



# WP 1 - Situation Analysis EXECUTIVE SUMMARY Spain

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## Preface

Design is clearly a very important product presentation and differentiating factor. Products are designed, manufactured, distributed, used and, once their useful life has ended, they are disposed of. All these actions are carried out daily, and can generate environmental impacts.

Ecodesign is a well established concept amongst environmental specialists in Europe, but there is a lack of know-how in supporting the systematic integration of environmental considerations in the design of ceramic products. Despite its economic importance, the ceramic industry is suffering the impact of the slow-down of the European economy and the effects of competing products from countries where environmental and social standards in manufacturing are considerably lower. The ceramic sector needs competitive products in order to survive in the market, and addressing environmental issues provides good opportunities for innovation and differentiation, while reducing the environmental impacts during product life cycles.

The main objective of the project “Innovation and Ecodesign in the Ceramic Industry (InEDIC)” is to develop high quality training materials on ecodesign for the ceramic sector, in order to supply designers, trainers and other professionals with the skills to apply this sustainability strategy and practice in companies and to disseminate this know-how in the VET system. This project is a follow up of a previous Leonardo Project, “Transfer of Knowledge in the Field of Ecodesign” (contract CZ/04/B/F/PP-168002), which the InEDIC project will build on by updating the training materials and, in particular, by adapting them to the ceramic sector.

The Situation Analysis report is one of the main results of InEDIC WP1 and was carried out in Spain by Prospectiker and Instituto de Tecnología Cerámica between November 2009 and March 2010. The aim of this part of the project is to analyse the present situation in the ceramic process and Ecodesign in the European ceramic industry in order to identify existing training materials for the ceramic process and the needs of companies and of vocational education and training (VET) institutions.

The situation analysis will be used as a tool for the development of InEDIC training materials, ensuring high quality, relevance and appropriateness, as well as providing a source of information on the state of the art in ecodesign in ceramics, which will be made available to a wide spectrum of stakeholders through dissemination activities.



## 1. Overview of the industrial development in Spain.

### 1.1. Wall and floor ceramic tiles. NACE 2331

One of the main features of the Spanish ceramic tile industry is the high industrial concentration existing in the province of Castellon, known in economic terms as an industrial cluster.

Approximately 94.5% of Spanish ceramic tile production originates in this province, which contains 81% of the companies in the sector, of which 85% are SMEs (data ASCER 2006). This geographic concentration also affects related industries, enabling their interrelationship and, as a consequence, the accumulation and development of knowledge and common support services.

In 2008 the industry comprised 196 ceramic tile manufacturing companies, in addition to 19 companies engaged in the spray drying of raw materials and tile body manufacture.

Spain is the leading European ceramic tile producer, ahead of Italy. The Spanish share in the production of the EU-27 in 2007 was 38%. Spain is also the top European tile consumer and has the highest global per capita tile consumption. [1]

### 1.2. Ceramic bricks and roof tiles. NACE 2331

In 2006, Spain headed European production of ceramic building materials, known as *structural ceramics*, producing more than 30 million tonnes. The Spanish structural ceramics sector is a benchmark industry for the rest of the country in terms of innovation and technology, thanks to the investments in R&D&I in the last few years. [Hispalyt]

In recent years, the number of companies in the sector (now over 400) and the number of jobs (about 10,500 across Spain) has significantly increased. This reflects the growth experienced by construction industry.

Currently, most production in the structural ceramics industry is intended for regional or national consumption, due to transport costs. The main manufacturing provinces for these types of products are Toledo (16%), Barcelona (9%), and Valencia (8%), which produce over 2Mt per year, and Alicante (6%), Jaén (5%), and La Rioja (5%), which produce over 1Mt a year.

In the last two years, due to the economic situation, the number of firms and production has fallen considerably.

### 1.3. Sanitaryware. NACE 2342

Spain has traditionally been one of the main sanitaryware producers. However, according to data provided by the Sanitary Ceramics Manufacturers' Association (ANFACESA), Spanish sanitaryware production has declined since 1999. In this sense, there was a decline of 23.3% until 2005, when production reached 6.52 M items of sanitaryware.

However, the Spanish sanitaryware industry is healthy. The growing importance of the bathroom in the home has increased customer interest in new designs. New trends in the bathroom sector, focusing on greater wellness and care of the room, have led manufacturers to offer customers a



comprehensive range of products for the bathroom. As a result, top manufacturers are focusing their efforts on increasing investment and improving plant technology and quality, expanding their catalogues with new materials, sizes, and designs. The models range from classical to avant-garde collections renewed through innovative materials and new forms. They have also increased the replacement products market share, which went from 29% of total sanitaryware production in 1999 to 35% in 2006. [3]

#### *1.4. Table and ornamental ware (household ceramics): NACE 2341*

The ornamental ware sector includes companies producing decorative figures, vases, lamps, decorative plates, etc. Spain ranks third in sales behind Germany and France.

The ceramic tableware branch has a great tradition in Spain, but recent years have witnessed a dramatic reduction in the number of companies, in the last decade going from 11 companies to 7, from 3000 workers to 600 and from 60 million items valued at approximately 90 M€ to 32 million items valued at 34 M€.

The main Spanish regions where ornamental ware producers are located are Manises (Valencia) and the surrounding area and La Rambla (Córdoba) [4].

#### *1.5. Ceramic frit. NACE 203021*

The production of frits is a well established industry and has served the ceramics sector for many years. Production in the EU is estimated at 1 - 1.25 million tonnes of frit per year, the frit branch being of the smallest sectors of the Glass Industry.

It is estimated that there are about 60 frit production facilities in the EU, mostly in Spain and Italy. Spain is the world's top frit producer, accounting for more than half of the total EU output. Italy has more frit facilities but the production volumes are smaller.

There is fierce competition between frit producers in the EU, both within and between Member States. Most of the frits produced in the EU are used internally but exports are an important market for EU producers and are generally significantly higher than imports from non-EU countries.

The performance of the Frit Sector closely follows the success of the Ceramic Sector as a whole, and if the latter declines, then the Frits Sector that supplies it, will also suffer. [5]



## 2. Training needs and offers on ecodesign in ceramic in Spain

In order to assess the training needs and offers on ceramic ecodesign, information from ceramic companies, business associations and training institutions has been collected. The organizations surveyed were as follows:

Surveys	Companies	Business associations	Training institutions
<b>Number of surveys</b>	21 companies: > 50% ceramic tiles manufacturers < 50% Others subsectors	7 Business Associations of the sectors mentioned above	17 Training centres: 14 Universities and other training centres.
<b>Main information collected</b>	Level of implementation of Ecodesign? Encourages and discourages on Ecodesign? Recommended content for InEDIC training material?	Activities and services on Ecodesign? Importance of ecodesign in the sector? Major interests and demands on ecodesign?	Duration of the ecodesign subject or course? Main content of subject and courses on ecodesign? Recommended content for InEDIC training material?

After having analyzed all the information obtained through the surveys made to enterprises, business associations and training institutions, the following conclusions can be drawn up:

First of all, all of the asked entities and organisations seem to **know the meaning of Ecodesign meaning and the majority defends its importance in the reduction of environment impacts of the product during its life cycle.**

Thus, on one hand, training institutions integrate several Ecodesign subjects in their courses, degrees and masters, offering different Ecodesign training material depending on the type of course.

Training institutions that have participated in the survey do not identify any gap in their training plan, although they do declare an inexistent but necessary specific subject or training planning on Ecodesign issues. **There is not a general knowledge among training centres about how Ecodesign is being developed by companies, and what their training and professional needs on this field are.**

On the other hand, the surveys made to the 21 enterprises show us that **some work has begun to be done in this field by businesses:** Some of these enterprises have even defined a strategy on Ecodesign and they have been integrating different Ecodesign concerns to their new product designs. As a result, most of them have achieved a lot of environmental improvements in their ceramic manufacturing.



However, if these environmental improvements are analyzed we would discover that a few of them are related with the design of the product. Only a few achievements such as less raw materials use, less packaging, recycled materials or water consumption saving and waste management reducing, are direct consequences of an ecodesigned product.

In this sense, ***enterprises are gradually reducing the environmental impacts of their product manufacturing, but Ecodesign is a wider concept, that involves the whole life-cycle of those products starting for their design.***

***Although it is still on a very initial stage, Ecodesign methodology is considered as an important competitiveness factor for the Spanish ceramic sector.*** Enterprises of this sector are already asking their associations for more information about Ecodesign certifications, efficient materials and life cycle techniques. And all the institutions have detected training needs in subjects such as:

- Tools for assessing the environmental impacts of the ceramic products in the life cycle.
- Ecodesign strategies for ceramic products.
- Communication tools for ecodesigned products.
- Creativity techniques.
- Environmental information about materials and technologies used in specific products (ceramic).

Summing up, it is possible to say that the 'Ecodesign culture' has just started in Spanish ceramic sector, where companies have begun to state their interest and will probably keep on showing more specific needs and demands in the future.

In this sense, the work that is been started by enterprises on this field has been mainly focused on environmental issues, but not so specifically on Ecodesign. This implies a complex methodological work (designers and environmental experts have to analyze all the environment impacts of the designed product during its whole life before the product is done) that requires a specific training.

However, there are not too many specific training plans based only in Ecodesign yet. Ecodesign issues are usually taught inside other subjects as design, manufacturing... or related to environmental management in general. It is necessary to establish a closer contact between training centres and companies, so that the first ones can identify what the companies needs on this field are, in order to adapt their training offer to satisfy that demand.



## References

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