

MINDTILE, PLATFORM FOR CERAMICS MADE IN SPAIN

L.Ortiz(1), A.Benavente(1), L.Vilalta(1), J.Corrales(1), J.Mira(1), V.Lázaro(1)

(1) Instituto de Tecnología Cerámica (ITC). Asociación de Investigación de las Industrias Cerámicas (AICE). Universitat Jaume I. Castellón. Spain.

ABSTRACT

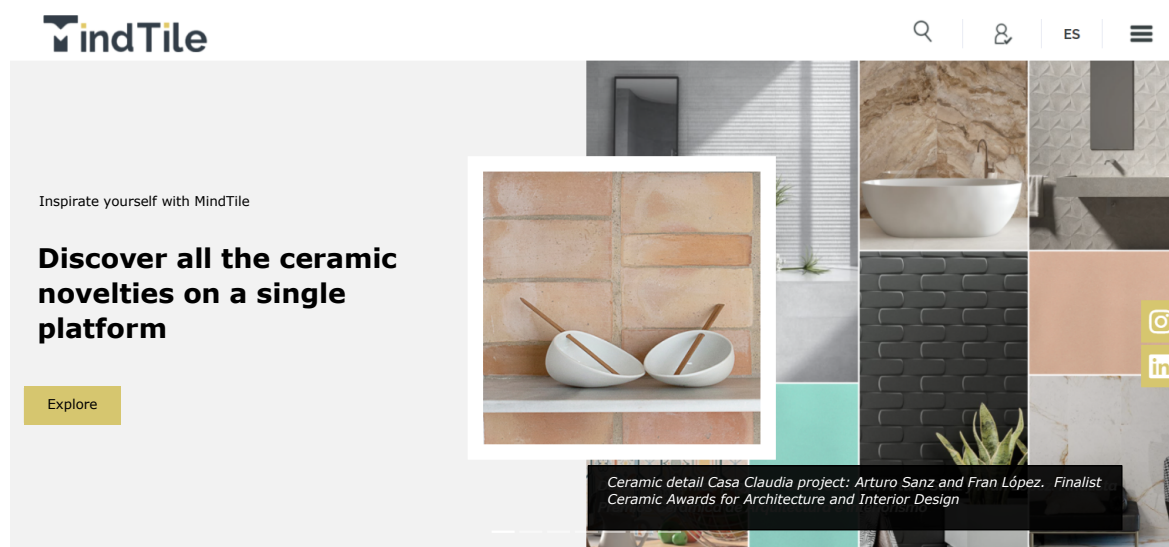
This presentation introduces the MindTile platform, developed to enhance efficiency among companies in the ceramic sector by providing them with valuable information that allows them to focus their efforts on developing types of products that truly respond to users' demands. In effect, the platform provides companies with diagnosis that serves them as a fundamental basis for fast and effective decision making: a set of decisions in which end users are the hub of the process and which adapts to their requirements and preferences, thus offering products tailored to demand.

On the one hand, the platform is an innovative method that provides a degree of detailed knowledge of end user preferences that up till now was unavailable. On the other hand, it makes the user's process of searching for and selecting ceramic products considerably easier, and it also considers criteria such as habitat trends, the emotional component, technical innovation and technologies, and, in the future, sustainability or design according to the circular economy, which complement and enrich the process in a remarkable manner.

It is a virtual space dedicated to the novelties and innovations taking place in the ceramic sector, which brings together ceramic producers, specifiers and consumers, with the aim of optimising their prediction of new product models and promoting the design and development of innovative solutions. The project aims to accelerate companies' decision-making process regarding new product lines by analysing the information generated by users as they surf the platform. It is also intended to promote knowledge of the product from various prisms, such as innovation and habitat trends.

Aimed at specifiers and users of ceramics, MindTile (<https://mindtile.com>) has been conceived as a specialised form of publicity to inspire and inform users about novelties in ceramic products, interior design projects and architecture, where the ceramic tile is the protagonist, promoting the design and development of innovative solutions that match users' tastes, and thus helping to increase the inherent value of the ceramic industry in the Valencia Region. Furthermore, the platform strives to be a useful, extremely simple-to-use and at the same time attractive tool that maximises user experience.

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Explorer of ceramics Made in Spain

Figure 1. MindTile platform HOME Page

1. INITIAL CHALLENGE

At present, the ceramic sector is particularly sensitive to innovation, habitat trends and sustainability, which in turn drive continual improvements in its production processes and a constant renewal of its product ranges. Ceramic firms continue to rely on the digital channel to present their products and very significant growth in ceramic *E-commerce* has been seen in both Spain and other countries. This trend had already been detected but has been definitely boosted by the Covid-19 crisis and consumers' increased tendency to use online shopping.

In the study entitled '*Fabricantes de Baldosas: una revisión del sector pre-Covid19 y el futuro pospandemia (Tile Manufacturers: a review of the sector before Covid19 and its post-pandemic future)*' (Veral y Lázaro 2020), 59% of manufacturers since the crisis consider E-commerce to be an interesting sales vehicle for their company, so it is clear that the Coronavirus pandemic has accelerated changes that were already taking place in some markets. The online sales channel has been strengthened by the cancellation of trade fairs and exhibition halls left closed or only open by appointment, so the need for an online platform that showcases novelties and innovations in ceramic products in an intuitive, attractive and user-friendly manner has become patent.

Mindtile is a platform with two goals. The first is to offer ceramic coverings specifiers and end users a catalogue of products classified by habitat trends and with details of all the characteristics used to select ceramic products in the information-searching stage of the purchasing process, so that it is effective at locating products that are more likely to provide the configuration chosen for the space. Its second goal is to provide detailed analysis of user surfing habits on the platform to detect their preferences quantitatively and thus be able to profile different targets or markets and provide companies with strategic information they can apply.

2. ANALYSIS AND DEFINITION OF ATTRIBUTES

The structure was defined on the basis of information collected from various websites hosted by ceramic firms, where we were able to confirm the great diversity of styles and classifications of ceramic products that exists and which hinders the user's task of searching or deciding on the right ceramic product for a certain need, bearing in mind that the general public is not usually familiar with the characteristics and types of ceramic tiles available.

To define the platform's contents and features, first it was necessary to set out ceramic product attributes in order to obtain navigation data that would be of value for companies when making decisions about new products. To do so, focus group meetings were held to collect the information required by companies regarding users' purchasing decisions, decisions in which the end user is at the hub of the process and which adapt to their demands, preferences, knowledge, and language, and thus offer a catalogue of practically "tailor-made" products.

Directed at the end user, two types of target audience serve as the basis for classifying ceramic products on the platform:

1. **Interior Designers, Architects and Distributors:** product-searching by a professional calls for different search attributes than for an end customer profile. MindTile is based on the outcome of a number of interviews with professionals who expressed the need for more technical sorting, either by format, type of product, or sustainability or health-related criteria.
2. **End customer, potential buyer of ceramics:** the platform facilitates searching by offering an easy and user-friendly environment, since it displays the ceramic product in inspiring settings, classified by attributes that are easily recognisable for the user.

The attributes listed in Figure 2 requirements for those two target audiences and allow for intuitive searching adapted to those profiles to be run from the "Explore ceramics" section.

Trends	Space	Style	Material
Green Code ☐	Kitchen ☐	Classic ☐	Porcelain ☐
Balance & Care ☐	Bathroom ☐	Rustic ☐	Whiteware ☐
Roots ☐	Interior ☐	Minimalist ☐	Redware ☐
Ethical Luxury ☐	Exterior ☐	Industrial ☐	Clinker tile ☐
	Contract ☐	Mediterranean ☐	
	Water-related ☐	Nordic ☐	
		Urban rustic ☐	
		Natural ☐	
Colour	Effect	Other functions	Format
White ☐	Hydraulic ☐	Bactericide ☐	Rectangular ☐
Black ☐	Textile ☐	Air purifier ☐	XXS ☐
Cold ☐	Marble ☐	Non-slip ☐	XXL ☐
Warm ☐	Stone ☐		Special ☐
Multicolour ☐	Ceramic ☐		Slats ☐
Neutral ☐	Cement ☐		Square ☐
	Wood ☐		
	Metal ☐		

Figure 2. Product attributes on the MindTile platform

3. PLATFORM STRUCTURE

3.1 EXPLORE CERAMICS

This is the exploration part of the platform, created to facilitate swift searching and appearance of novelties in ceramic coverings according to the user's interests. The various sections are generated according to the pre-defined attributes in order to display the contents in groups that make navigation quicker, safer, and more efficient.

- The **Trends** category shows environment settings organised by their similarity with the user's lifestyle and convictions in relation to the latest trends in ceramics defined by the Habitat Trends Observatory (OTH), a platform created by the technology institutes AIDIMME, AITEX and ITC, whose goal is to analyse how habitats evolve in order to provide companies and professionals with tools to enable, on the one hand, innovation and, on the other, the development of strategies and value-added products (Ortiz, y otros 2005).
- **Filtering by Space** simplifies searching, since all users have an idea of the space they want to cover in their mind. Bathrooms and kitchens come first but are not necessarily the most important places.
- **Decorative styles** are specific ways of decorating or creating an ambience in a space using certain patterns, compositions, shapes, colours, furniture and even architecture, and are generally linked to a certain socio-cultural context that defines their particular characteristics.
- The **Search by Material** section is associated with the type of raw material used to make the tile. Once installed, the difference between red- and white-body tiles is practically unnoticeable by the end user but may be of interest to specifiers. The same goes for clinker tiles, commonly used in industrial flooring and in areas with a presence of water, or ceramics made from porcelain stoneware bodies that enable large tiles with low thickness to be made – this criterion could be a useful form of classification for specifiers.
- **Choose the Colour** is just as important as choosing the graphic design. Therefore, it has been divided into six basic categories: white, black, cold, warm, neutral, and a so-called 'multicolour', and which can be accompanied by various geometric designs.
- **Ceramic effects**, together with the format, are responsible for giving the setting its personality. There exists a wide variety of graphics that reproduce natural materials perfectly - stones, marbles or woods are accompanied by reliefs or micro-reliefs that make it very difficult to distinguish between the ceramic and the natural product. This provides significant advantages in terms of strength or resistance and cleanability.
- **Special features** includes ranges of tiles that have other features, such as anti-bacterial properties.
- **Format** describes the shape and size of the ceramic tile. The extensive range of ceramic floor and wall tiles means that a wide variety of shapes are available in various sizes. Choosing the right graphic or effect is equally important as finding the best format for installation.

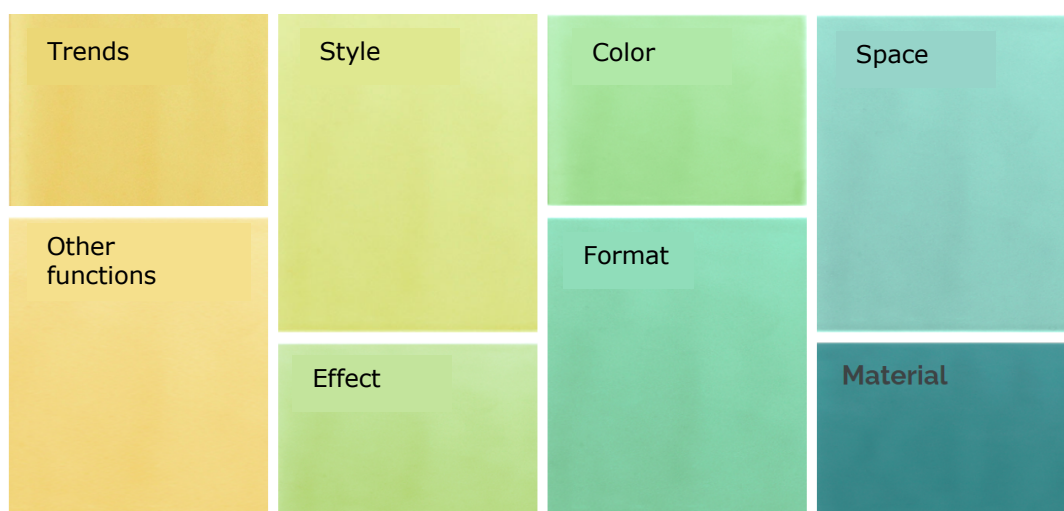


Figure 3. FrontEnd of the Explore Ceramics section

In addition, a guided tour section has been included to make the process of searching for ceramic material easier for all users unfamiliar with the product.

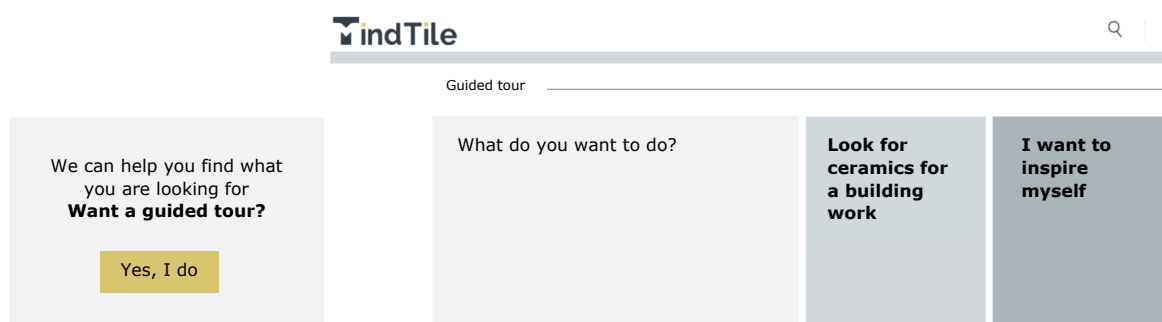


Figure 4. FrontEnd of the guided tour

3.2 FAVOURITES

This section has been created to make it easier for the user to select settings through customisable panels. Apart from being more user-friendly, it also provides further information about users who are interested in ceramic products and the attributes of those products that most interest them.

3.3 CERAMIC PROJECTS

This section with dynamic contents groups together different projects chosen for their quality and interest and which use ceramics as the main material, in order to display the various possibilities available when a ceramic product is used. An area dedicated to designers, with a focus on architecture and interior design, where the idea is to publish the work of professionals that use ceramics with great sensitivity in their projects.

3.4 NEWS

In order to position the platform as a benchmark at international level of the novelties and innovations taking place in Spanish ceramics, a monitoring system is required to inform users of the latest developments. This section consists of substantiated and fully updated information on the latest breakthroughs, advances, and innovations in products for habitat that relate to the ceramic sector from the point of view of surface trends for habitats, sustainability, and/or the circular economy. A source of inspiration for company designers, specifiers and users.

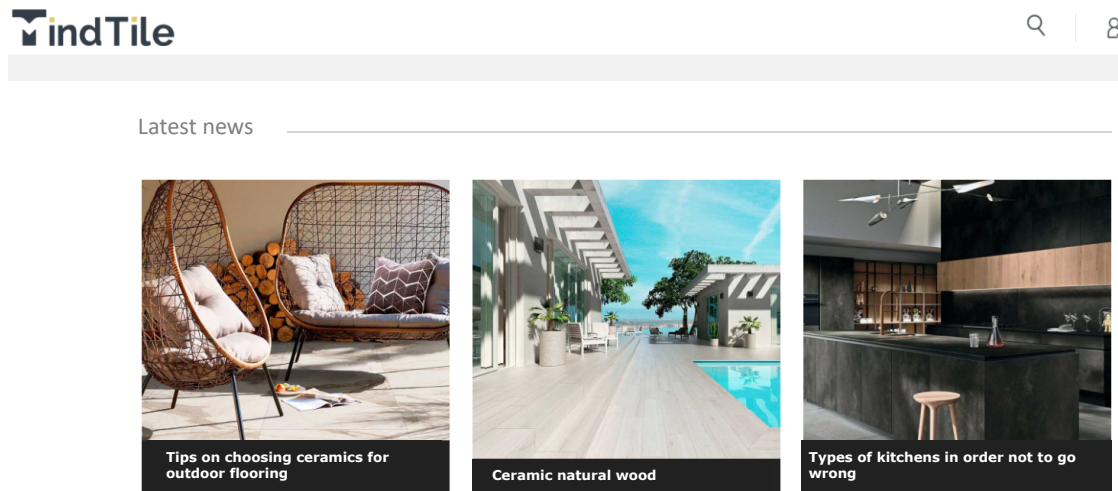


Figure 5. News section

3.5 HISTORY OF CERAMICS

A platform dedicated to ceramic tiles must necessarily include an overview of the history of the product. So, we chose to create a section where the historical evolution of ceramics is displayed through Spain's great museums: the González Martí National Ceramics Museum in Valencia, the Manises Ceramics Museum, the Castelló Fine Arts Museum, the Onda Ceramics Museum, and the Ceramics Museum of l'Alcora.

4. STRATEGIC DATA PANEL

Rules have been specified in the backend settings section that govern data management and allow it to be monitored and analysed (Srinivasan 2018). The platform's internal architecture has been studied to define the structure where data should be processed and stored, and how it is to be used or accessed, since, as stated, one of the objectives of the platform is to analyse users' navigation of the site in detail to detect their browsing habits in a quantitative and aggregate manner so that different targets or markets can be profiled and companies provided with strategic information they can apply.

To do that, a dashboard (Lázaro, y otros 2020) has been included that collects and systematises the data thus obtained in order to make it easier for companies in the sector to analyse and apply it in their decision making.



Figure 6. Dashboard

In order to improve positioning and visibility on leading browsers, SEO (Search Engine Optimization) techniques and tools have been implemented. Some actions are applied directly on-page, i.e. on the web platform itself, which improve speed, optimise the images and create quality contents and a good tag structure. These tasks are backed up further by off-page actions, such as circulating on social media, link-building strategies, etc. Likewise, SEM (Search Engine Marketing) techniques are used to increase visibility by hiring advertising campaigns on the main search engines.

5. SCIENTIFIC-TECHNICAL, ECONOMIC AND SOCIAL IMPACT

The R&D activities undertaken in this project have a potentially high return on investment for society in Valencia, in the sense that they concern a strategic sector in the region, given that about 95% of all Spain's ceramic tile production is manufactured in the province of Castellon. With the results of this project, the ceramic sector will be able to guarantee that its products meet consumer expectations, which will lead to greater profitability for ceramic companies in the Valencia Region. Moreover, it will help reduce the costs associated with developing and launching new products by avoiding advertising costs being spent on product lines that have to be withdrawn after just a few months because they do not meet consumer expectations.

The ceramic sector is highly internationalised and invests heavily in R&D&I, as one of its priorities is to keep Spanish ceramics at the forefront in innovation, sustainability and design. This project will contribute significant social and economic benefits to Spain's ceramic industry by providing it with a specific instrument that evaluates Spanish ceramic products in order to develop innovative, responsible and sustainable new proposals. This project's return on investment in R&D to society stems from the following benefits:

- It will generate knowledge for more sustainable, innovative ceramic products to be designed and developed, based on user trends and needs in a world-leading industrial sector of great importance to the region of Valencia, which will gain a significant competitive edge thanks to its user monitoring data.
- It will encourage collaboration between tile manufacturers as they share ceramic products classified under the same premises of trends, sustainability, technology and innovation.
- It will have a positive economic impact on tile making companies thanks to their greater knowledge of the market and greater access to information about ceramic user needs. Companies will be able to change or alter their ceramic product proposals based on the data offered by the platform created in this project, as well as streamlining their product development processes to minimise associated costs and improve success rates.
- It impacts on the industry's "digitalisation" – this tool is another step in the roll-out of new technologies, and the modernisation of the industry beyond the manufacturing process itself, from the point of view of Innovation, Strategy and Marketing.

6. CONCLUSIONS

We believe this is a pioneering initiative, since there currently exists no platform covering the innovations taking place in the ceramic sector on a single virtual site, one capable of relating user needs with inspirational coolhunting information and which detects specific needs for new ceramic products to meet society's demands. This advanced analysis and data management platform succeeds in:

1. Providing companies in the ceramic sector with relevant information when designing and offering new products that respond efficiently to the needs of a changing society.
2. Reducing the time taken to develop new ceramic product ranges, since the data collected from the platform will enable firms to focus their proposals more efficiently.
3. Increasing the chances of a successful launch of new products, because companies will have verified information about consumer preferences prior to developing new product ranges, thus affording them greater chances of success on the market.
4. Improving the positioning of ceramic tiles compared to alternative materials: sorting different ceramic products into groups based on habitat trends and taking into account their sustainable aspects will clarify the offer for users by increasing their value compared to other types of coverings.

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