

# MARKET INSIGHTS

## Competitiveness in the Ceramics Sector: The Crucial Role of Maritime Transport

### Contextualization and International Overview

The **international panorama** of recent years has had a **notable impact** on the **global ceramics industry**, which continues to experience a **significant decline in its production and trade**. Indeed, since 2020, this downward trend has affected international trade as a result of the **economic recession** caused by the **pandemic**. This is further compounded by the **increase** in **raw material** and **energy prices**, which continue to represent a significant challenge for the sector, hindering its recovery. Thus, **global ceramic tile production**, although slowing compared to the previous year, continued to **decline** in 2023, reaching **15,973 million m<sup>2</sup>**, which represents a **5.5% decrease**.

In terms of **production**, **Asia** remained the **leading production region** in 2023, accounting for **73%** of **global output**, followed by **Africa (7.4%)**, **Central and South America (7.1%)**, and **the European Union (6.5%)**. To further analyze this, Table 1 **presents a breakdown of the producing countries** in the industry, their percentage of global production, and the variations in this production for 2023.

First, it is essential to highlight that **China** remains the **leading global producer**, accounting for **42.2%** of global production, followed by India with 15.4%, reinforcing Asia's dominant position in this sector, which is largely dedicated to domestic consumption, although with an increasingly important export tendency. Analyzing the variation compared to the previous year, it is noteworthy that only India maintains a positive growth trend, reaching its highest production volume to date. In the other countries, production decreased compared to 2022, with Vietnam and Spain being the most affected, with declines of over 20%.

Table 1. Main producing countries in the ceramics industry (in million m<sup>2</sup>)

Country	2019	2020	2021	2022	2023	% of world production in 2023	% var 23/22
1º China	8.225	8.474	8.863	7.312	6.730	42,2%	-8,0%
2º India	2.223	2.318	2.550	2.300	2.450	15,4%	6,5%
3º Brazil	909	840	1.049	927	793	5,0%	-14,5%
4º Iran	398	449	458	480	450	2,8%	-6,3%
5º Indonesia	347	304	410	430	413	2,6%	-4,0%
6º Egypt	300	285	340	380	400	2,5%	-5,3%
7º Vietnam	560	559	554	579	397	2,5%	-31,4%
8º Spain	510	488	587	500	394	2,5%	-21,4%
9º Italy	401	344	435	431	374	2,3%	-13,2%
10º Turkey	296	370	438	385	372	2,3%	-3,4%
TOTAL	14.169	14.431	15.684	13.724	12.773	80,1%	-6,9%
TOTAL WORLD	16.812	17.139	18.602	16.862	15.937	100,0%	-5,5%

Source: Own elaboration based on data obtained from 'World production and consumption of ceramic tiles'.

These declines in production have deeply affected foreign trade flows. As seen in Table 2, most countries have experienced decreases in their exports, with extreme cases like Turkey, which has recorded a decline close to 40%. However, **China, India, Spain, and Italy** continue to **lead** the list, **consolidating** their **role** as **major global exporters**, and together, they account for 66.5% of global exports.

Despite this trend, the export performance of Asian countries has significantly outpaced that of their European counterparts. In particular, **India has stood out for its expansion in international trade**, achieving a **39.6%** increase in its exports, once again reaching a **historical record** in terms of exports. In contrast, the decline in exports from **Spain and Italy**, which has been **20% in both cases**, slows their post-pandemic recovery. In this regard, the European ceramic sector, after the pandemic, faced a sharp rise in energy costs, which negatively impacted demand.

Table 2. Evolution of world exports (million m<sup>2</sup>)

Country	2019	2020	2021	2022	2023	% of world exports in 2023	% var 23/22
1º China	779	622	601	579	615	22,3%	6,2%
2º India	359	437	483	422	589	21,4%	39,6%
3º Spain	415	422	496	431	344	12,5%	-20,1%
4º Italy	323	318	364	356	285	10,3%	-20,0%
5º Iran	162	179	182	194	203	7,4%	4,5%
6º Brazil	101	96	128	113	89	3,2%	-21,8%
7º Turkey	112	132	154	127	79	2,9%	-37,9%
8ª Ghana	3	8	30	52	53	1,9%	-0,6%
9º Poland	50	58	62	50	43	1,6%	-14,5%
10º Mexico	41	37	41	42	38	1,4%	-10,1%
TOTAL	2.344	2.308	2.541	2.367	2.337	84,9%	-1,3%
TOTAL WORLD	2.828	2.775	3.034	2.819	2.753	100,0%	-2,3%

Source: Own elaboration based on data obtained from 'World production and consumption of ceramic tiles'.

On the other hand, **global per capita consumption** also seems to show a **decline compared to the figures from 2022** (Table 3). Specifically, there has been a worsening of 5% for the year 2023, bringing consumption to 15,627 million m<sup>2</sup>. **Geographically**, regions such as the **EU, Asia, and the Americas** seem to have contained their figures more in the past year, with particularly sharp declines in consumption in the EU. Despite this context, at the country level, **China and India** continue to lead ceramic consumption, although with declines in their consumption ranging from 3% to 10% in 2023.

Table 3. Evolution of imports (millions of m2)

Country	2019	2020	2021	2022	2023	% of world consumption in 2023	% var 23/22
1º China	7.453	7.859	8.268	6.737	6.118	39,2%	-9,2%
2º India	1.867	1.884	2.069	1.750	1.700	10,9%	-2,9%
3º Brazil	802	829	902	736	694	4,4%	-5,7%
4º Indonesia	413	357	478	489	495	3,2%	1,2%
5º Egypt	239	237	308	368	390	2,5%	6,0%
6º Vietnam	467	440	420	505	375	2,4%	-25,7%
7º Saudi Arabia	223	284	252	271	295	1,9%	8,9%
8º Turkey	185	241	291	260	264	1,7%	1,5%
9º USA	273	264	289	285	264	1,7%	-7,4%
10º Mexico	238	242	276	257	254	1,6%	-1,2%
<b>TOTAL</b>	12.160	12.637	13.553	11.658	10.849	69,4%	-6,9%
<b>TOTAL WORLD</b>	16.642	17.112	18.339	16.455	15.627	100,0%	-5,0%

Source: Own elaboration based on data obtained from 'World production and consumption of ceramic tiles'.

### The Ceramic Industry in Spain: Economic Impact, Exports, and Global Trends

According to the **study "Socioeconomic Impact of the Ceramic Tile and Pavement Sector in Spain in 2023 and Its Relevance to the Province of Castellón,"** conducted by PwC, the ceramic sector had a total **impact of 6.522 million euros** on the **Spanish economy** in **2023**. This represents **3% of the country's industrial GDP**, compared to 2.4% in 2021. In terms of wealth generation, for every euro of direct GDP from the sector, an additional 3.5 euros were generated in the economy.

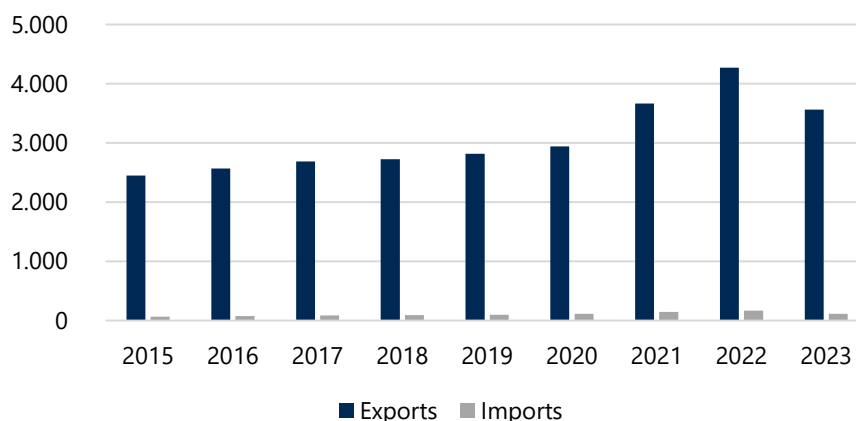
The **ceramic industry's weight** in the **Valencian Community** reached **22.2% of industrial GDP** (compared to 19.7% in 2021), while in the **province of Castellón**, its contribution was **32.2% of the total GDP** (up from 23.3% in 2021). The ceramic cluster has a strong driving effect on the economy: in Castellón, it represents 28% of industrial turnover and 46% of industrial employment, while in the Valencian Community, these figures stand at 7%.

In **terms of employment**, the ceramic industry generated over **90,000 jobs, including direct, indirect, and induced jobs**, in 2023, accounting for **3.8% of industrial employment in Spain** (compared to 2.5% in 2021). In the **Valencian Community**, the sector **accounts for 19.8% of industrial employment** (14.3% in 2021), and in **Castellón**, **26.4% of total employment** (21.2% in 2021). Additionally, for every **direct job in the sector**, **5.2 additional jobs are created in the Spanish economy**, a notable increase compared to the 3 additional jobs in 2021.

Finally, the ceramic sector maintains a **strong export orientation**, with a **propensity five times higher than the Spanish average**. As shown in Graph 1, Spain is characterized by a high export volume in this sector, with a **significant difference** compared to **imports**.

Despite economic difficulties, exports have managed to stay around 3 billion euros during the **analyzed period**. However, in the last year, a **16.6% decline** has been recorded, reflecting several factors. After the **sales surge post-pandemic**, the **industry was hit** by a severe **energy cost crisis**, which **increased production costs and reduced supply**. This was compounded by a **demand crisis in key markets**, driven by **inflation** and the **slowdown in the construction sector**.

Graph 1. Evolution of Spanish exports and imports in the ceramic industry



Source: Own elaboration based on data obtained from the Spanish Association of Ceramic Tile Manufacturers (ASCER).

As the **third-largest global exporter** of ceramic products, Spain maintains a **prominent presence** in **international markets**. Although its **exports** are **geographically diversified**, **Europe** accounts for a significant portion in terms of value, representing 51.1% of the total. At the country level, the **United States** has solidified its position as the main destination for Spanish ceramics, although its primary supplier remains Italy.

In terms of value, recent trends show uneven behavior among the main markets. While the United States (+3.1%), Morocco (+4.6%), Israel (+2.3%), and Greece (+8.4%) increased their imports of Spanish ceramics, other traditional markets such as France (-11.5%), Italy (-14.9%), Germany (-9.9%), and the United Kingdom (-7.9%) recorded significant declines (Table 4).

Table 4. Change in imports of the main importing countries of Spanish ceramics, in value (in %)

Country	% var 2023/2024
US	3,1%
France	-11,5%
United Kingdom	-7,9%
Italy	-14,9%
Germany	-9,9%
Morocco	4,6%
Israel	2,3%
Portugal	0,7%
Greece	8,4%
Saudi Arabia	-4,5%

Source: Own elaboration based on data obtained from ASCER.

### Challenges Facing the Spanish Ceramic Industry: Decarbonization, Competitiveness, and New Trade Barriers

It is also important to highlight that the Spanish ceramic industry faces several challenges that require **strategic solutions** to **maintain** its **competitiveness** and **long-term sustainability**. One of the main challenges is **decarbonization** and **environmental sustainability**. The sector, being energy-intensive, faces high costs related to gas consumption. Although there have been advances in emission reductions, the transition to cleaner energy remains a challenge due to the lack of viable technological alternatives in the short term. In this context, the **energy transition** is another relevant challenge. Access to financing for sustainable projects is essential to help companies modernize and reduce their carbon footprint. The implementation of new energy technologies could improve efficiency but requires significant investments and time.

Moreover, **competitiveness** and **production costs** have been impacted by **growing global competition**, especially from countries with lower labor and environmental costs. Despite this challenge, innovation in products and processes remains key to maintaining competitiveness, which requires constant investment in R&D.

Another relevant challenge is the **lack of skilled labor and generational replacement**. In recent years, the sector has faced difficulties not only in attracting young talent but also in securing **specialized professionals in placement**, a **crucial** aspect for the **product to be considered finished**. This situation is mainly due to the lack of interest in working in the industrial and construction sectors.

Finally, global **protectionism** and **restrictive trade policies** undoubtedly represent an **additional challenge**. In recent years, protectionist measures have transformed the dynamics of global ceramic trade, significantly affecting the Spanish sector.

A key trend has been the **increase in trade barriers** in the **North African and Middle Eastern regions**, with notable countries including **Saudi Arabia, Algeria, and Egypt**.

In **Saudi Arabia**, the main barrier is the **SASO Quality Mark (SQM)**, a mandatory quality certification for exporting products to the country. Obtaining this certification involves high costs due to its strict requirements, along with an annual review, which represents an additional burden, particularly for small companies looking to access the Saudi market.

**Algeria**, for its part, **banned the import of ceramic products in January 2024**—a measure it had already implemented in **2017** to promote the growth of its domestic industry, and reinforced in **2019** with **safeguard measures** (DAPS) of up to 60% on ceramic tiles. These barriers have severely impacted Spanish exports, despite the European Union's attempts to negotiate the reopening of trade for these products.

**Egypt** also imposes strict requirements: companies must register with the **General Organization of Export and Import Control (GOEIC)** to obtain a certificate of conformity, which is necessary to export their products to the country.

**Morocco**, meanwhile, has required a **certificate of conformity** for **imported ceramic products** since June 20, **2020**. This measure, part of the Verification of Conformity Program, has had a significant impact on the Spanish ceramic sector, as Morocco is its fifth most important export destination by volume. Products subject to this program must undergo additional inspections, increasing the costs associated with ceramic trade in the country.

One example of a trade policy **measure** that **benefited the Spanish ceramic sector**—at least in the short term—occurred in 2019, when the U.S. International Trade Commission imposed **tariffs on Chinese ceramics**, citing **dumping practices**. This allowed **Spanish companies to gain market share** in the U.S. following the sharp decline in sales from Chinese firms in that market.

Currently, the **Spanish ceramic sector** faces a 10% tariff in the U.S., with the **return of Trump** to power, though there remains considerable uncertainty in the market regarding future tariff measures.

Meanwhile, the **European Union** has implemented **anti-dumping measures** to protect its ceramic industry from unfair trade practices by **China, India, and Turkey**. Since 2011, it has maintained anti-dumping duties on Chinese ceramic tiles. Furthermore, in February 2023, the **European Commission** imposed definitive **tariffs** on **ceramic tile imports** from **India** and **Turkey**, with rates ranging from 6.7% to 8.7% for India and from 4.8% to 20.9% for **Turkey**, following an investigation that confirmed dumping practices.

## Maritime Transport: A Fundamental Pillar Supporting the Spanish Ceramic Industry

In a sector with such a strong international orientation and facing numerous challenges to maintain global competitiveness, it is crucial to consider all the elements that uphold that competitiveness—transport being one of the most significant. Indeed, **maritime transport is key to ceramic exports from Spain**, standing out as the **primary means** of reaching many **non-European destination countries**. In **markets** such as **Saudi Arabia, the United States, and Israel**, this mode of transport accounts for over **99%** of ceramic exports, highlighting its **efficiency** and capacity to **handle large volumes of cargo**. In closer markets like **Germany, Portugal, or France**, **road transport** plays a more prominent role, yet maritime transport remains essential to **the global reach** of the Spanish ceramic industry. This trend underscores the importance of maritime transport not only in terms of geographical distance but also in its ability to facilitate large-scale international trade.

Table 5. Modal pattern of exports of construction materials from Spain by main destination countries, in 2024 (%)

	AIR	ROAD	RAIL	MARITIME
Germany	0,0%	96,8%	2,0%	1,2%
Saudi Arabia	0,6%	0,0%	0,0%	99,4%
United States	0,5%	0,4%	0,0%	99,2%
France	0,0%	95,5%	0,4%	4,2%
Israel	0,1%	0,0%	0,0%	99,9%
Italy	0,0%	92,0%	1,0%	7,0%
Morocco	0,0%	5,8%	0,0%	94,2%
Portugal	0,0%	84,3%	10,2%	5,5%
United Kingdom	0,1%	25,9%	0,5%	73,5%

Source: Own elaboration

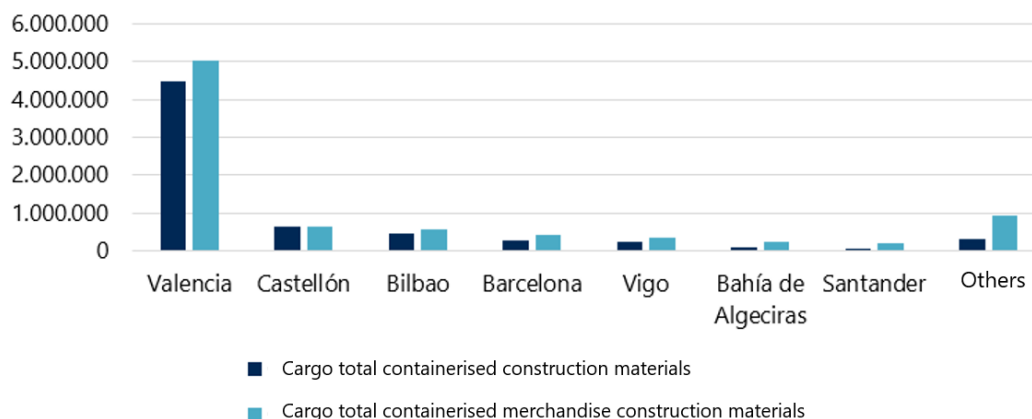
\* The following tariff chapters have been taken into account for the calculation of the data in the table: plastics and articles thereof, rubber and articles thereof, wood, wood charcoal and articles of wood, impregnated textile fabrics and technical articles of textile materials, articles of stone, ceramic products, glass and articles thereof, articles of iron or steel, copper and articles thereof, nickel and articles thereof, aluminium and articles thereof, miscellaneous articles of metal, and furniture and other articles of metal.

At an aggregate level, the data reflect the importance of **maritime transport** in the export of **construction materials** from Spain (Graph 2), with a **prominent role played** by the **Port of Valencia**, which leads with a total cargo volume of 5,045,841 tonnes, of which 4,480,948 tonnes correspond to containerized shipments. Castellón follows in importance, with a total of 619,073 tonnes—virtually all of it transported in containers (618,888 tonnes).



Among the northern and northeastern ports, **Bilbao** and **Barcelona** report significant volumes, with 554,595 and 411,833 tonnes respectively, where container transport also predominates (447,812 and 263,215 tonnes). **Vigo** records 354,621 tonnes, with 242,504 tonnes in containers. To a lesser extent, **Santander and other secondary ports** also contribute to the export of construction materials, accounting for 207,201 and 921,508 tonnes, respectively.

Graph 2. Distribution of construction materials cargo by port, year 2023 (tonnes)



Source: Prepared by the authors on the basis of the State Ports Scorecard.

Focusing on the **Port of Valencia**, and with a **higher level of detail**, regarding **tariff heading 6907**, which corresponds to **ceramic tiles**, the evolution of ceramic **exports** during the years 2023 and 2024 can be **observed**. In **2023**, the total volume exported was **3,649,252 tonnes**, while in **2024**, this figure dropped to **3,520,634 tonnes**, representing a **3.5% decrease**. During both years, exports showed quarterly fluctuations, with some quarters recording increases and others declines, reflecting the **variability** in demand and market conditions. This evolution has been influenced by a complex **geopolitical context**, marked by **global economic uncertainty** and **challenges in supply chains**, which have impacted ceramic exports. In summary, the data reflect a market with **fluctuating** demand for ceramic products, affecting the annual **export** performance of the Port of Valencia.

Table 6. Evolution of ceramic cargo from the Port of Valencia, year 2024 (tonnes)

	2023	2024	Variation 24/23
First quarter	886.469	815.853	-8%
Second quarter	949.141	972.701	2,5%
Third quarter	915.056	940.571	2,8%
Fourth quarter	898.586	791.509	-11,9%
Total	3.649.252	3.520.634	-3,5%

Source: Port Authority of Valencia



With all this in mind, **Valenciaport** stands out as **the most competitive alternative** for the **main international ceramic export destinations** (Table 7), such as the **United States, Morocco, Israel, and Saudi Arabia**. In the **United States**, Valencia offers 11 weekly services with 10 shipping lines, providing a weekly capacity of 53,103 TEUs and connections to 57 ports. In the case of Morocco, Valencia also leads with 26 services and a capacity of 67,401 TEUs, connecting to 96 ports. Additionally, in **Israel and Saudi Arabia**, Valencia has a well-established offering, with 6 weekly services to **Ashdod and Haifa**, and 2 weekly services to Saudi ports, respectively. These figures reflect high connectivity and significant capacity, positioning Valenciaport as **the best option for the international expansion of the ceramic sector**.

Table 7. Maritime connectivity of the main Spanish ceramics export ports with the main import destinations

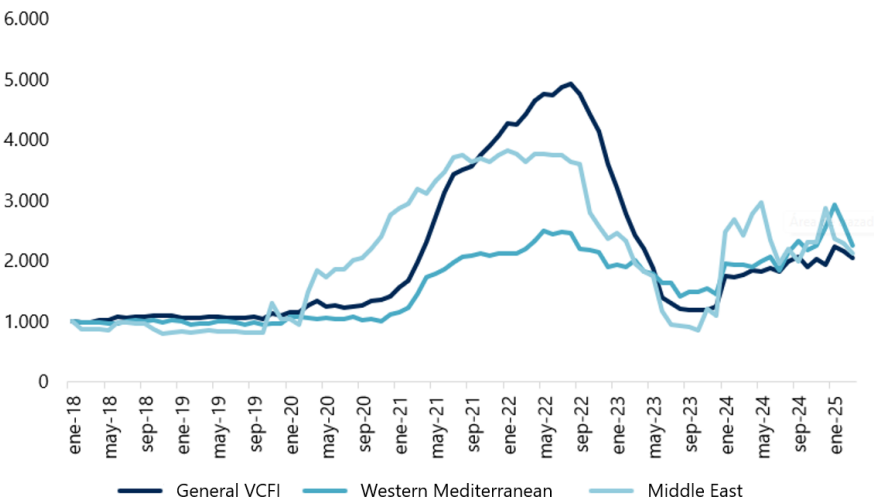
	Country	Ports in Country of Destination	Number of services	Number of shipping companies	Weekly Departures	Weekly Capacity	Connected Ports
<b>Algeciras</b>	<b>United States</b>	Baltimore, Bayport (TX), Boston, Charleston, Miami, New Orleans, New York, Newark, Norfolk (incl. Portsmouth), Philadelphia, Savannah, Seattle	7	11	7	24.030	42
<b>Barcelona</b>	<b>United States</b>	Baltimore, Bayport (TX), Boston, Charleston, Miami, New Orleans, New York, Newark, Norfolk (incl. Portsmouth), Philadelphia, Savannah, Seattle	8	7	8	41.924	70
<b>Castellón</b>	<b>United States</b>		0	0	0	0	0
<b>Valencia</b>	<b>United States</b>	Baltimore, Bayport (TX), Boston, Charleston, Miami, New Orleans, New York, Newark, Norfolk (incl. Portsmouth), Philadelphia, Savannah, Seattle	11	10	11	53.103	57
<b>Algeciras</b>	<b>Morocco</b>	Agadir, Casablanca, Tanger Med	39	20	39	129.164	106
<b>Barcelona</b>	<b>Morocco</b>	Agadir, Casablanca, Tanger Med	17	25	17	45.851	62
<b>Castellón</b>	<b>Morocco</b>	Casablanca	3	4	3	4.848	11
<b>Valencia</b>	<b>Morocco</b>	Agadir, Casablanca, Tanger Med	26	28	30	67.401	96
<b>Algeciras</b>	<b>Israel</b>	Haifa	2	2	2	8.335	19
<b>Barcelona</b>	<b>Israel</b>	Ashdod, Haifa	5	6	5	14.334	28
<b>Valencia</b>	<b>Israel</b>	Ashdod, Haifa	6	8	6	37.588	57
<b>Castellón</b>	<b>Israel</b>	Ashdod, Haifa	2	1	2	1.971	14
<b>Algeciras</b>	<b>Saudi Arabia</b>	Jeddah, Dammam, Jubail	3	3	3	6.755	11
<b>Barcelona</b>	<b>Saudi Arabia</b>	Jeddah, Dammam, Jubail, King Abdulah	2	1	2	22.915	20
<b>Castellón</b>	<b>Saudi Arabia</b>		0	0	0	0	0

Valencia	Saudi Arabia	Jeddah, Dammam, Jubail, King Abdulah	2	1	2	22.915	20
----------	--------------	--------------------------------------	---	---	---	--------	----

Source: Own elaboration based on Alphaliner data

Finally, a **particularly relevant factor** for **analyzing** the **competitiveness of the Spanish ceramic sector** is the **evolution of maritime freight rates** (Graph 3), as **they directly impact the logistical costs** associated with exports. In this context, the **VCFI (Valencia Containerised Freight Index)** provides insight into how these costs have changed in recent years. The general index experienced a sharp rise starting in mid-2020, reaching its peak in April 2022 with a value exceeding 4,860 points—quadrupling the base level of 1,000 set in January 2018. Since then, it has followed a clear downward trend, standing at around 2,000 points in the first quarter of 2025. **This trend** is also reflected in its **main sub-indices**: the **Far East index**, which has shown marked volatility, and the **Western Mediterranean** index, which has exhibited **a more stable performance**.

Graph 3. Distribution of construction materials cargo by port, year 2023 (tonnes)



Source: Own elaboration

All things considered, there is no doubt that we are looking at a **sector** that, beyond the data, reflects the **complexity of an industry deeply rooted** in its territory and **playing a key role in the economy**. The impact of the **cost crisis has been evident**, resulting in an environment marked by shrinking demand and a loss of competitiveness compared to other markets. Looking ahead to **2025**, the challenge will not only be to **recover volume** but to do so in an increasingly **demanding global context**—characterized by **new environmental regulations, uncertainty in logistical costs**, and a more **strained international trade landscape**. **Maritime transport**, in particular, will play a **crucial role** in this equation, and its **evolution** will be **decisive** for the **international outlook of the Spanish ceramic sector**.