and differences Between B2B and B2C Marketing

In early stage we are going to sell ALIVEBUILDING in Italy and after we aim to reach main EUROPE countries and in the second step worldwide market, mostly USA, CANADA, CHINA. We treat these aspects on the PEST Analysis in the chapter 4.1.

In the early stage, the platform will provide two languages, English, and Italian. We suppose to develop other languages depending on the penetration and sales volume in the various countries.

5.5.   Target of customers

Below we attached a brief list of the types of customers that we should reach.

DESIGNERS	ADMINISTRATIONS	CONSTRUCTIONS COMPANIES	REAL ESTATE
•FREELANCES •CONSULTANTS •DESIGN COMPANIES •CONSTRUCTION COMPANIES	•PUBLIC •PRIVATE	•GENERAL CONTRACTORS •CONSTRUCTION MATERIALS PROVIDERS	•REAL ESTATE COMPANIES •INFRASTRUCTURE NETWORK CONTROL COMPANY

Table 1 - Target costumers' table

The diagram summarizes the group of customers involved in the AEC process. Mainly we have 4 groups: designers, administrations, construction companies, real estate companies.

1. DESIGNERS: The customers inside the group DESIGNERS, could be Engineering and architectural company, freelance, consultants and Project Management companies.

2. ADMINISTRATIONS: The costumers inside the group of ADMINISTRATIONS could be private and public administrations. On one hand, public administration could be Town halls, public works management bodies and whatever region and state administration in charge of managing public constructions. On the other hand, we have private administrations that manage private construction assets.

3. CONSTRUCTIONS: The costumers inside the group CONSTRUCTIONS COMPANIES are general contractors and suppliers of construction materials.

4. REAL ESTATE: Inside the last group, we have all the REAL ESTATE companies' owner of building assets.

Therefore, with these kinds of customers we can say that we have two types of market:

- B2B
- B2C

"B2B" stands for "business to business," when a business sells products and services directly to another business. Instead, "B2C" means "business to consumer" means a business sells products and services to customers for personal use.

B2B	B2C
SaaS	Consulting Services
Freelance	All the stakeholders interested in:
Engineering an architectural company	- Consulting
Project Management companies	- Sharing Knowledge - Courses
Public/Private Administrations	
General contractors	
Suppliers of construction materials.	
Real estate company	

Table 2 - Customer Subdivision

5.6.   Key Customer

B2C customers are all the customers that we will provide Services as courses about BIM and BLOCKCHAIN technologies or engineering consulting services. To reach these kinds of customers we use the common PR strategy with events, exhibitions, Email Marketing. And direct contacts with our Product Manager.

From the above list of customers, we need to find the Key Customer, who is a sort of transversal customer that can make our program known, and passively do marketing work for us sharing our project to other customers. From our point of view FREELANCES and CONSULTANTS are the strategies decision makers of the big companies.

When a big company has to face with new jobs, or they need to find new software solutions they used to ask a consulting opinion from FREELANCES and CONSULTANS.
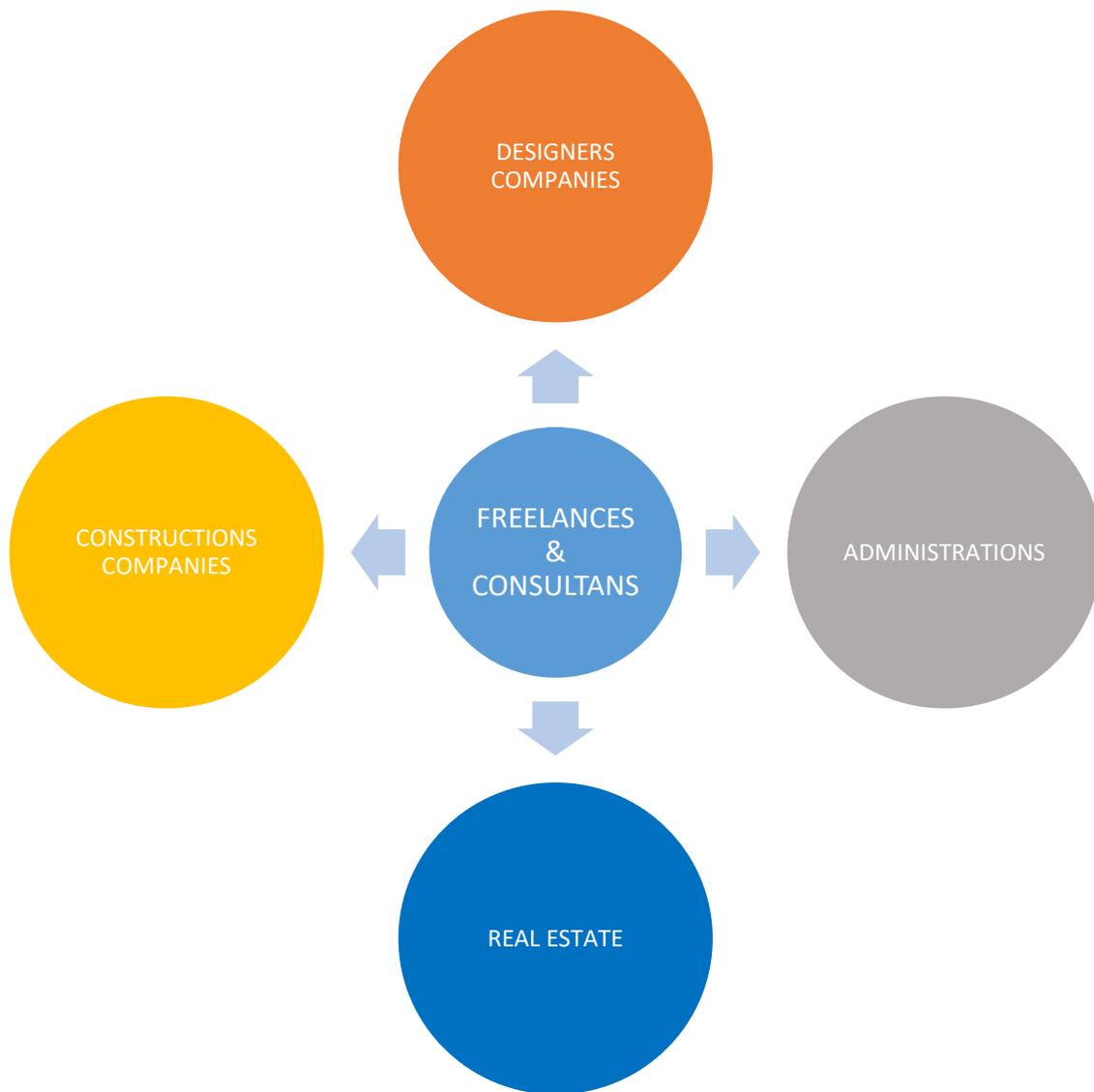
Figure 32 - Key Customer

In addition, we need to consider that when we are investing in the different segments in B2B it is necessary to have orders of a certain size from the single customer. Selling our software means that we want to reach a large group of people and the best tool to achieve the target is Web and social media. With these tools we can establish a continuous relationship with costumers keeping them informed.

6. MARKETING PROMOTION STRATEGY

6.1.Promotion strategy

The promotion strategy will be divided in 4 principal fields: Social Marketing, SEO, SEM Online advertising, and public relationship with customers promoting events participating in trade exhibitions for example. As said in the chapter 5.6, in PR Events, exhibitions our target is to reach Freelances and Consultants, because usually as experts they are called to give a solution to large companies.
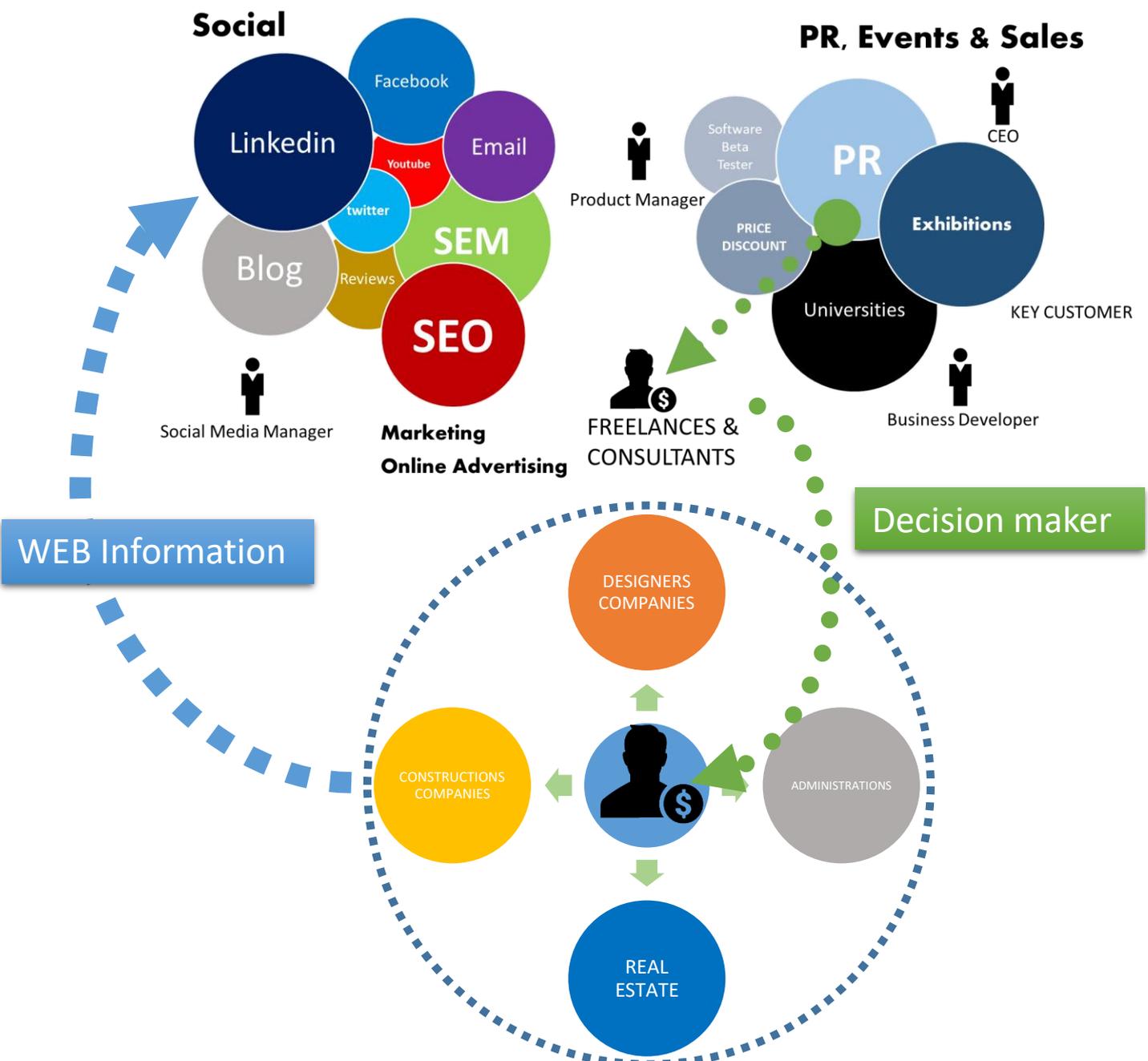
Figure 34 - Promotion Strategy scheme designed.

SOCIAL MARKETING

Nowadays social platforms are the quickest way to promote our business. We use social platforms with the purpose to promote, share quickly, and easily reach the customers.

The target is to open four social channels in four different platforms.

• LinkedIN: increases the visibility and even it allows raising company's profile, adding telephone, website, and email contacts. The purpose is to promote a marketing campaign, sharing information about the SaaS software and about the company. Also, in LinkedIn allows uploading and sharing short video tutorial from YouTube Company's page. We can develop our net by the exploiting of collaborations with the collaboration companies that use our SaaS application. By hashtag from their profile pages, we can reach new customers.

We can use LinkedIN also to share some tips or some articles from our blog.

• YouTube: We use this platform in order to share some tutorial video about how to use the platform. At the end of each video, we will share our contacts.

• Facebook: we use this platform to share the news and the tutorial video from YouTube. We use this platform also to share special offers.

• Twitter: easily promote SaaS Product. With this social platform we can easily share links, blog stories, journal articles reaching many people quickly.

We can follow the work of other experts in construction field and start to build relationships with them showing our SaaS's potential and achieving new followers. In addition, we keep the audience up to date with our latest news and developments.

Twitter allows us to seek feedback about our work and quickly share in which events or conferences we will be present.

• BLOG: Writing a Blog is very useful in order to boost SEO, Search Engine Optimization, inserting relevant keywords that costumers will use to search for the types of services or products that our business is supposed to offer. Blog is very efficient and less expensive.

• EMAIL: This is the common and maybe the most famous way to reach costumers. It's less expensive and as the report "25 Email Marketing Statistics to Know in 2017" the return of investment (ROI) is 4 times higher than the others marketing channels.

Briefly we attached the E-Commerce presence Map.

type of presence	Platform	Activity
WEBSITE	Traditional	Search
	Mobile	Display
	Tablet	Affiliates
		Sponsorships
EMAIL	Internal lists	Newsletters
	Purchased lists	Updates
		Sales
SOCIAL MEDIA	Facebook	Conversation
	Twitter	Engagement
	Linkedin	Sharing
	Youtube	Advice
	Blogs	Tutoring
	Google business	Learning
OFFLINE MEDIA	Print	Education
		University
		Exibition
		School

Figure 35 - E-Commerce presence Map

MARKETING

- SEO. Search Engine Optimization

  SEO content strategy is the process of organizing a website's content by topic, which helps search engines like Google understand a user's intent when is searching something. By optimizing the topics of a web page, then the keywords within that topic, we can increase our knowledge in the judgements of a search engine and rank well for long tail keywords related to that topic.

- SEM. Search Engine Marketing

  SEM In the early stage of the company we use SEM (Search Engine Marketing, literally) that represents a basic marketing tools for attracting consumers to our website. So basically, I prefer to pay to stay in the first position on Google research this allow us to be on the top positions among the results on google and increase our visibility.

We pay for each client's CLICK and the page receives money from advertise.

6.2.   Email Marketing

To conduct effective email marketing, we need to expand an email list the right way by using a subscription form that requires subscribers to opt in to receive our email. The subscription of our newsletter form will be on our website. After registration we must immediately send the welcome email.

The email needs to have a template with a clear and easy understandable format. The email will provide more context to our message in order to encourage our readers to open the email.

One more idea is that our business treats different stage in the building cycle, and we have a different kind of customers. So, we must segment our list, and write a different text based on the interests of our audience. In short, personalize the email with personalized subject lines are 26% more likely to be opened. In addition, we need to pay attention to some valuable data. For example, the gender of our customers and in addition location. In conclusion, we need to use our reporting to improve our future email. Below I propose three templates with different targets: Marketing email, different types of Newsletters.

Figure 33 - Email Templates

6.3.   Price strategy – FLAT RATE PRICING

According with the two difference targets of customers due to markets (B2C – B2B) it's better to deliver a different price strategy. In one hand there will be one monthly price subscription related to B2C that are individuals and single professionals, on the other hand we have one monthly price subscription related to B2B for teams and companies that they have more than one user.

For each subscription we consider a FLAT RATE PRICE because it is probably the simplest way to sell a SaaS solution. We are going to offer a single product and depending by the subscriptions we are going to provide a different set of features with a different price. In this way, flat rate pricing bears a lot of similarities to the software licensing model used before with the benefit to be used with an existing cloud infrastructure and in addition adding the benefit of being billed monthly.

PROS OF FLAT RATE PRICING

- Easier to sell. Because we are offering a single product with a clearly single price allows you to focus on sales and marketing strategy.

- Easier to communicate. SaaS pricing models are quickly and easy to understand for the customers.

CONS OF FLAT RATE PRICING

- Difficult to extract value from different users according with different pricing strategy. The risk is to miss out in revenue if any Enterprise companies decide to adopt your tool in a wrong way or price.

- An opportunity to protect customers. With a flat price our potential customers are difficult to influence them. Usually, they choose by themselves to get or not the subscription.

According with the table below we suggest the different prices depending on the subscription that the single customer needs:

FREE	STARTER	PROFESSIONAL	ENTERPRISES
0€	99,00€/Month	129,00€/Month	199,00€/Month
Trial Evaluation 14 days	Basic Tools	Advance/Specific Tools	Advance/Specific Tools for Teams

Table 3 - Subscription prices

Monthly subscription fees with different solutions depending on the services used:

- Free (14 days Free Valuable version, FREEMIUN)

- Starter

- Professional

- Enterprises (up to 5 users for each plan subscription)

We want to introduce our software in the market with a FREEMINUN strategy. According with an article published in Forbes "Freemium has become a preferred method for many companies entering a market or initiating trial". (Emmer, 2019)

Launching our software platform in a Freemium business model allow us to reduce costs in order to acquire users and in addition is a solid way to obtain a necessary "critical mass" of users that in the future may buy some blocked features or change their subscription.

Figure 34 - https://bmtoolbox.net/patterns/freemium/
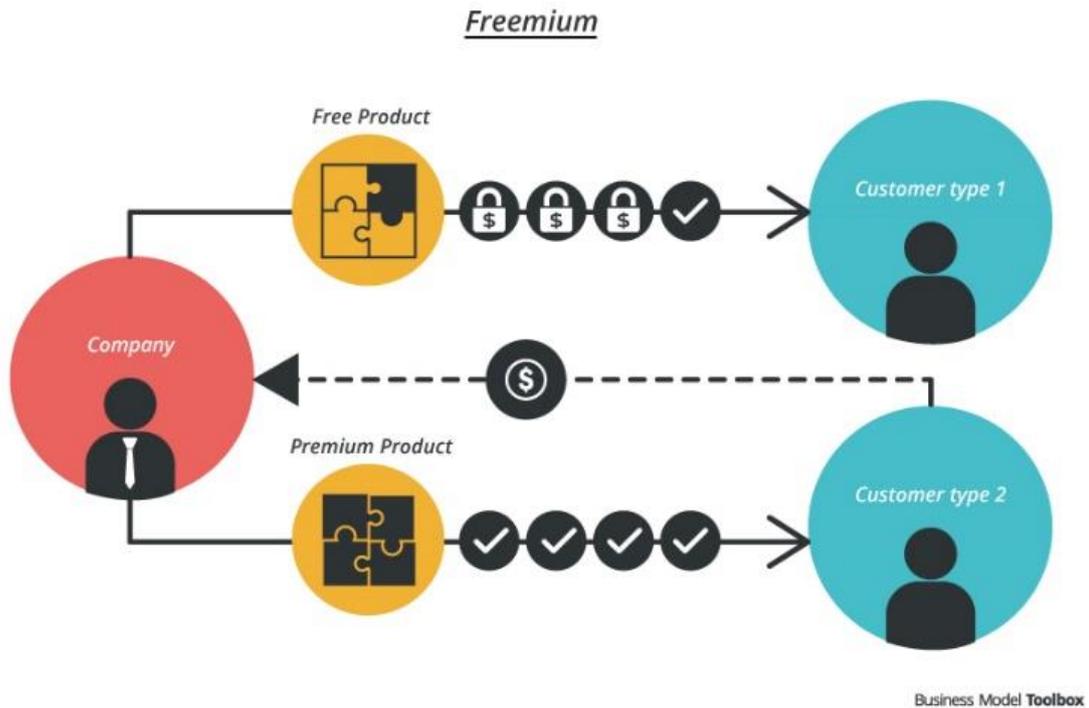
In our financial plan, in order to make revenues clearer and make a simple calculation of the total revenues coming from the SaaS Platform we suppose a single medium price of 129€ per month.

6.4. Payment method of SaaS

Alivebuilding's subscriptions can be purchased within company's website by direct debit through NETeller or with credit card in short, we allow to link their credit cards to their own account and then choose the subscriptions that they need.

These methods are secure, easy to use, and also, we can accept credit cards from customers around the world and in a wide range of currencies.
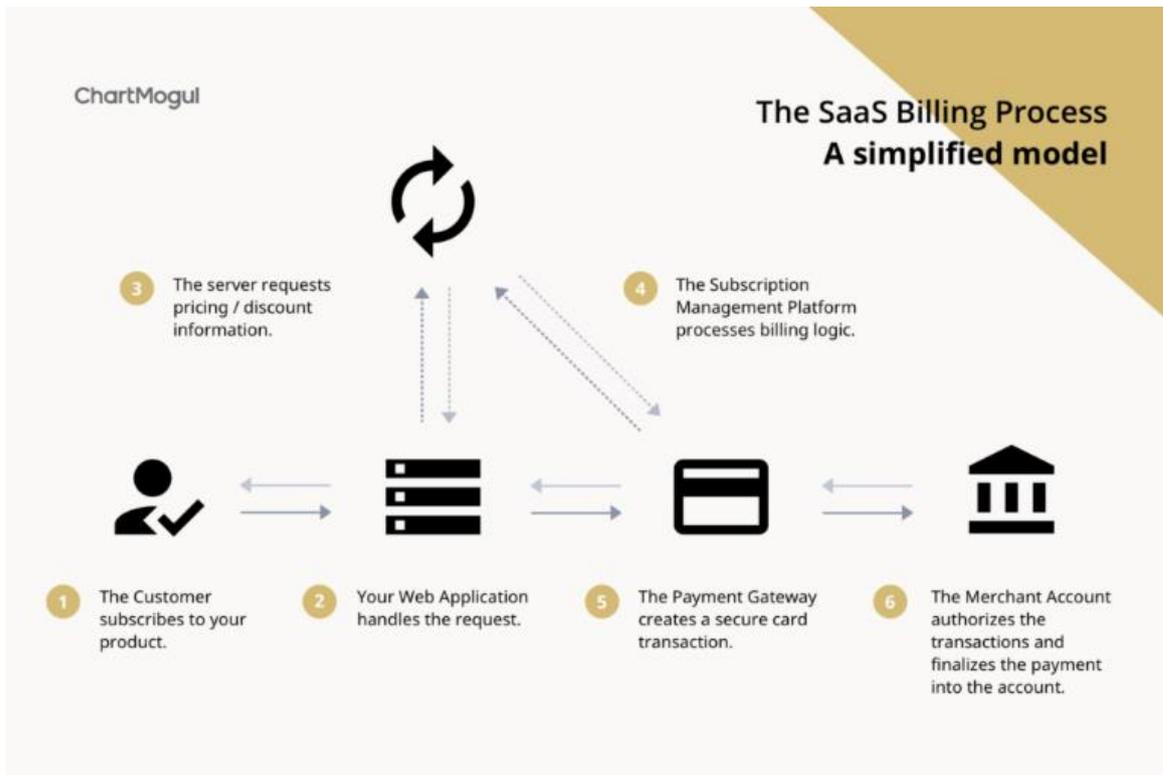
Figure 35 - Billing process

On the other hand, we need to pay attention because Credit cards used to expire every two years depending on the provider. Also, savvy consumers are always looking for the best credit cards deal and regularly they may change their card. These circumstances may result in a subscription cancellation so in a loss of revenues. We need to pay attention about these risks and take into account to send an alert to our customers, mostly before their cards are going up to date.

7. CHARACTERISTIC OF MANAGEMENT

7.1.Localization of the company

The hypothesis is that of initially locating the entrepreneurial activity in Italy because most of the shareholders will initially be Italian, therefore the residence of the majority is the place where the entrepreneurial activity must be located.

To this are added other factors such as, for example, knowledge of the legal forms and facilities existing in Italy for the creation of INNOVATIVE STARTUPS. Below is a list of the main ones:

- deduction of personal income tax of 19%
- Exemption from stamp duty and secretarial fees due for registration in the business register and from the annual fee to the chambers of commerce
- Tax credit of 35% on the permanent hiring of highly qualified personnel
- Simplified, free and direct access to the Central Guarantee Fund, a government fund that facilitates access to credit by granting guarantees on bank loans.

Another determining factor is the probable collaboration with the BIM experts of the University of Padua, as coming from this environment there is both a purely logistical reason and a reason for knowledge of the high skills of the staff of the department, which could cover the role of BIM Consultant. In addition, the 2019 Budget Law has increased tax relief for investors, individuals or companies, who choose to finance innovative start-ups or innovative SMEs can benefit from tax breaks for 40% of the amount invested.

7.2.   Legal entrepreneur

The union of three partners will establish the startup. The legal form of the Italian company will be S.R.L. (S.L in Spanish) constituting a special form of startup called "SRL INNOVATIVE STARTUP" through the following requirements:

- Product with high technological value
- 2 thirds of the workforce must have a master's degree.
- Patents

Establishing INNOVATIVE STARTUP in Italy means be entitled to some benefits taxation. Depending on the interest shares, the partners must collect the minimum share capital of € 10,000, minimum capital to set up the S.R.L. This type of company only allows partners to risk € 10,000 and in addition allows the access to European funding calls. Because we are developing an innovative product, we could submit the project in one European funding call in order to reach funds and financing the development of the project.

7.3.   Sizing Company

The three partners will have strategic job roles inside the company depending on their own graduation and skills: In fact, one of them due to his specialization in BIM field will play the role of BIM Developer and the other one Blockchain Developer for the same reason. One of the partners will play the role of CEO.

Our team will be internally composed as follows:

Quantity	Shares	Job Profile	Departments	Net Wages x month
1	Partner	CEO	Administration and control	2.000€
1	Partner	BIM developer	R&D	2.000€
1	Partner	Blockchain developer	R&D	2.000€
1		Product Manager	Commercial Buy/Sales	1.800€
1		Business Developer	Commercial Buy/Sales	1.800€
1		Marketing Media Manager	Commercial Buy/Sales	1.400€
1		BIM Technician	IT	1.400€
1		BIM Technician	IT	1.400€
2		Software front end	IT	1.400€
2		Software back end	IT	1.400€
TOTAL: 12 Persons				271.600€

Table 4 - Wages table

There will be also the need to manage the legal and administrative part of our structure externally.

For this reason, in the initial phase, we make use of the advice of:

Quantity	Job Profile	Departments	Annual Payment
1	Legal advisor	Legal	€ 1.000
1	Business administration consultant	Administration and Payroll	€ 1.800

Table 5 - Costs of external services

7.4. Organizational Structure
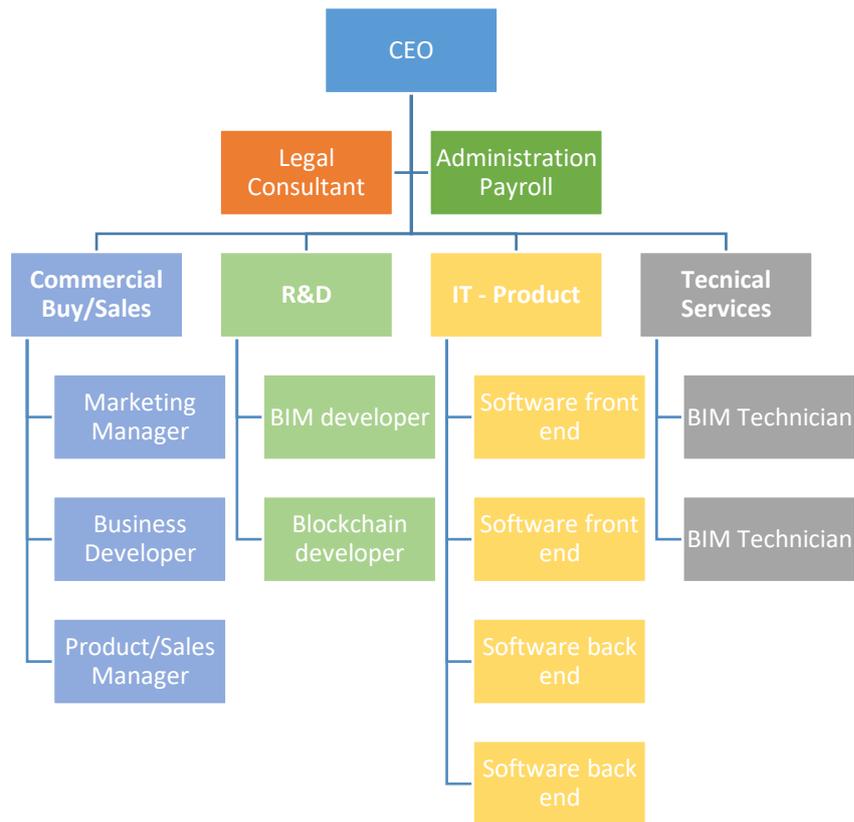
Figure 36- Organizational Structure scheme

Initially the company will be composed by four internal departments, and two external departments, such as administration and payroll and legal consultant.

The department that we set up inside our company are:

- Commercial Buy/Sales: Here we develop the marketing strategies in order to achieve good result in sales.
- Research and development: This department is in charge to search and find the right solution of software development. In addition, it will find connection with University and Regulatory Bodies.
- Information technology: This is the department where the software will be designed.
- Technical services: Here the department of the consulting activities of BIM.

7.5. Partnership connection

Partnership in B2B market is very important. This can help the spreading of our business, increasing the advertising of our product accordingly the sales. We spend some budget to develop public relationship with the main BIM software company. Therefore, we will attend exhibitions to establish relationships with companies in the field and we want also to develop a Beta tester program in order to work together with universities.

Important relationships with big companies and institutions help the spread of our product advertising. In our website we could put the logos of our partners in order to gain confidence from our customers.

Figure 37 - Website partnership

7.6.   Human resources plan

CURRENT HR SUPPLY

In the early stage, the company will be divided internally in four departments: Commercial and sales, Research and development, IT software production and the last one: technical services. The legal, administrative and payroll departments of our company will be managed externally. In the early stage the number of the company's employees are 12, so we prefer to outsource the services of these departments, allows our company to free itself from time-consuming activities that involve the use of resources and investments, being able to focus on the company's core business. The idea is to create a homogeneous team of people from the point of view of age ranging between 28 and 35 years. The economic proposal will depend on previous experience and responsibility in the company. The idea, however, is not to create too much salary difference between the various team members and to increase the salary only when the objectives are achieved. The resources will initially be personally chosen by the three partners to reduce costs.

JOB PROFILES AND TASKS

For the commercial and sales part, we plan to hire a Marketing Media Manager who will manage all the communication part through the social platforms and partially apply the e-commerce strategies together with the business developer to reach customers. In addition, it will deal with:

- Data analytics
- Copywriting and content management
- Social media management.
- PR and corporate communications.

This position must already have an experience in the field of communication and online marketing and be able to use, as previously mentioned, the social platforms but also the tools and platforms that manage SEO and SEM and Wordpress. The skills that will be considered crucial for the recruitment will be the knowledge and management of Chinese e-commerce platforms.

In the commercial department we want also to hire a business developer. The role of the business developer includes a phase of research and market analysis, which allows to study the competitors and evaluate the different opportunities and innovations available. Often its action requires the partnership of the figures who manage the company in order to guide and create a timely sales strategy and brand growth.

From an operational point of view, the Business Developer Manager develops and updates the business plan and follows the product / service development process, with the drafting of commercial offers, sales follow-up activities and other initiatives carried out together with the marketing manager and to the Product/Sales manager of the company. He could also promote and participate to in-person events.

In the commercial department there will be the Product/Sales Manager who will have a transversal and coordinating role. He must manage with a single strategic vision many different processes

and activities such as Development, Production, Marketing and Sales and coordinate the various departments in the best possible way in order to achieve the company sales objectives. He will be responsible for the final economic results of the assigned product line.

The research and development department will be managed by BIM and the developer BLOCKCHAIN who, as we said earlier, are also the two partners who will create the company. They are graduates and with a doctorate therefore with high skills and specialization in these disciplines. They are responsible for managing product development and research and coordinating the specialists involved in creating the software and providing the services. Through the CEO, they need to be aware of the company's progress.

In addition, these figures will organize consultant activities and the courses related with the technologies, and in same case they will attend consultant job meeting and also subject courses.

The Front End and Back End software resources are the people in charge to write the software code. They will be selected by the Product Manager and by the BIM and BLOCKCHAIN DEVELOPER. They will have the goal of carrying out the technical part and designing the Saas platform. Furthermore, they will have the task of providing technical support at the level of BLOCKCHAIN services to companies.

BIM Technicians are the group of people in charge to provide BIM services and also provide the technical part of the BIM courses.

TIME SCHEDULE AND COMPENSATION

The team members will work together in the same office, on a basis of 8 hours a day.

Work Activity	From: 9:00 - To: 13:00
Rest	From: 13:00 – To 14:00
Work Activity	From: 14:00 – To 18:00

Table 6 - Job time schedule

The hours of overtime will be paid in addition of the normal salary.

We want to apply Compensations, that is the results or rewards that the employees receive in return for their work. Our team resources will have a recognition rewards for the results of product selling, and it will be a profit sharing in a percentage depending by the results.

FUTURE HR DEMAND

Once the team has been composed, we must consider that during the company activity there may be some path accidents such as friction between some members of the group or the acquisition of resources by other companies by better salary or better job positions.

The world of startups is a very competitive, stressful and at the same time unsafe when the desired results are not achieved. This can lead the employee to change their mind along the way, becoming less motivated and willing to change jobs when they face a better economic offer or

job position. In case of a better salary offer it will be difficult to hold employees. We could offer the worker some stock options (shares given away to workers/managers when some goals have been met), because by following the financial plan, it will be difficult to offer him/her a better salary. For sure this decision depends by the result of the year cash flow, and how much our activity is running. If the profit is more than we expected, we will be able to effort the salary increases of the employee.

KNOW-HOW AND "NO DISCLOSURE AGREEMENT"

Strategically speaking, we want to handle resignations and layoffs on a case-by-case basis. The employee, both in the event of dismissal and in the event of resignation, contractually will have to make training days for the incoming resources to transfer their know-how. Timing and methods will be specified in the company employment contracts. Inside the company's contract that an employee signs, there must be a "No disclosure agreement", that is the prohibition to disclose sensitive information and data of the product being created, in order to prevent the dispersion of the company's know-how. To protect the know-how, the company will also provide itself with an internal collaborative platform where all the know-how documents will be uploaded day by day in order to be seen by the employee. Manuals, guidelines, and work processes will be saved inside the platform.

DEMAND FORECAST

We expect new hires in the future especially in the technical services and IT department. The company plans to increase revenues from the product and services offered with new technologies. In the short term, in the case of workload increases, we plan to go into outsourcing by making use of temporary project collaborators. This allows us to have flexibility in costs. According with the financial plan, we expect to overcome the breakeven point (after 5 years) therefore gradually begin to hire new employees, especially as the BIM technician and IT (front and back end) position. In addition, the new employees from the front end will take care of customer care about the software's issues of the customers. Especially, regarding the technical departments, we would like to double the staff, turning from 6 employee at the beginning until 12 at the end of 2025. The doubling of resources in the IT and Technical Services department was not considered in the proposed financial plan. For simplicity, the company turnover has been maintained on the assumption that the number of employees is always the same.

7.7.   Organizational culture

Our purpose is to build and lead our team in accordance with an internal Code of Conduct.

The Code of Conduct is a document shared with all team's components in order to institute a trustful and integrity place where to work.

- Employee Regularly report out on results, improvements and grow process keepings all the team's components aligned and accountable for delivering on organization commitments.

- Internal Management platform helps teams set annual goals to foster focus and alignment within the team.

We want to promote some "OPEN DAY Company event" where we would like to connect our organization with the customers to give the opportunity to meet us, learn, and be inspired. The goal is to create a community of practice that share their experience and knowledge in freedom.

First week Common Template

Our company provides the new employee with a "first week common template". The target of this shared platform offering a mix of helpful content to help new employees get up to speed. It includes videos, surveys, checklists, collaborative documents, polls, and more. The employee can engage with this journey on any device, and it is dynamic, which means the journey continuously improves based on feedback.
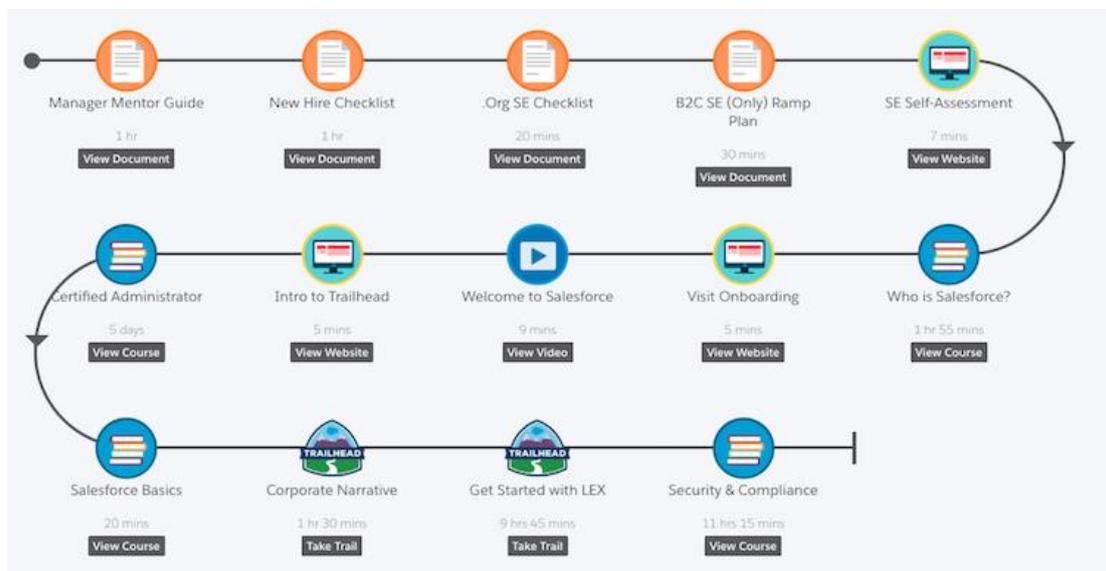
Figure 38 - Salesforce COMMON TEMPLATE Example

8. FINANCING LINES

8.1. Initial investment

According with the nature of my project I want to consider 10 years (from 2021 to 2030) of running business. In the table below we resume all the initial expenditures in order to start and run the business:

NON-CURRENT ASSETS	1st year	5th year	10th year
I. Intangible assets			
a) Company costs opening	2.000€	-	-
b) Patents, licences, trademarks, and similar rights	3.300€	-	-
A) TOTAL INTANGIBLE ASSETS	5.300€	-	-
II. Property, Plant and equipment			
c) Lands and buildings	-	-	-
d) Equipment (Computer)	15.000€	15.000€	15.000€
B) TOTAL TANGIBLE ASSETS	15.000€	15.000€	15.000€
TOTAL NON-CURRENT ASSETS (A+B)	20.300€	15.000€	15.000€

Table 7 – Early-stage investment, and over years

INTANGIBLE ASSETS

a. Company costs opening: We added up all the expenses provided by legislative law to open a S.R.L. company in Italy.

b. Patents, licenses, trademarks, and similar rights: We want to protect the copyright of the software we will make and certify it according to the required regulatory standards.

TANGIBLE ASSETS

c. Lands and buildings: we will rent an office, so we don't have lands and buildings as an asset of the company.

d. Equipment. We are going to buy computer and devices for all the team components. The amount of money is 15.000€. Technological devices are affected of depreciation. We suppose to use computers for 4 years and after changing them with new ones. So, every year we consider a depreciation of the value around 25%. (We suppose to use the computers until the end of the year and then buy the new ones)

Based on these initial expenses the total amount of investment will be 20.300€.

With this initial investment I suppose to make available an initial capital of € 490.000 to cover all the alleged expenses, to give the possibility to bear some expenses not taken into consideration and to make it possible to work with some available liquidity since the beginning of the activity. In addition, we need that money to pay the wages initially because from the cash flow we need time to have a positive revenue. We suppose to collect initial capital with an initial investment by the

shareholders of 120.000 € (3 shareholders, each one with an investment of 40.000 €) plus a loan from financial institutions of 370.000 €.

8.2. Revenues

As we said previously the company assumes that it will have a double profit, from the sales of ALIVEBUILDING the SAAS platform and from the services provided. The company assumes that the first year it will be able to earn € 105.663,87 from SaaS sales activity and € 150.000,00 from the services provided activity.

1. Revenues from SaaS software

In order to find Revenues of SaaS we need to find how many customers willing to buy our platform.

For starting baseline assumptions, we use Basic Conversion Funnel Forecast model (Annex 2 at the end of this document) provided by a Company named Modeloptic (Harris, s.d.) that help us to understand how many visitors from our website will be converted in customers. Basically, for any set of website visitors, some of them contact us to become a lead, and then some of those leads will be converted into paying customers.

From our marketing activity we suppose to get 1.200 website visitors in the first month. Every month, 4% of visitors will be convert into leads, 20% of our leads convert into paying customers, and our marketing efforts drive an increase rate in website visitors by 10% per month.

As we can see in the table below, we will reach at the end of the year 25.661 visitors that with the Funnel Model are turned in 205 of new subscribers.

SAAS SALES	Year 1												Year 1
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Full Year
Revenue Forecast													
Monthly Visitors increase Rate	10%												
New Subscribers													
# of Website Visitors	1.200	1.320	1.452	1.597	1.757	1.933	2.126	2.338	2.572	2.830	3.112	3.424	25.661
Visitor -> Lead Conv. Rate %	4,0%	4,0%	4,0%	4,0%	4,0%	4,0%	4,0%	4,0%	4,0%	4,0%	4,0%	4,0%	4,0%
# of Leads	48	53	58	64	70	77	85	94	103	113	124	137	1.026
Lead -> Subscriber Conv. Rate %	20,0%	20,0%	20,0%	20,0%	20,0%	20,0%	20,0%	20,0%	20,0%	20,0%	20,0%	20,0%	20,0%
# of New Subscribers	10	11	12	13	14	15	17	19	21	23	25	27	205

Figure 39 - One year SaaS sales table - Extract from Annex 1

We want to understand if our assumptions are correct, we calculate the CAC that means Customer Acquisition Cost. CAC is the amount of money needed to acquire a new customer through sales and marketing in a specific period. In order to calculate CAC we use the follow formula:

$$CAC = \frac{Sales\ and\ Marketing\ expenses}{Number\ of\ New\ customers}$$

- We consider Sales and marketing expenses all the costs involved for advertising and marketing. We consider in the list for example the salaries of sales and marketing managers commissions and bonuses paid, and all the overhead costs involved in sales and marketing over the measurement period.

- Number of new customers is the total number of acquired customers over the measurement period.

In the table below we resume all the annual costs that we have in order to promote a marketing campaign.

MARKETING CAMPAIGN ACCOUNTS	COSTS	SUBSCRIPTIONS	CAC
Software licence	€ 1.500,00		
Rent	€ 9.600,00		
Computer (#2)	€ 3.000,00		
Product Manager			
-Public Relationship			
-Exhibitions			
-Partnership Connections			
	€ 25.200,00		
Marketing Media Manager			
-Website page			
-SEO			
-Social Marketing			
-Blog			
-Email Marketing			
	€ 19.600,00		
SEM	€ 10.500,00		
Tot	€ 69.400,00	205	€ 338,1

Table 8 - Marketing Campaign Costs - SaaS

Briefly calculating marketing campaign, we divide the SaaS Marketing commercial activity from the Marketing commercial activity of the Services Provided, we do not consider the Salary of the Business development in the above table.

Business development will manage only the commercial activity of the Services Provided participating to event in-person and making commercial offers. Also, he develops the net of people interested in our Consulting services.

From the amount of 69.400€, and with 205 customers resulting from the table Funnel Forecast SaaS model, we spend a CAC of 338,1€ to acquire a new customer:

$$CAC = \frac{Sales\ and\ Marketing\ expenses}{Number\ of\ new\ customers} = \frac{69.400€}{205} = € 338.1$$

With this information we want to understand if our assumptions are correct. So, we compare our value with a value estimated, referred for our industry sector (Software Technology).

Entrepreneur Europe and Kurtkummerer (Bauer, 2017) estimate a value of $395 of CAC of our sector.

Converting this value in Euro we have 330€ (Conversion rate Dollar/euro 0.83 data 15-april-2021). As we can see this value is smaller than 338,1€

CAC ALIVEBUILDING SaaS		CAC Technology (Software)
338.1€	>	330€

Our assumptions are correct, but in addition we want to consider a more accurate projections of Sales Forecast introducing the concept of "churn" that means the number of cancelled subscriptions.

We suppose that subscriptions can be cancelled at any time, and 10% of existing subscribers choose to cancel them every month. By our forecast sales model we have these data:

SAAS SALES	Year 1												Year 1
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Full Year
# of Active Subscribers													
Beginning # of Active Subscribers	-	10	19	29	39	49	60	71	82	95	108	122	-
Plus: New Subscribers	10	11	12	13	14	15	17	19	21	23	25	27	205
Less: Churn	-	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(11)	(12)	(68)
Ending # of Active Subscribers	10	19	29	39	49	60	71	82	95	108	122	137	137
Avg Revenue / Subscriber	€ 129,00	€ 129,00	€ 129,00	€ 129,00	€ 129,00	€ 129,00	€ 129,00	€ 129,00	€ 129,00	€ 129,00	€ 129,00	€ 129,00	1.548
Subscription Revenue	**1.238**	**2.477**	**3.728**	**5.003**	**6.316**	**7.679**	**9.105**	**10.608**	**12.202**	**13.901**	**15.723**	**17.684**	**105.664**
ARR	14.861	29.722	44.731	60.038	75.792	92.146	109.258	127.292	146.418	166.817	188.681	212.212	212.212

Figure 40 - One year SaaS sales table losing subscribers - Extract from Annex 3

At the end of the year, we gain 205 new subscribers, but we lose a "churn" of subscribers of 68. Every year we have 137 new subscriptions.

For calculating Revenues from SaaS software, we suppose to use a medium price of the most common subscription chose by our customers:

STARTER	PROFESSIONAL	ENTERPRISES	MEDIUM PRICE
99,00€/Month	129,00€/Month	199,00€/Month	129,00€/Month

Table 9 - Price subscriptions

With this price the Revenues are 105.664€ per year.

2. Revenues from service provided.

Through my personal experience in the BIM engineering sector, freelances can earn 65.000€ per year so I suppose to move this value up to 100.000€ due we are a company, and we have employee that provide services.

Services Provided without Software	
- Initial Sales BIM Technology	€ 100.000,00
- Initial Sales BLC Technology	€ 50.000,00
- Growth of Services	15%

Table 10 - Revenues from Services provided

8.3. Operating Expenses

We resume the negative accounts which must be supported by the company.

a. impairment of merchandise, raw materials, and other supplies:
    an amount of 1000€ every year

b. Salary and Wages:
    The Company, in order to carry on the activity, needs at least 12 persons. As showed in the table 4 on the chapter 7.3 the total cost of wages is 271.600€.

c. Employee benefits expense:
    According with the Italian system taxation, we consider the Employee benefits expenses applying the Italian rate taxation for employee that is INPS (38%) INAIL (4%) and TFR (Employee Severance Indemnity).

d. External services:
    We consider all the other operating expenses, External Legal Consultant, External Administration ad accounting management.
    We also consider the costs for energy and the rent of the office, the costs for the software licenses. The amount is € 22.032,47.

e. Other operating expenses:
    In addition, the company has to carry on the advertising campaign (SEM) and we have to take into account Company annual insurance. Tot € 11.500,00

f. Amortisation and depreciation: we consider the depreciation of our computers, calculated on 25% every year. After 5 years we change our PC buying new ones.

8.4. Income Statement parameters

The Annex 2 attached at the end of this document, represents the income statement, based on the principle of economic competence, based on which only the costs and revenues that have contributed to generating the same number of items pertaining to the year are considered.

For Alivebuilding project, we consider a forecast of ten years of activity that allow us to understand better the performance of the project every year and in addition understand the final profitability.

With this assumption over ten years in running the business we consider these estimated values:

- Revenues:

    o Services Provided it is considered a constant grow of 15% per year; With the marketing campaign and public relations campaign, let's assume that we constantly increase the number of our clients every year, and then get steady revenue growth of 15%.

    o SaaS sales we consider a constant grow of 25% per year; In the chapter 8.1 and in the sales table reported in Annex 3, we explained and described the sales of Alivebuilding platform. The sales values refer to one year of activity. We need to consider 10 years of Sales and to simplify the calculation without using additional complex tables we apply the percentage of 25% per year.

- Variation Operating expenses: estimated to grow 3% every year;

- NWC: we allocate 15% of the total revenues of the turnover to Net working capital. So, in the First year we have a NWC of 38.349,6€;

- Taxes: Total Tax rate is 27,9%, the sum of IRAP rate 3,9% and IRES rate 24%;

8.5.   Rating of Ka (Cost of Capital)

Weighted Average Cost of Capital (WACC) is the cost of capital, in our project indicated with the parameter Ka and we determine it by the formula:

$$\text{WACC} = \text{ke} \times \frac{E}{D+E} + \text{kd} \times (1-\text{t}) \times \frac{E}{D+E}$$

Where the terms mean:

- k_e : is the Cost of equity Capital:: Cost of Equity that is the cost of equity capital, which is a composition of three different kind or rates

$$k_e = \text{Risk} - \text{Free Rate of Return} + \beta * (\text{Market Rate of Return} - \text{Risk} - \text{Free Rate of Return})$$

- Risk-Free Rate: This is the theoretical rate of return on a zero-risk investment that represents the interest that an investor would expect from a risk-free investment over a specified period. In this case, the estimate of the Risk-free rate is 2.10%. (Fernandez, 2018)

- Market Rate of Return: This rate represents the additional return that an investor would receive if they invested in a risky investment. In this evaluation, a rate of 6.70%. (Fernandez, 2018)

- Specific Premium: we consider a β value that usually measures the sensitivity of stock's return to movements in the market and that in this case was considered with an average value of the referred field. We assume the value 1,1.

$$k_e = \text{RiskFree Rate of Return} + β * (\text{Market Rate of Return} - \text{RiskFree Rate of Return}) = 7,16\%$$

- k_d : is the Cost of financial debt; This parameter is estimated by making a weighted average of the interest rates that the company expects to pay due to external lending entities. In this case we consider an average value of 8%.

- E : means Equity - 120.000€

- D : Financial debts - 370.000€

- T : Tax rate (total tax rate equal to 27,9%)Finding the WACC value:

$$\text{WACC} = \text{ke} \times \frac{E}{D + E} + \text{kd} \times (1 - t) \times \frac{E}{D + E} = 6,109\% \cong 6,11\%$$

Earnings Before Interest and Taxes EBIT and in this case is equal to the EBT, because the Ka rate of 6,11% is already included. (Because the Ka already includes the cost of debt, that is, interests).

8.6.   Net Percent Value (NPV) and Internal Rate of Return (IRR)

The NPV parameter is used to carry out an evaluation of the project, mainly to decide whether to accept or reject the project idea and therefore understand if we can make the investment. For NPV calculation we use the formula:

$$NPV = \sum_{i=0}^{10} \frac{NFC}{(1 + K_A)^i}$$

Variables in the formula of the NPV are:

- NFC = Net Cash Flow.

- Ka = Cost of capital.

- i = years of investment

Our project NPV is equal to €488.341,09 and this number resumes profitability of the Investment with a Ka of 6,11%. As we can see we have a good positive value after 10 years.

The IRR parameter allows to calculate the maximum Ka that must be applied to reach a NPV equal to zero that means that our investment has at the same time no profit and or loss.

IRR formula is:

$$NPV = \sum_{i=0}^{10} \frac{NFC}{(1+IRR)^i} = 0$$

In our project IRR is equal to 17,81% that is higher than the value of Ka 6,11% so the investment generates values, and it seems to be not risky with our assumptions.

In the table below we resume the values of our project after 10 years of activity:

NVP > 0	€ 322.414
IRR > KA	17,81% > 6,11 %

Table 11 – Internal Rate of Return

8.7.   Sensitivity Analysis Breakeven Point

Sensitive analysis investigates the project with the most pessimistic estimates and with the most optimistic ones. We set the NVP value to 0 to understand which variables influenced more the project.

For Sensitivity analysis we use the percentage of Variation of the initial values initially considered in our assumptions, with critical values deduced, imposing NPV value equal to zero.

Variation is calculated with this formula:

$$Variation = \frac{Critical\ value\ (NPV = 0) - Initial\ value}{Initial\ Value}$$

In the table below we attached a resume of all the variations referred to each variable of our project.

ALIVE BUILDING COMPANY	VALUES	GOAL SEEK	CHANGE
Initial Services Rendered	€ 150.000,00	€ 106.575,08	-28,95%
- Growth of Services	15,00%	6,49%	-56,73%
Initial Sales	€ 105.663,87	€ 77.279,15	-26,86%
- Growth of sales	25,00%	17,69%	-29,24%
Total Costs (FIXED + VARIABLES)	€ 421.641,51	€ 490.736,19	16,39%
- Variation Operating expenses	3,00%	6,97%	132,33%
NWC	15,00%	230,60%	1437,33%
Ka	6,11%	17,81%	191,49%

Table 12 – Breakeven point variables

Setting NPV value equal to 0, by the percentage of variation we can see that Initial Services Provided, Initial Sales, Growth of sales, and Total costs are the variables which more influence our project. The first five years will be very difficult for the company because there is no profit but only losses of 490.000€. The equity of 120.000 and the financial debt of 370.000 will cover this hard period to allow the company to start the sixth year, where the profit is expected.

9. CONCLUSIONS

From this study we can make some final conclusions of this project. For sure this project is very ambitious but as reported in SWOT and PEST Analysis we are providing services and software about two trending technologies (BIM and BLOCKCHAIN) that in the future will spread due to mandatory obligation of countries, and this will be a pros for our business.

Nowadays BIM technology, is already requested by public administrations for the management of public tenders, and for our business it represents a certainly demand of consultant services. This demand in the future will increase. As reported in the figure 29, the demand curve in spending money for BIM services will increase from 6,4 million of US dollars in 2021 up to 8,9 million in 2024. BLOCKCHAIN is a brand-new technology, known mainly with bitcoin. As shown in Figure 34 we are so close to the spread of this technology. IDC's Worldwide Blockchain Spending Guide predicts an investment volume of $ 19 billion in 2024. This represents a market opportunity.

Get early into this market means have less competitors in consulting services and this is a pros. Talking about the software product ALIVEBUILDING, we have two competitors that are developing their own software. These two competitors are ARUP, a big AEC company of UK and a French startup named BIMCHAIN. Both companies have not provided a software yet, neither in Beta test version. Until now they only published studies and papers related how both technologies work joined together. This could be an alert for our business because it could mean that the market is not already mature for delivering a software. Due to the large lack of digitization, in the construction sector it may be too early to release a software which automates the collection of building information. This point deserves previously a specific marketing survey, and if it is confirmed that the market is not yet mature, our business will change only providing consulting services. In this case the current Organization chart will change.

As regards the assessment of the initial revenues we can make some conclusions. About the Services Provided, the assessment comes from sensitive invoicing data of three partners. We simply added up the income of each partner reaching a total sum of 150.000€.

From this trend of income, we hypothesized to increase constantly over the year the income with a percentage of 15%. We supposed to increase our income due to the establishment of the Company and in addition because of our Marketing Activity.

As regards the initial services of ALIVEBULDING, we used a sales plan based with the CAC (cost acquisition customer). Our CAC produced by our marketing costs is almost equal with the Medium CAC od the Software and technology sector. So, the company should be able to gain 137 customers the first year.

For simplicity, to calculate the customers of the following years, we have not assumed a scalable business by choosing a more conservative scenario. In other words, the revenues of acquired customers interested in the software are increasing by 15% every year. We have to take into account that if our business will be scalable, we need to change our organization chart and our financial plan.

Another problem that this kind of projects usually must face with is the level of AWARENESS. As indicated in the Figure 41, there is a fair amount of time to be respected to reach the right awareness of the product and reach the level of maturity. This amount of time is not easy to understand, and it depends by the number of Brand mentions that we have for our project. As we can see in Figure-41 we need to know that Alivebuilding project has to overcome different stages before achieving the right level of maturity.
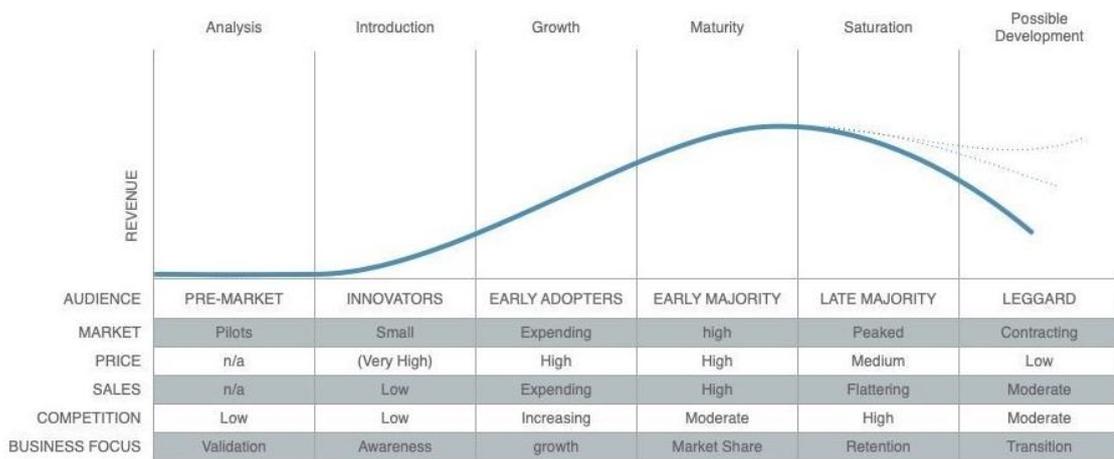
Figure 41 - Level of AWARNESS - Gently shared by OPPIMI GROUP.

Nevertheless, with the hypothesis mentioned before the Company will reach a positive NPV € 488.341,09 with an IRR of 17,81% higher than 6,11%.

The sensitivity analysis provides other important information to be considered to ensure the profitability of the project: Setting NPV value equal to 0, by the percentage of variation we can see that Initial Services Provided, Initial Sales, Growth of sales, and Total costs are the variables which more influence our project. About Total costs we know that the cost of the wages is the value that has more impact in the profitability and feasibility of our project.

10.CONTACTS

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Key Partners

-UNIVERSITY

- STANDARDIZATION BODIES

- TRADE ASSOCIATION
  - Architects
  - Engineers
  - Constructions companies

Key Activities

- UNDERSTAND IF THE PROJECT IS VALUABLE IN TERMS OF MARKET MATURITY BY A FINANCIAL PLAN FOR 5 YEARS

- UNDERSTAND THE INITIAL INVESTMENT TO OPEN THE COMPANY AND DEVELOP THE PROJECT. SEARCH INVESTORS

-BUILD A TEAM AND R&D

-DESIGN A FIRST MODEL OF THE PLATFORM.

-MARKETING AND ADVERTISING (MARKETING PLAN)

Key Resources

KEY FIGURES

- PATENTS

- INTELLECTUAL PROPERTY RIGHTS

Value Propositions

- HISTORY OF ALL THE TRANSITIONS OF A BUILDING

-GUARANTEE OF COMPLIANCE WITH THE REQUIREMENTS IMPOSED BY THE PROJECT.

- ECONOMIC SAVINGS DUE TO REWORKING

- DIGITAL PROTECTION OF COPYRIGHT OF THE PROJECT.

- OPTIMIZATION OF THE MANAGEMENT OF INDIVIDUAL PROJECTS.

- CREATION OF A DIGITAL SYSTEM FOR PUBLIC ADMINISTRATIONS TO ACQUIRE PUBLIC TENDERS.

- CREATION OF A DIGITAL CATASTO REGISTRY.

Customer Relationships

-SOCIAL PLATFORMS

-COMMUNITY OF WEBSITE

-DIRECT COLLABORATION IN BETA TESTS

-CUSTOMER SERVICE

Channels

B2C
B2B

Customer Segments

MARKET TARGET
FIRST STEP: Italy

FUTURE: EU(Spain, France, Germany. UK)
America (Nord America, Canada)
China

Cost Structure

-COMPANY OPENING COSTS

- COMPUTERS

- DEPRECIATION OF GOODS, RAW MATERIALS AND OTHER SUPPLIES.

-WAGES

-OTHER OPERATING EXPENSES

Revenue Structure

1 - SAAS (SOFTWARE AS A SERVICE)
Monthly subscription fees with different solutions depending on the services used:
  - Basic
  - Professional
  - Enterprise
-APPLICATIONS
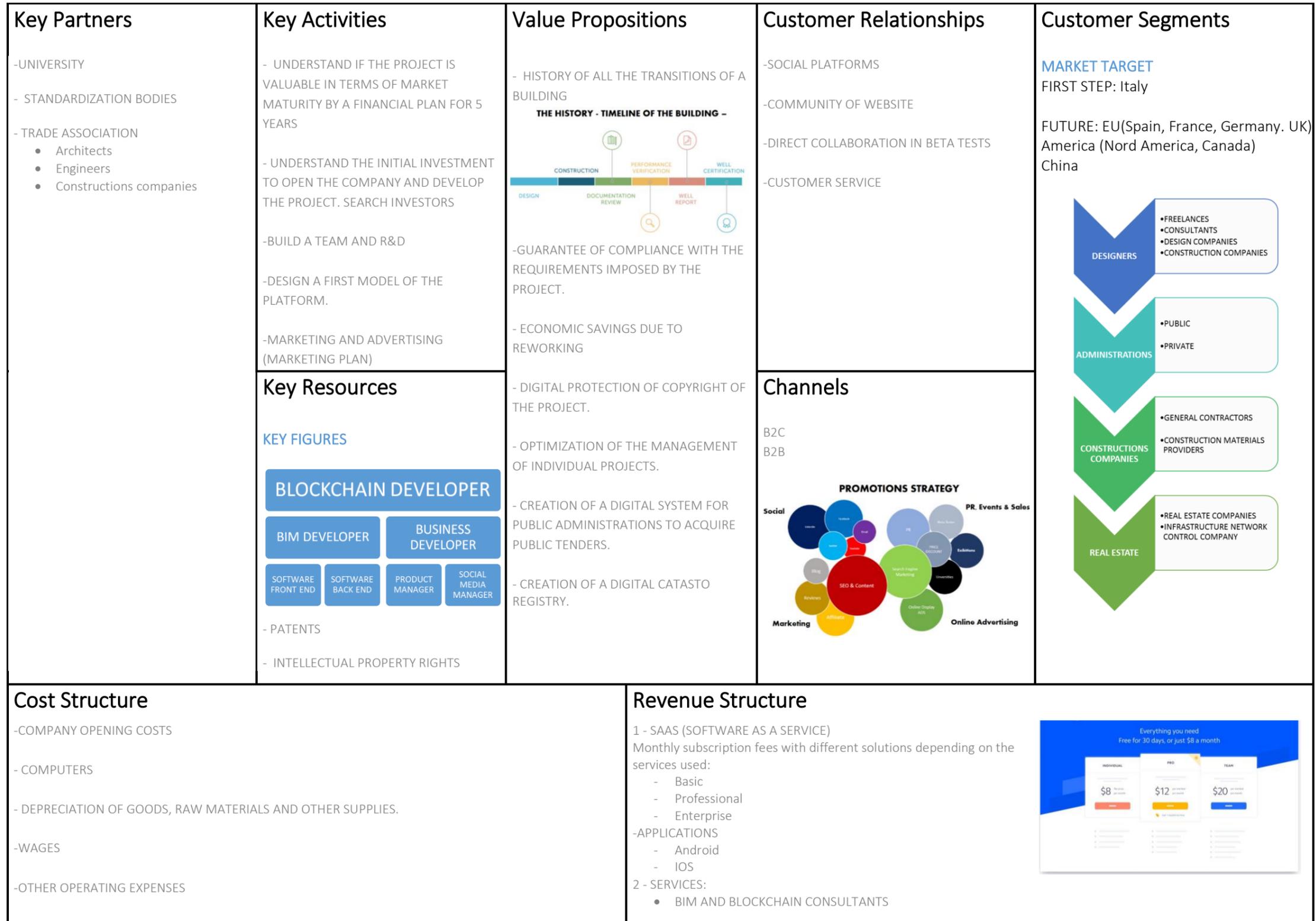 - Android
  - IOS
2 - SERVICES:
  - BIM AND BLOCKCHAIN CONSULTANTS

Figure 42 - Annex 1 - Business Model Canvas

Figure 43 – Annex 2 - BIM ADOPTION - Source: EUBIM, 2017

SAAS SALES	Year 1												Year 1
	Jan	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Full Year**
Revenue Forecast													
Monthly Visitors increase Rate	10%												
New Subscribers													
# of Website Visitors	1.200	1.320	1.452	1.597	1.757	1.933	2.126	2.338	2.572	2.830	3.112	3.424	25.661
Visitor -> Lead Conv. Rate %	4,0%	4,0%	4,0%	4,0%	4,0%	4,0%	4,0%	4,0%	4,0%	4,0%	4,0%	4,0%	4,0%
# of Leads	48	53	58	64	70	77	85	94	103	113	124	137	1.026
Lead -> Subscriber Conv. Rate %	20,0%	20,0%	20,0%	20,0%	20,0%	20,0%	20,0%	20,0%	20,0%	20,0%	20,0%	20,0%	20,0%
# of New Subscribers	10	11	12	13	14	15	17	19	21	23	25	27	205
Monthly Churn Rate %	10,0%	10,0%	10,0%	10,0%	10,0%	10,0%	10,0%	10,0%	10,0%	10,0%	10,0%	10,0%	10,0%
# of Active Subscribers													
Beginning # of Active Subscribers	-	10	19	29	39	49	60	71	82	95	108	122	-
Plus: New Subscribers	10	11	12	13	14	15	17	19	21	23	25	27	205
Less: Churn	-	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(11)	(12)	(68)
Ending # of Active Subscribers	10	19	29	39	49	60	71	82	95	108	122	137	137
Avg Revenue / Subscriber	€ 129,00	€ 129,00	€ 129,00	€ 129,00	€ 129,00	€ 129,00	€ 129,00	€ 129,00	€ 129,00	€ 129,00	€ 129,00	€ 129,00	1.548
Subscription Revenue	**1.238**	**2.477**	**3.728**	**5.003**	**6.316**	**7.679**	**9.105**	**10.608**	**12.202**	**13.901**	**15.723**	**17.684**	**105.664**
ARR	14.861	29.722	44.731	60.038	75.792	92.146	109.258	127.292	146.418	166.817	188.681	212.212	212.212

Figure 44 – Annex 3 - SAAS Table Sales

Annex 4

ALIVE BUILDING		PROJECT MANAGEMENT									
Initial Services Rendered											
- Initial Services Rendered	BIM	€ 100.000,00									
""	BLC	€ 50.000,00									
total		€ 150.000,00									
- Growth of Services		15,00%									
Initial Sales		€ 105.663,87									
- Growth of sales		25,00%									
- Total Operating expenses		-€ 425.391,51									
-Variation Operating expenses		3,00%									
NWC		15,00%									
Ka		6,11%									
Taxes											
irap		3,90%									
Ires		24,00%									
Total Taxes		27,90%									

YEARS		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
YEARS		0	1	2	3	4	5	6	7	8	9	10
1. Revenues			€ 255.663,87	€ 304.579,83	€ 363.474,79	€ 434.505,99	€ 520.319,36	€ 624.164,11	€ 750.034,78	€ 902.847,56	€ 1.088.659,15	€ 1.314.938,60
a) Sales SaaS			€ 105.663,87	€ 132.079,83	€ 165.099,79	€ 206.374,74	€ 257.968,42	€ 322.460,53	€ 403.075,66	€ 503.844,58	€ 629.805,72	€ 787.257,16
b) Services Rendered			€ 150.000,00	€ 172.500,00	€ 198.375,00	€ 228.131,25	€ 262.350,94	€ 301.703,58	€ 346.959,11	€ 399.002,98	€ 458.853,43	€ 527.681,44
2. Supplies												
d) impairment of merchandise, raw materials and other supplies			-€ 1.000,00	-€ 1.030,00	-€ 1.060,90	-€ 1.092,73	-€ 1.125,51	-€ 1.159,27	-€ 1.194,05	-€ 1.229,87	-€ 1.266,77	-€ 1.304,77
3. Personelle expenses												
a) Salaries and Wages			-€ 271.600,00	-€ 279.748,00	-€ 288.140,44	-€ 296.784,65	-€ 305.688,19	-€ 314.858,84	-€ 324.304,60	-€ 334.033,74	-€ 344.054,75	-€ 354.376,40
b) Employee benefits expense			-€ 115.509,04	-€ 118.974,31	-€ 122.543,54	-€ 126.219,84	-€ 130.006,44	-€ 133.906,63	-€ 137.923,83	-€ 142.061,55	-€ 146.323,39	-€ 150.713,09
4.other operating expenses												
a)external services			-€ 22.032,47	-€ 22.693,44	-€ 23.374,25	-€ 24.075,47	-€ 24.797,74	-€ 25.541,67	-€ 26.307,92	-€ 27.097,16	-€ 27.910,07	-€ 28.747,38
d)other operating expenses			-€ 11.500,00	-€ 11.845,00	-€ 12.200,35	-€ 12.566,36	-€ 12.943,35	-€ 13.331,65	-€ 13.731,60	-€ 14.143,55	-€ 14.567,86	-€ 15.004,89
5.Amortisation and depreciation			-€ 3.750,00	-€ 3.750,00	-€ 3.750,00	-€ 3.750,00		-€ 3.750,00	-€ 3.750,00	-€ 3.750,00	-€ 3.750,00	
EBIT			-€ 169.727,64	-€ 133.460,92	-€ 87.594,68	-€ 29.983,07	€ 45.758,13	€ 131.616,04	€ 242.822,77	€ 380.531,69	€ 550.786,31	€ 764.792,07
-Interests			DOES NOT APPLY									
EBT			-€ 169.727,64	-€ 133.460,92	-€ 87.594,68	-€ 29.983,07	€ 45.758,13	€ 131.616,04	€ 242.822,77	€ 380.531,69	€ 550.786,31	€ 764.792,07
-Taxes			€ 0,00	€ 0,00	€ 0,00	€ 0,00	-€ 12.766,52	-€ 36.720,88	-€ 67.747,55	-€ 106.168,34	-€ 153.669,38	-€ 213.376,99
NWC needs			€ 38.349,58	€ 45.686,98	€ 54.521,22	€ 65.175,90	€ 78.047,90	€ 93.624,62	€ 112.505,22	€ 135.427,13	€ 163.298,87	€ 197.240,79
Increase in WC			€ 0,00	€ 7.337,40	€ 8.834,24	€ 10.654,68	€ 12.872,01	€ 15.576,71	€ 18.880,60	€ 22.921,92	€ 27.871,74	€ 33.941,92
FINANCIAL TABLE												
POSIT. CF: Sales			€ 255.663,87	€ 304.579,83	€ 363.474,79	€ 434.505,99	€ 520.319,36	€ 624.164,11	€ 750.034,78	€ 902.847,56	€ 1.088.659,15	€ 1.314.938,60
Res. Value												
NEGAT. CF: OE			-€ 421.641,51	-€ 434.290,75	-€ 447.319,47	-€ 460.739,06	-€ 474.561,23	-€ 488.798,07	-€ 503.462,01	-€ 518.565,87	-€ 534.122,85	-€ 550.146,53
Taxes			€ 0,00	€ 0,00	€ 0,00	€ 0,00	-€ 12.766,52	-€ 36.720,88	-€ 67.747,55	-€ 106.168,34	-€ 153.669,38	-€ 213.376,99
Equipm	-€ 15.000,00						-€ 15.000,00					-€ 15.000,00
Company set up expenses	-€ 5.300,00											
NWC	-€ 38.349,58		€ 0,00	-€ 7.337,40	-€ 8.834,24	-€ 10.654,68	-€ 12.872,01	-€ 15.576,71	-€ 18.880,60	-€ 22.921,92	-€ 27.871,74	€ 163.298,87
NFC	-€ 58.649,58		-€ 165.977,64	-€ 137.048,31	-€ 92.678,93	-€ 36.887,75	€ 5.119,61	€ 83.068,45	€ 159.944,62	€ 255.191,43	€ 372.995,19	€ 699.713,95
NPV	€ 488.341,09											
IRR	17,81%											

Figure 45 - Annex 4 - FINANTIAL PLAN