

LOCAL ACTION PLAN



CITY OF AVEIRO







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1. The context

The city of Aveiro is a dynamic medium size portuguese city, located in the "Centro" Region, that offers its 73 626 inhabitants much of what a big city life has, but without the urban chaos and the diminishing the quality of life.

Aveiro Municipality is in the centre of an industrial spot, diversified in terms of sector of activity and one of the most dynamics of the country. Besides, Aveiro is known as the city of innovation, as a consequence of the projects that have been developed in the area of Information Society and due to its Innovative University that through the establishment of collaborative networks with enterprises provides advanced services and a research area where innovative products and solutions are developed.

Aveiro has a wealth of natural and infrastructural advantages and a proven model in terms of establishing a centre of excellence in the city in an extremely competitive sector (telecommunications) virtually from scratch. The challenge now is to be able to repeat the feat in another sector, especially in a less dynamic one as materials, and ceramics in particular. To do so the city can count again in the excellence of its public research, but must involve lead firms and strengthen research-industry links as well as to bring further private actors into the network, in order to create a sustainable competitiveness centre in the region. The experience of negotiating and securing private R&D investments, namely through the use of national and European programmes, gained with the telecommunications sector may be a beneficial one, but the city needs to gain expertise in the management and animation of competitiveness centres.

The city has developed or participated over the last years in a series of projects that have contributed to improve the level of citizen services, in a experience that is worth sharing with other cities and should be better promoted at international level.

But the town suffers from an unbalanced urban development and in particular from a low qualification level of its working population that plays against the capture of industrial investments, for what in needs to foster training and qualification programmes at local level that allow it to catch up in this field faster than the average country pace, in order to establish a competitive advantage. The creation of a local agency specifically aimed at the management of training programmes, specialized in the management of national and European funds for this purpose, could be an important measure.

The city of Aveiro also needs to improve its image and visibility both at national and international level, highlighting its many assets (R&D investments from globally know firms, successful factories as Vista

Alegre, the excellence of its citizen services....) and contributing to increase the number of visitors and residents.

Aveiro is facing a great challenge regarding competition of international markets as a result of globalization and technological evolution. In this economic transition, it is extremely important to promote and maintain the heritage of traditional ceramics activities, as well as R&D and innovation activities.

Within the UNIC network, there were defined five main topics that clearly stand out, as concentrating the majority of interests and needs from all partners:

- 1. Promoting innovation in the ceramics sector;
- 2. Strengthening the local ceramics industries;
- 3. Creating an urban ceramics atmosphere promoting ceramics traditions as driven of urban renewal;
- 4. Cultural and artistic potential and promotion of tourism;
- 5. Improving the image of the ceramics cities.

These five topics establish the organization of the UNIC partners in working groups(WG) within of which they should identify their concrete actions. According to the needs and opportunities highlighted in the SWOT (Strength, Weaknesses, Opportunities, Trends) analysis, Aveiro integrated the first four WG. The Local Action plan will embrace at least one concrete action for each of the topics.

In fact, the current socio-institutional model implies a new way of looking at the construction of public policies that push the involvement of the various regional actors in the formulation of policies that will shape its future.

Therefore, if the policies and actions identified are able to generate a shared understanding of the various challenges and options that are available at local and even regional level, and set a common framework of guidelines, the easier it can mobilize and combine the activities of several actors involved in the development process and will be the main actors in implementing the strategy.

Consequently, considering the need to mobilize the institutional framework around common objectives in the field of ceramics, was created a local support group, consisting of various local, regional and national agents that are in a position to identify the needs of the Ceramic Sector in Aveiro.

So the Local Support Group is composed by the following actors:

- Municipality of Aveiro;
- University of Aveiro;

- APICER: Portuguese Association for the Ceramic Industry;
- AIDA: Industrial Association of the Region of Aveiro;
- IEFP: Employment and Training National Institute;
- CCDRC: Managing Authority for the "Centro" Region;
- CICECO: Centre for Research in Ceramics & Composite Materials;
- CENCAL: Training Centre for the Ceramic Industry;
- APCMC: Portuguese Association of Traders of Construction Materials;
- IPAM: The Marketing School.

The main objectives of Aveiro in the project are:

1. To introduce more innovative processes in this industry cluster – ceramics;

2. To anticipate, prevent and address the economic, cultural and social consequences of changes;

3. To encourage industries to move effectively towards a sustainable innovation economy linking research and education, economy, culture, social and urban promotion.

2. The local actors

Project: Technology Transfer Structure

The promotion of innovation through the establishment of a Technology Transfer Structure in the area of ceramics, aimed at deploying innovative services for ceramic industry, may have a high impact in the competitiveness of local ceramic industries, and in particular in SMEs (Small and Medium Entreprises). The Portuguese ceramic sector is very diverse in terms of products, technology, and end-use, and serves a wide range of markets both in and outside Portugal. Nevertheless, this is still a traditional sector, where a great number of companies have out-of-date equipments and production methods, and do not have R&D (Research & Development) means to develop "new to the world" products, which can seriously increase their market share. The Technology Transfer Structure to be created will foster the development of applied research in this field which will be later transfer to companies enabling, on one hand, the conception of new products which may represent a market advantage, and on the other, the improvement of production methods with an impact on the reduction of production costs. A spill-over effect may be draw from this, affecting also all value chain, like raw materials producers and ceramic suppliers.

This Technology Transfer structure will be a Public Private Partnership, in order to benefit from companies strategic vision regarding new market trends, as well as to profit from all the knowledge and research structures within the University of Aveiro.

The University of Aveiro will benefit from the creation of this Technology Transfer Structure in the sense that it will strengthen the linkage with companies, thus promoting the development of new research themes and technologies with potential to be transfer to companies. Also, it would boost graduates enrolment in ceramics companies, since the up-grade of equipments and processes will require staff with specific technical training.

Stakeholder interest analysis For understanding the various interested parties				
Issue:	1./ PROMOTING INNO	VATION		
Stakeholders	Interests and how affected by the issue	Capacity and motivation to bring about change	Possible actions to address stakeholder interests	
Primary stakehold	lers			
1 local ceramics industry	 Increase competitiveness; Reduce production costs; Development of innovative products. 	 Predict and react to new market trends; Increase profitability; 		
2 University	 Valorisation of research results; Foster industry- university relationship; Promote the enrolment of graduate students by companies; Promote the creation of spin-off companies. 	 Increase research private funding; Increase employability of graduates. 	 Centre for Excellence in Ceramics Legal Constitution; Technological Assessment; Development of applied research projects; R&D Awareness Workshops; Promotion and Dissemination. 	
3 Local Government	- Local Social and Economical development;	 Decrease of unemployment; Development of local companies and fostering foundation of new ones. 		
Secondary stakeholders				
4 Ceramics industrial Association	 Increase the weight of ceramic sector in the economy; Decrease relocation of companies; 	- Increase output of ceramic companies;	- Mapping of ceramic Companies; - R&D Awareness Workshops;	
5 Chamber of Commerce	- Local Social and Economical development through a spill-over effect;	- Attract of new companies for the region.	- Promotion and Dissemination.	

Project: Training

In order to accomplish with the first of these objectives Aveiro must deal with its main constraint which is the low qualification level of its work population. A tremendous effort has been done in this sense, not only at local level, but at national, but results have been slow to show, and further training and requalification programmes are needed at local level, to be piloted by the local authorities, possibly in partnership with the university and industrial associations.

The promotion of local training schemes addressed to ceramic sector workers, to temporarily support ceramic companies with overcapacity problems. Under those schemes, similar to those already implemented at national level for the automotive sector, the salary costs of staff under training can be supported by public sources during the duration of the training programmes. The viability of implementing such schemes at local level should be looked upon, and success models elsewhere should be identified.

Project: Marketing

"Marketing is the process by which companies determine what products or services may be of interest to customers, and the strategy to use in sales, communications and business development. It is an integrated process through which companies create value for customers and build strong customer relationships in order to capture value from customers in return.

Marketing is used to identify the customer, to keep the customer, and to satisfy the customer. With the customer as the focus of its activities, it can be concluded that **marketing management** is one of the major components of business management. The evolution of marketing was caused due to mature markets and overcapacities in the last 2-3 centuries. Companies then shifted the focus from production to the customer in order to stay profitable. "

Therefore it is intended to draw a plan to pursue the following goals: becoming transnational; analyzing global competitors and markets; brand positioning and identity; integrated marketing communication; increase the amount of both domestic sales and exports; increase the added value of the products; and additional endeavours that feature creativity that involves selling brands rather than products.

Stakeholder interest analysis For understanding the various interested parties			
Issue:	2./ INDUSTRY STR	ENGTHENING	
Stakeholders	Interests and how affected by the issue	Capacity and motivation to bring about change	Possible actions to address stakeholder interests
Primary stakeholders			
1 – Trainning Institutions	- Diversifying the training offer;	- Adequacy of training to the needs highlighted by the sector;	 Needs assessment of the sector; Development of training programme; Promotion of training sessions for employees of industrial ceramics; Coordination between partners;
2 – Local Ceramic Industries	 In a crisis situation, reduction of personnel costs; Access to specific training for the sector; Maintenance of jobs; Ensure the viability of enterprises; Development of innovative products; Valorisation of production; Ensure their economic viability. 	 Improving the performance of their employees; Enhancement of their management Increasing the competitiveness of the sector; Increased capacity to respond when there is recovery; Predict and react to new market trends; Increase profitability; Target new publics; Internationalization of brand and products. 	 Providing data for the survey of training needs in the sector; Ensure that the frequency of training offered; Marketing campaign that will improve the image of ceramic industry and its products, promoting the image that modern technology is combined with a strong historical tradition.
3 - Ceramics Industrial Association	- Supporting the industry to overcome the economic crisis;	 Prepare the next cycle of the industry; 	- Cooperation between partners;
4 – IPAM	- Development of a marketing plan.	- Improve brand positioning and identity.	 Defining the target; Draw the Marketing Strategy with the stakeholders

Secondary stakehold	ers		
5 – APICER	 Increase competitiveness; Increase the weight of ceramic sector in the economy; Affirmation of ceramics products and opening new markets; Promote and improve the image of their associates. 	 Improve brand positioning and identity; Predict and react to new market trends; Increase profitability; Target new publics; Internationalization of brand and products. 	- Marketing campaign that will improve the image of ceramic industry and its products, promoting the image that modern technology is combined with a strong historical tradition.

Project: Public Procurement

The development of innovation by means of Public Procurement. Aveiro is developing a new urban area within the city, called the "Park of Sustainability", which more than just a green area, that it will also be, is intended as a "living lab" for demonstration and validation of sustainability issues. Part of the urban furniture and equipment of the new Park should be in Ceramics, and for that purpose the City will launch a Public Procurement action that will aim the development of innovative solutions from ceramic producers, in particular aiming at local industries Cultural and design innovation.

Project: CERURBIS

As indicated in the Commission document European Regions 2020: an assessment of future challenges for EU regions, "one of the biggest challenges facing the EU, in particular the countries of the SUDOE area (2.1. The report) is the phenomenon of globalization. The vulnerability is attributed to activities of low value added. This phenomenon is an increasing opportunity for the sectors, regions or entities prepared.

The area of floor and wall tiles is a traditional sector of SUDOE space now exposed to global competition, enhanced by the current housing crisis following the collapse of the building.

Given this scenario it is necessary to promote the use of ceramics in emerging areas for which gathers excellent features, and that, alone, tradition and ignorance of consumers who choose one or another element of the coating, have limited its use. It is time to maximize their use, developing a series of actions that result available to all stakeholders a series of tools to exploit the enormous potential it offers pottery in the area of furniture. Thus, it is intended, first, the increase in sales of the ceramics industry as a service with high added value and, secondly, to preserve the result of research undertaken by developing countries.

It is expected also to reinforce these activities with actions designed to generate ideas and prototypes to encourage and promote R&D+I (Innovation). Therefore, the technology will be significant since these actions will promote the integration of the same pottery, looking for a modern and sophisticated product.

Stakeholder interest analysis For understanding the various interested parties				
Issue:	3./ URBAN INTEGR	3./ URBAN INTEGRATION		
Stakeholders	Interests and how affected by the issue	Capacity and motivation to bring about change	Possible actions to address stakeholder interests	
Primary stakeholders	S			
1 – Local Government	 Development of Local Economy; Promoting Innovation and Research; Encourage local industries to increase supply; Boosting employment in an industry greatly affected by globalization. 	 Stimulation of new practices in the area of Urban Furniture; Development of business, local and regional level; Closer relationships between key partners in the sector. 	 Public tender; Construction of City Lab in Park Sustainability; Organization of Seminars; Preparation Guide; Dissemination of results. 	
2 – CICECO/University	 Promotion of Research and Development in Ceramic Industry; Development of new products with high added value. 	 Replication of research undertaken and its practical application; Integration of technology in ceramics to create innovative products. 	 Promotion of research; Participation in study; Development of the prototype; Delivery of Prototype for further manufacture; Dissemination of results. 	

3 – Ceramic Industries	 Development of innovative products and Design; Production of high added value; Affirmation of its products and opening new markets; Opening of new markets. 	 Conversion of productive processes; Technology development; Increased range of products manufactured; Increase the number of customers and therefore sales. Association of business, the manufacture of products with high added value. 	 Integrate technology with a view to creating innovative products; Manufacture of urban furniture associated with innovation and design.
Secondary stakeholo	lers		
5 – Industrial Association	- Supporting the regional business.	- Put the industry in a position of recognition of their capabilities.	- To disseminate effectively the results of this project in order to reach all stakeholders in the process.

Project: Ceramic Route

The main objective of the ceramic route is to identify and promote local networks (companies, museums, galleries, workshops, crafts) that can be related to ceramics and can be visited by the public in general, promoting and transferring good practice, in order to allow an improvement in the region.

This thematic route can be a network of centres to attract new public. This network will be linked to other tourist/cultural attractions, such as food, hotels, historical, environmental and sports tourism, which may result in a differentiated tourist product. In fact, it can be like an anchor or engine of sustained development of other sectors and activities with importance in the local economies, as well as an important factor of cultural dynamics and valuation of manual tasks and creative work that may be paradigmatic at national and regional level.

The project also intends to value the innovative activities in the companies or clusters of SMEs and ateliers of handicrafts, developing the skills of new information and communication technologies, namely the use of the internet and e-commerce, as well as the defence and promotion of the cultural heritage of the regions.

It will articulate economic, social, environmental and cultural dimensions, interacting positively with the economy & industry, science & technology, energy & the environment, urban regeneration, the heritage, arts, culture and tourism, therefore the partnership of all the stakeholders in the region is essential.

Project: Ceramics and Tiles Museum of Aveiro

The Museum of Ceramics and Tiles arises in the context of the City Museum of Aveiro understood as a museum spread all over the city – using the Ceramic Pole for the dissemination of cultural heritage ceramic region.

The main objectives of this project are:

- Encourage a sense of belonging and sense of identity;
- Enhancing the assets and the cultural / museum;
- Affirm the museums and heritage as vectors for local development;
- Encourage dialogue between different actors and agents heritage / museum and the community;
- Recognize the responsibility and involvement of museums in the development and change of community / society;
- Enhancing the cultural heritage as an economic resource;
- Strengthening tourism linked to cultural heritage of Aveiro.

Stakeholder interest analysis For understanding the various interested parties				
Issue:	4./ CULTURAL AND	4./ CULTURAL AND TOURISM POTENTIAL		
Stakeholders	Interests and how affected by the issue	Capacity and motivation to bring about change	Possible actions to address stakeholder interests	
Primary stakeholders				
1 - Local authority / City Council	 Development of the local economies and social welfare; Increasing of the number of visitants and tourists. 	 Drive the action; Large interest to develop the activities; Promote actions to the community and visitors; Enlarge the aim of it's action. 	 Support the agents activities and theirs promotion; Managing the programs and projects. 	

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2 - Regional Tourism	-Development of the	-Drive the action;	-Support in the identification
Authority & Cities	local economies	-Practical interest to	and recognizing of the
Councils of the <i>Ria de</i>	-Urban restructuring	develop their activities	potential participants in the
Aveiro Region	and economic	-Enlarge the aim of	routes
	development	their action	-Collaboration in the
	-Employment creation	-Promote the network	dissemination/promotion of the
	- Increase of the	between all the	project.
	number of visitants	partners and	
	and tourists	stakeholders	
3 - Local museums and	_ Presenting the	- Enlarge the aim of	- Cultural and museology
regional museums	Aveiro's City Museum	their action;	network planning;
network [RIMA]	as an example of local	- Promote network	- Common promotion and
	identity, social	activities;	marketing;
	cohesion and a tool of	- Programme	- Itinerancy activities
	economic	common actions	[exhibitions, education,
	development;	attending to the	workshops, guided visits];
	_ Increasing the	specific publics;	- Specific projects;
	number and types of	- Practical interests to	- Promote good practices on
	publics;	develop activities;	ceramics themes among
	- Valuing the ceramic	- Set strategic	museums and cultural entities;
	cultural heritage;	common guidelines	museums and calcular challes,
	- Increasing	[activities, museology	
	community	management,	
	participation;	education, promotion,	
	- Presentation of new	research,	
	cultural/touristic	preservation]	
	products		
4 - Local Industry /	- Participate in the	- Drive the action;	-Open facilities to receive
artisan or craft	route;	-Practical interest to	tourists and visitors;
workshops /potteries/	- Receive visitors and	develop their	-Show their production process
/Museums	tourists with the aim	activities;	and heritage;
/Galleries/Catholic	to increase the	-Enlarging the aim of	- Craftsmen's exhibitions and
Church	selling of their	their action;	workshops products and
	products;		production methods show;
	- Incomes with the		- Guided tours to ceramics
	visits;		factories, craft workshops and
	- Improve their own		raw material sites.
	image as an element		
	of cultural and		
	economic distinction		
	of the region;		
	- Increasing		
	participation on		
	cultural affairs and		
	getting economic		
	results		
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Secondary stakeholders			
5 - University, researchers, and regional/national managing institutions [museology, ceramics, cultural heritage]	 Development of the studies about local ceramics industry, it's consumers and public [raw materials and tools, factories history, methods and types of production, industrial and craft workshops buildings, families history, visitors]; Presentation of new cultural products. 	 Practical interest to develop their activities; Scientific discussion about ceramic's. 	 New studies and perspectives about ceramics and it's agents; Create new products; Organize a group of experts on ceramics and tiles technology, production and preservation.
6 - Restaurants and bars	-Participate in the route -Receive visitors and tourists increasing their sales - Promote and Improve their image	Receive more costumers and create a new image	-Promotion of regional food and drink -Partnership with local ceramics, promoting the tableware in their establishment - Ceramics and art Expositions
7 - Hotels	Participate in the route to increase the number of guests - Promote and Improve their image	-Contribute to the increase in occupancy rate - Promote their image	Hotel Promotion Events in hotel promoting the local ceramics Ceramics and art Expositions
8 - Wine cellars	-Participate in the route to increase the number of costumers -partnership with wine route	Contribute to the increase in sales / improve the image	Promotion Events
9 - Travel and cultural activities agencies	Participate in the route to increase the number of clients with specific motivations and preferences	Capacity to promote the route	Sell animation activities in the route.
10 - Local history researchers	 Increasing of the study of local ceramics history 	 Practical interest to develop their activities 	 New studies
11 - Artists	 Increasing their image Promoting ceramic art 	 Practical interest to develop their activities New products New artistic ceramic technologies 	 Create ceramic artefacts as region's identity elements Participate in cultural and artistic events

Project: Redesign of the International Biennial of Arts Ceramics of Aveiro

The tradition of many centuries of pottery on our region was the main reason that led the Municipality of Aveiro, in 1989, organize a Biennial of Ceramic Art. Over the years, it has been improved and expanded, now reaching such magnitude that exceeds our borders, creating awareness in many artists, that see our space, the perfect place to exhibit their works.

The high number of inscriptions in each edition, the origin of the ceramic works and a rigorous jury are factors that make this event a success.

With the organization of this event we intend to contribute effectively, to the socio-cultural development and encouraging creativity. We intend to promote dialogue, divulgation and confrontation of trends and current contact with the concepts of artistic ceramics. We also aim to disseminate the most significant paths of artistic ceramics, showing the formal diversity and esthetics renewal that are taking place, as well as the capacities of new materials and techniques at service of art.

We intend, therefore to establish partnerships with all the stakeholders in the region, interacting positively with economy, industry, science and technology, urban regeneration, heritage, art, culture and tourism.

Stakeholder interest analysis For understanding the various interested parties				
Issue:	5./ CITY IDENTITY			
Stakeholders	Interests and how affected by the issue Capacity and motivation to bring about change Stakeholder interests			
Primary stakeholders				
1 Municipality of Aveiro	 Development of Local Economies Raise the number of participants, visitors and tourists 	 Lead the action Promoting partnerships 	 Promote and support their own activities and also of the agents/ partners Action Management 	

2 University of Aveiro 3 Ceramics Schools and Associations	 Research and development of new materials Development of new techniques New proposals presentation 	 Scientific Research Development of activities Promote activities in partnership Scheduling activities for specific targets 	 Promote Scientific Research Promote exhibitions, debates and workshops related with ceramics
Secondary stakehold	lers		
4 Local Ceramic Industries	-Promoting and projecting the image -Development of activities	-Promote access and creation and execution of work by potters - Provide guided tours to the production process	-Promote guided Tours -Promote workshops
5 Hotels and Restaurants	-Spreading and promoting the image	-Receive more clients	-Promotion of regional gastronomy and viticulture -Divulgation of ceramics through temporary exhibitions
6 Local and Regional Tourism	-Increasing the number of visitors/tourists	-Promote and support activities	-Promote different programs for specific publics

3. The problems

The Portuguese ceramic sector is made up predominantly of SMEs, which produced and sold around 1.2 M \in worth of various ceramic products in the year 2008. The most relevant sub-sectors are the wall & floor tile and the sanitaryware, accounting for 39% and 20% of output respectively. A key feature of the sector is that the majority of output is produced by a small number of SMEs, geographically located in the centre region of Portugal. However, in some cases, such as tiles, the recent trend has been for large international corporate groups to buy or merge with SMEs.

Although its relevance to the Portuguese economy, the ceramics sector has experienced since 2003 a slightly decrease in the number of companies, mostly in the tableware and ornamental ware and the wall & floor tile sub-sectors, output and number of employees.

There is a mix of factors that underlie this trend. Firstly, there is an increase in the number of comparative low-cost ceramic products being import from emerging economies, particularly in the ceramic tableware sub-sector, diminishing the strategic advantage based on cost which was usually followed by Portuguese companies. Secondly, the cost structure of ceramics producers is becoming disadvantaged by increasing input prices, like energy, together with a low productivity and high logistic costs which affect companies' competitiveness. Thirdly, the international economic and financial crises had a severe impact on most economic sectors, mainly the construction sector which is important for several ceramics sub-sectors.

In order to have a clear and up-to-date understanding of the key areas that would impact most on companies competitiveness, a survey was undertaken involving the most important Portuguese companies from all ceramic's sub-sectors, accounting a total output of about 500 M \in in 2009.

The data collected provided the identification of key areas that would impact most on companies' competitiveness, namely:

- i) industrial processes improvement/development;
- ii) Development of new products and equipments;
- iii) Development of new commercial strategies. Although each company has its own specificities, it was possible to identify common interest within sub-sectors of activity.

The Portuguese tableware and ornamental ware sub-sector, similarly to what is happening in other EU countries, has its performance seriously compromise by lifestyle changes, where households are far less willing to purchase expensive high-quality tableware, and also by the increase of low-cost competition from China. The majority of manufactures which answer to the survey expect to invert this trend through strategies that enable them to address new business opportunities by producing new products

or modifying current methods. In practical terms, manufactures are seeking for technologies which would allow the improvement of products' surface characteristics, like the improvement of materials' mechanical resistance, for instance.

The sanitary ware sub-sector, like other sub-sectors, is energy intensive and this fact has a serious impact on operational costs when energy price increases, which was a clear tendency since 2004. Also, the weight of sanitary ware products limits the scope of long-distance international trade, which clearly limits imports from Portugal, one of the most periferical countries in Europe. In order to overcome this challenges, sanitary ware manufactures expect to reach new markets through the development of products with a high added-value, for instance the development of products with new surface features (anti-bacterial, for instance). Moreover in this sub-sector is crucial the improvement of industrial processing methods that enable the reduction of energy cost, mainly through the improvement of the drying process efficiency.

In the case of wall & floor tiles sub-sector, companies output is influenced by the demand for construction which consequently is influenced by the number of new-builds, and demand for renovations and upgrading. Demand is also closely influenced by changing consumers' preferences and fashions. These factors where highlighted in the survey since most companies are seeking to develop products with new surface features (photovoltaic, photocatalitic, auto-cleaning), as well as new or improved methods which need less energy and would produce lower CO2 emissions. Also, one important R&D activity will be to reduce the time-to-market for new products.

The technical ceramics sub-sector shows signs of being a more innovative industry and with a relatively high level of Research and Development being incorporated in its products. However manufactures wish to improve production methods, like develop/implement fast production techniques with the minimum of raw materials consumption. Other needs involve the development of translucent products with good mechanical properties and the optimisation of products with complex shapes.

The portuguese bricks and roof tiles sub-sector experiences from a serious decrease in output due to the relatively high unit transport costs involved in transporting both raw materials from their source and finished products to consumers. Most producers believe that this sector's competitiveness is mostly dependent in the development of new products and solutions for the consumers.

The producers of enamels and inorganic pigments, as well as producers of raw materials and ceramic pastes, are well aware of ceramics companies expectations and crave to address them through the development of R&D projects with Universities and Research Institutes. In this particular case, producers intend to reduce production cost through the use of new raw materials or recycling waste materials, and develop enamels with new functionalities.

From the survey it is clear that challenges most companies' face could be overcome through technology transfer from Universities, which would help companies to offer unique and specialised ceramic products that are difficult to imitate, and to target new market niches. Also, research and technological development is important for constant process and product innovation.

Problems and solutions table For analysing issues and brainstorming possible solutions.			
Area:	1./ PROMOTION OF INNOVATIO	Resources (Benchmarks)	
Problems	Solutions	Resources (Benchmarks)	
Increase import of low-cost ceramic products from emerging economies	Development of new products with different functionalities which are difficult to imitate, and able to address niche markets.	 Promote applied R&D in the ceramics field Promote Technology screening and technology transfer from Universities 	
Increase of productions costs, mainly energy costs	 Development of new products with a high added value, which customers are willing to pay more; Improve production methods, in order to decrease energy demand. 	 Promote applied R&D in the ceramics field Promote Technology screening and technology transfer from Universities 	
Decrease demand of ceramic products	- New applications for ceramic products;	 Survey on new potential ceramic products' application Promote applied R&D in the ceramics field Promote Technology screening and technology transfer from Universities 	

Problems and solutions table For analysing issues and brainstorming possible solutions.					
Area:	2./ INDUSTRY STRENGTHENING	G			
Problems	Solutions	Resources (Benchmarks)			
Low-skilled workers in the Sector	Promotion of training and qualification	- Promotion of training schemes			
Low productivity of the sector compared with competing countries	Promotion of continuing education programs aimed at improvements in the productive process	directed to the ceramics industries and employees - Program Training / Employment Automobile Sector			
Difficulty in attracting qualified staff	Training continues at the intermediate level and advanced management				
Low value added products	New markets and consumer trends	2 permanent staff members from IPAM during 2 months;			
Devaluation of the Image Made in Portugal compared to other international producers		2 permanent staff members from IPAM during 1 months;			
<i>Lack of exploiting synergies between businesses</i>	Development of partnerships in order to increase the visibility of products in international markets	2 permanent staff members from IPAM during 2 months;			

Problems and solutions table For analysing issues and brainstorming possible solutions.					
Area:	3./ URBAN INTEGRATION				
Problems	Solutions Resources (Benchmarks)				
Lack of urban identity that links the city to the Ceramics Sector	Application in urban areas of innovative materials that reinforce the local identity				
Absence of public investment at local and regional industry more representative of the Region of Baixo Vouga	Promotion of regeneration of urban space	Castellón City Lab			
Traditional character of the business, which requires a greater effort in terms of dissemination and awareness of the need to change the culture for innovation and the introduction of technology in the product	New field of application of ceramics as an escape valve from the current crisis by enterprises				
Regular use of these materials because it is more convenient and easier solution	Creating innovative products with high added value and appealing to consumers and preventing the development of their countries	Coordination / Technical Superior/30 months / 10% Financial / Technical Superior/30			
Floor and Wall Sector very dependent on the construction industry, experiences the effects of the crisis	<i>Promoting the use of ceramics in the development and production of furniture</i>	months / 5% Administrative / Senior /30 months /15 30% Technical Superior/30 meses/20%			

The project methodology will essentially be based on three steps. First the partners will be identifying the potential participants in thematic route promoting meetings and interviews between all the stakeholders. Following this, the second step will be to design and draw the thematic route and create the corporative image compiling all the information of the participants, creating a database. The third phase will be the route dissemination and promotion.

Problems and solutions table For analysing issues and brainstorming possible solutions.					
Area:	4./ CULTURAL AND TOURISM POTENTIAL				
Problems	Solutions	Resources (Benchmarks)			
Participants mobilization	Motivation, show success best practices, publicity	2 permanent staff members from CENCAL during 12 days; Creation of a network and identification of the potential stakeholders; Organize meetings.			
Trail or route organization	Mobilization of potential participants	2 permanent staff members from CENCAL during 30 days; Make visits and interviews; Create a database; Draw the route; Create a logo (and corporative image).			
<i>Disseminate and promotion of the route</i>	Organizing the route and create supports	2 permanent staff members from CENCAL during 15 days; 1 permanent staff member at city council; Web site of the trail; Catalogue and flyers (bi-or tri language); (benchmark – www.rotadacerâmica.pt).			
<i>Sparse/isolated activities on ceramics heritage and contemporary production</i>	 Creation of the museum of ceramics and tiles of Aveiro as a branch of Aveiro's City Museum; Creation of guided tours and regular activities about local ceramics as part of the annual city museums program. 	- Multidisciplinary team of the City			
Lack of network heritage policy among regional museology entities to preserve and promote local ceramics;	 Constitution of regional museum network [RIMA] which mail goal is to present a common plan of action to preserve, promote and valorise cultural heritage including ceramics; Making part of international routes and networks of ceramics; Create a local/regional route of ceramics. 	Museum 10 permanent staff - 1 website - 1 documentation center - Meeting room auditorium - Rooms for temporary exhibitions - Aveiro's City Museum participate in several national and international cultural networks witch have their own communication channels			
New cultural products are need as an attractive to different publics and as an element of economic development	 Specific actions towards ceramics including, educational services, leisure, cultural dynamic 				

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Problems and solutions table

For analysing issues and brainstorming possible solutions.

Area:	5./ CITY IDENTITY				
Problems	Solutions	Resources (Benchmarks)			
Organize activities related to ceramics, involving several public	Promote workshops and conferences related with the development and use of new materials and techniques in ceramics				
Promoting International Biennial of Ceramic Arts in tourism markets, and at specific exhibitions and markets of ceramics, with the collaboration of Tourism	In the diversity of markets and events related with tourism and ceramics, which are realized whole over the world, represent us in order to promote and publicize the event. The same should happen with other events of pottery that could be disclosed in our Biennial Ceramics.	 Two permanent employees at the secretariat One employee for the areas of Marketing/ Sponsorship A designer for the image and marketing material Secretariat, meeting room, auditorium, temporary room exhibition, specific space to receive ceramic works -Website 			
Support and encourage local potters, promoting conditions for the creation of ceramic works.	Rehabilitation of a disabled ceramics factory, transforming it into a Center of Ceramics where potters can produce their works, taking advantages of the oven dimensions. Produce and present exhibitions. Exposing the collection of the International Biennial of Ceramic Arts and relate the history of ceramics in this region of ancient history.				

4. The proposed actions

In order to overcome the problems that most ceramics companies face, it is proposed the creation of the Centre for Excellence in Ceramics.

The Centre aims promoting the productivity and competitiveness of Portuguese Ceramics Industries, through the promotion of innovation and technology transfer from Universities and Research institutes to companies. The central task is therefore to develop cooperative research projects, as well as extensive consultation and support enabling the creation of a beneficent climate to innovation and thereby speed up structural change in the economic region of Aveiro.

This Centre should be design as a partnership between the University of Aveiro and Ceramics Companies, enabling the minimization of the level of infrastructure spending through a responsible use of the resources of both, public and private sectors, as well as the maximization of outcomes of the different institutions.

Also, it is expected that this Centre, benefits from the experience and knowledge of international congener structures, like the *Pôle Européen de la Céramique*, which were former partners of UNIC project supported in the framework of URBACT programme. By promoting these links, it is possible to profit from their international experience through sharing innovation best practices and technical solutions for common problems.

So, to establish the Strategic Project (Honey-Pot), a set of actions will be developed. In order to set up a common base of work and to understand the needs of the ceramics companies it will be of higher importance to develop an exhaustive diagnosis of each company's technical capabilities (Activity 1.1). A methodology for data collection will be implemented and the mapping will involve also an exhaustive identification of all national actors in the ceramic field (SMEs, R&D Centres, Universities, Technological Centres, Public Authorities, ...) that may contribute to the success of this initiative. From this activity, it will be possible to foresee the industrial partners that will be involved in the creation of The Centre for Excellence in Ceramics (Activity 1.2).

The main aim of Activity 1.3 is to perform an assessment of SMEs technological needs and current level of innovation based on the date gathered from Activity 1.1. Consortium members shall be also capable of mapping SMEs potential for implementing new technologies in order to be able to offer them an effective technology brokerage service or to involve them on transnational networks and activities. At the same time, it will be possible to identify themes for the development of applied research projects, which will enable the development of technological solutions to be transfer to companies (Activity 1.4).

After understanding the main needs of SMEs, the consortium will promote workshops in order to raise SMEs awareness for the success factors that could lead to increase of their competitiveness (Activity 1.5). Issues like mechanisms and programmes to support companies innovation; marketing tools for innovative products; technology transfer process will be addressed on the scope of these sessions.

Within Activity 1.6 a website will be developed, that will allow an easy communication between partners and allowing visitors make aware of the project issues and results. The project webpage will contain:

- A comprehensive project presentation
- Description of project actors and key players
- $\circ \quad \text{Services provided} \quad$
- o Events guide
- o Promotional materials
- o Links to relevant regional innovation web sites

Activities table For specifying activities and outputs to achieve a given objective					
Thematic Area: Te Transfer Structure		1./ PROMOTION	OF INNOVATIO	N	
Activity title	Lead partner	Description of activity (brief)	Intended outputs and indicators	Timescale	Resources per annum and funding sources
1.1 Mapping of Ceramic Companies	CICECO	This regional mapping will involve the identification and meeting with all actors which can benefit from the creation of the Centre for Excellence in Ceramics.	List of companies and main local actors in the ceramic area	Start date: Month 1 End date: Month 3	
1.2 Centre for Excellence in Ceramics legal constitution	CICECO	Legal constitution of the Centre for Excellence in Ceramics, partnership between CICECO and Companies (data from activity 1.1) and definition of Administration and Financial	Legal constitution of the Centre for Excellence in Ceramics	Start date: Month 3 End date: Month 3	

	1	Construct	1		
		Control instruments, as well as work Planning and Quality Assurance / Quality Control.			
1.3Technological Assessment	CICECO	Perform an assessment of SMEs technological needs and current level of innovation. Partners shall also be capable of mapping SMEs potential for implementing new technologies in order to be able to offer them an effective technology brokerage service.	List of Technological needs per region and per company	Start date: Month 3 End date: Month 9	
1.4 Development of	CICECO	Based on the technological	XX research projects will be	Start date: Month 9	
applied research		assessment	developed		
projects		made, it will be develop research projects aiming at specific companies needs	technologies will be transfer to companies	End date: Month 24	
1.5 R&D Awareness	CICECO	Specific Workshops	XX technological	Start date: Month 4	
Workshops		addressed to	workshops		
		companies, will be organized in order to raise the		End date: Month 22	
		awareness of industrialists for innovation and technology transfer.			
1.6 Promotion and	CICECO	A website will be developed, and it	Website	Start date: Month 2	
and dissemination		will allow an easy			
		communication between partners, as well as to increase the Centre's external visibility.		End date: Month 8	

Activities table For specifying activities and outputs to achieve a given objective						
Thematic Area	Thematic Area: Training 2./ INDUSTRY STRENGTHENING					
Activity title	Lead partner	Description of activity (brief)	Intended outputs and indicators	Timescale	Resources per annum and funding sources	
1.1 Needs Assessment	Training Institutions	Survey to identify the needs of training felt by the companies and their employees	List of diagnosed needs	3 Months	20.000 € POPH	
1.2 Training Programme	Training Institutions	Development of training programme based on the needs assessment	Training Programme	14 months	200.000 € - POPH	
1.3 Traineeships	Local Ceramic Industries	Development of traineeships abroad for the employees	Improve the performance of their employees	12 months	350.000 € - POPH	

Activities table For specifying activities and outputs to achieve a given objective Thematic Area: Marketing 2./ INDUSTRY STRENGTHENING					
mematic Area.	Marketing			-	
Activity title	Lead partner	Description of activity (brief)	Intended outputs and indicators	Timescale	Resources per annum and funding sources
1.1 Marketing Strategy	IPAM	Drawing of the Marketing Plan	Marketing Plan that will involve many of the industries in the ceramic sector	4 months	100.000 €
1.2 Dissemination	All partners	Implementation of the Marketing Plan, promoting the image that modern	Marketing Campaign in all potential markets, that will improve the image of	2 to 3 months	500.000 €

	technology is combined with a strong historical tradition.	ceramic industry and its products			
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Activities table For specifying activities and outputs to achieve a given objective					
Thematic Area: Procurement	Public	3./ URBAN INT	EGRATION		
Activity title	Lead partner	Description of activity (brief)	Intended outputs and indicators	Timescale	Resources per annum and funding sources
1.1 Prototype	CICECO	Development of prototype	Urban Furniture with high added value	6 months	
1.2 Public Tender	Municipality of Aveiro	Promote a Public tender for the Urban Furniture in order to develop the Economy through the promotion of research and innovation	Construction of the City Lab in Canal de S. Roque or other area; Replication of new practices to other urban areas.	18 months	400.000€
1.3 Urban Furniture	Ceramic Industries	Development of new products that will satisfy the public tender promoted by local government	Production of new products associated to new markets	6 months	
1.4 Dissemination	All Partners	Dissemination and publicity of the results of this project	Web site; Press releases; Publicity in Regional and National Media.	24 months	13.500€

Activities table For specifying activities and outputs to achieve a given objective					
Thematic Are	a: CERURBIS	3./ URBAN INT	EGRATION		
Activity title	Lead partner	Description of activity (brief)	Intended outputs and indicators	Timescale	Resources per annum and funding sources
1.1 Studies	Municipality of Aveiro	Collaborate in the development of studies and needs assessment to better knowledge of existing reality, planning for the future.	Promote the mobilization of the industrial fabric of the region to pursue the objectives outlined	20 months	30.000€
1.2 Guide	Municipality of Aveiro and CICECO	In collaboration with the CICECO will assist in defining the content and details of the Guide, as well as collecting information to assess the potential application of ceramic materials in urban areas.	Distribution of the Guide	12 months	30.000€
1.3 Urban Furniture	Municipality of Aveiro and CICECO	Promote the applicability in Urban Area of the prototypes developed by CICECO preferably in the area of the "Park of Sustainability", provided they are within the diagnostic needs for this space.	Apply of Urban Furniture made in ceramics	6 months	

1.4 Work Meetings	Municipality of Aveiro	Implementation of Network and Organization Workshop to be held in the city of Aveiro	Seminar	1 month	16.500€
1.5 Publicity	Municipality of Aveiro	Dissemination and publicity of the results of this project	Web site; Flyer and Promotional DVD	24 months	13.500€

The proposed actions have the aim to organize and draw a thematic route of the region of Aveiro. It consists in visits to factories, where visitors can have onsite contact with the current industrial reality and production techniques. This programme, usually, combines a production process with a mix of leisure, culture, art, education and retail and involves museums, studios, galleries, handicraft workshops and factory shops linked to ceramics. The spaces are transformed into exhibition areas where the production process is demonstrated, both in the areas of experimentation and in learning about the production of the ceramic works.

Activities table For specifying activities and outputs to achieve a given objective						
Thematic Area: Ceramic Route		4./ CULTURAL AND TOURISM POTENTIAL				
Activity title	Lead partner	Description of activity (brief)	Intended outputs and indicators	Timescale	Resources per annum and funding sources	
1.1 Participants mobilization	CENCAL	Creation of the network, identification of the stakeholders and meetings	12 meetings/ 5 participants per meeting minimum	3 months after the approval of the project	20.510 €	
1.2 Trail or route organization	CENCAL	Make visits to enterprises and other stakeholders Meetings with authorities	60 visits and contacts with stakeholders and authorities Database Itinerary of the route	6 months after 1.1	43.573 €	
1.3 Disseminate and promotion of the route	CENCAL	Creation of the supports (information, promotional, historical, etc) to disseminate the route	Realize 4 thematic events / sub-routes for local groups	6 months after 1.2	34.042 €	

1.4City Council ofProductionAveiroof suports/Project UNIC	Production of: - Website - Catalogue - Flyers - Poster	- Website - Catalogue - Flyers - Poster	3 months after 1.2	27.500 €	
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Activities table For specifying activities and outputs to achieve a given objective							
Thematic Are and Tyles Mu		4./ CULTURAL AND TOURISM POTENTIAL					
Activity title	Lead partner	Description of activity (brief)	Intended outputs and indicators	Timescale	Resources per annum and funding sources		
1.1 Virtual museum of ceramics and tiles	Aveiro's City Museum Municipality of Aveiro	Presenting Aveiro's ceramic heritage and present production on a website. Showing the collections, activities programs and the entities associated to this project.	Indicators n. of project partnerships 8 n. of networks and international routes 5	12 mouths preparing the website	Website €20.000 [design and maintenanc e]		
1.2 Museum of ceramics and tiles	Aveiro's City Museum Municipality of Aveiro	Creation and opening of the museum of ceramics and tiles. This project includes: 1. Museum facilities [conditions – spaces and environmental, security, accessibility for different publics, logistics] 2. Museology planning [information, rooms and themes organization, documental center, educational services] 3. Collections managing preservation, research. 4. Activities programming 5. Museum partnerships	n. of business partnerships 16 [Aveiro city point - museum store] Several past activities developed toward ceramics heritage Annual public analysis results since year 2000 [see table 1]. Multidisciplinary team of the City museum Existence of <i>Tyle's Bank</i> to preserve and catalog tiles and façade patterns Experience in network	12 months museum project building facilities and museology/mus eography program [permanent exhibition, preservation, study and research,] 24 months building construction and creating museology products 12 months installing materials and preparing rooms 12 months museology bi- annual activity program educational	€1.000.000 Museology and museograp hy planning museology equipment [exhibition rooms, storage, educational services, auditorium, documental services, environme ntal conditions, security]; communica tion and promotion, museum programmi ng [biannual]		

I.3 Museology programmi ng Educational and leisure activities on ceramicsAveiro's City NusionDeveloping a cultural and museology annual and museology annual and museology annual and museology annual and museology annual activities program that promote cooperation between partners and cultural offer to the community and visitorsExperience on cultural and museology programmi activities program that promote cooperation between partners and cultural offer to the community and visitorsExperience on cultural and museology yeartemporary exhibitions, artistic activities1.3 Museology programmi ng Educational and leisure activities on ceramicsAveiro's City Museum Municipality of AveiroDeveloping a cultural and museology annual activities program that promote cooperation between partners and community and visitors12 months museology annual activities per year1seminar per year12 months museology program educational activities per year12 months museology services, activities per year1seminars, artistic activities per year12 months museology services, artistic activities per year1seminars, artistic activities per year12 months museology services, artistic activities1seminars, artistic activities per year12 months museology services, artistic activities1seminars, artistic activities12 months museology services, activities1seminars, artistic activities12 months

Activities table For specifying activities and outputs to achieve a given objective						
Thematic Area: Biennale	Ceramics	5./ CITY IDENTITY				
Activity title	Lead partner	Description of activity (brief)	Intended outputs and indicators	Timescale	Resources per annum and funding sources	
1.1 International Biennial of Ceramic Arts	Municipality of Aveiro – Division of Cultural Action	Organization and dissemination of the competion. Design and production of the exhibition. Catalog edition.	-Rules edition and registration form -Disclosure of registrations -Jury Constitution -Hire a company for customs clearance -Works reception -Production, design and	20 Months	250 000€	

			installation of the exhibition -Exhibition divulgation -Awards delivery -Catalogue edition		
1.2 Parallel Activities	Municipality of Aveiro – Division of Cultural Action	Promote and organize different ceramic activities, addressed to different audience	-Promoting meetings, workshops and conferences for specific audiences	(the year preceding the Biennial): -Invitation of experts in ceramics - potters, teachers, researchers - Divulgation -Organization of the activities	50 000€
1.3 Creation of a Center of Ceramics	Municipality of Aveiro	Acquisition and rehabilitation of a disabled ceramics factory to create a Center of Ceramics	- Acquisition and rehabilitation of the factory -Rehabilitation of the ovens -Creation of showrooms with appropriate conditions -Creation of reserves -Collection study -Working rooms -Auditorium -Surrounding area	Three years	1 000 000€

5. Political statement and signatures

It's important to share and highlight that this is not a common, neither one more network of cities. Is' s a 'natural' network that has a strong identity linked with the ceramic industry, and where, all over the centuries, the cities accumulated a similar cultural and economic patrimony. In times of crisis, the best way to face difficulties it's the union of which have the same goals.

The preparation of our Local Action Plan was an opportunity to put together different actors and institutions of our city, creating confidence relations and also an extremely valorous moment to learn with the other cities, know their experiences and share knowledge. After a long work and a learning process, the LAP of Aveiro in this framework, includes the creation of a Technology Transfer Structure, a Training Program, marketing actions, the launch of a Public Procurement Process to encourage innovation in ceramics, the reshaping of our Biennale of Artistic Ceramics, the design of a Ceramics Route and the construction of a Ceramics and Tiles Museum.

We believe that, altogether, this actions will promote the competitiveness of our industries, but, at the same time, contribute to preserve the identity of our city, the know how and promote the tourism. The UNIC project resulted also in the creation of a local Council of Ceramics Industries, where all the representative actors will participate in a regular way, to discuss and define actions to lead with the difficulties of ceramic sector.

The Vice-Mayor of the Municipality of Aveiro

(Carlos Santos, Eng.)