

# INTRODUCING REVERSE LOGISTICS IN FIRMS: A BUSINESS PLAN BASED ON THE USE OF PLASTIC PALLETS FOR TRANSPORTATION AND STORAGE OF PRODUCTS

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# 1. INTRODUCTION.

The circular economy is an economic concept related to sustainability, which aims to maintain the value of products, materials and resources for as long as possible, and to minimise the generation of waste (Ellen MacArthur Foundation, 2019). On the other hand, reverse logistics has been defined as the activity that develops a series of processes that allow the environmental impact of business activities to be reduced to a minimum. (Ferrer Villar, 2019). These processes are divided into phases, from the environmental diagnosis of the company to the measurement and control of the waste used, passing first through the analysis of what sources generate this waste and what strategy we will follow to treat it.

The purpose of this project is to create a company that sells plastic pallets based on a new business idea. This company will be called Recypal. The business idea arises as a solution to the sustainability problems associated with the use of wooden pallets, usually used to facilitate the transport and storage of products. To do this we rely on the circular economy and, more specifically, on reverse logistics.

In the work we study the possibility of introducing a company into the market with a new business model, analyzing the market for plastic pallets and wooden pallets.

As we have indicated, our business idea arises from the search for environmental solutions associated with the traditional use of wooden pallets. Until now, wooden pallets have been the products most used by companies to transport and store products in industries. Many of these pallets are used only once because of their limited performance, as wood has limited resistance. This causes them to begin to deteriorate with their use, in addition to splintering, storing infections inside, gaining weight from humidity and deforming. In view of this situation, for those companies that wish to incorporate the principles of the circular economy and develop reverse logistics processes, we propose the replacement of wooden pallets by plastic pallets.

The use of plastic pallets has a series of advantages for companies over wood, as it is a first-hand product and a very resistant material that guarantees safety and hygiene in its different uses.

Applying reverse logistics to pallets means that companies reuse the pallet as many times as possible. To do this, they use marking elements on the pallet (normally with a stamp) to find out how many times they have been reused and to keep a constant control. In addition, the plastic they are made of is a fully recyclable compound, so the pallet, when it reaches the end of its life, is completely recycled and leaves no waste.

Our business will encourage the development of reverse logistics for companies that contract our services. By applying reverse logistics with the use of pallets, companies give out reused materials, helping to reduce the environmental impact and also generate new sustainable business opportunities such as material recovery and plastic recycling, avoiding excessive pallet storage, reducing costs and creating a closed supply chain.

Our idea is to locate the company in Vilafamés, a village in the interior of the province of Castellón and start supplying plastic pallets to companies in the area of Castellón. We will address some of the sectors that are already making use of these products, such as the chemical and food industries or the transport of furniture and household appliances. Also, we intend to introduce the ceramic tile industry whose companies use large quantities of wooden pallets and have not yet begun the process of transition to the plastic pallet. Castellón is the province with the highest concentration of companies in the ceramic industry in Spain. Approximately 94% of national production comes from this province (ASCER, 2018).

Being the first physical company to sell plastic pallets in Castellón is a challenge and a motivation for us. To do this, we will have to show its advantages to companies in our area and try to get industries to make use of reverse logistics and reuse of pallets and raise a solid project in the commercial and economic field.

Our work is structured in the following way: first, we propose the business idea and analyse its viability. Next, we will describe the strategic analysis and diagnosis of the situation together with the exploitation of the business opportunities, and then we will go into the necessary plans to start the activity.

# 2. VIABILITY OF THE NEW BUSINESS IDEA

# 2.1. Business opportunity detection

A pallet is a horizontal platform, usually fixed to a superstructure and a lower platform, which provides the basis for assembling, storing, handling and transporting materials and products (OnTruck, 2016). In addition, they can be reusable or fungible and can be made of materials such as wood, plastic, metal or cardboard.

Firstly, we will name the metal and cardboard pallets which we will not analyse during the work as they are not aimed at the same sectors and therefore do not influence our business model.

Metal pallets have a very high price and are not used for transporting goods. Thanks to their great resistance and hygiene, they are ideal for the metallurgical and automotive industries, two sectors to which we will not address.

As for the cardboard pallets, they are characterized by their low cost, but at the same time by their many limitations. It is a material that cannot get wet and therefore does not have the necessary performance to transport or store goods in the open air. It is usually used for courier shipments, catering or transport of lightweight food, communications or online stores.

The pallets that we do consider as substitutes are the wooden ones that started to be used in the Second World War as a solution to transport goods and distribute them quickly (Empisa, 2014). From this moment on, the use of wooden pallets has been

increasing and different types have been created thanks to their versatility, space optimization and reduction of the risk of breaking the goods they transport. Their great demand has led to a large number of companies selling them, providing a wide variety of pallets of different dimensions, with greater or lesser weight and greater or lesser resistance. One sector that uses large quantities of wooden pallets is the manufacture of ceramic tiles, both for the transport of its pieces and for storage.

The fact is that many wooden pallets, either because of their strength, water or humidity in the area, when they support large loads tend to deform and break, so they are used only once. This is where we see a business opportunity with plastic pallets.

Plastic pallets are characterized by being lighter, easier to move and handle, waterproof (which means that when it rains or gets wet it does not affect its weight and dimensions) and have greater resistance. For all these reasons they have a higher price and a longer life span of up to five times that of a wooden pallet. On the other hand, they do not need constant maintenance, just a wash before delivery as they are waterproof and easy to clean, they do not store bacteria or parasites, so they are considered completely hygienic materials, which is a solution for the food industry. Finally, they are more ecological since they are manufactured with 100% recycled materials (Gustavo Borisone, 2015).

Supermarkets, oil companies, companies that sell food and beverages, and textile and chemical companies already use plastic pallets because of the hygiene they provide and their resistance. Therefore, they are not sectors that need to be convinced to change from wooden pallets to plastic pallets such as ceramic ones.

In the ceramic sector, they do not use plastic pallets at present because of the satisfaction with the performance provided by wooden pallets and the consequent resistance to change to plastic pallets, both in transport and storage. It should be noted that, in the case of wooden pallets, when they are sold, the pallets remain with the destination or buyer company, so they are only used once. If a similar business model were to be followed and the same were to be done with plastic pallets, it would not be economically viable as the cost of the plastic pallet is higher than that of the wooden one.

# 2.2. Business idea

The name of the company will be Recypal, a company that will be located in the industrial area of Vilafamés (Castellón), which will be dedicated to the purchase and sale of plastic pallets.

Figure 1: Logo of the company



The main idea of the company will be to differentiate itself from other companies by using a different material, plastic, with higher quality and durability of the product and by improving the logistics of our customers. One of the motivations is to sell our product to the ceramic industry since, as we have explained before, it is an industry that so far only uses wooden pallets. On the other hand, we will supply pallets to companies in other sectors such as supermarkets, oil producers and textile companies and those who sell food and beverages.

The company will be formed by a group of workers whose vocation will be environmental, with the idea of transforming the classic use of wooden pallets by plastic pallets. The business model will be based on sustainability and the workers who are part of it must be fully committed to the cause and the final objective of improving the environmental impact.

To show a clearer idea of our business model we rely on the Business Model Canvas. This is a widely used methodology to define a business model and its constituent elements that are graphically represented in a very intuitive and practical way. (Zulima Fernandez, 2014). The elements that make up this model are the associations, activities and key resources that the company has, the value proposition, market segments and the channels and relationships that it maintains with customers and finally the structure of costs and revenue flows. The application of Canvas to our idea is described below:

- The customer or market segments we target are companies in the ceramic industry, chemicals, food and beverage distributors, supermarkets and oil manufacturers.
- Every start-up business needs to seek, find and acquire customers within these
  market segments and then maintain and intensify transactions with them. This
  process of acquisition and retention of customers is carried out by exposing our
  business idea and product advantages and a continuous customer service
  offering always the best sales conditions as always to have the merchandise
  ready on time and in perfect condition.
- To achieve the previous point, the company must choose which channels will
  provide greater effectiveness and efficiency, both to deliver the product and to
  show the business idea. To make our value proposal reach each market segment

- we will offer our services through exhibitions, customer service, social networks and direct sales.
- One of the most important points of this business model is how we will be able to earn money to pay for everything else, that is, what sources of income we have. Our income is going to be based on the sales of the plastic pallets and therefore the more customers and transactions we make the more income we are going to have. On the other hand, with our alliances with recycling companies to facilitate the collection of the pallets that can no longer be used. In return, these recycling companies will pay us a commission
- As far as the value proposition is concerned, the company tries to improve our customers' logistics processes by introducing innovative values related to reverse logistics through the sale of environmentally friendly transport and storage products. Besides, we will create a commercial network and advise customers by showing them what advantages our products can bring them and we will offer them a differentiated service by keeping in touch with them so that they can find out about new products that we can supply. Finally, we will provide the service of collecting pallets for recycling, this way we will carry out the complete cycle and our customers will not have to worry about disposing of the pallet.
- The key activities are those tasks and processes that we carry out to provide value. In our company, this includes processes such as logistics for the purchase and sale of pallets and the promotion of our products, explaining the characteristics and advantages that we offer.
- The most important key resource we need to progress in our activity is to maintain alliances with national and international companies. From this point on, we can bring new products to different markets and create and establish relationships with new clients. This part is very important so that, in case new competitors appear, our customers are loyal to our company because of the added value we offer them. In addition, we intend to provide fast service so we intend to make quick purchases in case of unexpected orders or mismatches in stock. This will be possible by establishing alliances with close customers.
- The key associations are the people and identities that help to strengthen the business model by cooperating or providing key resources that the company cannot carry out. In our case, they are the regular customers who advertise to us by telling other potential customers about their experience with us.
- All decisions taken previously in each of the blocks of the Canvas model have a
  consequence in terms of the cost structure of the company. We mainly separate
  the costs into variable costs (purchases of goods, salaries, etc.) and fixed costs
  such as the lease of the land and supplies.

Table 1 graphically represents the most relevant aspects of Canvas applied to our business idea.

Table 1: Business Model Canvas

Key	Key activities:	Value proposition:	Customer	Market segments:
partnerships:	<ul> <li>Pallets sale.</li> </ul>	• Improve our	relations:	Ceramic industry
<ul> <li>Regular customers who can advertise our product.</li> </ul>	<ul> <li>Promotion through exhibitions.</li> </ul>	customers' logistics by introducing values related to reverse logistics.	<ul> <li>Presentation of our business idea and product advantages</li> </ul>	<ul> <li>Chemical industry</li> <li>Food and beverage distributors.</li> <li>Textile companies</li> <li>Supermarkets</li> </ul>
	Key resources:  Key partnerships with national and international companies Fast Service	logistics.	Channels:  Customer service by phone.  Social Network.  Presentations.  Direct selling	Oil manufacturers

#### **Cost structure:**

- Fixed Costs: Land lease, telephone, advice, taxes and duties, supplies.
- Variable costs: Expenditure on purchases, fees and workers.

## **Income sources:**

- The main activity is the sale of plastic pallets.
- As a service we have alliances with plastic recycling companies.

As we have explained in the value proposal, the company tries to improve the logistics processes of our customers by introducing innovative values related to reverse logistics. To do this, we rely on three different types of activities or processes that can be adopted by client companies when following the principles of the circular economy in their business model.

The first process or solution consists on the fact that when our client company sells its product to a regular customer, the latter receives the product and stores the plastic pallets. When it has accumulated a certain number of pallets, a return would be ordered to the selling company in order to reuse the pallets. In this case, the client company assumes two costs, return transport and the cost associated with the storage of the pallets.

The second process would be based on the sale of this type of pallets to multinational companies that have regular transactions. The subsidiaries would use the same pallets that they receive in their purchases and would not have to buy pallets for their sales, thus reducing costs for the management of the company. An example would be Colorobbia Spain, which maintains constant relations with its subsidiaries in Italy, Poland, India, Mexico, Thailand, etc. If Spain sends its materials to Italy with plastic pallets, Italy will be able to reuse them and send its goods to another country, thus giving these pallets a second use.

The third process proposes that the companies to whom we sell the pallets function as a type of intermediary, that is, the client transports his products with our plastic pallets to the place of destination. At the destination, Recypal contacts an independent sales agent who is looking for customers who need plastic pallets. These companies will pick up the pallets at the destination. Annexe 1 illustrates this case with an example.

About this third alternative that we have found it very interesting, we want to add that there is the possibility of looking directly for customers who work with plastic pallets and offer them our business idea. The advantage of the local partner is that he knows the market much better and has more contacts, which greatly extends the possibility of success. Another characteristic of this option is that the branches or companies where our intermediaries export is from the same company, thus making the work much easier. Following the previous example, if Company X Spain exports to Company X France, we would not have any problem, but if they export to company X, we would also have to contact this company to store the pallets until the final client picks them up, which would mean more expenses for us.

With these three processes, our aim is to make companies see that with the change to plastic pallets they will not only be more environmentally sustainable and be able to bear greater loads but that they will also obtain a reduction in costs in the short and long term.

# 2.3. Feasibility study

As a previous step to the elaboration of the business plan, we carry out a viability analysis.

To start this section, we have made a comparative table between the types of pallets that can be used by companies in the ceramics sector to transport and store their products, to later survey these companies.

The Euro pallets are the wooden pallets that are usually used for the transport of ceramics by its measures 1200x800cm, are resistant and if they carry the stamp of authenticity indicating that they are firsthand have an approximate price of 20€ per unit. These are the best valued wooden pallets, but they also suffer changes in size and resistance due to humidity.

The recovered pallets are usually sold for a price of approximately 12€ per unit. Many companies no longer accept them because they are not as safe to transport.

The plastic pallets, also called high resistance, are specially created to carry a lot of weight, are dedicated to high demands and where the duration of the pallet (it can be reused up to four or five times) is the most important feature. They have the same size as the Euro pallet.

Table 3 summarizes the characteristics described for the three types of pallets and illustrates the economic advantage that the plastic pallet can have. We have taken into

account the cost of loading a truckload of pallets for a client company, which is how they are usually acquired. If it were four lorries full of Euro pallets it would cost 27.200€, if it were four lorries full of recovered Euro pallets it would cost 13.600€ and if it were a lorry full of high resistance plastic pallets it would cost 9.860€.

Table 2: Pallet type comparison table

	FULL TRUCK LOAD OF 3 AXLES			
Europalets		Recovered Europalet	High resistance Pallet	
Advantages	Best valued wooden pallets.	Cheaper	Greater number of uses and greater resistance	
Disadvantages	They suffer changes in size and resistance due to humidity.	They can be defective when repaired and are subject to modification.	High price	
Price per unit	20€/u	10€/u	29€/u	
Total price of full load on a standard truck (340 pallets)	6.800€	3.400€	9.860€	

Every 16 ceramic sales	Return of the plastic pallets.
	You buy a new wooden truck

1 plastic truck = 4 wooden trucks (each 64 sales of ceramic tiles)	1 truck of High resistance 9.860€ Pallets
	4 trucks of Europalets 27.200€
	4 trucks of Recovered 13.600€
	Europalet

With this table, we want to show that, although the change to the plastic pallet involves new ways of working, it results in great savings for companies so it would be interesting for them to try to work with this type of material and see that the working methods that we are going to explain below can really be a new business opportunity for their companies.

The objective of the study was to test the viability of a company selling plastic pallets to companies in the ceramic sector, given that it is the market segment that sees the greatest opportunity. The methodology used for collecting, processing and analyzing the information consisted of carrying out semi-structured questionnaires for people working in the commercial and logistics areas of companies in the ceramics sector. In them, they were asked about their perception of plastic pallets and their use in the ceramics sector. The information was collected during the month of April 2020 and

information was obtained from 6 companies. Most of the interviewees have more than 20 years of experience in their position and the others between 10 and 20 years.

According to the study, the results obtained were as follows

- Most of the interviewees think that the plastic pallet sector is an interesting sector for the logistics of companies.
- Two of the interviewees appreciated an increase in the use of plastic pallets during the last few years in their sector, while the remaining four did not.
- Only two of the six people interviewed know the characteristics of plastic pallets, such as their price, longer life, residual value, etc.
- In two of the ceramic companies interviewed, plastic pallets are used in some logistics process.
- Information was also collected on the perception of the extent to which they can help to mitigate problems related to high costs and product safety in the transport and storage of products in the ceramic sector. Perceptions of their benefits are mixed, with half of the respondents not believing that plastic pallets can help mitigate such problems, while the other half believes that they can.
- With regard to the possibilities of introducing plastic pallets for transport and storage in the ceramic sector to solve the problems, 2 of the 6 interviewed believe that they could be introduced to solve these problems. On the contrary, two others believe that they could not and the remaining two believe that they could perhaps help to solve the problems.
- With regard to the adoption of plastic pallets by those interviewed, half of them see that for the introduction of plastic pallets in their company the main problem is the high cost of plastic pallets. 16.6% believe that there would be problems in storing and loading the pallets and 33.3% do not know of a viable method of reusing the pallet.
- We also asked them about their vision of whether a company aimed at selling plastic pallets to companies in the ceramics sector could work and they all agreed that if a company aimed at selling plastic pallets presented processes for reusing the pallet it would be an attractive business idea.

At the end of the survey, we asked for suggestions on what a company that sells plastic pallets should provide so that it can intervene in the logistics of companies in the ceramics sector, and the responses were mostly as follows

- Since the ceramic sector is highly exporting, the business would be viable if companies dedicated to the reuse of these pallets could be found at the final destinations and there would be a return of value due to the high cost.
- There should be an incentive to move them from the destination warehouse to a recycling centre or to store them while waiting for another recycling company to collect them.
- The company responsible for selling plastic pallets should put forward procedures to improve customers' logistics processes and demonstrate their benefits.

Given the results obtained in the feasibility study, we believe that the three processes help to reduce those high costs referred to by the interviewees and facilitate the acceptance of plastic pallets, so we believe that our business idea can work.

# 3. STRATEGIC ANALYSIS AND DIAGNOSIS

# 3.1. Activity description

As indicated in previous sections, the company's activity will be based on the purchase and sale of plastic pallets. The intention is to identify different suppliers, see the conditions they offer and negotiate in the purchases of large quantities of pallets to then sell them to companies.

The process will start with the purchase of plastic pallets from our suppliers. To do this we will place an order according to our needs and those of our customers, plus an extra amount that will be used to maintain stock.

As far as sales are concerned, we will carry out several marketing campaigns to make ourselves known and to demonstrate the processes we offer our customers to improve their logistics.

We will try to attract the first customers and once we receive an order, the desired pallets will be selected from our warehouse, passed through the operations section where they will be cleaned and prepared for loading.

In parallel to this process of buying and selling, we will establish alliances with several recycling companies to go and collect the pallets that our customers can no longer use, thus providing a complete service.

# 3.2. External analysis

The main opportunity we have is that while the general concern for the environment is increasing, the application of reverse logistics and the circular economy is becoming more widespread in the business environment, which is a fundamental pillar of our business model.

Concerning the threats presented in the general environment, it is worth highlighting the unexpected health crisis caused by COVID-19. Its economic consequences will affect most companies, so many of them will be forced to close down and the others will see their sales volumes drop dramatically.

In general terms, the reference market for a company is the group of consumers who share a need and who are willing to satisfy it through the exchange (Julio Cerviño, 2014). This need can be met by different technologies that fulfil exactly the same functions, which is why it is necessary to know what our reference market is and who we are competing with.

To do this, a three-dimensional model is proposed based on the three dimensions of within the reference market: functions or needs of the client that the company will satisfy, group of clients who are satisfied and finally the alternative technologies that can satisfy the need.

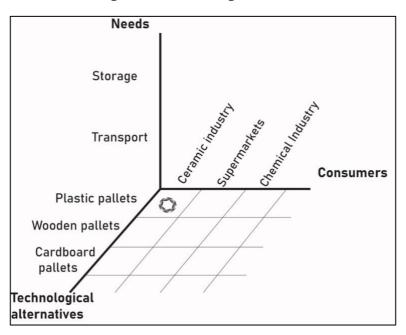


Figure 2: Market segmentation

Within the functions or needs that the product fulfils we have to differentiate its basic function which in the case of the pallet would be the transport of material from another function which would be storage. To do this, we identify the attributes or benefits that the consumer receives, which would be longer duration, greater resistance, respect for the environment and greater hygiene. For the part of the alternative technologies, we include the products or means that can fulfil the same function that our product, as they are the wooden pallets or cardboard pallets. And finally, in the buyers, we include the consumers or clients who may want our product such as the ceramic companies, supermarkets and chemical industry, although there is a bigger market of which we are going to speak.

In the province of Castellón about 80,000,000€ are aimed at the purchase of pallets and much of this amount is consumed by the ceramic industry (Hispack, 2018). The market we are referring to is all the sectors that use pallets such as the chemical and pharmaceutical industry, furniture and household appliance transport, supermarkets, food and beverage suppliers, oil producers, etc. These specifically already use plastic pallets, but we also want to introduce them to the world of ceramics, which uses large quantities of wooden pallets and its sector, although it has moderated its growth, continues to be one of the main economic drivers of the Valencian Community (Deloitte, 2018. Sectorial report on the ceramic industry)

In this sector, resistance to change and lack of sensitivity in making decisions that affect the environment by companies is a threat to us. Wooden pallets have been used for many years and the fact that we were the first companies to use plastic pallets may cause reluctance to change. In fact, as for the competitors, within the province of Castellón, one of the reasons why there are so many companies selling wooden pallets is because of the great influence of the ceramic sector. According to the Sectorial Ranking of Companies in the INFORMA D&B S.A.U (S.M.E) database in the wood packaging manufacturing sector (Sector CNAE 1624) two of the five companies with the highest turnover in all of Spain are located in Castellón. These are Palets Suller S.L. and Palets Vilafamés. (Table 3)

A data that we want to emphasize is that the total invoicing of this sector in Spain is 1.201.550.545€, from which we can know the % of invoicing that our main competitors have concerning the total of the companies.

**Table 3: Companies Sector Ranking** 

Position Sector	Position evolution	Company's name	Total Sales (€)	Province
3	1 🛖	PALETS SULLER S.L.	19.405.017	Castellón
4	3	PALLETS VILLAFAMÉS S.L.	19.218.225	Castellón
22	12 🛖	PGBS MEDITERRANEO	Big	Castellón
42	3 🚚	ENVASES ESCRICHE S.L.	Big	Castellón
59	3 🚚	VICENTE FENOLLOSA S.L.	Big	Castellón

SOURCE: elEconomista. Companies Sector Ranking. (2018)

Palets Suller, S.L., located in Vilafamés, with an annual turnover of 19.405.017€ in 2019, is dedicated to the manufacture of both wooden pallets and wooden packaging (boxes) to protect any type of object. Its pallets are always new, that is, it does not repair pallets and then sell them. On the other hand, it manufactures individual woods and boards which it sells to other companies that manufacture pallets. Its turnover represents 1.61% of the total turnover of the sector in Spain and it has customers all over the world, mainly from the ceramic and textile sectors. It is the leading company in the manufacturing sector of wooden containers and packaging in Castellón, in 2018 it is also third in the ranking in Spain, which means that it is one of the most important companies at the national level.

In the following table we are going to see the evolution in the ranking of the sector, nationally and in the province concerning the number of sales made between 2017 and 2018.

**Table 4: Evolution Palets Suller** 

Evolution Position				
Ranking Position 2017 Position 2018 Position Evolution				
National	10.176	10.332	156 👢	
Castellón	176	176	0 ⇒	
Sector CNAE 1624	4	3	1 👚	

SOURCE: elEconomista. Comercial Data of Pallets Suller. (2018)

As we see the leading company in the sector of manufacturing of wooden containers and packaging in Castellón, in 2018 it is also third in the ranking in Spain, which means that it is one of the most important companies at national level.

The second company, Pallets Vilafamés S.L. is close to Palets Suller S.L., both physically and economically. The distance between both companies is barely 100 meters and its turnover are 19.218.225€, 186.792€ less than its main competitor, which places it with a turnover of 1.60% compared to the total of the sector in Spain. (Table 5). This company apart from selling pallets and wooden packaging sells tree bark, sawdust, chips, sawn wood and pellets. They have their own sawmill which means that their inputs are tree trunks and they carry out the entire process. Therefore, their customers are not only ceramic companies and other sectors, but they also have customers from the same sector.

**Table 5: Evolution Pallets Vilafamés** 

Evolution Position					
Ranking Position 2017 Position 2018 Position 8					
National	12.116	10.428	1.688		
Castellón	202	179	23 👚		
Sector CNAE 1624	7	34	1 👚		

SOURCE: elEconomista. Comercial Data of Pallets Vilafamés. (2018)

PGBS Mediterráneo is the third company in the sector that also has an important weight in the province of Castellón. It is dedicated to the manufacture, purchase and sale, repair and assembly of wood materials. The town where it is located is Burriana, just 50 km from Vilafamés, so it is a direct competitor for us.

Here we are going to see the evolution that it had between 2017 and 2018 (Table 6), where we appreciate a rise in the three rankings, both national, provincial and national in the sector (CNAE 1624) concerning the number of sales.

Table 6: Evolution PGBS Mediterráneo

Evolution Position				
Ranking	Position 2017	Position 2018	Position Evolution	
National	24.673	17.898	6.775 👚	
Castellón	396	289	107 👚	
Sector CNAE 1624	34	22	12 👚	

SOURCE: elEconomista. Comercial Data of PGBS Mediterráneo. (2018)

Ecoglobal S.L. is a small company in Vall d'Alba that was set up 10 years ago and has grown has been very intense in recent years. It sells new and recycled wooden pallets but has a small section in which it sells plastic pallets. The information that can be obtained about it is minimal and we do not have billing data, but it has about 15 workers and the customers to whom it sells the plastic pallets are producers of oranges, oil mills and food transport, so for now it does not sell to the ceramic industry.

# 3.3. Internal analysis

The company's main strength is the innovation of its business model. As we have indicated in the previous section, our value proposal represents a novel vision including plastic pallets in a new sector such as ceramics, thus improving the logistics of our customers.

We will have a sufficient initial staff to face the first months and orders will allow us to carry out the activity. We will rely on the quick attention to clients and suppliers thanks to the quick communication between the manager and workers.

We will also include the possibility of managing sales both online and by telephone to facilitate orders to our customers, so they will be able to find products to supply different types of demands and wishes.

Another great strength on which we rely is the use of social networks and marketing campaigns for our products to customers. These two are going to be our marketing tools to promote ourselves, as well as a forum where we will give constant news to our customers about new types of products, offers, cheaper transport companies, new uses for pallets, etc.

Being a completely new company with inexperience on the part of the manager, we will not be recognized by potential customers, associated with novelty and lack of contacts. Besides, concerning the installation and our business idea we need financing to start the activity, therefore, we must reduce expenses and look for economic ideas to be able to start our activity. Consequently, we do not have transport vehicles to carry the loads, which will force us to hire transport companies.

# 3.4. Diagnosis of the situation: SWOT

A simple way of presenting the information analysed about the company's sector and about itself is through the SWOT matrix. This matrix attempts to draw relevant conclusions from both internal and external analysis and to classify the company's information and the strategic environment into four perspectives: weaknesses, strengths, threats and opportunities (Antoni J Cano, 2017)

Table 7: SWOT

WEAKNESS	THREATS
<ul> <li>We need information to start the activity.</li> <li>We have no transport vehicles.</li> <li>Managerial inexperience.</li> <li>Zero recognition.</li> </ul>	<ul> <li>Established competitors in the sector with aggressive offers.</li> <li>Customer resistance to change.</li> <li>Low sensitivity in making decisions that affect the environment</li> </ul>
STRENGTHS	OPPORTUNITIES
<ul> <li>Sufficient initial staffing.</li> <li>Fast attention to clients and suppliers.</li> <li>Online and telephone order management.</li> <li>Marketing campaigns through customer exposure and social networks.</li> </ul>	<ul> <li>Increased environmental awareness in companies</li> <li>Growth in reverse logistics.</li> <li>Existence of efficient processes for changing from wooden pallets to plastic pallets by the ceramic industry.</li> <li>Interest from the chemical industry, supermarkets and food and beverage suppliers because of pallet hygiene.</li> </ul>

# 4. SEIZING BUSINESS OPORTUNITIES

Taking into account the above diagnosis, we have defined our mission and vision and proposed some qualitative and quantitative objectives in the following terms.

Recypal's mission is to supply the plastic pallets that best suit the needs of our customers and our vision is to be a company with a great capacity of pallet distribution, becoming a reference in the province of Castellón and being able to supply pallets to a great number of companies showing commitment, effectiveness, quality and efficiency.

# 4.1. Definition of strategic objectives

## Qualitative objectives:

- Achieving an image of innovation and reliability as a company.
- o To be the pioneer in sales of plastic pallets to the ceramic sector.
- Achieve profitability to ensure the viability of the business.
- Achieve revenue growth over the next 4 years to put us in a better competitive position.
- To increase the loyalty of ceramic customers during marketing campaigns.

# Quantitative objectives:

- Achieve a 0.5% market share during the first year.
- Achieve a minimum turnover of 150,000 euros in the first year of opening.
- Achieve a turnover growth of 50,000 euros per year during the first 4 vears.
- Get a minimum of 5 customers from the ceramic sector between the first two marketing campaigns.

# 4.2. Competitive strategy

There are different ways to create value and take advantage of business opportunities, but most of them fall under four aspects (competitive diamond): be efficient, offer quality products, innovate and have a great capacity to respond to our customers. A company has a competitive advantage when it can create more value than its competitors. By combining the four dimensions described above, the company provides value to customers and gains a competitive advantage over its competitors.

In our case, we want to achieve efficiency from the speed of loading and unloading and from costs. The biggest cost that we have to face is the purchase of inputs, that is to say, pallets and therefore being able to negotiate lower prices with our suppliers would be a great competitive advantage over our competitors. This process is called the economy of scale and to achieve it we will need large demands for pallets that will make our suppliers see us as important customers. Although in the beginning it will be difficult to make full use of this advantage, over the years we intend to reach a dimension that will allow us to do so.

At Recypal we innovate incrementally through the process, thus meeting a need by reducing costs and providing a product that shows much better performance than wooden pallets.

As a buying and selling company, the quality of our products will depend on our choice of supplier and the way we treat the products when working with them. Recypal will be characterized by the highest quality in all its products which will be completely identical

and reliable, thus ensuring that the product being transported is safe and cannot be damaged.

Finally, the last way to create value with which we will work is by responding to the customer. Customer response is about identifying, addressing and meeting the specific needs of groups of customers or individuals. We are going to achieve this by attending to the customer quickly, reducing delivery times to a maximum by means of constant stock, having a sufficiently wide portfolio of products to meet different needs and finally, adapting to the customer by making personalised offers of mutual benefit.

A company has a competitive advantage when it is able to create more value than its competitors. By combining the four dimensions described above, the company offers value to customers and achieves a competitive advantage over its rivals.

To achieve a competitive advantage, the company follows a series of actions that together are called competitive strategy. Traditionally, two competitive advantages have been obtained: costs and differentiation (Porter, 1980)

As explained by Hill and Jones (2013), cost and differentiation strategies should not be considered as mutually exclusive categories since everything depends on the point of reference from which one looks. For our company, we want to combine the advantages of differentiation and costs so that we are more difficult to copy.

The strategy that we are going to prioritize is that of differentiation, the aim of which is to improve the logistics processes of companies in the ceramics sector by introducing innovative values related to inverse logistics. To this end, we are going to introduce plastic pallets in a sector where they have not been introduced until now, providing a series of benefits to the customer when storing and transporting goods.

We also want to differentiate ourselves by creating a commercial network with clients all over the world, which will allow our national clients to transport their products with plastic pallets at a lower price. In addition, in our business idea there is also the plan to take advantage of RRSS and develop a service (through an application) for our customers to inform them constantly. Both plans will be explained in the marketing plan.

On the other hand, as we have said before we will also work to achieve a competitive cost advantage. This will be based on making agreements with the supplier to give us a discount for volume purchases. In order to do this, we will need to get a large demand that gives us some power when negotiating with the supplier. In this way, we will achieve a higher margin and higher profits.

# 5. MARKETING PLAN

# 5.1. Marketing plan objectives

Before analyzing the different elements of the marketing plan, we will define the objectives of the plan. Marketing objectives are a key part of marketing once we are informed about how the company's environment is and we are clear about what we are aiming for. That is why we have analyzed both the situation of competitors and the general objectives of our business.

Having said this, we will name the different objectives of our marketing plan.

- The first is to make the brand known among our target audience through advertising campaigns, the corporate website and social networks. The success of this point can be measured with the number of impacts or market studies that analyze brand awareness before and after the campaigns.
- The second objective is to introduce the company to a new market such as the ceramic industry. We all know that plastic pallets are used in supermarkets, pharmaceuticals, chemicals, etc. But introducing it in ceramics would give us an advantage in differentiation from competitors.
- This objective could be an extension of the first one, but it is an objective that will be done later. It is a question of attracting new clients. Once the first campaign is done and we have our first clients, we will carry out a second campaign at the end of the year where we will look for new clients to work with. This is a short term objective so we include it in this section.
- What could be the opposite side to the previous point is that we not only want to look for new customers but also to gain their loyalty and retain them. We will achieve this objective if our clients stay with us for many years and we will try to do it through a forum where we will always be in contact with the clients, informing them of offers, prices, new products, new uses, etc.

#### 5.1.1. Turnover

Turnover is the total income received from all economic transactions carried out during a specific period of time (Octavio Ortega, 2019). Our main objective is to introduce our products into the segment of ceramics, therefore, if we achieve this, most of the income would come from this sector since, as we know, they use large quantities of pallets.

As indicated above, we expect to achieve a turnover of 0.5% of the total industry volume during the first year. This would mean having three ceramic customers and making a monthly sale for each of them, which will correspond to the majority of the company's revenue.

On the other hand, these revenues will be complemented by sales we make to supermarkets, food and beverage suppliers, oil carriers, or chemical and pharmaceutical companies. These revenues can be given by a higher number of sales, but with much smaller quantities of pallets as they will not demand as large quantities as the ceramic companies. About 150 to 200 pallets could be sold per month if we manage to make a total of twenty sales to the food and chemical sectors.

# 5.2. Marketing Mix: Action plan

Once we have defined the market we are targeting, we must establish the actions that will help us to achieve the objectives we have formulated previously. The functional strategy (or marketing mix) is the one that combines the different instruments to achieve the company's objectives (Feliu Rey, 2014). These marketing instruments can be summarized as the four controllable variables of the commercial system called "4P": product, price, distribution and communication. They are called controllable because they can be modified within certain limits.

#### 5.2.1. Product

In our case the goods will be plastic pallets, which we will classify into four types:

First, reusable plastic pallets are those that are called to replace wooden pallets. Their characteristics are similar to those of wood and can be used up to four or five times. They are used to move furniture, electrical appliances, supermarket food boxes and are even used by ceramic companies, although for this sector the ideal pallet is the highly resistant one due to its performance.

Within this type, we will separate the pallets in two different models.

- The first of these measures 800x600x140, with a static load of 1500kg and dynamic of 500kg. Its weight is 8.40kg.
- Second, the pallet is 1200x800x160cm, with up to 2000kg static and dynamic load of 1000kg. Its weight is 17.30kg.



Figure 3: Reusable Plastic Pallet

Secondly, the lightweight plastic pallets. These can also be reused but to a lesser extent. They are very suitable for export because of their low weight and because they are easy to move and store. They are used to send packages and boxes that are not too heavy. Finally, they are also used by cardboard and paper companies for their transactions. In this case, we divide the pallets into the following models:

- The smallest one measures 800x600x150, supports a static load of 700kg and a dynamic load of 300kg. Its weight is 2.80kg.
- The largest model with measurements of 1200x1000x130, has a static load of 1000kg and dynamic load of 400kg. Its weight is 4.70kg.





Thirdly, high-strength plastic pallets are those that have the maximum weight-bearing capacity, are dedicated to high demands and where the durability of the pallet is the most important feature. As we have said before, they are very suitable for ceramic companies which need maximum resistance to withstand their heavy loads. They are used both for the transport and for the storage of their pieces, taking advantage of their high static load. On the other hand, they are also used by oil companies, which transport large oil drums.

- The pallet with dimensions of 800x600x160, will have a static load of 2000kg and dynamic load of 1000kg. Its weight is 8.80kg.
- On the contrary, the strongest pallet of our product portfolio is 1200x800x160cm, it will support a static load of 6500kg and dynamic load of 1500kg. Its weight is 18.50kg.

Figure 5: High resistance pallet



In the fourth and last place, we have the hygienic plastic pallets. They differ from the above because they provide the ideal hygiene because they are completely smooth and do not absorb dirt. This type of pallet is intended for the food, pharmaceutical and food export industry.

- This hygienic pallet is 1200x800x130 and will withstand a static load of up to 5000kg and a dynamic load of 1250kg. Its weight is 13.50kg.



Figure 6: Hygienic Pallet

#### 5.2.2. Price

The price is not only the monetary amount paid to obtain a product but also the time, effort and trouble involved in obtaining it. It is possibly the most influential factor and the one that often creates the image of the product. A high or low price usually marks the quality of the product. This is also the case for plastic pallets, the prices of high strength and hygienic pallets are much higher than the prices of lightweight pallets.

TYPE	MEASUREMENTS	SALES PRICE TO THE PUBLIC
REUSABLE PALLET	800x600x140	14,5€/u
REUSABLE PALLET	1200x800 x160	24,0€/u
LICUT DALLET	800x600x155	5,3€/u
LIGHT PALLET	1200x1000x130	7,2€/u
PALLET OF THE	800x600x160	23,5€/u
HIGH RESISTANCE	1200x800x160	29€/u
HYGIENIC PALLET	800x600x130	38,5€/u

Table 8: Portfolio of products

Several methods can be used to establish sales prices in a company: cost-based method, product value-based method or competition-based method. In our case, we follow a cost-based method since the products come from a supplier company and to that purchase price, we add a margin of between 20% and 25% to cover our expenses such as transport, salaries, supplies, interest, etc.

#### 5.2.3. Distribution

The mission of the distribution is to make the demanded product available to the market in a way that is facilitated. This requires a number of decisions such as where it is sold

from, method of transport, sales numbers, whether the sale will be made with a transport company or with its own vehicles, the route and area where it will be sold, and cost distribution.

In our company, we will sell from the Vilafamés industrial area where the company will be located, and the transport of the plastic pallets will be done by trucks of transport companies. The cost of the transport will be assumed entirely by the buyer and he will be able to contract it on his own or through our services. Finally, our area is mainly focused on the province of Castellón, which is where we will promote ourselves, although if we obtain clients from other provinces if our supply capacity allows us to do so, we will still supply them.

#### 5.2.4. Communication

Communication is the set of activities that seek to communicate the benefits of the good and to persuade the target market. Its phases are to inform, persuade and remind and to accomplish them we will combine online activities and personal sales.

The information phase will be carried out through the company's corporate website, social networks and e-mail. We will make ourselves known and explain the advantages of our products.

In the second phase, we will move on to sales promotion through marketing campaigns. We will go to the companies of the potential clients; we will present our proposal of value and we will solve doubts that they can have to close the first sales.

In the last phase, we will try to remember the benefits that customers have by working with us, we will inform them about new products, offers and new ways to optimize costs with our products. All this through a private forum for customers who have made a purchase from us.

Finally, as we know every promotion and communication has a price. In our financial plan, we have included a first-year advertising expense for the creation of the website and for the expenses we will have in the promotional campaigns.

# 6. PRODUCTION AND OPERATION PLAN

# 6.1. Description of goods and/or service

In this section, we will discuss both the goods we sell in the company and the services we provide to our clients.

#### 6.1.1. Goods and provider

As we have explained previously in the Marketing Mix section, we have four different types of a pallet, the reusable pallet, called to replace the wooden one, the light pallet, for shipments of boxes and packages not too heavy, the high strength pallet, those with maximum capacity to carry weight and hygienic pallets, which maintain the proper hygiene for the food industry.

As we are a buying and selling business, we will buy all these products from our suppliers which means the following average costs depending on the type of pallet we request:

Table 9: Product portfolio of the supplier

TYPE	MEASUREMENTS	PURCHASE PRICE	
REUSABLE PALLET	800x600x140	11€/u	
REUSABLE PALLET	1200x800 x160	20,5€/u	
LIGHT PALLET	800x600x155	4€/u	
	1200x1000x130	5,5€/u	
PALLET OF THE	800x600x160	19€/u	
HIGH RESISTANCE	1200x800x160	25€/u	
HYGIENIC PALLET	800x600x130	34€/u	

#### 6.1.2. Services

As a secondary activity, once the pallets are already used several times and can no longer be used, we will give the possibility to several recycling companies to take care of it.

Besides, we plan to provide a free service for clients which will try to create an online forum where customers will have all the news related to our activity. You can find new types of products, offers, cheaper transport companies, new uses for pallets, etc.

# 6.2. Description of the process of providing goods and/or services.

#### 6.2.1. Provision of goods

For marketing pallets, the process must be planned step by step according to the human resources available to you.

The complete process of buying and selling plastic pallets begins with an investment that allows the land rental and the purchase of working machines such as forklifts, hand lifts, furniture, computer equipment, office equipment, etc. For this purpose, the manager will first open the business by setting up the company and will resort to purchasing the physical resources described above necessary to start the activity. At the start of the activity, he will hire a worker in order to start operating and will begin the first marketing campaign to make himself known to potential companies, both suppliers and customers. On the other hand, a website and social networks like Facebook will be created.

As for the contact with the customers and the first sale, it will be made according to the needs of the buyer, which we will make the sale through external transport. Buyers will be able to talk to the manager to see what types of pallets they can find or to go to the website where they will be able to see the performance of each pallet and analyze which is more suited to their needs. In this case, you will be able to choose between reusable, lightweight, high-strength or hygienic plastic pallets. Before the sale, the pallets will be

moved from the warehouse to the cleaning area and will be sorted and prepared in the loading area so that when the truck arrives the process is done in the fastest way.

As we have explained in previous sections, we will have a control by writing the full name of the carriers that bring pallets and take them away, the date, company for which works and signature, to know at every moment which person is inside the company.

In the following table, we can see the national customers we have decided to work with and the country of destination where they export their products. As we have said before, we will carry out the search for the final client company through a commercial agent. We will look for this commercial in the company Foursales, which tries to discover and introduce its customers to the best sales and marketing professionals in the market. They work in the five continents, which allows us to supply any international customer. In addition, we have added potential end customers from the different countries where we will be able to send our pallets.

**Table 10: Partner Companies** 

COUNTRY	DOMESTIC CUSTOMER	END CUSTOMER		
POLAND	COLOROBBIA	SOBIKA S.P Z.O.O		
CHINESE	COLOROBBIA	FOSHAN YUSHAN CERAMICS		
INDIA	COLOROBBIA	ROCK CERAMIC		
ITALY	COLOROBBIA	RAUSCHERT ITALIA S.R.L		
	LEROY MERLÍN	RAUSCHERT HALIA S.R.L		
RUSSIA	LEROY MERLÍN	OAO VORONEZHSKIY KERAMICHESKIY ZAVOD		
GREECE	LEROY MERLÍN	CERAMICS ALLATINI SA		
PORTUGAL	LEROY MERLÍN	REVIGRES - INDUSTRIA DE REVESTIMENTOS		
FRANCE	LEROY MERLÍN	VERAMO POSSO		
	PORCELANOSA	KERAMO ROSSO		
AUSTRIA	PORCELANOSA	PCI AUGSBURG GMBH		
NORWAY PORCELANOSA		MURMESTER ERLING MOEN AS		
NETHERLANDS	PORCELANOSA	TEGELBEDRIJF VAN DER MEULEN DRACHTEN		
GERMANY PORCELANOSA		BISAZZA DEUTSCHLAND GMBH		
BELGIUM PORCELANOSA		SALVA - CARRO		

# 6.2.2. Providing of services

In the provision of services, the process is very simple. For the pallet collection service, customers only have to tell us what they want to do with the used pallets, if they want to take care of them or if they want us to take care of the collection. In case of choosing us, we will contact our partner recycling companies and they will go directly to the company to collect the pallets and pay the appropriate amount for them. In this case, our client will not assume any expense, instead, we will charge a small commission to the recycling company.

To find these collaborators we will look at the corporate website of Asipla (Association of Plastic Manufacturers) which is an association of up to 90 European companies working in the plastic value chain. We will, therefore, be able to find recycling companies in most countries. Among the largest companies, we can highlight Cabka which operates throughout Europe and has several headquarters across the continent.

Another service that we offer is the release of pallets exported out of the country. Recypal as we explained at the beginning of the work will contact an independent commercial agent who will look for companies who need plastic pallets in the country of destination and it will be these customers who will pick up the pallets to reuse them.

Finally, the online forum is a service that we offer to our customers or customers to whom we have made some sale. As explained above customers will be able to find new types of products, offers, cheaper transport companies and new uses for pallets. All this to us does not suppose a direct income, but it is a way to maintain customers and make constant publicity.

# 6.3. Production facilities: capacity and location

# 6.3.1. Determination of supply capacity

The supply capacity of the company can be determined according to two factors: the stock available and the speed of loading and unloading of the trucks according to the quantity of material and the personnel available.

The discharges are faster than the loads, they usually last an hour from the truck enters the unloading zone until it leaves because for an operator the unloading of a full truck can take about 40 minutes.

The loads have a duration of one and a half hours, the process is a little slower because the loader must have the pallets prepared in the loading area and it has to place them correctly inside the truck to be able to load it completely.

This, as we have said before, depends on the capacity of the truck, on the amount of cargo, but also on the characteristics of the truck, for example, if the truck can only be loaded through the back door or the sides.

Therefore, according to this analysis and the hours of the company (full-time), the supply capacity of the company will be of three loads and four discharges in the morning and two loads and three discharges in the afternoon. This in terms of units of plastic pallets means that we can manage to load 1700 pallets and unload 2380 pallets.

## 6.3.2. Location management

The land selected is 1100m2 and will be located in the industrial estate of Vilafamés specifically in front of the company Azulejos Benadresa S.A. (40 ė 07'37.8"N 0 ė 01'01.3"W). To get to the company we must enter by the CV-160, and at the roundabout in front of Colorobbia take the first exit.

Figure 7: Location of the company



This polygon is very suitable to install our company because there are large plots to build, has both electrical and water supplies and is located far from any residence.

2 3 4 1

Figure 8: Technical plan of the company

First of all, what we have to see is that within our territory we do not have parking for trucks, they park outside, as there are zones for parking on both sides of the road as an industrial park.

Looking at our plot, we see that at the two front ends are the loading and unloading areas, on the one hand, on the left the unloading zone (1) and on the right the loading zone (2). We have separated these areas so that there are no problems when entering and leaving trucks and everything is much more fluid.

In the central part we see that the office is located on the left and the bathrooms and changing rooms (5). The office will be prefabricated, as will the bathrooms and changing rooms.

Figure 9: Changing rooms and office





In the rear area, we find on the right the pallet cleaning area (3), just behind the loading area, so that from the warehouse they move to clean and then direct to the loading zone, saving time by moving loads from side to side. And to finish the warehouse (6) in the rear central area. This is the largest area as we must have a warehouse with capacity to store a lot of material. Having the stock and at the same time being able to store downloads is always very important to have the product that the customer needs and not to be closed to buying more pallets.

# 7. HUMAN RESOURCES PLAN

# 7.1. Organisational chart

We will only have one employee to start the activity. Later on, at the end of the year, we will hire another employee when we have already carried out more transactions.

First of all, the manager will take care of the marketing area focusing on strategic planning and promotion and looking for customers and suppliers. His expected work experience must be in the field of management and administration of companies. Having a master's degree in business creation is expected. He will also oversee the areas of finance, operations and human resources by working on them. Additionally, he will set objectives for both the short and long term, along with improvement plans to try to keep the company growing steadily. To keep track of these two phases (finance and human resources) we will work with a consultancy from the municipality, in this way we will outsource functions and focus more on the area of operations and marketing.

The financial work done by the consultancy will be supervised at all times by the manager. This revenue and expenditure accounting process shall take into account the costs of the purchase of stocks, transport, supplies, wages and other costs incurred in the operation. Separately, the revenue received by the customer both for the sale of goods and for the provision of services. All of this will be analysed for the entire activity, corroborating the previously proposed profitability.

With regard to human resources tasks, the consultancy will have to be responsible for ensuring that all the company's papers are in order and will prepare the company's and workers' payroll and insurance, but it will be the manager who will be responsible for

hiring or firing workers, of their schedules, of the good climate in the company, of their motivation and of evaluating their performance.

For the part of the operations area, the manager will be in charge of loading and unloading times, purchasing and selling products and organizing daily tasks. In order to carry out all this work this manager will have a chief of operations and with the subsequent additions we make for our staff.

As well as being the liaison between the manager and operators, the operations manager will also be responsible for loading and unloading trucks and will, therefore, need to have a driver's license. This employee will need to coordinate the other two workers according to the work involved, whether loading, unloading, cleaning pallets or organising the warehouse.

As explained previously, loads and discharges are the main tasks of the company. Up to six to seven loads and daily discharges can be carried out, all depending on the workload of the day. The volume of loads and discharges also affects the pallet cleaning and warehouse organization phase, as it is the operators themselves who are in charge meaning if there are fewer loads and discharges, they will spend more time cleaning and organizing the warehouse.

Finally, all workers will have the same schedule, working 8 hours a day. They must pass through the entry control area where they will find a touch screen with fingerprint scanner where they will have to scan their finger every time they enter and leave the company. This, in addition to controlling access to the company, will facilitate entry and exit times, and in case of inspection, it is much easier to demonstrate.

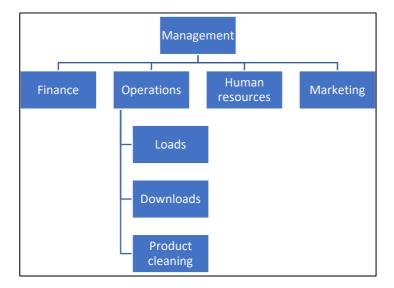


Figure 10: Organizational chart

#### 7.2. Partners

We will name the external companies with which we work and that help in the functions of the company for which there is no personnel to carry out them or directly because it is cheaper to hire an external company.

Firstly, our most important partners will be suppliers. We will always be looking for new and better suppliers as our products' quality, and therefore their price will depend on them. Other very important collaborating businesses will be recycling companies. Our goal is to find the recycling company that gives us more speed when collecting pallets to our customers. The most efficient company will improve our image at the same time.

As for the cleaning of changing rooms, it will also be a function that we will outsource and try to have a company in the area

Finally, as one-off partners, we will have a human resources consultant from Vilafamés who will carry out the hiring of workers. In particular, he will be in charge of finding the people who best adhere to the manager's idea through social networks and job offers pages. He will conduct interviews to inform that the worker meets the most required qualities.

## 8. FISCAL LEGAL PLAN

# 8.1. Step 1: Select the legal form

The company will be a limited company since in this type of business the entrepreneurs only respond with company assets and not with their private assets. The downside is that until you've been in business for a while and see that it's profitable it can be risky, so we need the business to be viable. The S.L. also have another advantage: they have a greater capacity to negotiate with banks and large companies and they usually give a more trustworthy image to suppliers and customers. (Julio Fernández, 2018).

A limited company is the best idea when your income is expected to be over 40,000€, when you prioritize protecting your wealth and when you look for big businesses working with banks and big companies.

# 8.2. Step 2: Start-up procedures and tax obligations

When processing the start of the activity we have to register with the state agency of the Tax Administration to register with the General Social Security Treasury and pay the due taxes and withholding taxes. (Annex 2)

## 8.3. Step 3: Administrative procedures

# 8.3.1. Administrative controls related to the activity

It is known that in order to create a company we have to go through certain general administrative procedures, this is explained in the table "administrative procedures" shown in Annex 2.

# 8.3.2. Administrative controls related to the physical development of the activity

As we well know, the land that develops activities must comply with urban planning regulations. In our case, the conditioning of the plot does not need an urban planning license since no works are required nor does it require concessions or authorizations.

At the time of renting the land, the plot already has asphalt and fences that surround the whole territory, therefore, we only provide the machinery, material and real estate such as offices or changing rooms, but they do not need works because they are prefabricated and installed.

# 8.4. Step 4: Hiring

Our idea is to initiate the hiring workers through possible causal trial periods of 3 months to see the satisfaction of both parties. In case of liking, we will renew to a biannual or annual temporary contract depending on the demand for work. If everything works correctly and the workload is maintained or increased, we will propose a fixed contract. The working day of the workers will be full-time, that is 40 hours weekly.

# 9. FCONOMIC-FINANCIAI PLAN

# 9.1. Investment plan

Before starting the business, it is necessary to know the investment that will be necessary to carry out the project. To this end, we will identify both fixed and current assets investments and other start-up costs.

Some of these elements are the land where we will develop the activity, furniture, machinery, computer equipment, etc. In short, they are the goods and rights not intended for sale and therefore will remain for years in the company. Besides, we have to include the goods and raw materials that we will need to start the activity, as well as having surplus money, a forecast of funds for possible extra expenses, not counting expenses of constitution and start-up.

Table 11 shows the elements of the investment plan.

Table 11: Components of the investment

INVESTMENT PLAN C	OMPONENT	rs		]
Installations	Quantity		€/u	Total
Office		1	3.500 €	3.500
Changing rooms		1	2.000 €	2.000
Total				5.500
Property	Quantity		€/monthly	Total
Property		1	1.600 €	1.600
Total				1.600
Furniture	Quantity		€/u	Total
Tables		3	119 €	357
Dynamic Chair		2	85 €	170
Hunter Chair		4	25 €	100
Shelves		4	69 €	276
Total				903
IT Teams	Quantity		€/u	Total
Computers		2	749 €	1.498
Printer		1	199 €	199
Total				1.697
Machinery	Quantity		€/u	Total
Elevators		3	6.000 €	18.000
Total				18.000
Stock	Quantity		€/u medio	Total
Pallets	6	80	19 €	12.920
Transport		2	280 €	560
Total				13.480
Formation expenses				3.500
Other Expenses				1.000
Cash Pool				5.000

It shows that the purchase of the prefabricated office and changing rooms cost us 5.500€. As for the land, the monthly rent is 1.600€ and we will pay a monthly deposit and then until the space is not ready to work, we will not pay. The office furniture totals 2.600€ and the automatic electric lifts corresponding to the company's machinery are priced at 18.000€. Also, to start the activity we will make a disbursement of 12.800€ in initial stocks which will correspond to 640 pallets distributed in two complete trucks with variety of pallet models.

In the costs of incorporation, we add the registration as self-employed in the trade register, provincial labour inspectorate and registration in the municipality and RETA and the registration in the AEAT that includes the registration in the IAE and census declaration.

We have approved an item of "other expenses" for 1.000€ where we include the installation of supplies both in the office and changing rooms, telephony and advertising corresponding to the expenditure we have on the creation of the website. And finally,

we have demanded a provision of funds of 5.000€ to cover cash mismatches and contingencies in the first few months.

# 9.2. Financial plan

Once we know the volume of initial disbursements, we have to determine how we are going to finance it. To do this we must identify our financing capacity, that is, how much we can contribute and how much we will be provided by family or friends, to know the external financing that we should ask for (Santamaría Sánchez, 2014)

We hope to have a third source of funding in the form of grants and aids. This source is included in the own financing because it is not an amount that we should repay.

The autonomous aid granted by the State has a maximum of 10.000€. For the grant, the beneficiary must comply with two measures. The first is to invest in fixed assets or assets of at least €5,000 and the second is that you must commit to remain two or three years as a self-employed.

Concerning outside financing, we expect to have a loan of 18.000€. Different companies offer products aimed at the creation of companies and help to entrepreneurs. As an example, BBVA allows us to request between 3.000€ and 50.000€, return it between 14 and 60 months at a TIN interest of 9% and APR of 9.38%.

In the following table we can see the amounts corresponding to each type of financing.

Table 12: Loan details

	Concept	Amount	%	Date
Own financing	Personal Savings	10.000 €		1/11/21
	Family and friends Savings	15.000 €		1/11/21
	Others	8.000 €		1/11/21
Outside financing	Bank loans or credits	18.000 €	9%	1/11/21
	Others			
	Total	51.000 €		1/11/21

# 9.3. Operating budgets

The operating budgets include the forecast of the revenues that we will generate from the sales of our products, as well as the estimation of the cost structure that will allow us to undertake the business activity.

#### 9.3.1. The forecast income

In this section we will take into account the sales planned for each month, the purchases we will make and therefore the initial and final stocks that we will have every 30 days. All this in monetary value and physical units. In this way we will find the amount of expected income of the first year. For this we will work on a unit selling price of 25,00€ and a unit cost of 19,00€ since it is the average of the total price of the different products we have in portfolio, focusing most of the materials on the ceramic industry and supermarkets which will need the strongest and most hygienic pallets respectively.

As we can see sales will start in June of 2021 that is when we will start our activity and we will have desired final stocks in each month of 600 units. This amount of 600 units would be necessary to supply two trucks in case of emergency or unforeseen requests. At the end of the year we expect to have a sales forecast of 197.500€ and a sales cost of 150.100€

As we can see we have made an approximation in the sales of 1.200 pallets per month except in August. The explanation is that we expect to get three customers from the ceramic sector that would raise sales to about 900 or 1000 pallets. The 200 pallets difference would be those related to other sectors such as food, furniture transport or the chemical industry.

Table 13: Forecast the income

			20	21							20	22						
	FORECAST OF INCOME		NOVEMBER	DECEMBER	TOTAL 2021	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	TOTAL 2022
	Price per unit	25,00																
	Cost price per unit	19,00																
	Gross margin applied to cost	31,58%																
	Margin obtained per € sold	24,00%																
	Initial stocks		0	0		0	600	600	600	600	600	600	600	600	600	600	600	
In units	Desired final stocks			0	0,00	600	600	600	600	600	600	600	600	600	600	600	600	600
inuits	Expected sales				0,00	0	0	0	0	0	1.200	1.200	700	1.200	1.200	1.200	1.200	7.900
	Necessary purchases		0	0	0,00	600	0	0	0	0	1.200	1.200	700	1.200	1.200	1.200	1.200	8.500
	Initial stocks		0,00	0,00		0,00	11.400,00	11.400,00	11.400,00	11.400,00	11.400,00	11.400,00	11.400,00	11.400,00	11.400,00	11.400,00	11.400,00	
in €	Desired final stocks		0,00	0,00	0,00	11.400,00	11.400,00	11.400,00	11.400,00	11.400,00	11.400,00	11.400,00	11.400,00	11.400,00	11.400,00	11.400,00	11.400,00	11.400,00
""	Expected sales		0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	30.000,00	30.000,00	17.500,00	30.000,00	30.000,00	30.000,00	30.000,00	197.500,00
	Necessary purchases		0,00	0,00	0,00	11.400,00	0,00	0,00	0,00	0,00	22.800,00	22.800,00	13.300,00	22.800,00	22.800,00	22.800,00	22.800,00	161.500,00
	Cost of sales		0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	22.800,00	22.800,00	13.300,00	22.800,00	22.800,00	22.800,00	22.800,00	150.100,00

#### 9.3.2. Costs 'structure

Once the forecast of revenue has been made, the next step is to know the expenses we will have on the annuity. It remains a mere approximation as we do not know the volume of sales we will have. (Table 14)

We have therefore taken into account staff costs, other operating costs, depreciation and financial costs. During this first year and the following the variable expenses will change during the year, as, for example, the supplies or sales figures will not be the same in August as in November.

To start with personnel costs we have the payroll of the manager, the head of operations and the forklift operator. The salary of the three people will be the same, 1200€, but the manager and the person in charge of operations will begin to collect in June, which is when the first sales will be made. On the contrary, the forklift operator will start working in December, so we will start to pay it in December.

Secondly, we have the other operating expenses where we include land rental, maintenance, consultancy, insurance, advertising, telephone and internet, electricity, water and local taxes. All this goes to a total of 17.760€.

Depreciation of property, plant and equipment includes depreciation of machinery, furniture and computers. To establish their respective depreciations, we have determined a useful life of 10 years for machinery and installations and a life of 6 and 5 years for furniture and computer equipment respectively.

Finally, in the financial expenses we find the interest on loans from December 2021 and the full 2022. These interests are extracted from the previous section "Financing Plan" where we determine the loan amounts and their duration.

### 9.4. Financial budget

Once the forecast of revenue and expenditure has been made, the profit and loss account and the balance sheet can be used to establish economic activity on the basis of viability.

## 9.4.1. Budget profit and loss statement

This is the accounting statement that informs us about the flows of expenses and revenues that determine the profit (or loss) of the company, derived from the business activity. (Table 15)

To present it, we have followed a structure that allows us to identify at first the operating result that will be given from the turnover less the operating expenses (cost of sales, personnel expenses and depreciation). Afterwards, we will analyze the financial result taking into account only the financial expenses since we have no financial income, this result will be negative.

Finally, we will get the final result of the sum of the operating and financial results where we will apply a corporation tax.

Table 14: Costs structure

		20	)21							2022					
	STAFFING COSTS	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
640001	MANGER SALARY								1.200,00	1.200,00	1.200,00	1.200,00	1.200,00	1.200,00	1.200,00
640002	EMPLOYEE'S SALARY (FIRST)								1.200,00	1.200,00	1.200,00	1.200,00	1.200,00	1.200,00	1.200,00
640003	EMPLOYEE'S SALARY (SECOND)														1.200,00
640	TOTAL SALARIES	-	-	-	-	-	-	-	2.400,00	2.400,00	2.400,00	2.400,00	2.400,00	2.400,00	3.600,00
642	COMPANY SOCIAL SECURITY	-	-	-		-	-	-	576,00	576,00	576,00	576,00	576,00	576,00	864,00
	TOTAL	-	-	-	-	-	-	-	2.976,00	2.976,00	2.976,00	2.976,00	2.976,00	2.976,00	4.464,00

		20	21						202	2					
ОТ	HER OPERATING COSTS	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
621	LAND RENT							1.600,00	1.600,00	1.600,00	1.600,00	1.600,00	1.600,00	1.600,00	1.600,00
622	MAINTENANCE			50,00	50,00	50,00	50,00	50,00	50,00	50,00	50,00	50,00	50,00	50,00	50,00
623	CONSULTANCY			60,00	60,00	60,00	60,00	60,00	60,00	60,00	60,00	60,00	60,00	60,00	60,00
625	INSURANCE			400,00											
627	ADVERTISING			100,00	50,00	50,00	50,00	50,00	50,00	50,00	50,00	50,00	50,00	50,00	100,00
628	TELEPHONE AND INTERNET			70,00	70,00	70,00	70,00	70,00	70,00	70,00	70,00	70,00	70,00	70,00	70,00
628	ELECTRICITY			80,00	80,00	80,00	80,00	80,00	80,00	80,00	80,00	80,00	80,00	80,00	80,00
628	WATER					60,00			60,00			60,00			60,00
631	LOCAL TAXES						500,00								
	TOTAL	0,00	0,00	760,00	310,00	370,00	810,00	1.910,00	1.970,00	1.910,00	1.910,00	1.970,00	1.910,00	1.910,00	2.020,00

		202	21	AMORT						202	2						AMORT
	AMORTIZACTONS	NOVEMBER	DECEMBER	ACUM 2021	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	ACUM 2022
681001	MACHINERY AMORTIZATION	150,00	150,00	300,00	150,00	150,00	150,00	150,00	150,00	150,00	150,00	150,00	150,00	150,00	150,00	150,00	2.100,00
681002	FACILITIES AMORTIZATION	45,83	45,83	91,67	45,83	45,83	45,83	45,83	45,83	45,83	45,83	45,83	45,83	45,83	45,83	45,83	641,67
681003	FURNITURE DEPRECIATION	12,54	12,54	25,08	12,54	12,54	12,54	12,54	12,54	12,54	12,54	12,54	12,54	12,54	12,54	12,54	175,58
681004	COMPUTER AMORTIZATION	28,28	28,28	56,57	28,28	28,28	28,28	28,28	28,28	28,28	28,28	28,28	28,28	28,28	28,28	28,28	395,97
		236,66	236,66	473,32	236,66	236,66	236,66	236,66	236,66	236,66	236,66	236,66	236,66	236,66	236,66	236,66	3.313,22

		20	21						2022						
FINAN	NCIAL EXPENSES	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
662	LOAN INTEREST		135,00	132,65	130,29	127,91	125,51	123,09	120,65	118,20	115,72	113,23	110,72	108,19	105,64

Table 15: Budget profit and loss statement

	20	21							20	022						
INCOME STATEMENT	NOVEMBER	DECEMBER	TOTAL 2021	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	TOTAL 2022
Sales	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	30.000,00	30.000,00	17.500,00	30.000,00	30.000,00	30.000,00	30.000,00	197.500,00
Cost of Sales	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	-22.800,00	-22.800,00	-13.300,00	-22.800,00	-22.800,00	-22.800,00	-22.800,00	-150.100,00
Other operating expenses	0,00	0,00	0,00	-760,00	-310,00	-370,00	-810,00	-1.910,00	-1.970,00	-1.910,00	-1.910,00	-1.970,00	-1.910,00	-1.910,00	-2.020,00	-17.760,00
Personnel expenses	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	-2.976,00	-2.976,00	-2.976,00	-2.976,00	-2.976,00	-2.976,00	-4.464,00	-22.320,00
Amortizations	-236,66	-236,66	-473,32	-236,66	-236,66	-236,66	-236,66	-236,66	-236,66	-236,66	-236,66	-236,66	-236,66	-236,66	-236,66	-2.839,90
PROFIT FROM OPERATIONS	-236,66	-236,66	-473,32	-996,66	-546,66	-606,66	-1.046,66	-2.146,66	2.017,34	2.077,34	-922,66	2.017,34	2.077,34	2.077,34	479,34	4.480,10
Financial expenses for interest	0,00	-135,00	-135,00	-132,65	-130,29	-127,91	-125,51	-123,09	-120,65	-118,20	-115,72	-113,23	-110,72	-108,19	-105,64	-1.431,81
NET FINANCE INCOME	0,00	-135,00	-135,00	-132,65	-130,29	-127,91	-125,51	-123,09	-120,65	-118,20	-115,72	-113,23	-110,72	-108,19	-105,64	-1.431,81
PROFIT BEFORE TAX	-236,66	-371,66	-608,32	-1.129,31	-676,95	-734,56	-1.172,16	-2.269,75	1.896,69	1.959,14	-1.038,38	1.904,11	1.966,62	1.969,15	373,70	3.048,29
Income TAX	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	-474,17	-489,79	0,00	-476,03	-491,65	-492,29	-93,42	-2.517,35
PROFIT FOR THE PERIOD	-236,66	-371,66	-608,32	-1.129,31	-676,95	-734,56	-1.172,16	-2.269,75	1.422,52	1.469,36	-1.038,38	1.428,08	1.474,96	1.476,86	280,27	530,94

### 9.4.2. Budget cash flow statement account

The statement of cash flows (EFE) reports on the origin and use of monetary assets representing cash and other cash equivalents, classifying movements by activity and indicating the net change of that amount in the period (Fatima Hervás, 2013)

The company's receipts and payments are sorted and classified by category or type of activity: cash flows from operating activities, cash flows from investing activities and cash flows from financing activities.

As we can see the cash flow of the operating activities becomes positive from June of 2021 when we start selling. This is the result of the transactions in which the company is involved. On the other hand, the cash flow from investment activities is zero and constant as we do not make cash movements for the purchase or sale of non-current assets. As for the cash flows of financing are negative and constant as it represents payment for the loan received.

Finally, we observe that the final result is positive, reaching the figure of 14.996€ in the final cash.

### 9.4.3. Balance of the situation budget.

The Balance Sheet Budget reflects the anticipated estate situation of the company in an instant. It aims to describe the company's wealth from the dual perspective of investments and its sources of financing (Santamaría Sánchez, 2014). To do this we synthesize assets and rights (assets), debts (liabilities) and accumulated wealth (equity). As we can see in the initial balance sheet, we need to ask for a bank loan for 18.000€, which brings a balance between assets and equity and liabilities of 51.000€. The final balance sheet for the year 2021 is settled with a total of 50.078,75€ due to the result incurred in expenses of 608,32€ and debts to banks. And finally, the sum of loss results of the years 2021 and 2022 (forecast balance sheet of 2022) establishes a totality of the assets and liabilities for 49.183,68€.

Table 16: Cash flow statement

	202	21						2	022					
CASH FLOW STATEMENT	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
INITIAL CASH	0	24.900,00	24.452,07	11.844,14	11.086,21	10.268,28	9.010,35	6.652,42	8.458,48	10.324,55	9.190,62	10.996,69	12.862,76	14.728,83
Sales collections	0,00	0,00	0,00	0,00	0,00	0,00	0,00	30.000,00	30.000,00	17.500,00	30.000,00	30.000,00	30.000,00	30.000,00
Payments to supplier pallets	0,00	0,00	-11.400,00	0,00	0,00	0,00	0,00	-22.800,00	-22.800,00	-13.300,00	-22.800,00	-22.800,00	-22.800,00	-22.800,00
Payment of operating expenses	0,00	0,00	-760,00	-310,00	-370,00	-810,00	-1.910,00	-1.970,00	-1.910,00	-1.910,00	-1.970,00	-1.910,00	-1.910,00	-2.020,00
Salary Payments	0,00	0,00	0,00	0,00	0,00	0,00	0,00	-2.400,00	-2.400,00	-2.400,00	-2.400,00	-2.400,00	-2.400,00	-3.600,00
Social security payments	0,00	0,00	0,00	0,00	0,00	0,00	0,00	-576,00	-576,00	-576,00	-576,00	-576,00	-576,00	-864,00
TOTAL OPERATING CASH FLOWS	0,00	0,00	-12.160,00	-310,00	-370,00	-810,00	-1.910,00	2.254,00	2.314,00	-686,00	2.254,00	2.314,00	2.314,00	716,00
Investment payments	-26.100,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
TOTAL CASH FLOWS INVESTMENT	-26.100,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Collection of share capital	25.000,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Subsidy collection	8.000,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Loan collection	18.000,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Loan payment	0,00	-447,93	-447,93	-447,93	-447,93	-447,93	-447,93	-447,93	-447,93	-447,93	-447,93	-447,93	-447,93	-447,93
TOTAL CASH FLOWS FINANCING	51.000,00	-447,93	-447,93	-447,93	-447,93	-447,93	-447,93	-447,93	-447,93	-447,93	-447,93	-447,93	-447,93	-447,93
NET CHANGE IN CASH	24.900,00	-447,93	-12.607,93	-757,93	-817,93	-1.257,93	-2.357,93	1.806,07	1.866,07	-1.133,93	1.806,07	1.866,07	1.866,07	268,07
FINAL CASH	24.900,00	24.452,07	11.844,14	11.086,21	10.268,28	9.010,35	6.652,42	8.458,48	10.324,55	9.190,62	10.996,69	12.862,76	14.728,83	14.996,90

Table 17: Situation Balance

INITIAL NECESSARY INVESTMENTS IN INFRAESTRUCTURE AND WORKING CAPITAL	51.000
Elevators	18.000
Facilities	5.500
Furniture	903
Computer equipment	1.697
Initial cash	24.900
EXPECTED PERMANENT RESOURCES	33.000
Share Capital	25.000
Capital Grants	8.000
DIFFERENCE = NEED FOR BANK FINANCIAL RESOURCE	18.000

	INITIAL	BALANCE SHEET 1-11-2021		
NON-CURRENT ASSETS	26.100,00	EQUITY		33.000,00
Tangible fixed assets	26.100,00	Share Capital		25.000
		Capital Grants		8.000
CURRENT ASSETS	24.900,00	NON-CURRENT LIABILITIES		14.085,99
Cash	24.900,00	Non-current debt with financial institution	•	14.085,99
		CURRENT LIABILITIES		3.914,01
		Current debt with financial institutions		3.914,01
TOTAL ASSETS	51.000,00	TOTAL EQUITY AND LIABILITIES		51.000,00

	INTERIM BA	LANCE SHEET A 31-12-2021			INTERIN	1 BALANCE SHEET A 31-12-2022	
NON-CURRENT ASSETS	25.626,68	EQUITY	32.391,68	NON-CURRENT ASSETS	22.786,78	EQUITY	32.922,63
Property, plant and equipr	26.100,00	Share Capital	25.000,00	Property, plant and equipr	26.100,00	Share Capital	25.000,00
- Accumul. Amorti	-473,32	Capital Grants	8.000,00	- Accumul. Amorti	-3.313,22	Capital Grants	8.000,00
CURRENT ASSETS	24.452,07	Result 2021	-608,32	CURRENT ASSETS	26.396,90	Result 2021	-608,32
Inventories	0,00			Inventories	11.400,00	Result 2022	530,94
Cash	24.452,07	NON-CURRENT LIABILITIES	13.743,71	Cash	14.996,90	NON-CURRENT LIABILITIES	9.430,43
		Non-current debt with financial institution	13.743,71			Non-current debt with financial institution	9.430,43
		CURRENT LIABILITIES	3.943,36			CURRENT LIABILITIES	6.830,63
		Current debt with financial institutions	3.943,36			Current debt with financial institutions	4.313,28
		Income tax creditors	0,00			Income tax creditors	2.517,35
TOTAL ASSETS	50.078,75	TOTAL EQUITY AND LIABILITIES	50.078,75	TOTAL ASSETS	49.183,68	TOTAL EQUITY AND LIABILITIES	49.183,68

## 9.5. Analysis of the profitability

Once the budgets of the financial statements have been drawn up, we will assess whether our financial objectives are being achieved. For this, we will carry out the profitability of the assets and the profitability of the shareholder, in this way we will be able to compare our results with those of our competitors, with the average of the sector and with the expectations we had raised.

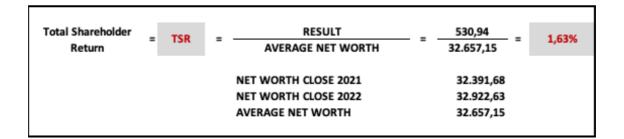
First, the return on assets is the result of the operating result between the average assets. ROA is a financial ratio that measures the ability to generate profits and lets you know if the company is using its assets efficiently (Guillermo Westreicher, 2017).

Our ROA has a score of 9.11%, which means it has obtained 911 basis points. The conclusion we draw is that for every euro invested our company gets 9 cents profit.

Return on assets = ROA = RESULT OF EXPLOITATION AVERAGE ASSETS = 4.480,10 49.183,68 = 9,11%

ASSET CLOSE 2021 50.078,75 ASSET CLOSE 2022 49.183,68 AVERAGE ASSETS 49.631,22

Table 18: Analysis of the profitability



## 10. TIMING PLAN

In this schedule we can see how the company will evolve in the first year and in the three months prior to this first year. Before starting with the first semester we see that in the three previous months as a member of the company we only have the manager who constitutes the society two months before starting the annuity.

Once the first semester has begun, we see that during the first three months the manager will develop the company's corporate website as well as prepare the space that corresponds to the land where the company is located. In April, he will finish

preparing the space and start with the development of the social networks until they are completely created and personalized, which is estimated to take three months.

As we will already have the space prepared, the website and the social networks, we will start with the first advertising campaign presenting our value proposal and business idea to potential clients in the province of Castellón. We hope that during this campaign and the rest of the actions related to marketing and advertising we will be able to close our first client before June, so that in this month we can start working and hire the first worker. We will try to correct and improve the way of working until November where we will make a second campaign showing data of what these first months of work have been so that at the end of the year with the hiring of an administration person we can see the balance and profitability of the company.

Before we start First Semeste CHRONOGRAM 12 2 3 3 4 5 6 9 10 11 Constitution of the company Operational decisions Preparing de ground **Human resources** Only the manage .+ 1 Worker (Operations) .+ 1WorKer (Administration) Marketing **Development of social networks** 1a Campaign 2a Campaign

Table 19: Chronogram

# 11. CONTINGENCY PLAN

In this section we inform about possible measures and decisions in case of potential crisis situations for the company, in order to be able to face it and guarantee the survival of the company.

To carry out this section we have taken into account the risks that can appear both in the purchase and sales processes as well as in the invoicing processes. The following table of contingencies shows a summary of these.

Table 20: Contingency table

RISKS	POSSIBLE REMEDIES
That the clients do not have the capacity	Searching for external financing sources
to pay or to finance.	by our company.
Delays in deliveries by transport	Search for more transport companies so
companies	that you are not dependent on just one
	carrier. In addition, we will shield
	possible delays with penalties in the
	contract.
Rejection of our product by the ceramic	From the beginning, we will establish the
sector	maximum connections with companies
	outside the ceramic sector. Such as the
	chemical sector, supermarkets, food and
	beverage suppliers or furniture and
	household appliance transporters.
Emergence of new competitors with	Continuous improvement of the logistics
threatening offers	processes of our customers based on
	reverse logistics and the search for new
	suppliers with more competitive prices.
That the business does not evolve as	Avoid acquiring unnecessary
planned	commitments, adding clauses in the
	contracts that cover us for possible
	contingencies
Stock liquidation in case of company	The surplus pallets that would remain in
closure	the company would be disposed of by
	pallet recycling companies, albeit at a
	lower price.

## 12. CONCLUSION

In this project, we have proposed a new business idea based on a business model inspired by reverse logistics, an activity based on the reuse of plastic pallets.

The opportunity for our business model comes mainly from taking advantage of the advantages presented by plastic pallets and from the reduced adoption of the principles of reverse logistics is an important part of the industrial fabric of Castellón, represented above all by companies in the ceramic industry. Although we have focused on supplying sectors that already use plastic pallets, we aim to introduce them to the ceramic sector, which uses large quantities of wooden pallets.

For this reason, we have proposed a business model based on the economic concept of the Circular Economy, associating the reuse of the pallet with the terms of sustainability and reduction of final waste. The viability of the business model has been examined by asking companies in the ceramic sector in Castellón, in order to see to what extent they use plastic pallets in the company's logistics and what advantages the company supplying plastic pallets should offer them so that this business model can work.

The information provided has led us to propose several processes that can solve these problems by creating strategic alliances with companies in the ceramics sector, with recycling companies and with a salesperson and companies from other countries that may be interested in our products. In addition, we have provided pallet reuse plans for companies that have transactions with regular customers and for multinational companies that trade with subsidiaries in other countries. From our analysis, we can extract that there is a great use of plastic pallets in sectors such as the food and chemical industry due to its greater hygiene, but our sales would increase a lot if we managed to attract clients from the ceramic sector.

The business plan begins with the strategic analysis, where it is highlighted in the analysis of competitors that the importance of the ceramic industry in Castellón has favoured the sale of wooden pallets by many companies. We also justify the design of a competitive strategy based on differentiation and define our objectives for the first year. Regarding the plans that detail the functional strategies, the marketing plan describes our product portfolio, based on seven types of pallets, and how we are going to make ourselves known. In the production plan we describe the main operations from four phases: purchasing from the supplier, storage, cleaning and sales to our customers. We also emphasize that we will offer the services of collection and recycling of pallets through partnerships with recycling companies.

In the human resources plan we highlight, in addition to the work areas (finance, operations, human resources and marketing), the collaborators needed to carry out the activity, such as our suppliers and the recycling companies we work with.

Once in the legal-tax plan, we list the phases that we have to carry out to create the company, from the selection of the legal form that will be a limited company to the hiring of our four workers.

The costs of the previous plans will be reflected in the economic and financial plan, where we also make a forecast of the income, we will have during the first year (which amounts to 197,000 euros) and we verify the economic viability and the analysis of the profitability.

Finally, we have a date plan and a contingency plan. The first one shows us the evolution that the company has to follow during the first year from January when we will prepare the ground until December when we will be selling pallets for six months and we will already have two workers. As far as the contingency plan is concerned, to guarantee the survival of the company in case of crises for the company, it proposes that we look for external financing channels, look for more transporters to guarantee delivery times, improve the logistic processes of the clients and avoid unnecessary commitments to cover ourselves in case of possible contingencies.

To conclude, we would like to add that, with further research and adaptation of plastic pallets to the needs of the ceramic industry, new products with great potential could be developed, so it is only a matter of time before they create a prototype pallet to meet the need of this sector, as the plastic used in these products is 100% recyclable and mouldable. In the meantime, selling to sectors that already use plastic pallets and introducing small quantities of pallets to the ceramic sector can provide the benefits needed to start such research and create the ideal pallet that will help reduce environmental impact.

In summary, with this work we have demonstrated that innovative business ideas can be generated by taking advantage of opportunities to contribute to sustainability and help the environment by innovating and introducing new products in traditional sectors. We would also like to emphasize that the process of preparing this TFG has allowed us to realize that the elaboration of the business plan is a useful tool to appreciate that the initial idea needs to be redefined and that the estimated results are not appropriate to start the business. But research can always be helpful for future projects or for other people who have new business ideas in mind and only need a small boost to start their research.

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## 14. ANNEXES

### **ANNEXE 1: Example of sales through intermediaries**

This process is easier to explain with an example: Let's take the case that our client is Company X and specify that if all the products he transports to France are transported with our pallets and then stored there we will give him a 50% discount (for example, on a price of  $30 \in$ ). On the other hand, we will contact an end customer or, on the contrary, a freelance commercial agent in France and we will tell him to find us customers who want plastic pallets and that he should go and collect them. In this way, we will sell the pallet to him for  $30 \in$  and we will invoice him directly so that Company X will not have to worry about anything. The function of this process is that the price of the pallet is paid between the two companies. In addition, as we can see we make an extra profit of  $5 \in$  as  $15+20=35 \in$  and the price of the pallet is  $30 \in$ . With this  $5 \in$  we will pay the commissions of the freelance commercial, which could be  $1 \in$  per pallet sold and various expenses that we can obtain.

## ANNEXE 2: Procedures for the start of the activity and tax obligations

- Register with the State Tax Administration Agency (AEAT)
  - Registration in the Census Declaration
  - Registration in the Tax on Economic Activities (IAE)
- Processing the registration at the General Treasury of Social Security
  - Registration in the Special Regime for Self-Employed Social Security Workers (RETA)
  - Register at the city hall
  - o Provincial Labour Inspectorate
  - Commercial Registry (RM)
- Paying income tax by the direct estimation method
- Pay 21% VAT as a general regime according to model 303 and 390.
- Deductions for new self-employed, generally 15% and 7% if they have not worked the previous year. According to model 111 and 190.

**ANNEXE 2: Administrative procedures** 

	With general nature	With special character
Need for a license	No.	Yes, usually for safety or
to start the activity.		environmental reasons.
Procedure for	Responsible Statements or	License application (pre-
submitting	Advance Notice	authorization).
Management	There is no need for a positive	We must wait for a positive
response.	response	response from the
		administration. If there is no
		response within the period
		established by law, it is
		considered to be a positive
		silence (resolution in favour
		of the applicant).
Administration	In case of inspection, the	The authorised activity may
control (inspection)	requirements established by	be subject to inspection for
	law must be complied with,	compliance with the
	and which were stated to be	conditions considered for
	fulfilled in the responsible	authorisation.
	statement or previous	Non-compliance may lead to
	communication.	penalties and possibly closure
	In the event of failure to	of the activity.
	comply with these	
	requirements, the activity may be ordered to be closed,	
	,	
	O .	
1 1/ 1 10/0 2010 2	corresponding sanctions	

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# **ANNEXE 4: Loan data**

### LOAN DATA

Date of obtainment	1-nov21
Total number of monthly payments	48
Capital	18.000,00€
Opening Commissions 0,0	
Other opening costs	
Nominal interest rate	9,00%
Payment frecuency	Mensual
First Instalment	1-dic21
Last Instalment	1-nov25
Opening Costs	0,00€
Monthly nominal interest rate	0,75000%
Effective monthly interest rate	0,75000%
Total nominal interest	3.500,68€
Total efective interest	3.500,68€
APR	9,381%
Monthly instalment	447,93€

**ANNEXE 4: Summary table of possible collaborators:** 

Function	Company	Logo
Supplier	Nortpalet	nortpalet
Recycling Company	Recuperaciones Llorens	HERMANOS LLORENS
Recycling Company	Cabka	CABKA&IPS
Construction Company	Reformas Roberto Porcar	
Construction Company	Transymat	TRANSYMAT
Cleaning Company	Grupo Eulen	GRUPO EULEN
Consultancy	XGestihon	XG XGESTIHON
Supplies	Iberdrola	IBERDROLA
Supplies	Facsa	Facsa ciclo integral del agua
Customer search	Aispla	easipla Industriales del Plástico

Customer search Europages EUROPAGES WERLIEFERT WAS