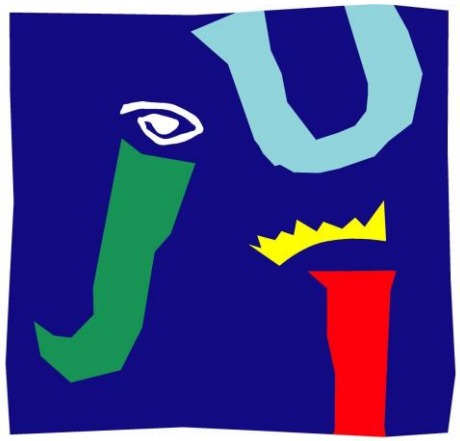

UNIVERSITAT JAUME·I

INTERNATIONAL MARKETING PLAN OF "LIFECERAM" IN THE CHINESE MARKET. NET ZERO TILE : A STEP AHEAD FOR SUSTAINABILITY

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1. EXECUTIVE SUMMARY

We are a company dedicated to the manufacture of ceramic tiles, and our product LIFECERAM, is the result of many hours of research with one main objective, to develop a ceramic tile with zero waste during its manufacturing process. This has been largely thanks to the efforts of 4 companies in the sector (Keros, Chumillas Tarongi S.A. and Vernís S.A.), ASCER (Spanish Association of Manufacturers of Ceramic Tile and Floor Tiles) and the ITC (Institute of Ceramic Technology). All of them have had a long history and experience in the ceramic sector, which has undoubtedly assisted in the development of this product. What distinguishes LIFECERAM from the current offer, and what will allows us to expand to new markets, it is to have achieved to reduce the waste during the manufacturing process to zero, an unprecedented result until now, and taking into account the current scenario of environmental concern and sustainability, will enable us to be positioned in a privileged market position in the eyes of the consumer.

This product is to be marketed initially in Asia, and more specifically in China. Due to the current situation in the country and the way in which companies that work with this type of product operate, the target customers to which the company is directed are diverse. In the first place, the target would be the construction companies, whether public or private, and afterwards the Chinese ceramic manufacturers themselves. As well, decoration or renovation companies, contract channels or foreign companies that want to enter China and, ultimately, the final customer.

In 2016, the ceramic production in China reached a total value of 1,280 billion RMB, while in 2019 this figure exceeded 1,480 billion RMB, thus succeeding in maintaining the first position worldwide (ICEX,2019). These figures show us how big the Chinese market is and what volumes it can achieve. Its evolution encourages optimism for the future, although it is true that it may end up suffering the after-effects of the raw materials crisis or the COVID-19 pandemic.

To start working in the Chinese market, the piggy-back marketing strategy would be the best option, consisting of partnering through a joint venture with Chinese companies in the ceramic sector, who must have a solid reputation and be at the forefront of the market in terms of production capacity. Amongst these companies could be Marco Polo, Monalisa, Dong Peng, Guanzhu, Nabel or Hongyu (georgebuildings, 2020). Once agreed upon, we will be able to use their headquarters and premises to market the product, as well as their distribution channels to reach new customers.

We will interact with customers at the Chinese company premises of the agreement, through our website or at the various ceramics fairs that are held in China throughout the year and to which we will take our product to show and answer customers' questions.

The main competition are Italy and China itself, and more indirectly, India and Japan (ICEX, 2022). However, as it is a newly developed product, competitors have not yet been able to replicate it, therefore placing the product in an unbeatable position to be ahead and hold a strong share in the market before this could occur.

The long-term objectives are to ensure that at least 5 of the 10 most important construction companies or large companies that use ceramic products in China use our product on a regular basis.

A three-year financial plan has been drawn up in order to know first hand the company's profit and loss statement, paying special attention to the first year which is always the most complicated when launching a new product. However, it can be observed in the financial plan that the first year will close with a profit, which gives us a glimpse of the long-term potential that our product has.

Therefore, it can be stated that the decision to launch the product in the Asian market, and especially in China is the correct decision, given that its demand continues to grow (ICEX, 2019), its environmental situation is appropriate for the characteristics of our product (Mohorte, 2017) and financially can be observed that it would have high returns from the first year onward.

The methodology used to undertake this research has been qualitative research. First of all we have done a literature review, analyzed sectoral market studies and in this case, as it was related to the companies of the consortium, in-depth interviews have been performed inquiring for the necessary data for the research.

2. INTRODUCTION

In Spain, one of the most cutting-edge and dynamic industries is that of ceramic tile manufacturers, being positioned as the world leader in the ceramic sector in terms of design, quality of service and technological development. (ASCER, 2022)

Of the total amount of turnover made by the sector, export accounts for 75%, while the rest of the sales are made at a national level. The ceramic sector has a very significant impact on the Spanish trade balance as it is ranked the third industry that contributes the largest surplus. It has managed to be present in 190 countries worldwide, and this has been achieved mainly by distinguishing factors such as experience or knowledge (ASCER, 2022).

The province of Castellón, where 94% of the national production is carried out, is where 80% of the companies related to the sector are located. This large concentration of companies in the same geographical area is one of the most important characteristics of the sector (ASCER, 2022).

Table 1: Ceramic sector

Ceramic sector in 2021					
Production 587				Export 3665	
Employment 17180				Total sales 4855	
Production and sales in ceramic sector					
	2017	2018	2019	2020	2021
Production	530	530	510	488	587
National sales	824	870	939	901	1198
Export	2686	2727	2818	2941	3665
Total sales	3510	3597	3757	3842	4855
Sales calculated on millions of euros and production in square metres					

Source: ASCER

At an international level, and due to the quality of its products, continuous innovation and development of new ones, the Spanish ceramics industry is considered one of the most advanced and competitive, as it can be seen in the following data: (ASCER, 2022).

- Within the European Union, it is the main exporter in terms of volume.
- Internationally, it is the second largest exporter by volume.
- For the last 10 years, the sector has registered an annual average of 3,5 million euros.
- 75% of the tiles manufactured in Spain are sold to foreign markets.

Within the international scene, the Spanish ceramic sector has established itself into a privileged position, due largely to its determination to commit to R & D & i. In addition, attention must be given to the investment achieved continuously, both by individual companies and by the sector as a whole through projects, in which institutions such as ITC or ASCER are involved and play an important role (ASCER, 2022).

To achieve the greatest optimization of the traditional process and make it even more eco-friendly, if possible, the Spanish tile industry has been strongly committed to the use of the latest cutting-edge techniques within the production process, accomplishing the highest energy efficiency ratio per unit of product in the industry worldwide (ASCER, 2022).

Spain and Italy are, long way ahead compared to other countries belonging to the European Union, the two countries that have the highest energy efficiency in terms of ceramic manufacturing (ASCER, 2022).

At present, almost all Spanish tile companies use natural gas in their production, which is the least harmful and polluting fuel there is. In addition, cogeneration has been added, which is a way of obtaining electricity in a much more efficient and profitable way. Therefore, a reduction in environmental pollution has been achieved, representing great savings in the losses that were caused by transport and material processing (ASCER, 2022).

Unlike the Spanish industry, the Chinese ceramics industry has been undergoing a turbulent transformation process for some time now. According to data provided by the China Building Materials Federation in Beijing, some of the causes could be the following:

1) New rules and restrictions imposed by the central government to fight pollution.

2) Multinationals entering the market.

Both causes are contributing to a major change in the ceramics sector, and like the cement industry some time ago, may be facing a difficult processing period (CONSTRUMAT CHINA, 2016).

However, not only the new environmental protection regulations are threatening the ceramic sector in China, there are also other factors such as: (CONSTRUMAT CHINA, 2016).

A high tax burden from the central and provincial governments.

An increase in wages.

A decline in exports which may be due to factors such as:

- The global crisis.
- The implementation of higher duties by the European Union.

An increase in the purchase price of raw materials.

The continued entry into the market of foreign multinationals with a better image and better products.

It is clear then, as predicted by the China Building Materials Federation, that a major change is coming in China's ceramic sector with more and more Chinese companies wanting to incorporate new and greener technologies that will allow them to produce cleaner products and thus reduce pressure from the government, which will allow them to grow further (CONSTRUMAT CHINA, 2016).

Given the changes that the Chinese ceramic market is undergoing, there are quite a few Chinese ceramic companies that prefer to cooperate with foreign companies in order to compete against both, Chinese giants and foreign companies. In this case, they want to take advantage of the knowledge that foreign multinationals have in order to face the challenges imposed by the Chinese government (CONSTRUMAT CHINA, 2016).

China, which has some of the highest pollution in the world due to its rapid industrialisation, has once again a thick layer of pollution over its cities. Therefore, China has been forced to take drastic measures to resolve the issue (Mohorte,2017).

So, in addition to completely revamp its energy sector to make it more sustainable, China's government is now getting serious about tackling the situation. For months now, more than 80,000 factories across the nation have been shut down by the government in order to identify which of them are not complying with increasingly stringent environmental legislation. China has precise legislation for factories, controlling the level of pollutants they release into the atmosphere (Mohorte, 2017).

This measure aims to curb which factories are evading the law, and at the same time reduce the continuous mass of pollution that citizens are forced to endure on a daily basis. In total, the government has inspected, fined and even closed down about 40% of the factories in the country. Some of them have already returned to normal operations, as many of the closures were only temporary. But this shows that China is determined to tackle its serious problem in every possible way (Mohorte, 2017).

The country has been waging an all-out war against pollution for almost five years, aware that it has a large-scale impact, not only on the health of its citizens but also on its ambitious economic development. Some studies show that pollution is directly responsible for the deaths of more than one million people in China each year, even though others put the daily death toll at 4,000, alarming figures that China cannot and will not continue to allow, as that can be compared to the 19th century in Europe, when the continent was experiencing its worst pollution era (Mohorte,2017).

On the other hand, the pandemic caused by COVID-19 has had a very significant influence on the shortage of raw materials, and this has affected markets globally and all economic sectors. These sectors need the materials to be able to continue with their production processes (José Planelles Aragó, 2021).

In a situation shaped by market uncertainty and scarcity of raw materials, it is essential to create alternative supply chains from the current ones. To achieve this end, it is vital to dedicate resources to R&D in order to have both, primary and secondary sources of various raw materials, and to give a boost to the circular economy approach (José Planelles Aragó, 2021).

China is the world's largest ceramics producer, with a global market share of approximately 47.2% and a value of 1,480.56 billion RMB in 2019. Production is not

evenly distributed throughout the country, but is concentrated in certain industrial clusters located in the south, where the largest producers are based. Foshan, part of the province of Canton, is the most important ceramic cluster in China, largely due to its low production costs and abundance of raw materials (ICEX, 2019).

However, although China has a dominant position in terms of production, demand has not diminished and imports related to ceramics have been growing every year. In the period 2014-2018 there was an annual growth of 3% in China's imports from Spain, and not only that, but expectations for the coming years indicate that demand will continue to increase (ICEX, 2019).

Table 2: General data about China

Data	2017	2018	2019
Population (x 10.000)	139.008	139.538	140.005
GDP construcción	5,7%	6,8%	6,8%
Anual Inflation rate	1,6%	2,1%	2,3%
GDP per capita (Euros)	8.097	9.033	9.386
Tile export (China to the world) Customs clearance number 69.07 (in millions of euros)	4.055.708	3.756.434	4.069.071
Tile import (China from the world) Customs clearance number 69.07 (in millions of euros)	111.892	125.786	147.689
Average anual salay (RMB) In urban non-privet units	74.318	82.413	98.471

Source: ICEX

In 2016 the ceramic production in China reached a maximum value of 1,280 billion RMB, while in 2019 this figure exceeded 1,480 billion RMB, managing to remain in first position worldwide. In addition, it is estimated that there are approximately 1,400 ceramic producers in China, with a number of product lines that can reach up to 3,500. However, this fact does not diminish the possibility of accessing the Asian giant's market for international supply, especially for high-end products, since China, in addition to being the first in terms of ceramic production, is also in the top positions in terms of imports with a world share of 2.5%. Based on official data, Chinese domestic consumption of tiles stood at the end of 2018 at 5,475 million square meters, or what is the same, at 42.8% of consumption worldwide (ICEX, 2019).

In recent years there has been a slowdown in China's real estate sector, which has also affected its economy, but demand for ceramic products has remained stable. This

is due to the government's renovation of facilities and renewed urbanization plans that include hotels, shopping malls and residential buildings among others, which allows options for companies to continue to exist. However, even with all these opportunities, the market is highly fragmented and fiercely competitive, with no one single company holding more than 1.6% of the market share. Only Italy is a direct competitor of Spain in ceramic imports (ICEX, 2019).

"China is a political economy. The decisions of the Chinese government have a direct impact on the country's economy" (Beatriz Irún, 2022). In the Asian country, the increase in the price of coal, the rise in electricity demand and, fundamentally, the restrictive environmental laws to reduce pollution and atmospheric emissions are causing approximately 20 regions of the country to have to cut electricity supply to both homes and factories, with all the inconveniences that this entails. China is experiencing power grid outages that threaten its economy and at the same time global supply chains (Bayoud, 2021).

The ITC has launched a monograph that is essential to understand the major challenges facing the ceramics sector today. According to the authors of the monograph: "Undoubtedly, one of these challenges is the current crisis of raw materials given the shortages, supply bottlenecks and logistical problems associated with certain materials that are causing historic price increases in many cases" (ITC, 2022).

"At a global level, the great challenge for 2022 is the increase in prices" (Beatriz Irún, 2022). There are several factors to take into account to explain why this increase is occurring. The first of these is the increase in energy prices, which has companies worried,and in addition to having become more expensive, there is also a worrying shortage of supply. On the other hand, there is the increase in the price of goods transportation, which is due to the lack of containers to transport them, and which in some cases has increased tenfold (Beatriz Irún, 2022).

3. LIFECERAM: "ZERO WASTE DURING THE MANUFACTURE OF CERAMIC TILES".

That manufacturing ceramic tiles in the European Union creates various types of waste at different stages of the production process is an actual fact. It is estimated that 1.5 million tons of waste are produced each year. Although it is true that there is a considerable part of the waste that is recycled within the current manufacturing processes and products, it must also be said that there is as well a certain percentage of it that cannot be recycled because it would lead to changes in the final results of the tiles. For this reason, a large amount of the waste is eventually disposed of in landfills. The main objective of LIFECERAM is to achieve zero waste when manufacturing these ceramic tiles, and for this purpose the following is suggested: (Qualicer,2015).

- To develop a new ceramic stoneware for use in urban paving (outdoor), and which also add a very high amount of waste in both the glaze and the support system (Qualicer, 2015).

- Design a process that is intended to achieve a high degree of sustainability in the composition of the support system, and that is based on techniques such as granulation or dry milling (Qualicer, 2015).

With an estimated period of 3 years, the project aimed to achieve zero waste when manufacturing ceramic tiles, specifically in the tiles that are to be used for urban paving (outdoor), as these contain a very high percentage of waste. For this purpose, processes involving the use of dry milling technologies are used (Keros,2015).

The results related to the environment have yielded very positive data, achieving a higher degree of sustainability in the tile manufacturing process, with results that are reflected in the balance sheet:

Table 3: Benefits of the product

- 20% reduction in the dumping of ceramic waste - 65% savings on water consumption - 30% savings on energy - 30% savings on CO_2 emissions

Source: Keros

A recent market survey has been implemented to get the research to this level of achievement among the many companies that manufacture ceramic tiles. Information has also been obtained from both, ASCER and the corresponding regional authorities, in terms of environmental regulations (ITC, 2015).

Once the results have been obtained, the different types of waste produced by the sector are analyzed. Non-hazardous waste is separated from potentially harmful waste, and the former is labeled and the origin and nature of each one is analyzed (ITC, 2015).

LIFECERAM is a European LIFE+ project whose initial target has already been achieved: to achieve zero waste during the process of manufacturing ceramic tiles. This has been accomplished thanks to a design that enables the manufacturing process to reach a high degree of sustainability, which in turn allows to achieve a ceramic product that both, its coating and the support system, have been created from the waste generated during the manufacturing process. Urban paving would be the use for this new product (Retema, 2016).

The results obtained have been extremely satisfactory and promising, according to the members of the consortium, who were able to participate in a dissemination event among the various companies in the sector. These members have been able to learn first hand how LIFECERAM has managed to create a formula for the composition of the urban pavement that is composed entirely of waste coming from the manufacturing process, such as raw, cooked, shards or dust from the kiln filters (Retema,2016).

The most important conclusions, as the head of the research within the ITC, Javier García, comments are: "we have developed a support composition for urban paving composed of 100% waste from raw and fired sherds, glaze and polishing sludge and kiln filter dust. The composition we have formulated is similar to the relative proportions that are generated by the different ceramic wastes. For the support system, it has been achieved the final properties required in terms of porosity, mechanical strength and environmental aspects and also presents a suitable behavior to be processed in the current industrial facilities, without requiring any changes in the plant." (Retema, 2016).

3.1 Company´s history

This has been possible thanks to the efforts of 5 companies:

ITC: It is a technological institute created in 1969, which is noteworthy for having been the first to have created a relationship of mutual collaboration between the local university and businesses. This is applied in the province of Castellón, where the most important Spanish ceramics cluster is located, with about 90% of its companies (ITC, 2022).

They currently have scientific and technical equipment valued at nearly 10 million euros and highly qualified staff of more than a hundred people. All these assets are distributed in two headquarters, one located in the Jaume I University of Castellón and the other in Almassora, in the SUPOI-8 industrial estate.

This institute was born in the University, where soon it was understood, due to the proximity to the ceramic sector, that they had the resources to provide solutions to the needs and problems presented by the ceramic companies in order to expand and become more competitive. The companies urgently needed to solve their problems, otherwise it could have repercussions in terms of loss of money and time. Moreover, in order to compete successfully in international markets, it has been vital to generate innovation (ITC,2022).

For this reason they decided to unite and create a new association called Ceramic Industries Research Association (AICE). This fact and an agreement reached with the University Jaume I, marked the creation of the ITC, whose main objectives are, among others, to transfer technology, offer up-to-date information and, above all, research (ITC, 2022).

Image 1: ITC

Source : Google images

ASCER: Founded in 1977 and protected by the Professional Organizations Law 19/1977, is the Spanish Association of Ceramic Tile Manufacturers. Today it represents approximately 95% of the total production of the sector, making it one of the largest sector associations in Spain. Its headquarters are located in the city of Castellón de la Plana, since most of the industry is located in this province, creating a ceramic cluster (Ascer, 2022).

ASCER replaced, increasing the activities performed, the National Trade Union Association of Tile Manufacturers (ANSIA), which had been in operation since 1959 and equally came from another older organization created in the 1940´s. Previously, there were other organizations in the tile industry, the oldest being the Tile Manufacturers Guild, which was founded in Onda (province of Castellón) in 1927, demonstrating a long tradition in the sector (Ascer, 2022).

Image 2: Ascer

Source: Google images

Chumillas Tarongi S.A. In CHUMILLAS TECHNOLOGY, the new name of the company, they are great experts in providing solutions for manipulating and processing solids since 1981, thus managing to provide added value according to the customers and their needs. All this is possible thanks to the know-how they have been acquiring throughout their extensive experience since they were founded (Chumillas Technology, 2022).

Specialized in engineering, they use their creativity to transform, optimize and improve the various processes and projects that they work on. Their main priority is to maximize the performance of both industries and companies that defend and commit to: "a future for all" (Chumillas Technology, 2022).

Image 3: Chumillas Technology

Source: Google images

Keros, S.A. is a company with more than 40 years of experience in the ceramic industry, always ensuring that their customers have the best service on their part. They have the most advanced technology to achieve the development of their own designs. They are dedicated to the marketing, manufacture and representation of all types of

ceramic products and manufactures, whether those are displays, sanitary ware, furniture, taps and fittings, materials or accessories for decoration and construction (Keros,2022).

Image 4: Keros Cerámica

Source: Google images

Vernís, S.A. Vernís was created in May 1969 in Onda, Castellón. Dedicated to the manufacture of dyes, frits and glazes, with more than 50 years in the industry, which has allowed the company to acquire the expertise to contribute significantly to the technological evolution that has taken place within the ceramic industry, either with the technique of porous single firing or digital inkjet decoration technology (Vernís, 2022).

Over the years, Vernís has undergone several expansions, as well as the installation of a new headquarters in Italy, which has enabled it to adapt its facilities to new technologies and to ensure a level of stock and production that allows it to guarantee a high quality supply. Vernís has a workforce of between 51 and 200 employees (Vernís, 2022).

Image 5: Vernís

Source: Vernís

4. CHINESE MARKET ANALYSIS

4.1 Justification of market choice

Regarding the main areas where ceramic tiles are consumed, as can be seen in the following table, Asia leads the way as the area with the highest tile demand, reaching figures of 8,166 million square meters.

Table 4: World consumption areas

WORLD CONSUMPTION AREAS			
AREAS	2015 (Sq.mt Mill.)	% on world consumption	% var. 15/14
EUROPEAN UNION (28)	910	7.5	+5.0
OTHER EUROPE (Turkey included)	532	4.4	-2.0
NORTH AMERICA (Mexico included)	505	4.1	+9.3
CENTRAL-SOUTH AMERICA	1,279	10.5	-0.5
ASIA	8,166	67.1	+0.6
AFRICA	731	6.0	-2.7
OCEANIA	52	0.4	+8.3
TOTAL	12,175	100.0	+0.8

Source: Acimac Survey dept. through Ceramic World Review n. 118-2016

There is no question about the fact that the Asian region is the best choice when trying to market a new ceramic product because, as can be seen in the previous graph, there is more consumption in this region than in the rest of the world combined.

Within this huge area, the country with more potential to promote LIFECREAM is China, due to its massive market that can better adapt and accept it. In addition, as our product is made from waste, this is of great interest to the Asian giant due to its continuous environmental problems and the need to reduce air pollution in the cities.

China, is at the same time, the country that produces the most ceramic tiles and the one that consumes the most, so it could easily accept the product. The demand in China is very large, and they are capable of exporting due to their huge financial power. The characteristics of LIFECERAM are perfectly adapted to their capacities and needs, and would provide a solution to the large pollution problem facing China as it is made by waste products.

The following table shows the main ceramic consuming countries in 2015:

Table 5: Main ceramic consumer countries (million m²)

Main ceramic consumer countries (million m²)								
							% Of global consumption	% Variation
Country	2010	2011	2012	2013	2014	2015	2015	15/14
China	3.500	4.000	4.250	4.556	4.894	4.885	40,1	-0,2
Brazil	700	775	803	837	853	816	6,7	-4,3
India	557	625	681	718	756	763	6,3	0,9
Vietnam	330	360	254	251	310	400	3,3	29,0
Indonesia	277	312	340	360	407	357	2,9	-12,3
Saudi Arabia	182	203	230	235	244	263	2,2	7,8
USA	186	194	204	230	231	254	2,1	9,9
Turkey	155	169	184	226	215	234	1,9	8,8
Mexico		177	187	187	197	216	1,8	9,6
Russia	158	181	213	231	219	192	1,6	-12,3
Total Top Ten	6.045	6.996	7.346	7.831	8.326	8.380	68,8	0,6
World total	9.543	10.472	10.964	11.582	12.077	12.175	100,0	0,8

Source: Acimac Survey dept. Through ceramic world review n.118/2016

4.2 PESTEL analysis

Political and economic factors:

At the political level, the ruling party in the People's Republic of China is the Communist Party. Within the government, the most power-holding body is the National Congress, which meets every five years to elect a Central Committee, which is the body among the different congresses that holds the most power (Ministry of Foreign Affairs, 2022).

Within the Chinese Constitution, there are five elementary precepts that establish the basis of foreign policy. These five precepts are: non-aggression; non-interference in

internal affairs of other states; peaceful coexistence in the development of diplomatic relations and cultural and economic exchanges with other countries; mutual respect for the sovereignty and integrity of the territory; and equality and mutual benefit (Ministry of Foreign Affairs, 2022).

Since the establishment of the People's Republic of China, three priorities have traditionally prevailed in foreign policy: the international isolation of Tibet and the non-recognition of the Dalai Lama as a political representative of Tibet; the compatibility of different economic models (Hong Kong and mainland China), under the precept of 2 systems 1 country; and finally the defense of the One China principle (Ministry of Foreign Affairs, 2022).

China has been a member of the WTO (World Trade Organization) since 2001. Together with Japan, the United States and Germany, China is one of the main countries to be a member of the IMF (International Monetary Fund) and one of the most relevant. It is also part of the countries that make up the G-20 and the G-7 and it is part of the original members that promoted the BRICS (Ministry of Foreign Affairs, 2022).

Regarding the US, in 2018 there was trade tension in the relations between both countries, which turned into a real trade war, where the American administration imposed tariffs of up to 25% on a total of 1300 products of Chinese origin, whereby the Chinese government counterattacked by imposing tariffs on 106 American products (Ministry of Foreign Affairs, 2022).

As for the Chinese economy, in 2021 it had an 8.1% year-on-year growth, which placed this increase at the highest in the last decade and well above the 6% growth target set by the Chinese government (Ministry of Foreign Affairs, 2022).

This growth is due to a remarkable increase in foreign trade, where China recorded a trade surplus of US$676.4 billion, up 30% compared to the previous year, where both imports and exports increased by 30%. At the industrial level, production also grew more than expected: according to official data, by 9.6% year-on-year. However, retail sales growth was reduced to 1.2% (Ministry of Foreign Affairs, 2022).

For this year, the International Monetary Fund has a growth forecast of around 5.6%, while other entities such as the World Bank put this growth at 5.1%, after having revised downwards its initial growth figure of 5.4%. Other data on the structure of China's GDP shows that there was significant growth in the secondary sector in the last

month of the year. While it is true that analysts are optimistic about this growth, it should not be forgotten that a trade agreement with the United States is going to be a delicate issue and China should be cautious as to not want the situation to deteriorate any further (Ministry of Foreign Affairs, 2022).

The Chinese RMB was weakened due to the trade war between the two countries. On the other hand, as far as exports are concerned, they have clearly decreased in the United States, but have increased in ASEAN (Association of Southeast Asian Nations) (Ministry of Foreign Affairs, 2022).

Social Factors:

On July 1st, 2021, the day of the centennial celebration commemorating the establishment of the Chinese Communist Party (CCP), President Xi claimed that China had finally achieved its historic dream, something they had been waiting for more than 2,500 years: xiaokang. Xiaokang means ending absolute poverty and moving on to become another kind of society, one that is prosperous, albeit moderately so. While it is true that a large part of rural China is still underdeveloped. The president has also stressed that there has been too much ecological deterioration and too much inequality after decades of growth (Miguel Otero Iglesias, 2022).

In addition, China has entered a different development period, with an aging population and slowing growth. At the same time, China knows that the international scene, especially due to its rivalry with the United States, is going to be less favorable in the coming years (Miguel Otero Iglesias, 2022).

All ethnic groups living in China are free to use their own languages, guaranteed by the Constitution, outlined in Article 4: All ethnicities in the People's Republic of China are equal. In addition to Mandarin, there are six main languages in China (Ministry of Foreign Affairs, 2022).

Buddhism and Taoism are, by tradition, the main religions in China, although Confucianism has a very significant influence in the history of the country. It is difficult to estimate the number of followers of each faith, however there are some estimates that indicate that the main ones are: Buddhism (100 million approx.), Taoism (20 million approx.), Muslims (20 million approx.), and within Christianity: Protestants (15 million approx.) and Catholics (5 million approx.) (Ministry of Foreign Affairs, 2022).

The administrative unit is divided as follows. There are a total of 23 counties in China, with five regions that are autonomous (Ningxia, Inner Mongolia, Xinjiang, Tibet and Guangxi) and four municipalities that are directly under the command of the Chinese central government (Shanghai, Tianjin, Beijing and Chongqing). There are two areas that are also considered special administrative regions (Macau and Hong Kong) (Ministry of Foreign Affairs, 2022).

Some important social indicators are :

- Life expectancy in the country (2019) : 77
- Birth rate (2020): 8.5/1000 inhabitants
- Population density (2020): 149 (inhabitant per square kilometer).
- GINI ratio (2018): 0.47
- Annual population growth rate (2020): 0.49%.
- Income per capita (US $ PPP) (2019): 19,504 FMI
- Numerical value/world order number (HDI) (2019): 0.761 ranked 85th.

Sources: Economist, UNDP, World Bank, and PRC National Bureau of Statistics.

Technological factors:

The Chinese government had been letting new and large technology companies do as they pleased for a decade by looking the other way, simply out of technological eagerness. China has been feeling humiliated for decades with respect to the West in terms of developing new technologies, and that is why innovation and experimentation were promoted without any kind of obstruction. But this lack of impediments or rules of any kind propitiated the appearance of certain harmful dynamics, that could range from the blocking of competitors' information on the Internet, through the use of advertising to sell fake products, to the theft and unregulated use of personal data (Miguel Otero Iglesias, 2022).

All this has led to a popular and widespread rejection of the so-called big tech, and people like Jack Ma, known as the founder of the giant Alibaba, who in previous times

had become very popular, have been criticized by citizens. These criticisms are due to the imposition of the hated work culture known as 996, which consists of working from 9 am to 9 pm 6 days a week to workers who are already underpaid and in full pandemic. The country's slogan is that, in order to fight against the technological progress coming from the West (especially from the United States) we, as a nation, have to make hard sacrifices. However, if inequalities continue to grow in the eyes of citizens, social cohesion threatens to deteriorate (Miguel Otero Iglesias,2022).

All these reasons have led the CCP to claim that the period known as the "Wild East" brought with it a lot of growth and innovation, but at the same time it also brought a lot of corruption and inequality, as well as a lot of discontent, so it had to be stopped at any cost. The response by the government has been to use existing antitrust and competition laws much more severely, with fines reaching $2.8 billion in the case of Alibaba and lesser punishments for other tech companies such as Baidu, Meituan and Tencent. Annual credit growth has also been limited from 20% to 10%, leading to the bankruptcy of Evergrande, one of the country's largest developers. Finally, many of these large companies have been forced to make philanthropic donations under the concept of achieving what President Xi Jinping has called "common prosperity" (Miguel Otero Iglesias, 2022).

Seeing what was happening in the United States also alerted the CCP leadership. Although they were already alert, events such as the 2020 U.S. election made it clear to them that the power that technology companies have acquired is too great. One of the turning points for the Chinese leadership was what happened after the death of George Floyd. As riots broke out all over the country and Twitter began to label American President Donald Trump's messages as violent or false, there was no doubt in the minds of the Chinese rulers that there was no room for the idea that the words of the president of the world's greatest power could be judged or censored by a private company without him being able to do anything about it. This brought them to the conclusion that the technological giants could become a threat to the regime in the future (Miguel Otero Iglesias, 2022).

The CCP has definitely consented and even encouraged the creation of large Chinese technology companies, but at the same time it also knows that the technology sector cannot be treated in the same way as other sectors such as banking, energy or telecommunications. This is because it has a much wider scope, reaching all levels of society, creating and determining the behavior and desires of citizens, meaning that technological companies have great disruptive power. We are at a point where it is

likely that the ability of the CCP leadership to understand the artificial intelligence algorithms used by these huge companies has been overtaken. Faced with this present lack of knowledge, or asymmetry of knowledge, the CCP has been forced to act and tie up these technological giants and their various activities (Miguel Otero Iglesias, 2022).

Legal factors:

The main characteristic of the Chinese legal system is its great complexity, in addition to being in a constantly changing system which, since it joined the WTO, has evolved in a favourable direction for the interests of foreign investment. We can speak of a legal framework that, in almost all areas and matters, is very fragmented, where new regulations and laws are continually being published, leaving some of the previous ones out of practice and leaving others in force, thus causing great confusion (ICEX, 2022).

At the end of 2014, China signed a number of 103 bilateral investment treaties, Spain being among them. In addition, with the aim of avoiding Double Taxation, China signed that year a number of agreements with 99 countries, among which Spain was also included (ICEX, 2022).

On November 22nd, 1990, Spain signed an agreement with China to avoid double taxation and at the same time avoid tax evasion on income and taxes (ICEX, 2022).

With respect to Spain, this agreement applies to the next taxes:

- Corporate income tax.
- Personal income tax.
- Local income and wealth taxes.
- Wealth tax.

For the regulation of the huge amount of foreign investment that enters the country, China has been developing over the years a legal system ranging from financial or fiscal policies to industrial policies. It should be noted that all these regulations are also applicable to investment from Macao, Taiwan and the Hong Kong Special Administrative Regions (ICEX, 2022).

On December 11th, 2001, after two decades of negotiations, China officially joined the WTO. As a result, foreign investment was able to gradually make its way into sectors that had been in the hands of national companies until then. However, even so, there are still certain business activities that do not have the same conditions of accessibility depending on whether it is foreign or domestic investment (ICEX, 2022).

In this direction, it should be taken into account that there are a number of industries in China, for which foreign investment is vetoed and prohibited, or subject to greater and restrictive controls and which are on the so-called Negative List. The Chinese government announced in 2011 that this list would be published on an annual basis, and that its function would be to review previously imposed restrictions and gradually eliminate any limitations imposed on foreign companies. If you want to invest in industries that are not on the negative list, you no longer need to obtain permission from MOFCOM, you only need to declare your investment there. We can distinguish three different types of sectors that the Chinese government focuses on when acting about the Negative List:

- Encouraged categories.
- Prohibited categories.
- Restricted categories.

Environmental factors:

For several years, China has made environmental protection a priority, closely linked to the change of its development model. According to the Chinese government there are "three tough battles", being the fight against pollution, one among them, which indicates that it is a very important issue at a political level (Xulio Ríos, 2021).

Today, China is the country with the highest carbon dioxide emissions in the world, a harmful gas that increases the greenhouse effect and has caused an increase in both global temperature and sea level. Annually, the Asian country produces 28% of the world's production, and in 2019 it produced more emissions than Europe, Japan and the United States combined (Xulio Ríos, 2021).

In recent years, China has been working to try to achieve a reduction in its carbon emissions levels. An example of this is the continued work on the promotion of

renewable energies. China is at the top of the list for the highest investment in this type of energy worldwide and also has the largest market for green bonds on the planet. It has also become the world's largest producer of electric vehicles, solar panels and wind turbines. Although emissions today are higher compared to 2005, carbon dioxide emissions per unit of GDP were almost halved by 2019, representing a decrease of around 5620 million tons (Xulio Rios, 2021).

China's energy structure has also been improved. Its coal consumption continues to increase, but the percentage of total energy produced has decreased from 72.4% to 55.7%, while renewable energies increased from 7.4% to 15.3%. The country is moving in the right direction, although it still has a long way to go. The country's energy consumption is still heavily dependent on fossil fuels (85%), which means that if China really wants to meet its 2060 target, it will have to double its efforts to make its economy low-carbon (Xulio Ríos, 2021).

Another important and sensitive aspect is regarding farmland. The Chinese authorities indicated that for this year, one of the main objectives is continuing to prevent farmland from being used for purposes other than agriculture, to improve the quality of land used for cultivation, water quality, ensure a good supply of agricultural products, especially cereals, and to curb pollution in the agricultural sector (Xulio Ríos, 2021).

At the international level, at the BRICS summit held in November, Xi Jinping called for "complying with the Paris agreement based on the principle of common responsibility" just 15 days after the United States decided to officially withdraw from that agreement. At the UN headquarters, the Chinese president announced the push for the initiative to "increase voluntary contributions to bring CO2 emissions down by 2030 and make China carbon neutral by 2060." This pledge requires all countries to do more to fight the threat posed by climate change (Xulio Ríos, 2021).

4.3 Analysis of the Chinese ceramic sector. Description and uses of ceramics

Of all the countries producing ceramic tiles in the world, China is by far the largest. It has strong competition in both the export market and the domestic market, forcing ceramic producers to make improvements in the quality of the final product as well as in the production process. China has managed to develop an important advantage when it comes to exporting ceramic products. In order to increase the value of these

products, many companies have intensified the use of new technologies in the production phase to achieve products that combine high quality with reasonable costs.

4.4 Competitor analysis

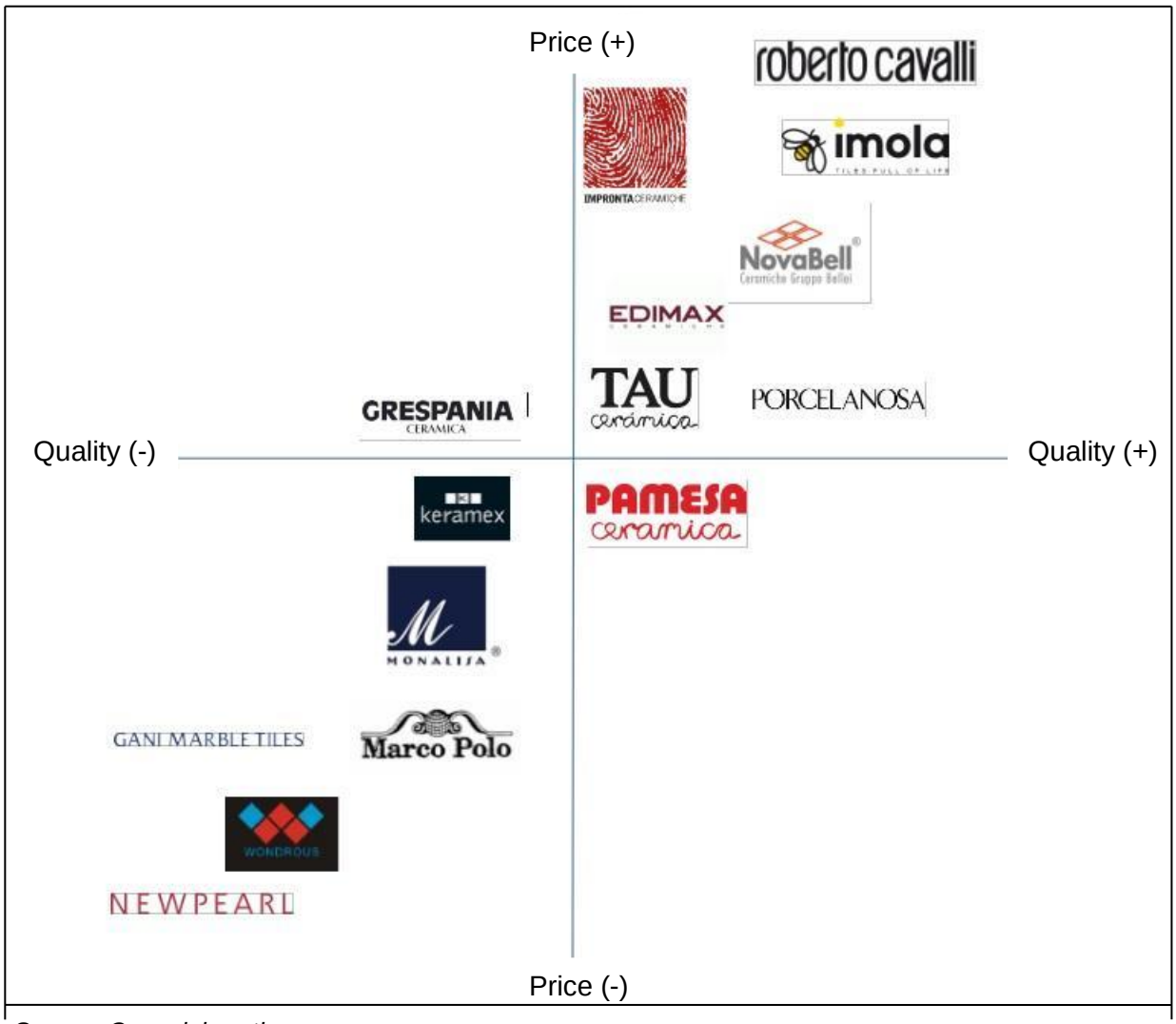
When talking about Spain's competitors in the Chinese tile market, Italy is at the top of the list. The same goes for the rest of the countries. Italy has a large number of brands operating in specialized stores or shopping centers, whether single-brand or multi-brand. Impronta, Novabell, Imola, CEDIT or the prestigious Roberto Cavalli are some of those brands that the Italian country has in high-end stores dedicated to the tile sale in Beijing. There are also some brands from countries with less ceramic tradition such as France or Japan (Inax Tile). Regarding the Chinese supply, the brands that have a dominant position and a good export and distribution network are: New Pearl, Wondrous, Marco Polo, Meitao, Foshan Gani, Mona Lisa and Dongpeng among others (ICEX, 2022).

It should be noted that the strengths that characterize China are, essentially, to be capable of obtaining a substantial low price thanks to virtually none or poor environmental laws or regulations regarding production, as well as the use of cheap labor force who have to work long hours. However, this has been changing for some time already as the Chinese Government is becoming tougher in environmental legislation. As weaknesses, could be named various: the lack of interest in obtaining quality products or designs by certain Chinese producers; the great distance from China to the most consuming countries (which negatively affects the service provided); and finally, the lack of knowledge about the distribution channel operations, compared to Spanish or Italian producers´ experience. This last point is very relevant, as it is very difficult to find Chinese companies whose offer includes the possibility of importing materials to Europe in quantities of less than 1000 square meters, or in other words, the size of a container (Valentín Gallart, 2009). This last point is very relevant as it is very difficult for Chinese companies, whose offer can´t include the possibility of importing materials to Europe in quantities of less than 1000 square meters, or in other words, the size of a container (Valentín Gallart, 2009).

On the other hand, with regard to the Italian sector, which is another major competitor, it should be mentioned that 80% of the entire ceramic industry is located in the regions of Modena and Regio-Emilia. Moreover, this region is also home to the world's most

important manufacturers of technology and machinery used in ceramics production. While China has average prices lower than Spanish ones, Italy has achieved to maintain higher average prices thanks largely to the reputation of its design, image and most importantly, to its "Made in Italy". Because it must be recognized that when talking about ceramics, wherever it may be in the world, Italy is always the leader and reference for both customers and distributors (Valentin Gallart, 2009).

Image 6: Positioning map



Source: Own elaboration

4.5 Target customers

- Public construction companies. Public companies in the construction sector that want to acquire the product in order to comply with quality and sustainability standards, as regulations in this regard are becoming increasingly tougher.

- Private construction companies. To be able to get contracts, they will have to work with materials that adapt to environmental restrictions, and in the case that there are not local companies that can supply these products they will have to turn to our company's offer.

- Chinese ceramic manufacturers. This type of customer would purchase the product because of the government's increasingly restrictive pollution and contamination measures. If they are not able to come up with a solution on their own, the answer would be to purchase a product like ours.

- Contract Channel. As a channel in charge of distributing both equipment and supplies to institutional and corporate clients, whether public or private, it must always have in stock the best material and product available, and ours, in addition to being innovative and novel, has the same quality.

- International companies that want to enter China. International companies that want to enter the Chinese market and are aware of the requirements of their government. Given the lack of options to acquire ceramic tiles as sustainable as ours, they would have to turn to our offer to be able to operate.

- Renovation and decoration companies. Companies that have to be ready for the requests of their customers, which can be companies or individuals and that have to be able to provide sustainable and ecological solutions and that, in the absence of supply of other companies of this type of tiles can turn to us.

- Final customer. In China houses are not delivered fully finished, so it is the final buyer who chooses the type of flooring or decoration. This is why the final consumer could be interested in acquiring the product to be sustainable with the environment while acquiring a quality product.

4.6 SWOT

Table 6: SWOT

Weaknesses	Threats
- Energy dependence. - Little knowledge of the product. - The need for skilled labor.	- Raw material cost rises - Copying of technology by competitors. - Tighter government restrictions.
Strengths	**Opportunities**
- High quality product. - Zero waste during production. - Innovative and green products.	- Government subsidies. - Increase in online sales. - Partnership with the Chinese sector.

Source: Own elaboration

Weaknesses:

- Energy dependence. The whole sector is highly dependent on the use of resources such as electricity or fuel to carry out its daily production. Late events, such as the war in Russia and Ukraine, in which energy prices have risen sharply has caused an increase in prices which has greatly reduced profit margin.
- Little knowledge of the product. It is a relatively new product, and it has taken a long time to develop in order to meet expectations. The fact that it has only been on the market for a short time could be detrimental when it comes to selling it due to the lack of knowledge that customers may have about it.
- The need for skilled labor. It is a product with very marked technical characteristics and not all operators can handle it. It would be necessary to train staff, which would require time and money.

Threats:

- Raw material cost rises. We are currently experiencing a raw material crisis in many sectors. Given the shortage of some products, the prices of some raw materials that are indispensable for ceramic production could become significantly more expensive.

- Copying of technology by competitors. Today the world is living in a technology-dominated age, and even if it is a new and innovative product, the competition could try to copy it or even improve it with new features.

- Tighter government restrictions. If the government's expectations regarding pollution and contamination levels in the country are not met, the government could take more extreme measures to try to reach those expected levels by imposing sanctions or stricter laws that could harm the company.

Strengths:

- High quality product. Meets all specifications and quality requirements.

- Zero waste during production. It is a product that has been specifically developed to try to reduce to 0 the large amount of waste that was produced when manufacturing ceramic tiles.

- Innovative and green products. Being a pioneer product in its sector and beneficial to the environment, since it reduces the percentage of waste generated by the manufacturing process.

Opportunities:

- Government subsidies. The Chinese government wants by all means to reduce the pollution and contamination produced by factories in the country. As the ceramic sector is so crucial in China, the government could promote grants and subsidies to companies that use products that reduce such pollution.

- Increase in online sales. Due to the Covid-19 pandemic, mobility has been limited in many Chinese cities, so there is a great opportunity to improve online resources to increase sales through this channel.

- Partnership with the Chinese sector. An alliance with the Chinese sector would allow sharing costs and resources, as well as mutually benefiting from knowledge and technology, thus obtaining higher profit margins.

5. MARKET ACCESS STRATEGY IN CHINA

The strategy we would carry out to access the always competitive Chinese market would be to make an alliance with a Chinese ceramic company with a good reputation and that can help to place LIFECERAM in a good position in the eyes of the consumer. This strategic alliance would be carried out through a Joint Venture, in order to make the best use of available resources and optimize economies of scale.

5.1 Objectives

We would have to choose a company with characteristics similar to ours that would allow us to achieve our short-, medium- and long-term objectives.

Short-term objectives: to achieve that thanks to the union with the Chinese ceramic company, the product starts to be known and national companies start to be interested in importing it.

Medium-term objectives: to achieve that our product reaches all the important ceramic fairs in the country and is known by all the large construction companies and companies in the ceramic sector in China and, of course,that they want to use it.

Long-term objectives: to achieve that at least 5 of the 10 most important construction companies or large companies that use ceramic products in China use our product on a regular basis because they are satisfied with the result. These 10 most important construction companies in China are: Dong Peng, Monalisa, George Buildings, Marco Polo, Guanzhu, Nabel, Oceano, Jinduo, Xin Zhong Yuan Ceramics and Hongyu (georgebuildings, 2020).

6. ACTION PLAN

6.1 Product

Our product is called LIFECERAM, and its most important feature is the achievement of zero waste when manufacturing the ceramic tiles. More specifically for those in exterior spaces, as these generate much more waste. The process by which all this is achieved is through the use of dry milling technologies.

It meets the needs in China to reduce as much as possible the levels of pollution and contamination that suffocate the cities and which the national production factories are not being able to resolve.

By achieving zero waste during the manufacturing process, is achieved a product that is environment-friendly while at the same time not diminishing quality, thus differentiating us from the competition and positioning us higher in the market.

Our customers will be able to employ it in different ways, from construction companies looking to comply with legislation to individuals who want to renovate their homes and use a more ecological and sustainable type of material.

The packaging used would be different depending on the type of buyer, individual or company, and also the volume of purchase. It will also be of different material if it is bought there in China or if it has to be sent from Spain, since it would need a more resistant material to withstand the long trip.

6.2 Price

As we can see in ICEX (2022), the average export price of Spanish tiles in China is 6.6 euros per square meter, while the retail price ranges between 600 (85 euros) and 2000 RMB (282 euros) per square meter.

Anyway, Chinese customers and consumers love everything related to discounts, and it is something that is deeply rooted in their culture, so if we want to get good sales we have to know how to negotiate with prices in order to have a competitive advantage.

We can make volume discounts, since some of our customers may be large construction companies placing very large orders.

We can also make some kind of discount on a special date or an important event, which will make the consumer relate our product with something positive.

Another type of discounts that we could apply would be the free shipping discount, which we would apply if the customer or consumer meets a series of requirements, the first time purchase discount, which would consist of applying some discount on the price if it is the first time that it is purchased and the 67 percent discount, which is one of the most popular in the Asian country.

6.3 Placement

The product will be sold both online and offline. Since weare going to try forming a Joint Venture with a reputable Chinese company, the product can be purchased online from both their website and ours.

If the online option is chosen, the product can be purchased from specialized portals, multi-sector portals and the previously mentioned websites of the companies involved.

At the offline level, the product can be purchased through the distribution channels of our partner company in China, ranging from small specialized retail stores to large stores where ceramic products are traded. In this way, both end consumers and intermediaries will be able to purchase the product.

There is also the option of choosing multi-brand stores, single-brand stores and specialized shopping centers.

In addition, there is the possibility of choosing whether to use a local distributor to reach the end customer or whether to use the commercial subsidiary based in the country. In the latter case, it would be the partner company we have chosen in the Joint Venture.

It is a product that wants to communicate an image of sustainability and care for the environment, so the locations that support and promote these measures will be important points in which to place our products.

6.4 Promotion

The method to promote our product will be through specialized magazines of the sector and attend the biggest and best fairs in the ceramic field, where we will be able to answer possible questions that our customers may have, besides being able to explain first hand the characteristics of our product. It is not a seasonal product, so it can be found throughout the year and shown to the public whenever necessary. In addition,

the fact that it is an innovative product, which the competition does not have, places us in a privileged position.

Some of the main magazines in the sector are:

- Ceramicworld Magazines
- China Ceramics
- Construction Materials and Decoration
- China Building Materials
- New Building Materials

In terms of trade fairs, we want to be present at the main fairs in the country, which are the following:

Table 7: Main fairs in China

Fair	City	Website
Ceramics China	Cantón	www.ceramicschina.net
Cerambath	Foshan	http://en.cerambath.org/en/index.html
Shanghai International Metallurgical Industry and Advanced Ceramics Exhibition (CIAC)	Shanghái	http://www.ciac-expo.com/
Shanghai International Industrial Ceramics Exhibition (SIC China)	Shanghái	www.sicchina.net
Yunnan International Building and Decoration Materials Exhibition	Kunming	http://www.kmjbh.com/
Shanghai International Wall Decoration and Interior Materials Design Exhibition	Shanghái	http://www.cer-asia.com/
Build and Decor Beijing	Pekín	http://www.bj-jbh.com/english.asp

Source: ICEX

Within these major ceramics fairs, our interest lies especially in the Cerambath fair, which has become the most important fair in China and Asia and the fourth worldwide behind Cersaie in Italy, Cevisama in Spain and Coverings in the United States.

7. FINANCIAL PLAN

Next we are going to analyze the company's financial plan, which focuses on analyzing the income and expenses of our company when taking our new product to the Asian market and more specifically to China.

Our company is not new as it has been operating for years in Spain and in other countries. Neither will be the company with which we will form the Joint Venture. Therefore, a number of expenses that new companies have to face when they are formed, such as the need for any type of loan from a financial entity, would not be applicable to us. Only with the given resources that the company has, we can consider approaching a new market for our product.

The financial plan shows that there is an expected income for the first year of €1.5 million, which would become €3 million for the second year and €5 million for the third year. To these amounts would have to be added an annual sum of €100,000 coming from the Chinese government by way of subsidies, which wants at all costs to comply with the demanding environmental regulations (Mohorte,2017). It is these desperate anxieties of the government to reduce emissions and pollution that make for a high sales forecast, as both the government and private companies in the sector will be forced to come to our product as there is nothing in the competition that resembles it.

To embark on this new project of taking our product to China, we will need initial raw materials for the first year of 200,000 euros, which will increase by 50,000 euros for the second year and by 50,000 euros more for the third year, leaving a total figure of 300,000 euros for the last year. These figures can be explained by the increase in demand in the second and third years, once our product has been better positioned in the Chinese market and is known by more companies.

Wages would remain constant during the 3 years, as well as the social security paid by the company, leaving total amounts of 150,000 euros and 60,000 euros respectively.

In the first year, 100,000 euros is expected to be spent on promotion and advertising of the product, since it is a new and innovative product and nothing similar has been seen in the Chinese market. Therefore, it is important that we invest heavily in the first year to ensure that the best companies, whether public or private, are aware of the product, its features and benefits. Advertising expenses for the second year would be reduced to 30,000 euros and in the third year it is expected to drop to 10,000 euros, since there

is plenty of time to make our product known and it would simply be necessary to dedicate a small amount to make some reminder advertising campaigns.

Taxes such as electricity, water, fuel, etc. are estimated at 10,000 euros per year, while the rents that the company needs to develop its activity amount to 50,000 euros per year.

As for transportation, the expected expenses for the first year are 300,000 euros. However, these expenses will increase every year as more sales are achieved and new customers buy the product, as more containers, materials, etc. will have to be sent to China.

In miscellaneous expenses we have a total of 180,000 euros the first year, as this item includes trips to China to negotiate the agreement with the company with which we will form the Joint Venture as well as market studies that allow us to know firsthand how our product will work in the Chinese market. These expenses are reduced to 0 in the second and third year as they would not be necessary.

Endowment funds for depreciation of property, plant and equipment amounts to 30,000 euros each year, thus remaining constant.

With all these points to take into account, the total expenditure in the first year is 1,080,000 euros, while the total expenditure in the second year is reduced to 930,000 euros and in the third year it increases slightly to 950,000 euros.

Profit before tax (income - expenses) in the first year is 520,000 euros, in the second year it increases to 2,170,000 million euros and finally in the third year it reaches 4,150,000 million euros.

After taxes, the resulting profit in the first year is 130,000 euros, rising to 542,500 euros in the second year and in the third year it exceeds the one million euro mark, reaching 1,037,500 euros.

It should be mentioned that, although it is true that it is difficult to make a profit the first year when introducing a product in a new market, the fact that the Chinese government has become so inflexible in terms of compliance with environmental regulations and laws favours our objective (Mohorte,2017). Both private and public sector companies are driven to find a solution that has not yet been found domestically by ceramic production companies, so our product is very favourably positioned as an alternative to polluting materials. In addition, the fact that the competition, whether national or international, does not have any product with similar characteristics to ours leaves us

as the only solution for these companies to achieve sustainability objectives. Therefore, although introducing a new product in an unknown market is always risky, the expectations and sales forecasts are very positive.

Table 8: Financial plan

INCOME STATEMENT

PROFIT AND LOSS STATEMENT			
INCOME	**FIRST YEAR**	**SECOND YEAR**	**THIRD YEAR**
Sales	1.500.000,00	3.000.000,00	5.000.000,00
Final inventories	0,00		
Financial Income (loans)	0,00		
Incentives (already granted)	100.000,00	100.000,00	100.000,00
Others (windfall revenues)	0,00		
TOTAL	**1.600.000,00**	**3.100.000,00**	**5.100.000,00**
EXPENSES	**FIRST YEAR**	**SECOND YEAR**	**THIRD YEAR**
Purchases of raw materials andauxiliary items	200.000,00	250.000,00	300.000,00
Initial stock		0,00	0,00
Own remuneration	0,00		
Self-employed insurance	0,00		
Personal salary or employees	150.000,00	150.000,00	150.000,00
Social Security contributions at the company's expense			
Social insurance accounts for approximately 40% of the employee's salary. In addition, there are no allowances in the company.	60.000,00	60.000,00	60.000,00
Loan financing costs			

Other financing costs	0,00		
Advertising & promotion	100.000,00	30.000,00	10.000,00
Income tax (contributions, taxes, etc.)	0,00		
Utilities (electricity, water, telephone, fuel, etc.)	10.000,00	10.000,00	10.000,00
Rents	50.000,00	50.000,00	50.000,00
Insurances	0,00		
Maintenance and repairs	0,00		
Transportation	300.000,00	350.000,00	400.000,00
External services (administrative services, ...)	0,00		
Incorporation expenses (notaries, registries, ...)	0,00		
Miscellaneous expenses (stationery, uniforms, restaurant expenses, courier, transportation, etc.)	180.000,00		
Endowment funds for depreciation of property, plant and equipment	30.000,00	30.000,00	30.000,00
Endowment funds for depreciation of intangible assets	0,00	0,00	0,00
Endowment funds for depreciation to reserves (unforeseen expenses)	0,00		
TOTAL	**1.080.000,00**	**930.000,00**	**950.000,00**

Source: Own elaboration

8. CONCLUSIONS

The aim of this project was to analyze the Chinese ceramic market to see if our company's product could have a place in it. This is a recently developed product with unique characteristics that position it in a privileged position in the market. After analyzing a series of factors, we have reached a series of conclusions:

- Although China is still the country in the world that produces the most ceramics, this has not led to a reduction in demand (ICEX,2019). If we add to that its gigantic economic power, we find ourselves in front of a market that can perfectly accomodate our product.
- The technical characteristics of our product are perfectly adapted to the increasingly demanding environmental policies promoted by the Chinese government, which are trying by all means to reduce the country's pollution levels. (Mohorte,2017)
- At an economic level, and after carrying out a financial plan, we see that our product would generate profits from the first year on, which shows us the great long-term potential it has.

8.1 Limitations and future lines of business

It should be remarked that in carrying out this venture we have also encountered some difficulties. The most important of them is obtaining direct and updated information from Chinese official bodies, and a high opacity on their part in terms of providing specific data concerning their ceramic sector.

However, analyzing the conclusions reached after developing this project, it seems obvious that it is worthwhile to continue investigating whether the qualities of our product can be extended to other types of materials and tiles, in order to stay ahead of the competition and continue exploiting the benefits obtained from it.

9. WEBGRAPHY

(S/f). Keros.com. Retrieved on May 25, 2022, from: https://keros.com/wp-content/uploads/2021/02/IDI.pdf

(S/f). Firabcn.es. Retrieved on May 25, 2022, from: http://media.firabcn.es/content/S700012/news/News_ceramica+JV.pdf

Mohorte. (2018). Cerrar 80.000 fábricas: la solución de China a su insostenible problema de contaminación. magnet. Retrieved on May 25, 2022, from: https://magnet.xataka.com/en-diez-minutos/cerrar-80-000-fabricas-la-solucion-de-china-a-su-insostenible-problema-de-contaminacion

Planelles, J. (2021). La crisis de las materias primas: impacto global y sobre la industria cerámica. el Periódico del Azulejo. Retrieved on May 25, 2022, from: https://www.elperiodicodelazulejo.es/industria/la-crisis-de-las-materias-primas-impacto-global-y-sobre-la-industria-ceramica-CB102411

Desarrollo sostenible. (s/f). Ascer.es. Retrieved on May 25, 2022, from: https://www.ascer.es/sectorPlantilla.aspx?lang=es-ES&cual=desarrollo

Un sector competitivo. (s/f). Ascer.es. Retrieved on May 25, 2022, from: https://www.ascer.es/sectorDatos.aspx?lang=es-ES

ITC-AICE, con VIGILANCER, aborda los retos más urgentes para el sector cerámico (2022). Instituto de Tecnología Cerámica; Asociación de Investigación de las Industrias Cerámicas. Retrieved on May 25, 2022, from: https://www.itc.uji.es/itc-aice-con-vigilancer-aborda-los-retos-mas-urgentes-para-el-sector-ceramico/

Irún, B. (2022). *VIU observa grandes diferencias en las economías europeas*. DiarioAbierto. Retrieved on May 25, 2022, from: https://www.diarioabierto.es/598636/viu-observa-grandes-diferencias-en-las-economias-europeas

Business Insider España. (2021). *La crisis energética de China salpica a Inditex, Mango y Tendam*. Economía Digital. Retrieved on May 25, 2022, from: https://www.economiadigital.es/economia/crisis-energetica-china-salpica-inditex-mango-tendam.html

Bayoud, A. (2021). *China sufre la peor escasez de energía de su historia reciente*. France 24. Retrieved on May 25, 2022, from: https://www.france24.com/es/asia-pac%C3%ADfico/20211001-china-escasez-energia-cortes-carbon

Quienes somos. (s/f). Ascer. Retrieved on May 25, 2022, from: https://www.ascer.es/ascerPresentacion.aspx?lang=es-es&cual=presentacion

Quienes somos - Instituto de Tecnología Cerámica. (2019). Instituto de Tecnología Cerámica; Asociación de Investigación de las Industrias Cerámicas. Retrieved on May 25, 2022, from: https://www.itc.uji.es/sobreitc/quienes-somos/

Vernis, S. A. (s/f). *historia*. Vernis.es. Retrieved on May 25, 2022, from: http://www.vernis.es/historia/ref610002es

Keros Cerámica. (2019). Keros; Keros Cerámica. Retrieved on May 25, 2022, from: https://keros.com/

(S/f). Empresia.es. Retrieved on May 25, 2022, from: https://www.empresia.es/empresa/keros-ceramica/

Información sobre quiénes somos. (2019). CHUMILLAS TECHNOLOGY. Retrieved on May 25, 2022, from: https://www.chumillastechnology.com/quienes-somos/

El proyecto Lifeceram obtiene las primeras piezas fabricadas a partir de residuos cerámicos. (2015). Instituto de Tecnología Cerámica; Asociación de Investigación de las Industrias Cerámicas. Retrieved on May 25, 2022, from: https://www.itc.uji.es/el-proyecto-lifeceram-obtiene-las-primeras-piezas-fabricadas-a-partir-de-residuos-ceramicos-2/

Works, E. (s/f). *El proyecto LIFECERAM logra su objetivo: crear un pavimento cerámico 100% a base de residuos - Actualidad RETEMA*. Retrieved on May 25, 2022, from: https://www.retema.es/noticia/el-proyecto-lifeceram-logra-su-objetivo-crear-un-pavimento-ceramico-100-a-base-de-res-Lo8U2

Muñoz, A., García-Ten, F. J., Uviedo, E., Chumillas, D., Gil, C., & Segura, M. C. (s/f). *LIFECERAM. CARACTERÍSTICAS TÉCNICAS DE PRODUCTOS PARA PAVIMENTACIÓN URBANA*. Qualicer.org. Retrieved on May 25, 2022, from: https://www.qualicer.org/recopilatorio/ponencias/pdfs/106%20POSTER%20ESP.pdf

Otero, M. (s/f). *La prosperidad común y la circulación dual: el nuevo modelo de desarrollo de China*. Realinstitutoelcano.org. Retrieved on May 25, 2022, from: https://media.realinstitutoelcano.org/wp-content/uploads/2022/02/ari7-2022-otero-la-prosperidad-comun-la-circulacion-dual-el-nuevo-modelo-de-desarrollo-china-1.pdf

De, O., Diplomática, I., & País, F. (s/f). *República Popular de China*. Gob.es. Retrieved on May 25, 2022, from: http://www.exteriores.gob.es/documents/fichaspais/china_ficha%20pais.pdf

China 2021 (V) : el tono de la política ambiental. (2020, diciembre 28). Observatorio de Política China [OPCh]. Retrieved on May 25, 2022, from: https://politica-china.org/areas/sociedad/china-2021-v-el-tono-de-la-politica-ambiental

ICEX España Exportación e Inversiones, E.P.E >> Marco jurídico. (s/f). Icex.es. Retrieved on May 25, 2022, from: https://www.icex.es/icex/es/navegacion-principal/todos-nuestros-servicios/informacion-de-mercados/paises/navegacion-principal/invertir-en/marco-juridico/index.html?idPais=CN#0

Sabrina, V. (2017). *Análisis Competitivo Internacional del Sector Cerámico*. Vigilancer. Retrieved on May 25, 2022, from: https://www.vigilancer.es/index.php/2017/01/18/analisis-competitivo-internacional-del-sector-ceramico/

Gallart, V. (s/f). *EL SECTOR CERÁMICO ESPAÑOL: UN ENFOQUE DE MERCADO*. Gva.es. Retrieved on May 25, 2022, from: http://www.ces.gva.es/pdf/trabajos/articulos/Revista_46/Art2_Rev46.pdf

Top 10 tile manufacturer in China: The complete guide. (2020). George Buildings. Retrieved on May 25, 2022, from: https://georgebuildings.com/top-10-tile-manufacturers-in-china-the-complete-guide/

Feria Internacional de Cerámica y Baño de China Foshan. (s/f). Cantonfair.net. Retrieved on May 25, 2022, from: https://es.cantonfair.net/updated-information/china-international-ceramic-bathroom-fair-foshan-cerambath-planned-for-2022-04-18-to-2022-04-21