BASELINE STUDY

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1. Background – The URBACT Programme

The URBACT Programme aims to develop exchanges of experience between European cities and the actors, which have been involved in the URBAN Programmes, initiated and implemented by the European Union since the late 1980s (URBAN Pilot Projects and URBAN I and II), while at the same time contributing to an improvement of actions carried out at local and regional level in order to find the most efficient solutions to common problems.

URBACT represents the aspect of exchange and capitalisation of the European Community Initiative URBAN II (2002 - 2006), which had as its wide-ranging target the development and implementation of innovative urban regeneration strategies from an economic, social and environmental aspect - in one word an integrated cross-sectoral approach. In light of the complexity and the importance of the questions addressed, as well as the necessarily limited number of actors directly involved in URBAN, an efficient and widely publicised process of exchange, capitalisation and dissemination has become a vital necessity.

In order to fulfil its mission of letting all sectors of the population in European cities benefit from these tested, innovative solutions, the URBACT Programme is co-financing a wide range of actions to solicit and favour exchanges of experience (Thematic networks, Working groups, studies, qualification actions and other initiatives).

The UNIC project has been selected as a Thematic Network project within the URBACT II programme, under Priority Axe 1 – Cities, Engines for growth and jobs, and in particular under theme 1.2. Improving Innovation & Knowledge Economy. The UNIC project is therefore an **innovation-driven** project.

2. The UNIC Project and Network

The main objective of the project is to allow all European cities impacted by economic transition - from a traditional economy with strong "heritage" value conveying cultural identity, towards a sustainable innovation economy - to anticipate, prevent and address the economic, cultural and social consequences of these changes and to begin moving effectively towards a sustainable innovation economy linking research and education, economy, culture, social and urban promotion.

This economic transition from the industrial era towards an innovation economy has already begun in many cities in Europe, including the project partner cities. Some experiments had varying success regarding harmonious, integrated and sustainable urban development. The UNIC project wishes to share these experiences, to capitalize on them and to give value to them through exchanges of know-how, knowledge and good practices.

An urban economy is weakened when one single industry prevails or makes up the main economic activity. Subcontractors, employees and all the urban local economy that this activity involves are endangered. The principal challenge will be to put forward the policies to be carried out to staunch the decline: to increase "traditional know-how", to support new initiatives in innovation, to work on a better match between heritage and innovation in order to offer a new image of the cities and thus to reinforce their "attractiveness" while offering living conditions, professional and personal development perspectives likely to "gain loyalty" from inhabitants and companies, and also attract new ones.

Albeit strongly rooted in one sector it should be made clear that the UNIC project is not (just) about the ceramic sector: it is about **change**, and how to build on industrial heritage and traditional competitive factors in order to build new competitive factors for the knowledge economy in a global world.

3. The Baseline Study

The objective of the Baseline study is to provide a contextual framework defining and supporting the activities of the network through the time-line of the programme.

In this sense the purpose of the baseline study is threefold:

- To assess local policies and practices which have already been implemented or not and to bring out ideas on the practices, methods and tools which could be implemented by partner cities or could be suggested to the partner cities.

- To report on and assess the expectations, prime concerns and requirements of the partners with a view to refining the activities to be undertaken by the network.

- To set-out the organisational and content framework for the programme taking account of the first two elements (detailed agenda and time-planning, division of tasks and identification of required inputs, definition of lead questions, intended outcomes etc.)

Within the framework of UNIC, the baseline study has been mainly considered as a working document that would highlight the synergy and common challenges faced by the partners, establishing the **starting point for a cooperation** that could led each partner one step further into is transition into a more competitive and innovative city.

3.1 Methodological approach

In order to develop the baseline the following methodology has been implemented:

— Each partner cities (with the exception of Riga and Cluj Napoca[1]) has been visited by the Lead Expert in order to gather the first impressions on local policies and practices, meet the most relevant regional players – typically the members of the Local Support Group – and identify the main challenges and projects faced by the city.

— On the basis of the gathered information, and further information supplied by the partners, a first analysis (including a SWOT matrix linking the 3 project themes, combining heritage and innovation - economic force-, integrated urban approach, the City as a centre of identity and attractiveness) of where does the city stands in face of the project objectives has been developed for each city by the Lead Expert and shared with the partners.

— An integrated analysis has been later developed, gathering the information from all partners, with the objective to highlight common needs, opportunities and

[1] The cities of Riga and Cluj Napoca have been visited only by the Lead Partner, which has later exchanged information with the Lead Expert

challenges and establish the basis for a cooperation that may facilitate each city evolution.

The calendar of visits to partner cities is presented in the table below. Further to these visits, the objectives and general framework of the project has been presented in the 1st project meeting of Aveiro (16-17 June) and its results presented in the 2nd project meeting of Pécs (22-24 September):

Table 1 – Calendar of visits to Partner Cities

City	Dates
Aveiro	7 May 2008
Limoges	27 May 2008
Delft	18 June 2008
Pécs	1 July 2008
Selb	2 July 2008
Castellón	23 July 2008
Faenza	25 July 2008
Stoke-on-trent	29 July 2008
Sevilha	31 July 2008
Cluj-Napoca*	10 September 2008

* Only the Lead Partner

3.2 Baseline study – The framework

An urban economy is weakened when one single industry prevails or makes up the main economic activity. Subcontractors, employees and all the urban local economy that this activity involves are endangered.

The principal challenge will be to put forward the policies to be carried out to staunch the decline:

- to increase "traditional know-how",
- to support new initiatives in innovation,
- to work on a better match between heritage and innovation in order to offer a new image of the cities and thus to reinforce their "attractiveness" while offering living conditions, professional and personal development perspectives likely to "gain loyalty" from inhabitants and companies, and also attract new ones.

The question that UNIC partners will try to address is:

"How can local economic communities based on traditional industries, and in particular ceramics, prosper in the rapidly changing, increasingly open global economy?"

3.2.1 The European challenge

The ceramic industry is exceptionally broad and far-reaching, impacting nearly every facet of our lives. The industry is traditionally categorized into four main sectors—tableware, advanced ceramics, tiles/brick/structural clay and refractories — many of which also have their own internal segments. All of these facets of the ceramic industry enjoy individual successes and opportunities, and face their own challenges. Following are some recent trends, highlights and forecasts for each sector.

Over the last decade, the ceramics market is become increasingly competitive, mainly due to the pressure of low-cost imports, principally from Asia and Eastern Europe. A more expensive labour force and strict regulations in the EU countries have made it difficult for EU manufacturers to compete. To cope with the increasing competition, several EU manufacturers established manufacturing bases in Asia, where they could combine their state-of-the-art technology with a low cost base. In this way, they could maintain an efficient, high-quality production system at low cost. Another answer to the increasing competition was to achieve “economics of scale”. Mergers and acquisitions were a popular means to build the scale necessary to survive. This led to the development of large multinationals, which are present worldwide.

Increasing rivalry in other sectors, contributed to the increasing competitiveness of the ceramics tableware market. Because of the relatively high margins and the need to create more “traffic”, retailers, like grocery multiples and discounters, started selling ceramic products as table- & kitchenware. They mainly sell low-priced products, often private label. This undermined the position of the EU manufacturers, which were mostly positioned in the premium-end of the market. Many manufacturers searched for ways to differentiate their products, and branding therefore became more important.

Because of the increasing competition in the ceramics market, it is increasingly difficult for manufacturers, especially small-scale ones, to retain a profitable share of the EU markets. Although the developing countries share of EU imports is growing, it should be noted that this growth is partly due to outsourcing by Western manufacturers on the one hand and a number of large manufacturers mainly based in China and Thailand, on the other. Chinese exports make up between 37 and 82 percent of the EU imports deriving from developing countries.

Overall there is a shift that has led tablewares become a more fashionable market, with new trends, designs and colours emerging every twelve to eighteen months. The trend towards a more fashionable market however, has some implications like, for example, shorter product life-cycles, making fast and accurate distribution indispensable. This offers chances for small-scale manufacturers to tap into specific market developments. Ceramics products that are new, innovative and have a reasonable amount of quality, practicality and functionality, will be viable. Items which are highly original in terms of colour and design are promising, because they allow retailers as well as consumers to differentiate themselves.

The advanced ceramics sector is arguably the most robust segment of the ceramic industry. According to a recent report from Enceram, the market for engineering ceramics (defined in the report as structural, environmental and process applications) reached $2.7 billion in Europe and $1.9 billion in the U.S. in 2006. Drivers for growth

include applications in armour, automotive (diesel particulate exhaust filters and composite brakes), medical (joint replacement and dental products), electronic sensors and wear parts. Fuel cell applications are also expected to have a positive impact. For example, according to Innovative Research and Products, the market for micro fuel cells is expected to reach $112 million by 2011, rising at an incredible 55.7% annual average growth rate from $12 million last year.

For ceramic tiles, although overall consumption set a new record in 2006, the following years were worse due to the slowdown in the new housing market and decline in overall floor covering sales. The strong remodelling and commercial markets continued to bolster tile sales overall, however. Remodelling also especially impacts the tile industry, since the two rooms most frequently remodelled are kitchens and bathrooms. The Freedonia Group projects that U.S. demand for hard surface flooring will advance 3.9% per year to 11.9 billion square feet in 2011 (valued at $13.5 billion). Hard surface flooring is expected to continue to gain market share from carpets and rugs, and demand will be driven by the growing consumer preference for high-end products such as wood, laminates and ceramic tile. Sanitaryware manufacturers also benefit from the increasing renovation trend for bathrooms, though the residential housing slump is now having a negative effect. But the continued decline of the housing industry is providing multiple challenges for the industry.

As regards refractories, according to the International Iron and Steel Institute (IISI), 2006 saw a particularly strong 8.5% worldwide increase in steel use. The projection for 2007 is a 5.9% increase, and 2008 should see an additional increase of 6.1%—all great news for the refractories industry. Steel demand growth in Africa, Asia and South America was particularly strong, while North America should see a positive trend for 2008 following an inventory draw-down in 2007.

The IISI further reports that China remains the single largest market and strongest growth area for steel. Steel use in China is forecast to increase by 13% in 2007 and 10% in 2008, encompassing 35% of the world total. According to the IISI, steel consumption in China was 442.7 million metric tons (mmt) in 2006, a far cry from Japan (116.2 mmt), the U.S. (98.6 mmt), Russia (70.8 mmt) and South Korea (48.5 mmt).

Overall, for all subsectors, the times are of change and the challenges ahead are considerable. Up-to-date information on trends and developments is therefore more important than ever, and innovation and marketing are key for the viability of the sector.

The famous words of Peter Drucker make all the sense for the European ceramics sector: ***"Business has only two basic functions: marketing and innovation"***. And those will be the two main dimensions of the UNIC project.

3.2.2 Innovation Scenarios

There are at present two clear distinct and competing innovation scenarios for local economies:

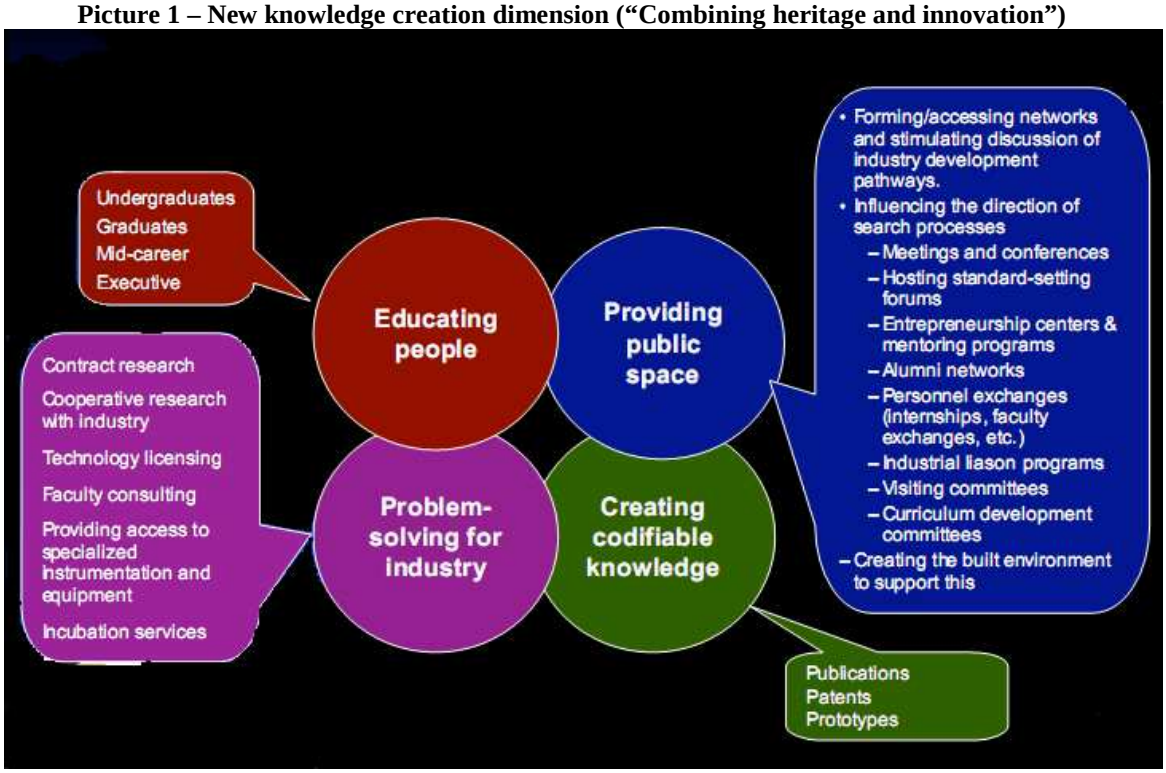
— 'Hollowing-out'
- Local companies reaching farther afield to tap into the global network of ideas and skills, and eventually moving out altogether.

— 'Agglomeration'
- Local companies strengthening their local ties
- Local/regional economy emerging as a centre of new knowledge creation and application, stimulating and attracting new enterprise.

High technology companies, once tied to their locations, can now move their production to anywhere in the world. Still in order to stay competitive, key parts of their operations need to be based in knowledge and innovation-intensive regions.

To be globally competitive countries, regions and cities need to invest in their Innovation Systems. The UNIC challenge is to promote the "***Agglomeration***" scenario in the partner cities for local firms, while at the same time trying to capture external firms "***hollowing-out***" from other regions. For that they must build on their competitive factors, often related with their tradition and heritage to set the context and stimulate the creation of local knowledge ("Combining heritage and innovation"), namely through intervention – direct or indirect – in 4 areas, as pictured below: provision of public space, educating people, creating and disseminating knowledge and contributing to problem solving for industry. Public research centres and universities are key players, as they can contribute to all four.

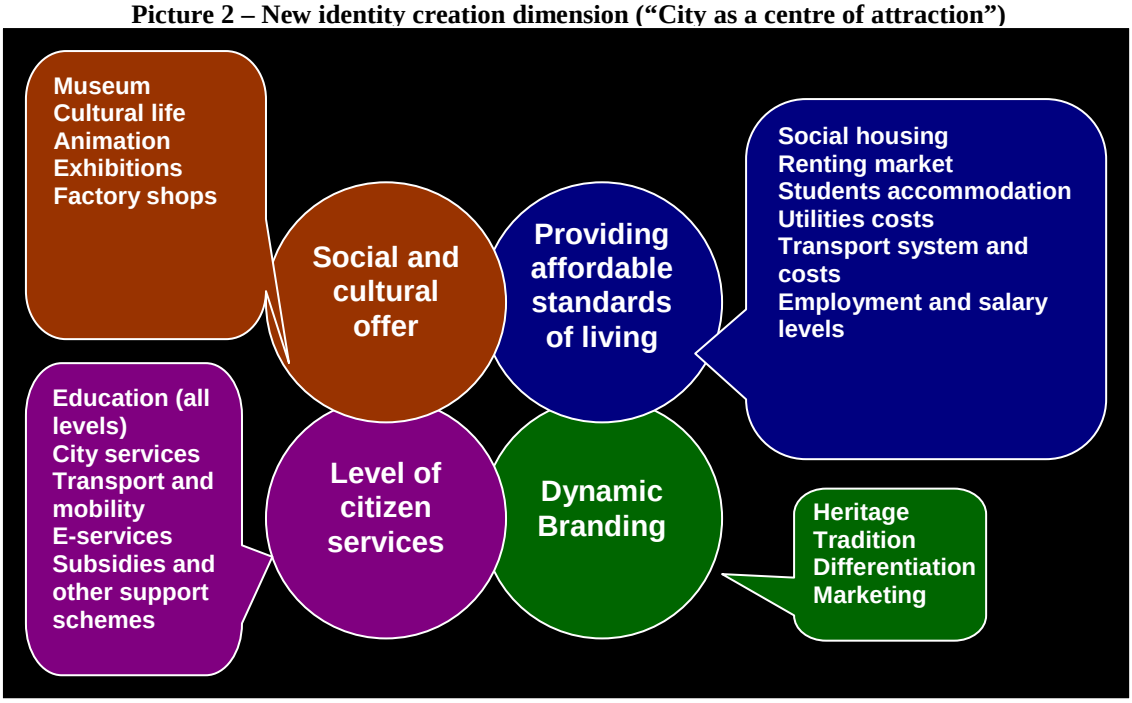
Picture 1 – New knowledge creation dimension ("Combining heritage and innovation")



A city that is not able to provide competitive offers in the 4 components above will not be able to foster the creation of knowledge and loose the possibility to follow an innovation-led growth path – which is possibly the only sustainable path for growth in Europe.

But for a competitive affirmation of cities and regions in a dynamic context, another dimension must also be considered, important for the attraction and retention of talents (the "City as a centre of attraction"), which are in turn also vital for knowledge creation: the "identity creation" dimension, through intervention in another 4 areas: capacity to offer social and cultural life, affordable housing,, appropriate level of services, and a dynamic and attractive "brand" and image (e.g. as Italy for design, France for food, …). These aspects matter - policy often focus on few high technology fields, but 70% of OECD countries workforce is in the service sector and cultural industries are becoming a major driver globally, accounting for 7% of GDP and growing at 10% annually.

Picture 2 – New identity creation dimension ("City as a centre of attraction")



The two dimensions – "**Combining heritage and innovation**" and "**City as a centre of attraction**" – are not absolutely independent. On the contrary, quite often an intervention in one area causes an effect in the other, while some efforts lay in-between these two dimensions. This "grey area" between the two dimensions above-mentioned is in itself a third dimension for intervention, referred within the scope of the UNIC project as "**Integrated Urban Approach**".

Within the present baseline, all partner cities will be evaluated, as regards their strengths, weaknesses, opportunities and threats (SWOT) in face of three dimensions above, and focusing on the ceramics heritage that is the core of the project and links all partner cities.

3.2.3 Innovation-led growth paths

Cities in quest of economic development face four pathways of regional innovation-led growth, which in some cases of partner cities have already been initiated as demonstrated in the examples below:

1. Indigenous creation of new industry (Create entirely new industry)
Examples:
Silicon Valley: Personal computers;
Castellón: Ceramic Tiles in the 50's and 60' as a new investment opportunity for the wealth generated in the agro-food sector (mainly production of oranges), and benefiting from the local conditions (seaport) and availability of raw materials. While Ceramic Tiles where known for years, its creation as a mass production industry very much started in Castellón and today, the Valencia region is a global leader in the tiles and ceramics industry.

2. Exogeneous creation of new industry (Transplantation of new industry into region)
Examples:
Taipei-Hsinchu corridor (Taiwan): Electronics industry
Aveiro: Telecommunications and semiconductors. Famous for years mainly for its ceramics industries, Aveiro has become since the 80's one of Portugal main centres for telecommunications and semiconductors industries. With a first anchor investment from Portugal Telecom R&D Group – PT Inovação and a renowned university in the field since 1973 the town has recently attracted investments from Nokia/Siemens, NEC, Ericsson, or GFI Informatique, allowing the creation of a cluster in the field.

3. Diversification of existing industry into new (Use the core technologies of an existing and declining industry)
Examples:
Akron (USA): Tires ➔ Advanced polymers
Limoges: Ceramics ➔ Electric appliances.
The example of Legrand Electric is a good example of (early) diversification. Legrand's history dates back to 1860, when a porcelain workshop was set up in Limoges, the porcelain capital of France, and was then the porcelain capital of the world. When Legrand took over the business in 1904, he saw the opportunity for expanding operations from producing dinner plates to making electrical switches, which were then made not from plastic, but from porcelain. In 1949 a key turning point was reached, when it was decided to focus exclusively on the production of electrical installation wiring devices and Legrand turned out its last dinner plate. In 1966, the company set up its first overseas subsidiary in Belgium and has continuously grown ever sience to become world's largest manufacturer of switches and current outlets, holding 18 per cent of the market, and to lead the world in sales of low voltage cable routing products, with a market share of 15 per cent.

4. Upgrading of existing industry (Enhance products, services or production technologies)

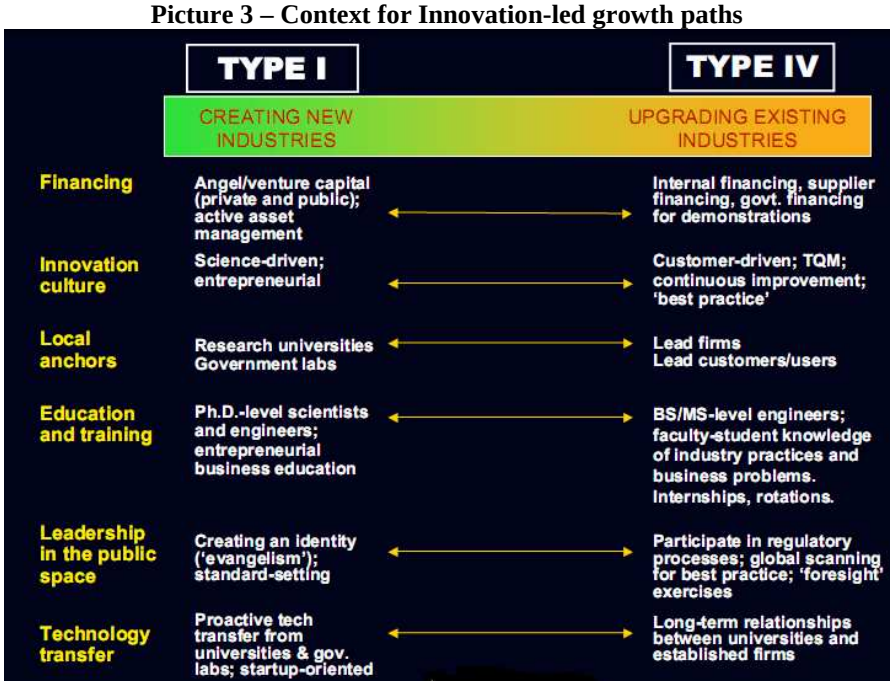
Examples:
Tampere, Finland: Industrial machinery
Faenza: Services for the Ceramics sector. Traditionally known as the "Ceramics Town", the pottery sector no longer has significant revenue-producing weight in Faenza's economy: only a few industries and about 60 craftsmen produce artistic pottery. However, Faenza's strength in this field is its network of agencies and services revolving around the local ceramics sector: the schools structure; scientific research; the International Museum of Ceramics, the most important such structure in the world. Faenza has also supported and promoted, over recent years, a series of initiatives to valorise pottery cultures, ranging from international meetings to competitions and exhibitions, up to the recent foundation of AICC - the Italian Ceramic Town Association, whose mission is to create a national network of towns with a significant history of ceramist activity.

While most of the public attention is usually focused on paths 1 and 2 – which can promote the most spectacular growths – paths 3 and 4 are equally important, and often more viable. Innovation is mostly incremental, rather than radical and it is not confined to science-based industries, as low tech fields innovate too. Within the UNIC project, each partner city is expected to make its own path – building on cooperation with other cities – towards innovation. What is clear is that:

- Success conditions (and failure modes) for each of these 4 pathways are different
- Patterns of innovation in each case are also different
- Roles of High Educational Institutions, financial institutions, governments and others, for each pathway, are again different

The context for the two extreme scenarios (Type 1 and Type IV) are presented in Picture 3 below, while the minimal conditions for developing each of the paths are presented in Picture 4 further below.

Picture 3 – Context for Innovation-led growth paths



The main trends and case studies at European level – to be further considered within the UNIC project by partner cities according to their own needs – are described next:

Financing:

VC in Europe is still very much the feud of banks and investment funds which impose their own procedures and add further burden to a process which is already heavy due to European legislation for company creation or sales. It is necessary to facilitate the entry into the VC market of small firms and individuals and promote public early stage funding which is simple and does not require too many guarantees – a kind of "informal" VC, unlike the more formal, bank dominated, market that traditionally goes by the rule that says "in order to get a bank loan first you need to prove that you don't need one".

The trend is to move from a IP-oriented form of public support typical of a closed innovation paradigm – where state aids are given to industries for development of intellectual property (either individually or in cooperation with research centres) – to a open innovation model of VC – oriented public support: the "from IP to VC" trend that characterizes open innovation. In this model state aids could support the creation of private venture funds, e.g. managed by industrial companies that would be used to finance innovation in a network of small new firms, thus fostering innovation at a much greater pace.

Venture capitalists, like researchers, may find the concept of open innovation difficult to accept. Patents are often the only asset of a start-up company and VCs may therefore be nervous about the prospect of their funded company sharing this asset within a collaborative arrangement. They will also be concerned about the fact that the return to their company may be in the form of royalties or other performance-related payments. A shift towards a new funding paradigm - from co-funding internal research (shared costs perspective) to co-funding external venture investments (shared risks – and benefits – perspective), will require a whole new set of rules and mechanisms. Governments may also be able to influence the role of VC in the development of open innovation by means of tax or other incentives which provide benefits to funders of companies whose revenue is derived from participation in open innovation.

Innovation-Culture:

The creation of an innovation culture is complex and often demands a combination of efforts from a multitude of actors, around a so-called "Urban Innovation Engine" .An "Urban Innovation Engine" is a system which can trigger, generate, foster, and catalyze innovation in the city. Typically, it is a complex system that includes people, relationships, values, processes, tools and technological, physical and financial infrastructure (Dvir, 2003).

A close examination of the constructs of a typical city reveals that many of the city constructs can serve as Innovation Engines. However, not every University, or Library, or Industrial District, for example, do play the role of a true innovation engine. There is always a unique combination of intangible factors which turn a specific ordinary urban organ into an innovation engine. These factors have been described above as the principles of innovation ecology. This set might include, for example, a strategic intention, an explicit vision to use it as an innovation engine, exceptional leadership, a stimulating physical space, an urgent need or challenge, special team…

One of the most effective innovation engines is the organisation of large scale events – an opportunity to gather a multitude of actors around a common and challenging objective and induce a mind-set.
What is common to Paris 1900 and Barcelona 2004? Both are fine examples of cities who used large-scale events as innovation engines. The "Paris Exposition Universelle de 1900" was an opportunity for many nations to present and share their scientific and cultural achievements. It was also a trigger to push forward the state-of-art in diverse areas - the Tour Eiffel is perhaps the most impressive manifestation of this in the area of innovative engineering. The visioning and organisation of "Forum Universal de las Culturas 2004" was one of the many tangible steps of the city to realize its vision "Barcelona knowledge city". At a different scale and related to the ceramics field, events like Stoke Ceramics Biennial or Faenza Ceramics Contest are good examples of this innovation engines.

Local Anchors (University-Industry relations) and Technology Transfer:
Cities must be able to foster the development of more open models of collaboration between research organisations and companies; a model where companies can more easily share resources, staff and results with different research organisations and assume the lead of cooperative projects. The research-industry gap in Europe is basically a cultural gap. The French philosopher *Roland Barthes*, speaking about culture once said: neither culture nor its destruction (anti-culture) are "sexy" – what is really "sexy" is the gap between them. The same can be said of research and industry –what is sexy is the gap between them, where creativity and experimentation mixes with market needs and production capabilities to generate the innovations of the future. Innovation is played in the gap, yet the gap in Europe has been a deserted "no man's land" for years. More than bridging the gap, it is important to fill it, with the creation of research organisations that think and operate as companies and with whom companies can therefore easily cooperate;
Initiatives such as the Centres of Excellence are a step in the right direction, but if the ties between the different participants are too loose and the structure is too informal, they might become just another network. Better results have been achieved in countries like The Netherlands with the promotion of Public-Private-Partnerships, between universities and companies, for the creation of formal research organisations that are managed in a corporate way and become relevant service providers of research and innovation services, thus "opening" innovation processes. But for this, must public universities in Europe must facilitate their internal procedures for entering into the capital of private companies. As regulation on IP revolutionised the way US universities did research in the 60-70's – with Europe lagging behind and only seriously addressing IP regulations in universities over the last years – new, enhanced regulation is now needed for facilitating the participation of universities in PPP and private endeavours.

Education and Training:
The ambition and creativity of the individual is the spark that fosters innovation. Individuals need to develop these skills through their education and training. There also needs to be space for individuals to express their skills in the workplace and society. Thus it is important to discover which policies will create such an environment, in addition to the traditionally emphasised skills of engineers and scientists (e.g. artists, designers, as in Delft or Cluj). At the same time, while innovation is a positive force, it

can also cause upheaval. In many cases, entire industries are changed beyond recognition or cease to exist. For innovation to achieve its full potential, individuals need adapt to these changes by receiving appropriate training throughout their life time. Societies must also develop institutions that can help them address the inequity that can follow some innovations.

Leadership in the Public Space:
Cities must strongly promote "Client Relationship management" from the part of companies, and the development of social networks and informal associations and groups of users into formal economic agents, as a key to spread the influence of small companies and users in open innovation processes.

In a wide open innovation scenario, where innovation is no longer the result of a process happening in a certain physical location and involving a number of people that work there, but a joint effort carried out by networks of organisations or individuals dispersed around the globe, the innovativeness level of a given system will be measured by the number of actors from the system that participate in such networks. The system governance should therefore promote the participation of its actors in such networks, which implies well educated and well technologically equipped individuals but also the creation of strong sub-networks that can ensure a multiplying effect. Most governments influence innovation through funding of public laboratories, university research and in-house industry research. They also enhance the flow of this knowledge from bench to industry through establishment of Technology Transfer offices, funding of collaborative research programmes, facilitation of mobility of staff, programmes to facilitate patent searching and other initiatives. There are also many other initiatives which can facilitate knowledge transfer, and many case studies show that the most effective mechanisms involve facilitation of personal contacts, i.e. opportunities for interaction between 'prepared minds'[2] . Promotion of open innovation will require many of the same initiatives, but these will be more specifically designed to accommodate an innovation process which values partnerships rather than exclusivity.

Technology Transfer:
As agreed broadly, technology transfer is very important for innovation in traditional industrial sectors. An even more crucial problem is how to improve technology transfer from knowledge producers to users in the regions where small industry, with reduced research capabilities, dominates. Innovation policy should pay more attention to access of SMEs to knowledge. Attempts to simply duplicate policies from successful regions cannot facilitate the diffusion of experiences and good ideas. Cultural backgrounds, factor endowments and manpower, as well as the character of different industries technologies, should be considered when making policies for improvement of technology transfer.

Within the present baseline a basic assessment of where which city stands in terms of context and infrastructure, and its level of readiness for endeavouring a give type of path - by addressing some of the components above described - is developed. But it is of course a decision of each city which path it favours for its own development and growth.

[2] "Chance favours the prepared mind" Louis Pasteur

3.3 Baseline study – Analysis of Partner Cities

3.3.1 CITY OF LIMOGES (F) – Lead Partner

3.3.1.1 - Overview

The City of Limoges, with a population of 248,000 (urban area) is the 24th largest city in France, and is best known for its porcelain, and its fine china developed in the 18th century out of enamel work which began in the middle ages. But the city and region also are known today for the quality of the local production mainly in electronics, ceramics, graphic industries, and food-industry.

Due to the rich history of Limoges and its cultural heritage, there are many museums including the Musuem Adrien Dubouché which have an internationally famous collection of porcelain items.

The "Beaux Arts" Museum exhibits appreciated collections of enamel items. In Limoges, a very important cultural season offers various events and productions : the "Grand Théâtre" presents lyrics and classical music shows; culturals centers organise several sights including the biennale of contemporary dance; the Zenith (concert hall) hosts thousands of spectators ; the multimedia library has became a reference in France for regional libraries; the Festival of Francophonies gathers together artists from all over the World and reinforces the international anchorage of the city.

The University of Limoges, a comprehensive university with all components, offers to 15,000 students, courses in the humanities, arts, sciences, law and business, medicine and pharmacy, education. There are many engineering schools and high education institutes and chiefly, the City counts 90 research laboratories.
The Technopole of Limoges, created in 1993 at Limoges initiative, contributes in a very active way to the industrial renewal by continually contributing to the appearance of young innovative companies and by supporting the settlement of enterprises coming from other regions.

Limoges faces major challenges related to the consequences of international competition, which has impacted various sector of the industry of Limoges (as ceramics and textiles). The problem of competitiveness revealed by severe jobs loss underlines structural handicaps partly due to a failure of the common work, a lack of anticipation and strategic management.

Within the framework of the evolution of the local productive potential, the main challenge for Limoges, which has began its transition to a global knowledge economy, is:

To build on the on-going experience of the Ceramics Pôle and the European Centre of Ceramics (in achieving process) by consolidating its position as a leader city, in research, innovation and industrial development.

3.3.1.2 – Urbact Local Support Group

Within UNIC, the city of Limoges has gathered the following actors to take part in the Local Support Group:

1) Local Authorities – Managing authorities Operational Programmes	Ville de Limoges	www.ville-limoges.fr
	Conseil Régional Limousin	
	SGAR (Secrétariat Général aux affaires Régionales)	
2) Clusters	Pôle Européen de la Céramique	www.cerameurop.com/
	ESTER	www.ester-technopole.org
3) Education / Research	Université de Limoges	www.unilim.fr
	Ecole Nationale Supérieure de Céramique Industrielle (ENSCI)	www.ensci.fr/
4) Culture	Musée Adrien Dubouché	www.musee-adriendubouche.fr
5) Local companies	Ceramics-Enterprise	www.ceramic-enterprises.com
	UFPL	
	Haviland	
6) Design / innovation	CRAFT	www.craft-limoges.org
	Esprit Porcelaine	www.espritporcelaine.fr
	CTTC - Centre de Transfert de Technologies Céramique	
7) Economic Development agency	Limousin Expansion (CR)	www.limousin-expansion.fr
	Chambre Régionale de Commerce et d'Industrie	www.limousin.cci.fr/
	Chambre de Commerce et d'Industrie de Limoges	http://www.limoges.cci.fr

3.3.1.3. SWOT Analysis

LIMOGES									
Strengths	S1. – One main, well-known, university within the city,	S3. – The European Ceramics Cluster (ECC) that aggregates several local actors. The public research is valorised by the incubator.	S5 – Renowned Centre of Research in Ceramics within the University (Institut des Procédés Appliqués aux Matériaux) including a mixed unity of research associating the University, the CNRS and the ENSCI	S7 – ECC : promote and strengthen workshop and research in ceramics	S8 – The town has a strategy for its future, based on excellence and has the resources to implement it	S9 - The national of porcelain Museum Adrien Debouche of Ceramics is amongst most well-known in Europe	S11 – Building on a diversified economy, the city offers a very good standard of living	S13 – Overall very good level of services, health services in France amongst the best in Europe	S15 – Strong heritage and tradition as the "Capital of Fire Arts and Porcelain" and since 2008 Label "Ville d'Art et d'Histoire", all rooted in luxury brands (Haviland, Bernardaud, Weston)
	S2 – Several renowned schools: ENSCI National High School for Industrial Ceramics; ENSIL National Schools of Engineers of Limoges; ENSA National High Schools of Arts – Ceramics Department	S4 - The ESTER Technopole supports the economic development policy of Limoges Agglomeration.	S6 – Strong tradition of university – industry cooperation, reflected in the Pôle of competitiveness - ceramics and in a strong potential of artistic creation and design (CRAFT/Esprit Porcelain/ Beaux-arts/ creators and craftsman enterprises			S10 – The city fills all the basic needs in terms of social and cultural life	S12 – Prices of real estate are below national standards	S14– Strong education system, at all levels	S16 - Touristical events to promote the porcelain industry (biennale, exhibitions, Toques et Porcelaine, ..)

Weaknesses	W1 – The city and the region lack a prestigious business school, targeted to executives	W2– Like elsewhere in Europe (except the UK) VC is not sufficiently used W3– The city lacks big scale events (conferences, workshops, etc.) of an international dimension and critically lacks a conference centre.	W4 – SMS companies don't export sufficiently	W5 – The number of patents and publications is not outstanding W6 – Dissemination and transfer practices of basic research are underdeveloped	W7– Two distinct "town centres" in a vast territory – Urban centrality functions has to be improved. W8 - the presence of ceramics is not visible in urban space.	W9 – there is a gap between the cultural vitality and its perception (in terms of communication) at national scale.		W10 – E-services are still rather underdevelope d, especially in commerce. W11 – Transport to large metropolitan areas is made difficult by the absence of the TGV or a direct highway to Paris or Lyon	W12 – City marketing is not visible W13 – The city heritage in ceramics is not reflected in its daily life
Opportunities	O1 - Academic Network called "PRESS" linking 4 universities (Limoges/Poitiers/ LaRochelle/Tours) O2 - a Management and Business Institute (IAE) created in 2007 within the University	O3 – The city has 1 real success story: Legrand; how to develop more?	O4- The local "Pole de Competitivité" and the links with the European actions, open plenty of opportunities for local industries O5 – Local stakeholders strongly involved in EU activities, as EEN	O6 - The label "Porcelain of Limoges" is a project in process	O7 - Project of urban furniture in ceramics in process	O8 - The City of Limoges will organize en International Exhibition of Porcelain in 2010 O9 - New cultural centres recently opened (Zénith, Enamel House, Museum..)	O10 – Limoges has the opportunity to further promote sustainable development, as a regional priority.	O11 - Problem of accessibility in resolution process	O5 – Limoges is still globally known as the "City of Porcelain" – an opportunity to project a strong image for the future.
Threats	T1 – Several competing universities in neighbour cities.	T2 – International pressure in a context of likely delocalisation		T3 – Private companies lack confidence in their capacity to work together in networks	T4 – Lack of coordination between the many actors involved in economic development (Region, City, University, Industry, Chambers of Commerce, National agencies, etc.)				T5 – The "low-tech" image of porcelain leaves many of its high-tech assets (Pole de Competetivité, Legrand, etc.) in the shadow

Main Findings:

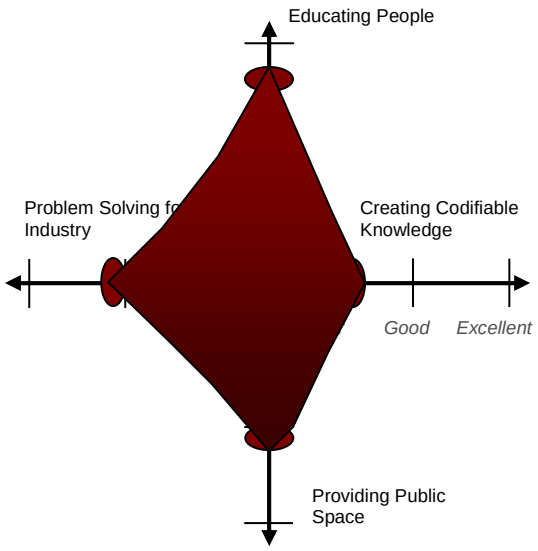
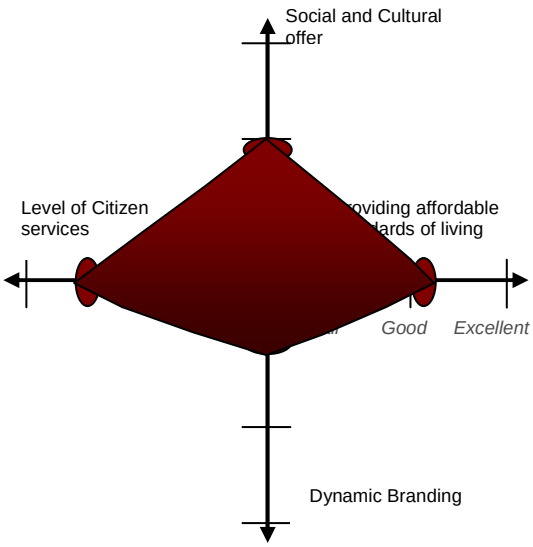
— Limoges has established a sound and solid dynamic of innovation, well rooted in its local university (S1) and schools (S2) and research labs and industries (S3), with the development of the Competitiveness Centres ("Pôles de compétitivité") (S6), a field where France is well positioned in Europe. In France 67 "pôles" have been established and Limoges is coordinating two, including the "European Ceramic Cluster", with local companies or research centres associated to 4 other "poles" (in Mechanics, Meat products, Electric Energy and Cancer and bio-health). These Centres are a good practice at European level, from where other cities can draw lessons and a major opportunity for Limoges to agglomerate companies around its competences and expand international links (O4).
However, to be recognised as a Centre of Excellence not only in France but at a global scale, Limoges must improve its innovation system, in particular as regards the level of production of codifiable knowledge (W5) and its transfer into industry (W6) – for that it must develop its incipient financing system for innovation, in particular its private component, foster pro-active technology transfer structures and improve the effectiveness of its research through the attraction of top-level researchers from around the world.

— The city of Limoges presents a solid and diversified economic basis that provides his inhabitants with a good standard of living (S11), with a primary (around 7% of the employment in the region of Limousin) and secondary (17%) sectors that are still relevant. At the same time, Limoges has developed a sound infrastructure for research and education (S14) and continues to develop its international links and its visibility in the research and innovation scene (S5).
These two assets can and should be better combined – in an era of "sustainable development", the image of Limoges / Limousin as a region that combines high-tech research with a traditional and environment-friendly way of life should be promoted (O10).

— Limoges has produced so far a success story of global level, as a spin-off from the ceramics sector: Legrand. Is it possible to generate more success stories? The absence of a mature Venture Capital system is a great handicap (W2). The local plans towards the Venture capital have to be strengthened. The small and medium-size companies still have difficulties to access bank credits. This situation limits their development. Limoges should better promote the links with the most successful of all its local companies (O3) and must strengthen the city visibility in the international arena for which it needs to develop large scale events, for what a new conference centre is a priority (W3).

— While the city is still world famous as the "City of Porcelain" (S15), this heritage is scarcely visible in its daily life (W13). At the same time, while the label is on itself an asset, if not valorised and updated it risks to leave in the shadow other, more recent, assets of the city, as its high tech sectors and its research and technological centres. The city needs more, and more focused marketing (O6), including the promotion of the opportunities identified above: *"Limoges as a centre of sustainable development progress"* and *"Limoges as the home of dynamic, multinational companies, as Legrand"*.

3.3.1.4 – Positioning

New knowledge creation (Combining heritage and innovation)	New identity creation (City as a centre of attraction)
	

Main Findings:

— New knowledge creation: Limoges has a sound knowledge creation, anchored in solid institutions, but these are mainly focused on problem solving for the local industry basis, and is therefore limited by the innovation potential of the industry it serves. It still lacks the potential to create new knowledge and attract and serve new industry, at a global level. In order to do so Limoges must further develop its system capacity to "create codifiable knowledge" in order to reach a step further in innovation capacities.

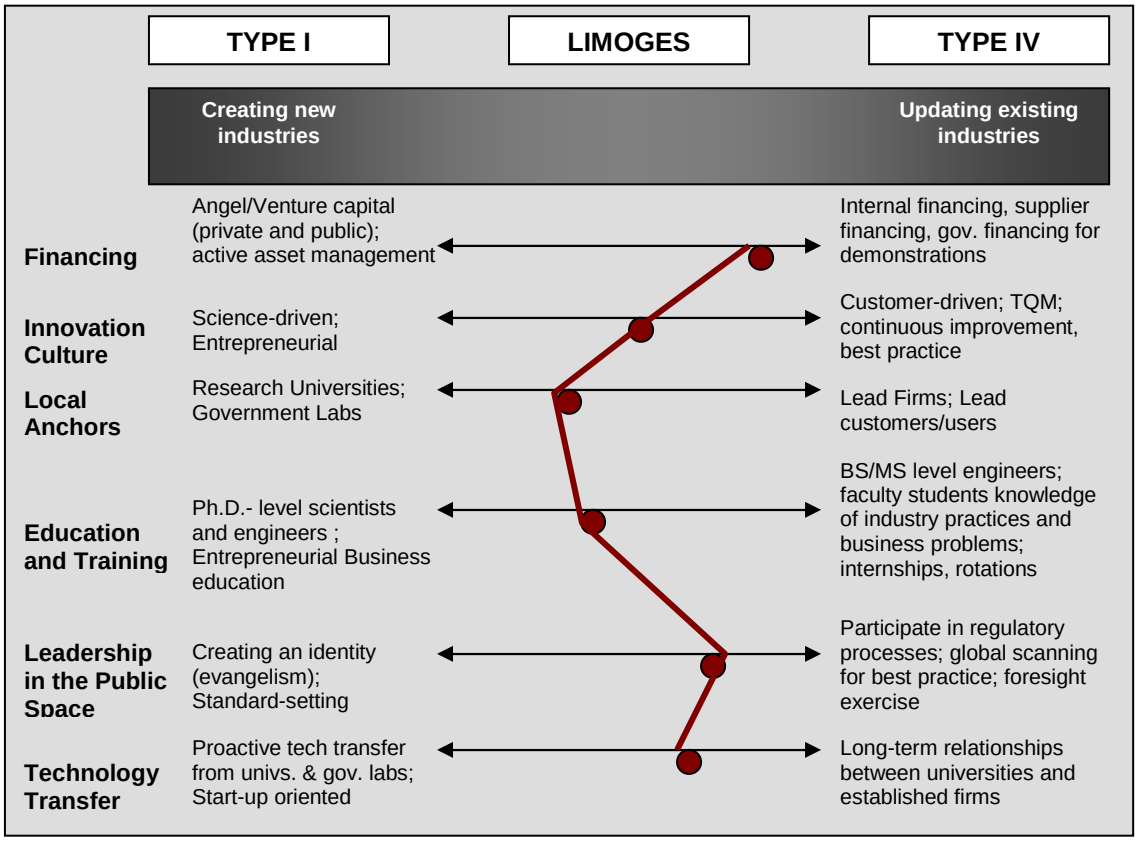
For that, and alike many other regions in Europe, Limoges needs to develop its financial system for innovation, in particular through strengthening existing Venture Capital schemes, foster more pro-active action in technology transfer from University and Government Labs into industry, including spin-offs and develop its research capabilities through attracting more skilled researchers, from within and outside France.

— New identity creation: the diagram shows Limoges as a city with an identity based on solid ground, and with core values (and assets perfectly defined), waiting to be marketed into a broader dimension. It serves his inhabitants well, but lacks the lustre to attract or even retain the talents it needs for growing into a broader

dimension. In order to do so, it must better promote its core values – in particular its quality of life, its particular attention to social development and its capacity in terms of entrepreneurship and innovation, as illustrated by the poles of competitiveness and by the local big companies, in order to project an image of success and potential for the future. More and more people nowadays are concerned with success in an extremely competitive world, with luxury goods in a world of mass production and with sustainable development in a world threatened by global warming. Limoges has assets in all these three issues – it has success stories (Legrand) that account for more than a thousand promises, it has luxury goods (the high quality dinner porcelain) and it has potential for sustainable development (its concern with traditional products, the research in agro-food and materials).

The opportunity for Limoges is to go from being the City of Porcelain, which is an image anchored in the past, to become the City of Legrand, the City of Luxury and fancy dinning and the City of Sustainable Development, all images with a projection in the future.

3.3.1.5 – Innovation Path



Financing	The financing scheme in the whole Limousin regions, following the trend in France and in Europe, is mainly based in public funding and internal funding; Venture capital is incipient and this is one of the main limitations for wider forms of innovation (and development of Young innovative companies). Local private banks are not very interested by these issues

Innovation Culture	As it is common in Europe, research at University of Limoges is mainly science-driven, and does not always follows the needs of local industry – while at the same time not being sufficiently leading edge to provoke spill-overs or foster the creation of new industries (which is the main cause for the "European paradox" that causes Europe to be less innovative that its world rivals). The creation of the "Pôles de Competitivité" has aimed at this issue, trying to bring closer research and industry and foster an innovation culture more "customer-driven", and has been particularly successful at Limoges. But the relatively short life of this programme has not yet allowed for major changes.
Local Anchors	Research in Limoges is mainly carried out in universities and public labs; the lead ceramic fields are not intensive research firms. The main private research anchor is Legrand, and its impact in local innovation should be better assessed.
Education and Training	The education system follows the traditional European model; the adoption of Bologna will reduce the duration of the courses and hopefully increase the rotation between academia and industry; In terms of Entrepreneurial Business education Limoges does not have a renowned Business School where to train its industry executives, and the University of Limoges does not has a relevant curricula in entrepreneurship and/or innovation.
Leadership in the Public Space	The creation of the European Ceramics Cluster has reinforced the image of Limoges as a research centre, while the local Technopole provides a good forum for research-industry cooperation. But we are still far from a "research-driven" identity.
Technology Transfer	There are well established university-industry links, but these are mainly university led. Despite the efforts of the Technopole and from the "Poles de Competitivité" there is not yet a pro-active technology transfer policy, and there is a lack of intermediate organisations for promoting the process (agencies, brokers, consultants).

Main Findings:

Limoges is focused on Types III and IV of innovation; but is possesses some core competencies that would allow it consider more ambitious forms of innovation – for it in needs to further promote its identity and develop technology transfer and venture capital networks. This process has been started with the creation of the "*Pôles de Competitivité*", including the European Ceramics Cluster, but these activities need to be followed-up and expanded, in order to move from a simple strengthening of university-industry relations to a real creation of an improved innovation culture, which can only be achieved by the inclusion of further private agents as technology brokers, innovation consultants and venture capital firms.

3.3.1.6 – Conclusions

Limoges has managed to preserve its ceramics industry heritage, and has successfully networked it with the research and technological services and facilities that it needs to develop and strive with the creation of the "Pôles de Competitivité" and the development of infrastructures as Limoges Technopole.

By doing so it has renewed its image and mark its position as a player in a knowledge economy, with institutions of excellence and reputation, while being able to maintain an attachment to quality of life and environmental issues, which enables it to "take the flag" of a sustainable development growth.

Limoges is also home to a global success story (Legrand) which shows that business, innovation and creativity can flourish within the city and even from traditional sectors.

Now, to face the ever growing challenges of a fast changing world, Limoges must move one step further and reinforce its image – not only in France, but in Europe and in the world – as a centre of excellence and innovation, to attract new investments and new talents for its local institutions. For that it should build on its main assets: the local success stories ("Limoges as the town of Legrand"), its combination between high-tech research and sustainable development and its "fancy and luxury" image, associated with fine porcelain and good food.

To go with the change in image, Limoges also needs to further improve its local innovation system, to foster the creation of further success stories and the transition of its traditional sectors towards a more knowledge intensive economy. For that, in combination with the management of national measures opportunities as the "Pôles de Competitivité", it needs to improve its management of direct and indirect opportunities (with regional, public or private, or European funds, through programs as Interreg) aimed at the development of local innovation agents, as venture capitalists, private incubators, innovation consultants, business and entrepreneurship schools and training centres and technology transfer brokers. This can be done through subsidies, creation of infrastructures, tax incentives and availability of public space.

Limoges also has the potential to increase its number of visitors, mainly tourists, but also business visitors. For that it would need a more innovative and coordinated management of its network of museums and heritage sites, but also of factory ateliers and shops. Why not an innovation museum at Legrand, or a large scale event on a periodic basis?

What Limoges can share with the UNIC Network:	What Limoges can learn from the UNIC network:
The consolidation of the university – industry relations through the establishment and promotion of Competitiveness Centres (Pôles de Competitivité"	Identity creation studies and techniques
Its cultural policy, expressed in the quality of its museums and in particular in the strategy to support development of factory museums at industrial sites.	A more proactive marketing of its image, both internally and externally (towards the rest of the country, Europe, and the world), including valorisation of its main assets and organisation of large scale events of European dimension
	Better coordination of local groups and agents for improved innovation support and promotion.

3.3.2 CITY OF AVEIRO (P) – Partner city

3.3.2.1 - Overview

Aveiro, with about 57,000 inhabitants and located on the shore of the Atlantic Ocean, is an industrial city with an important seaport. The city has a tradition in ceramics, including the Vista Alegre porcelain factory, which was founded 160 years ago.

The University of Aveiro was created in 1973 and is considered one of the most dynamic and innovative universities of Portugal, attracting thousands of students to the city. The University has about 430 professors (with Ph.D. degree), 11,000 undergraduate students and 1,300 post-graduate students.

Aveiro is facing a great challenge regarding competition of international markets, 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.

The objectives of Aveiro in the project are to introduce more innovative processes in this industry cluster – ceramics; anticipate, prevent and address the economic, cultural and social consequences of changes; encourage industries to move effectively towards a sustainable innovation economy linking research and education, economy, culture, social and urban promotion.

The main challenge for Aveiro within the framework of transition into a global knowledge economy is:

To establish a Centre of Competitiveness in Materials in the City — at the same level as the existent Centre in Telecommunications — grouping the University and the main industry in ceramics and related field, with a national and European relevance and contributing to capture external investment into the area.

3.3.2.2 – Local Support Group

The Local Support Group encompasses the following entities:

1) Local Authorities – Managing authorities Operational Programmes	City of Aveiro	www.cm-aveiro.pt
2) Clusters	AIDA - industrial and commercial association	www.aida.pt
3) Education and Research	University of Aveiro	www.ua.pt

3.3.2.3 – SWOT Analysis

AVEIRO									
Strengths	S1. – The University of Aveiro, albeit relatively recent (1973) has established itself as a leading university in the country.	S2. – The University has strong links with local communities and several projects with intervention in public space: the "house of future", incubation, Aveiro Digital.	S4 – The university has a strong tradition of cooperation with industry and a strong lab focused on Ceramics - CICECO	S6 – CICECO has a relevant scientific production: Since 2002 it has produced an average publication of 4.5-5 SCI papers per year per academic staff or full-time researcher, over 1720 SCI papers (many in top journals), 36 patents; * 91 PhD theses. In 2007 it published 306 SCI papers, ca. 4-5% of all Portuguese papers quoted on the Web of Science.	S7 – The city has unique characteristics that have been preserved – its channels, its Art Nouveau heritage.	S8 – Aveiro has a biannual event devoted to Ceramics, a permanent ceramics exhibition and an Art Noveau Museum.	S10 – Building on a diversified economy, the city offers a very good standard of living	S11 – Aveiro has a "citizen shop", concentrating all services in a single building, and – thanks to the Aveiro Digital project – has a good degree of e-services.	S13 – The city has a strong image around "Art Noveau" that it actively promotes, both at local level (restoring of buildings) and external (participation in European networks for Art Noveau cities"
		S3 – INOVARIA is a first effort, albeit at a very small scale, for more dynamic innovation networks.	S5 – Good examples of Private R&D labs, as PT Inovação.			S9 – The city has an animated social and cultural life, thanks in part to the university and its students		S12 – Aveiro is strategically located, right in the main north-south axis of highways and it has one the most important seaports in the country. The city has good public transports.	

Weaknesses	W1 – There is no business school in Aveiro.	W2 – Despite the power of its university and the dynamic telecommunications cluster, entrepreneurship levels are poor and financing system is weak. W3 – The city lacks big scale events (conferences, workshops, etc.)		W4 – The international visibility and presence of the University /CICECO is below its potential W5 – Dissemination and transfer practices of basic research are underdeveloped		W6 – The city lacks a Museum of national level	W7 – Aveiro still has 2 realities: the main city, developed and cosmopolitan, and its suburb areas, often rural and with poorer standards of living.		W8 – Regardless of all its potential, Aveiro is still largely unknown outside Portugal. Why?
Opportunities		O1 – Vista Alegre is a real vsit card for the city, which can be further exploited within the scope of a Ceramic Cluster O2 – The reconversion of "Cerâmica Campos" as a public space creates excellent conditions both for small scale (incubation, workshops, training facilities) or large scale (conferences) events.	O3- The city has been capturing private labs in the telecommunications area (PT, Nokia/Siemens, …). Can it do the same in the materials field? O4 – The city has captured recent industrial investments in the Ceramic field (tiles), mainly from Italy, and more are in the pipeline, contributing to the emergence of the sector. Can Aveiro become a "small Castellón?"		O5 – The city has still a large potential to be developed, both in urban development terms and in tourism – the problem is the lack of critical mass, in particular in terms of population.			O6 – The city has an above average level of citizen services, that should be wider promoted.	

Threats	T1 – The university course on ceramics engineering (one of the 2 initial courses at the university creation in 1973) has given its place to a more generic degree in materials engineering – which has also been noticing a stiff reduction in the number of students				T2- With only less than 60.000 inhabitants, the city suffers from a lack of critical mass that impacts on the growth potential of all its sectors: education, and in particular its university, industry, urban development, social and cultural life		T3 – Workforce qualifications, despite improvements over the last years, are still below EU average		T4– The city (and the country) still has a "low-tech; low labour costs" image, which while no longer true, has not been replaced by a new image.

Main Findings:

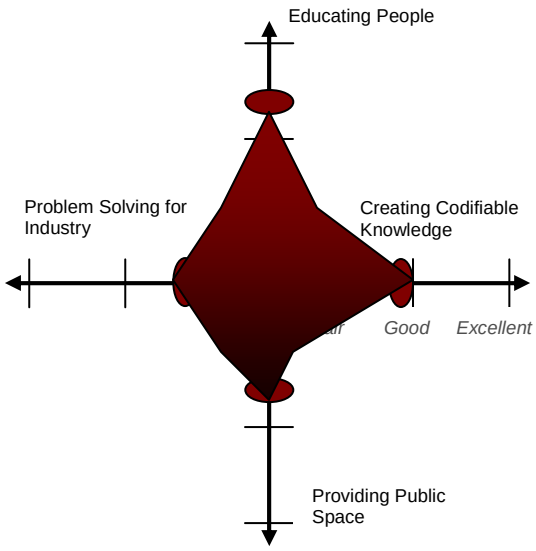
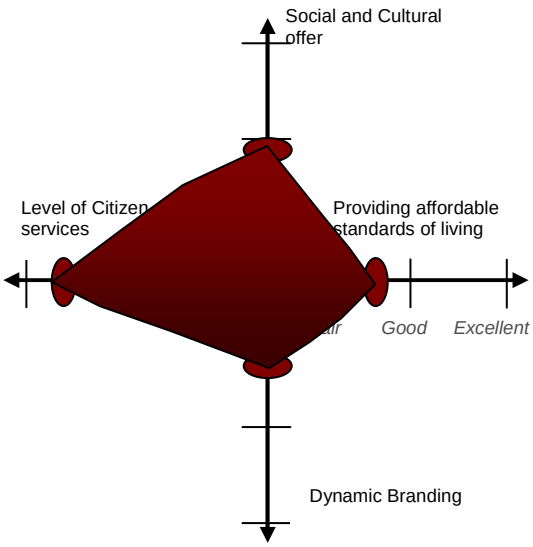
— Aveiro has a relatively recent but very prestigious university (S1), which has been able to find its space in the national and European research scenario and has strongly contributed for the emergence of a local cluster in ICT, including private research labs from very relevant organisations (Portugal Telecom, Nokia/Siemens, …) (S5). The challenge is now to follow the same process in the materials field, again building on the excellence of university research, in this case through the CICECO lab, (S4) and on the capture of foreign investment (O3). The recent trend of investment, mainly from Italy (Nova Grés, ..) and the wealth of infrastructures (seaport, highway accesses) (S12) show that there is the potential for a continuous growth of tile production in the area, but for this the city must deal with its constraints – mainly the qualification of workers (T3) – and local support programmes must be developed.

— Aveiro has developed an excellent level of citizen services, building on national experiences as "Loja do Cidadão" ("Citizen Shop", an new concept of aggregating all public services in a single building with extended opening hours) (S11) and local projects as "Aveiro Digital" which has contributed to bringing a lot of local public services into the internet. These, together with the small and manageable size of the city and the good transport networks, have provided it with excellent standards in this area. This experience should be further promoted, and Aveiro should promote an image of a city where it is easy to live, both internally (through the constant quest of excellence in public services) and externally, through promotion campaigns (O6).

— The town is home to a producer of world scale in decorative ceramics which is Vista Alegre (VA). The image of Vista Alegre is a reference and should be widely used for the city in its promotion, while its potential in the fostering an local Centre of Excellence in materials (and in particular in ceramics) should also be considered (O1). The support of the development of internal R&D competences at Vista Alegre (using regional and national funds) and the eventual creation of a "VA Inovação" brand, could do for the sector what the creation of PT Inovação (the R&D branch of Portugal Telecom, based in Aveiro) has done for telecommunications.

— With a lot of natural (geographical location) and infrastructure (seaport, road and rail connections, university) assets, with a strong ICT cluster and a relevant ceramic industry, with excellent public services and a good quality of life it is a mystery why Aveiro is not better known, even within Portugal (W8). In spite of all its potential, the city still suffers from a "grey" image – it is not as exciting and competitive as China and the far-east, it is not as trendy and fashionable as Italy, it is not as fancy as Limoges (T4). To change this image, Aveiro needs to strongly invest in his image, building on its main assets – the ICT cluster, the quality of public services, the image of companies such as Vista Alegre – in order to attract more investors and also more inhabitants, in order to overcome what is one of the main constraints to its development – the lack of critical mass in terms of population (T2). But in order to do so, Aveiro must also take critical decisions in terms of its urban planning and growth strategies (O5).

3.3.2.4 – Positioning

New knowledge creation (Combining heritage and innovation)	New identity creation (City as a centre of attraction)
	

Main Findings:

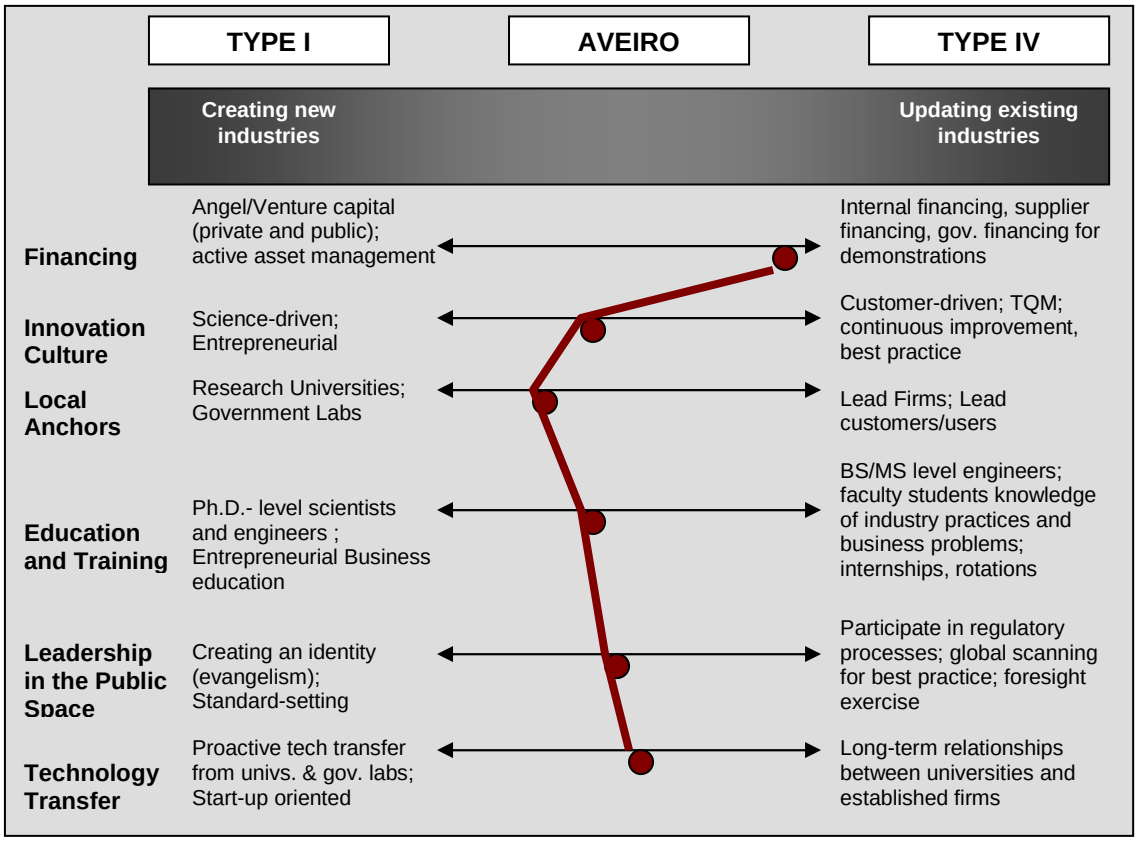
— Aveiro is a city where the offer seems to surpass the demand in terms of knowledge creation, and in fact most of the scientific production both from the local university and private labs established in the city are not directed to local industry but to external consumers; the opportunity for Aveiro is to build on this scientific and technological offer in order to capture more industrial investments and foster the creation of more companies in high-tech, high-growth sectors.

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 shown, and further training and re-qualification programmes are needed at local level, to be piloted by the local authorities, possibly in partnership with the university and industrial associations. For the second objectives, the local innovation system must be improved, with a more integrated and pro-active approach to technology transfer and venture capital and the strengthening of the links with lead local firms as Vista Alegre.

— Aveiro has developed over the last years very successful projects in terms of improvement of public services, as the “Loja do Cidadão” and “Aveiro Digital”, which have resulted in an excellent standard of services, in particular for those living in the town itself. But the city still suffers from a unbalanced urban development, with a sophisticated and cosmopolitan urban centre and nearly rural surrounding areas, which has its effects in the global standards of quality of life and on the city image. Social and cultural life is also below standards of comparable towns in terms of economic development.

Aveiro needs to address the issue of urban planning to expand city limits and increase the attractiveness of its surround areas, in order to be able to increase its critical mass in terms of population while maintaining its standards of affordable quality of life and services. More important, it needs to project a more dynamic and active image, building on its assets and increasing the national and international visibility of the city.

3.3.2.5 – Innovation Path



Financing	Financing system is almost exclusively based on government financing of companies own financing. There is no private financing system for innovation and research.
Innovation Culture	Innovation culture is still strongly driven by the University, but the emergence of several private research labs of international relevance in the ICT sector has given it a more entrepreneurial nature. The challenge now is to expand this culture into other sectors as well, for which the support of private R&D infrastructures is key.
Local	The ICT sector has a relevant number of research organisations – both public and private – that surpass local needs in terms of R&D; in other sectors there is a lack of

Anchors	Lead Firms with strong R&D presence.
Education and Training	The university follows a classic European model with limited interaction with industry – the adoption of Bologna may improve things in this matter. There is a relevant course in industrial management at the university, but there is no top-level business education in the city.
Leadership in the Public Space	Aveiro has been a pioneer in several projects aimed at leadership in public space, often with the participation of the university as "Aveiro Digital" or the "House of Future". The refurnishing of the former "Cerâmica Campos" into a public building is also a visible result of the city effort in this field. But all projects are too focused in the city urban centre and have failed to expand the city dynamics in terms of innovation and knowledge into surrounding areas.
Technology Transfer	Technology transfer networks and technology transfer agents – brokers, private incubators, etc. – are very limited in the city, as in most of the country.

Main Findings:

Aveiro has been successful in capturing new sectors into the region (TYPE II innovation) thanks to a very dynamic university, a set of natural factors and political decisions. This has resulted well in the Telecommunications sector, but to work in a sustainable way in other sectors as well it needs to attract more lead firms, either from the outside, or by a more aggressive positioning from already established firms (e.g. Vista Alegre in decorative ceramics, Revigrés in industrial tiles). It also needs to speed-up the qualification of its work force, which is still below European standards. In order to do so, city authorities must work with lead firms in the driving of local, national and European programmes into the strengthening of its R&D capacities (e.g. the creation of "VA Inovação") and with the local university and industrial associations into the set-up of improved training and qualifications programmes.

3.3.2.6 – Conclusions

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. It also needs to create local anchors and the development of a "VA Inovação" – as public private partnership for R&D in the ceramics sector headed by the Vista Alegre factory – could play a similar role to that played by PT Inovação in telecommunications.

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.

What Aveiro can share with the UNIC Network:	What Aveirocan learn from the UNIC network:
The experience in capturing private R&D investments	Development of Centres of Excellence in the ceramics field.
Very good level of citizen services, in particular through the development of e-services.	Management of Training and Qualification programmes
Heritage preservation and conversion in public space as in Cerâmica Campos.	Marketing strategies and campaigns

3.3.3 CITY OF PÉCS (H) – Partner city

3.3.3.1 - Overview

Pécs, with its 162,000 inhabitants is the fifth largest city in Hungary and the largest in Transdanubia (South West Hungary). Located in the midst of an agricultural area, Pécs is the natural hub of local products. Many of the factories have been founded in the 1850s and 1860s (e.g.: Zsolnay ceramics, Angster organs) and have soon become well known in Hungary and have been acknowledged ever since, but most have suffered from the economic transition since the fall of the iron curtain.

The University of Pécs is the first in Hungary and one of the oldest in all of Europe. The modern University of Pécs was founded on 1 January 2000 through the merger of Janus Pannonius University, the Medical University of Pécs and the Illyés Gyula Teacher Training College of Szekszárd - it has its more than 33,000 students and nearly 2,000 teaching and research staff.

Pécs faces several problems: local industry has undergone a serious downturn due to the recession in the market of traditional industrial products (ceramics, mining), and real estate city centre (mostly national monuments) unutilized in 60-70 % and damaged in consistence.

The main challenges for Pécs within the scope of UNIC are related with the development of the Zsolnay Cultural Quarter – within the framework of Pécs nomination as one of Europe's Cultural Capital in 2010 – and the re-shuffle of industrial development.

3.3.3.2 – The Local Support Group

The Local Support Group includes the following organisations:

1) Local Authorities – Managing authorities Operational Programmes	City of Pécs	www.pecs.hu
2) Industry	Zsolnay Porcelánmanufaktúra Zrt.	www.zsolnay.hu

3.3.3.3 – SWOT Analysis

PÉCS									
Strengths	S1. – Pécs has a well known university, of world fame in the field of medicine. The university is also the largest university and the most significant employer of the region. S2 - Internationally renowned education programmes in English	S8 – The university has a leadership position in the research and innovation arena.	S9 – The city has a diversified economic basis that offers a good demand for technological services.	.	S7 – Pécs has been awarded the UNESCO World Heritage Site classification	S3 – The city has an international student basis, contributing to a cosmopolitan way of life and to city animation S4 – There is a strong cultural offer and a population with an habit of consuming culture	S5 – Lodging prices below national average	S6 - Multilingual, educated, skilled and motivated workforce.	S10 – The city has managed successful applications as UNESCO heritage site and as European Capital of cultures, which shows active promotion and branding.

Weaknesses		W1 – Local networks are weak – there is a lack of social and economic relations, and the university does not act as a Centre of Competitiveness, but as an isolated organisation.	W2 – Economic and industrial development level and infrastructural conditions of the region are poor.	W3 – Dissemination and transfer practices of basic research are underdeveloped		W4 – The city lacks a Museum of national level	W5 – Inflexible labour market, educational institutions are slow in responding to market demand	W7 – Very bad connections - Non-electrified international railway connections from Pécs and bad state of internal road system, are major limitations to further development.	
							W6 – Infrastructures (Insufficient waste water and solid waste management) in need of improvement.	W8 - Low ratio of higher education qualifications compared to national average.	

Opportunities	O1 - Student base reaching over the region, with different educational forms	O2 – ERDF funds, recently accessible to Hungary, are a major opportunity for the development of infrastructure for fostering the innovation system	O10 – Pécs University has potential for becoming a regional pole of excellence.		O4 – The 2010 Capital of Culture label is a major opportunity for a transformation of Pécs into a more dynamic and internationally visible city.	O6 - Pécs has a UNESCO World Heritage site and surrounding area has famous tourist sights	O7 – ERDF funds and the 2010 European capital of culture label bring plenty of opportunities for development and improvements of living conditions: including the building of an airport in Pécs-Pogány and an highway to Budapest.		O9 – 2010 can change the face of the city
		O3 – The geographical situation, close to the Croatian and Serbian borders, opens the doors for an expanded regional market.			O5 – There are plans to create a growth pole of Pécs counterbalancing the monocentricity of BudapestNew regional public-administrative functions are planned to be set in the town to create a middle sized town with substantial regional and cross border effects, which is only partial at present.		O8 - There is a 13% average annual rise in overall Productivity, which will certainly bring improvements in quality of living		
Threats	T1 – There is a risk – already visible – of brain drain by international markets and business sector.				T2 - Lack of detailed plans in certain sectors (education, thermal tourism development),				

Main Findings

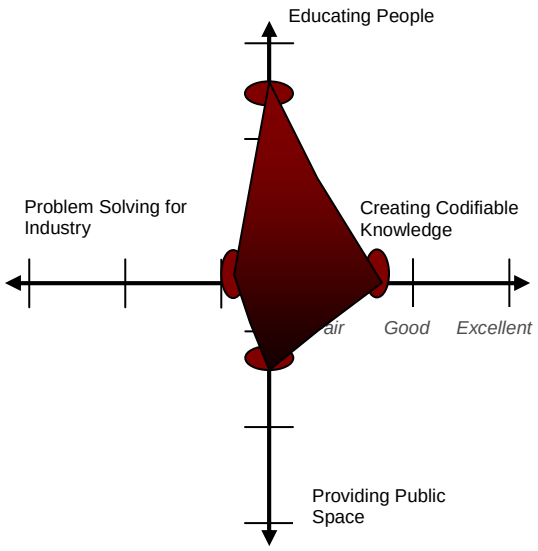
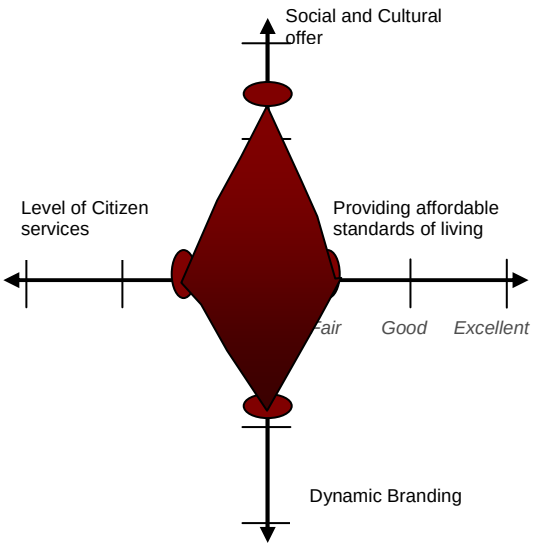
— Pécs is home to a large university (+33.000 students) with a strong reputation, especially in health sciences (S1). Universities in eastern countries had had to go through the same change process as all other economic actors, as in the "old regime" management of research activities was centralized in the Academy of Science and wasn't performed at university level, and technology transfer or entrepreneurship promotion activities were totally absent (W3). But the Pécs University has certainly the potential to become a regional Pole of Excellence (with an influence not only in Hungary but also over neighbour Croatia) in fields as materials (O10) and to become a service provider for an industrial sector in fast productivity growth (O8), especially if it manages to contain the brain drain visible in all eastern countries (T1) and to learn from successful European experiences.

— All New Member states have a large potential to be exploited in terms of economic development and Hungary is no exception. The city can strongly benefit from the current package of structural funds (O2) to initiate large scale projects that can act as catalysers for the whole economy, and the planned Zsolnay Cultural Quarter is a good example – but it is necessary to think of such projects in a long term and sustainable way and beyond the short term objective of Pécs 2010 Europe Capital of Culture (O9). The sharing of experiences with a city as Sevilla and its Cartuja'92 project (converted into a technological park after having hosted the World Fair in 1992) can be positive for Pécs. Such a large investment as the Zsolnay Quarter need to plan in terms of future activities and its potential for attracting and hosting large scale periodical events, and for that the city authorities capacity to acquire and manage structural funds must also be developed.

— Pécs has a experience of a successful application as a UNESCO Heritage site (S7) that can be shared with other cities and a good level of tourist visitors, in spite of its bad transport connections (W7); the Pécs University has also been more successful than most in attracting an international community for the city (S2, S3) than can play an important part in making it more visible and attractive in the international arena (O4).

— Like in other Eastern regions, environmental issues and sustainable development have not been a priority in Pécs until very recently. But the region is still characterized by an important agro-food sector, producing natural goods (S9), and has the potential to become a flag holder for sustainable development growth, at least at regional level (O3).

3.3.3.4 – Positioning

New knowledge creation (Combining heritage and innovation)	New identity creation (City as a centre of attraction)
	

Main Findings:

— There is a solid education/knowledge basis in Pécs, and a huge potential for development both in geographical (Pécs is the most important Urban centre in the region, also covering the border regions in Croatia and Serbia) and also in terms of critical mass, with an important population agglomeration and a wide international student community already in Pécs; on the contrary, and following the tradition of most Eastern and Central Europe regions, university –industry relations are recent and still very poor.

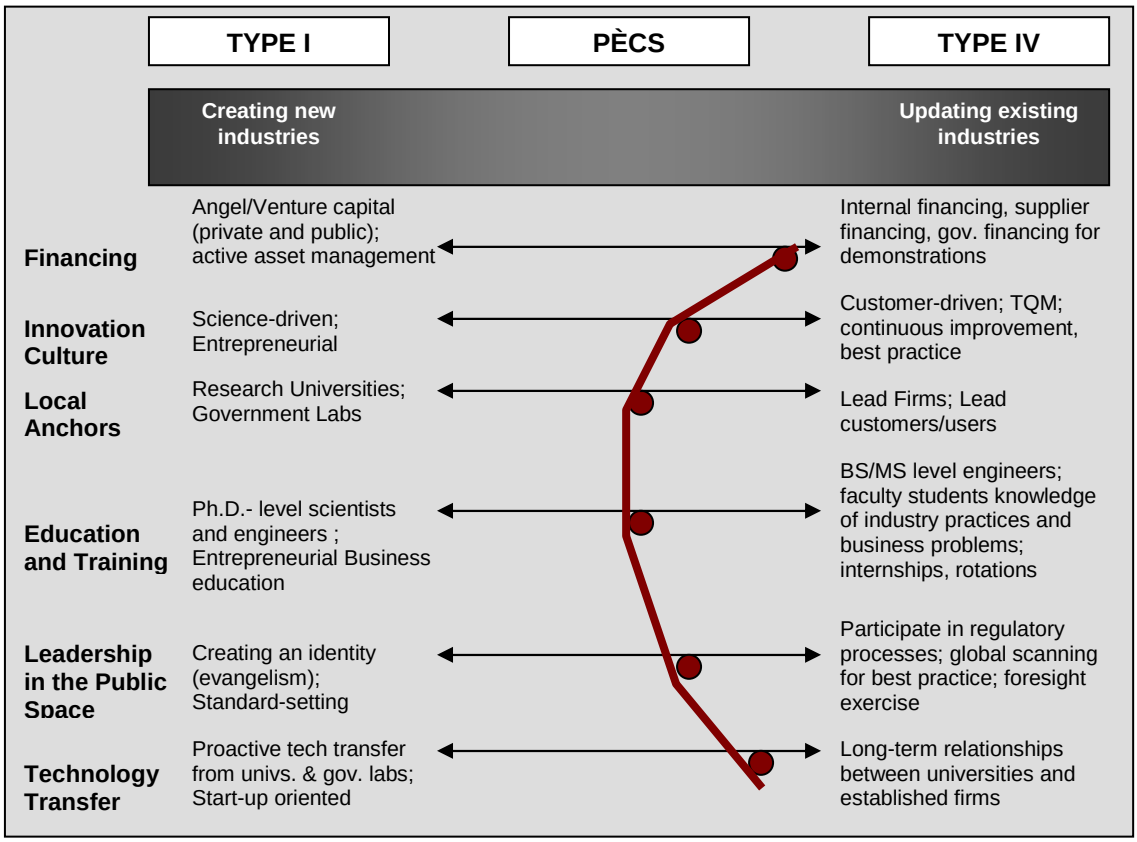
A major investment in interface bodies (technology transfer offices, incubators, applied and contract research based institutes and departments) is needed in order to establish the university as a service centre for a an industry that its also in the middle of a transformation process. Structural Funds provide an opportunity to create such bodies, but for that Pécs must be quick in learning with similar European experiences and efficient in acquiring and managing such funds, for which the creation of a dedicated agency could be justified.

— Pécs has an intense social and cultural life, benefiting from being an university town with a large international student community, and from strong ratios of tourism, mainly from inside Hungary. Hungarians are a culture-oriented people and good consumers of

social and cultural offer. But the city has major needs in terms of level of services and infrastructures and standards of living, as is typical of region in economic transition.
The large investments currently on-going or planned for the city within the framework of its nomination as 2010 European Capital of Culture will certainly improve things in those aspects but it is important that investments are thought in terms of sustainability and that they will continue beyond 2010.

To do so, Pécs should learn from the experience of other European cities that have undergone similar transformations and modernise and professionalize its citizen services, cultural and tourism structures. In particular, a well thought marketing campaign that projects an image of the city beyond 2010 is necessary.

3.3.3.5 – Innovation Path



Financing	Financing is almost exclusively dependant on public sources. Private funding sources are very limited.
Innovation Culture	Innovation culture is science driven, with the university playing a growing role, but still far from becoming a recognised centre of excellence of international level in the fields of material or engineering, with poor industry relations. Entrepreneurial culture is still incipient.
Local Anchors	The University of Pécs has the potential for becoming the main anchor at regional level, in an extended region also comprehending the border regions of Croatia and Serbia. But further public and private investments are needed in order to move to a cluster scenario, with larger industry participation.
Education and	The university forms top class graduates and Ph.D. especially in areas as Health Sciences, but knowledge of industry practices is still incipient and needs to be

Training	developed.
Leadership in the Public Space	There is a lack of public fora for improved research –industry cooperation and innovation (science parks, incubators, private-public partnerships…). The Zsolnay Quarter can become a key infrastructure in this field. Association levels amongst industry are also low, and should be improved with public support.
Technology Transfer	The University does not have a tradition of technology transfer or of entrepreneurship promotion, but links with firms are also relatively recent; a major investment in the creation of interface bodies is necessary.

Main Findings:

Pécs is following a model of transition based on the updating of existing industries (TYPE IV innovation) based on a university that has the potential to become a regional centre of excellence and strong backing from structural funds for industrial modernisation. But for the model to be successful the level of university-industry relations needs to be improved, in particular through the promotion of a more pro-active attitude from the part of the university, possibly through the creation of interface bodies and incentives schemes.

3.3.3.6 – Conclusions

Pécs has been exemplar in preserving and marketing its cultural and industrial heritage, having also earned a UNESCO heritage distinction and having successfully applied to become one of the 2010 European Capital cities of Culture. This has gained Pécs a good level of regional and international visibility that is reflected in high numbers of visitors (mainly from inside Hungary) and a large community of international students. Under this tradition the project for the transformation of the former Zsolnay factory into a cultural quarter can further reinforce the attraction of Pécs, but the project must be thought in terms of sustainability and long term goals, namely in terms of its role in the transformation of Pécs traditional industry and the role that such a space can play. For this, the sharing of experience with other cities will be important.

The nomination as 2010 European Capital of Culture provides a major opportunity for Pécs to continue and advance its transformation into a more competitive and visible city. But it is important to continue the same route beyond 2010 and to find new and periodic events that contribute to mobilise the city and its players, and make extensive usage of the resources and infrastructures that will be put in place for 2010, while the need for further and continued investments in the quality of its infrastructures and citizen services, possibly requires the set-up of professional structures.

The University of Pécs also has the potential to become a regional Competitiveness Centre, in areas as Health Sciences but also materials, and in particular ceramics. But for that the University must strengthen its interface bodies and the relations with industry. The structural funds now open to Hungary open good opportunities for accomplishing these challenges, but for that Pécs should establish a professional agency to acquire and manage such funds, and learn from other European experiences.

The geographical location of Pécs and its attachment to natural resources make it possible to combine the bet in research and innovation with concerns with sustainable deployment growth, which are ever more important in the world's agenda.

What Pécs can share with the UNIC Network:	What Pécs can learn from the UNIC network:
UNESCO Heritage and the mobilisation around the nomination as 2010 European Capital of Culture.	The management of a Centre of Competitiveness, university – industry practices
	Management of ERDF funds
The experience with the Department of Arts and Design in Pécs University and its contribution to developing local creativity.	How to improve citizen services
	How to place sustainable development issues in the research and development agenda.

3.3.4 CITY OF DELFT (NL) – Partner city

3.3.4.1 - Overview

Delft is a city of about 100,000 people, well known for the Delft pottery ceramic products which were styled on the imported Chinese porcelain of the 17th century. The city had an early start in this area since it was a home port of the Dutch East India Company. The ceramic tradition, albeit now small in economic terms, is still part of the city heritage and is reflected in the current large project to establish a Museum Factory at the premises of Royal Delft, the main surviving company, a project of about 15 million euro that is expected to become the centre of all local activities around ceramics.

More recently, Delft has been establishing new colleges, a new high tech business location (called Technopolis) and as many as four buildings especially for various companies, TNO (the Dutch Organization for Applied Scientific Research), and the University of Technology (TU Delft). Delft University of Technology (TU Delft) is one of three universities of technology in the Netherlands. Founded as an academy for civil engineering in 1842, today well over 16,000 students are enrolled.

The UNESCO-IHE Institute for Water Education, providing postgraduate education for people from developing countries, draws on the strong tradition in water management and hydraulic engineering of the Delft University.

As from 1 January 2008, Delft benefits from a new and independent institute for applied research and specialist advice. Together with parts of Rijkswaterstaat, Delft Hydraulics, GeoDelft, and a part of TNO Built Environment and Geosciences form the Deltares Institute. The institute employs more than 800 people. Deltares has a unique combination of knowledge and experience in the field of water, soil and the subsurface. It is frontrunner in the development, distribution and application of knowledge for meeting the challenges in the physical planning, design and management of vulnerable deltas, coastal areas and river basins.
Deltares works for and cooperates with Dutch government, provinces and water boards, international governments, knowledge institutes and market parties Deltares stands for the right balance between consultancy and research at both the national and international levels. They are concerned with areas where economic development and population pressure are high, where space and natural resources both above and below the surface have to be used and managed in multi-functional and intensive ways.

Delft current strategy is to present itself as an innovative city of technology and design. Further challenges are to foster research & technological innovation, in particular in materials and with the tradition of crafts, the value of culture (in a broad sense), vocational training and economic activities in general, in order to fight unemployment, prevent loss of skills and knowledge, and improve social cohesion and related cultural life.

The present main challenge for Delft within the scope of the UNIC project is the reshuffling of the city heritage in ceramics, in line with its marketing strategy, and focused in particular in the creation of the Museum Factory of the Royal Delft factory.

3.3.4.2 – The Local Support Group

The Local Support Group at Delft includes the following organisations:

1) Local Authorities – Managing authorities Operational Programmes	City of Delft*	www.delft.nl
2) Cluster	Chamber of Commerce	www.kvk.nl/regio/denhaag
3) Education and Research	Fac. Industrial Design TU Delft	www.io.tudelft.nl
	Valorisation Centre TU Delft**	www.tudelft.nl
	Mondrian College ***	www.mon3aan.nl
4) Industry	Royal Delft (factory Delft Blue)	www.royaldelft.com
5) Cultural	World Art Centre	www.worldartdelft.nl
	Working Group Delft Ceramic City	tinekevangils@delftceramiccity.nl
6) Other	West- Holland Association of Water/Nautic Centre Delft	www.WaterWegWijzer.nl
	2009-2011various entrepreneurs + organisations	If needed for implementation

3.3.3.3 – SWOT Analysis

DELFT									
Strengths	S1 – TU Delft is strong in the human resource capacity of experts, has a leading position in research through the TU Delft Research Centres.	S2 – The university has a large scope of research areas, addresses management issues in an energetic way, including the development of the research portfolio, financial planning and economising and staff management, has a unique combination of expertise and valuable infrastructure in experimental and numerical research, has success in getting external funds and has great contributions in national and international committees	S3 – Delft has already evolved from a ceramic industry town, to a multidisciplinary town – hydraulics, services, electronics, … - with a strong component of knowledge intensive services. The research infrastructure, and in particular TU Delft has adapted its offer to this change and environment and maintains a strong level of cooperation with industry.	S4 – TU Delft has a very good to excellent academic reputation, especially at international level. The scientific staffs of most of the programmes have published in scientific journals and collaborated internationally with top Universities like MIT, University of Tokyo, University of Oxford, Imperial College London, University of Texas, ETH Zürich, etc.	S5 – Delft urban development is clear, with a historical city centre with the function of entertainment centre, shopping area, fun-shopping and cultural centre.	S6 –As a university town, Delft has an intense and animated social and culture life S10 – In the ceramics field, the Royal Delft factory is still a major tourist attraction within the city, even before the planned establishment of the Museum Factory.	S7 – Delft is strategically positioned close to the main communication axis, not only in The Netherlands, but also for Europe	S8 – Delft has a a level fo citizen services in line with the rest of the country, i.e. well above the European average, and further benefiting from its relatively small and manageable size.	S9 – Delft has a clear marketing strategy developed by an autonomous marketing department, building on the 3 main assets of the city for its promotion: Delft Blue, the connection to the Orange Royal family, and the famous Vermeer painter.

Weaknesses	W4 – Delft lacks adequate study facilities in the field of ceramics (i.e. handicrafts)			W1 – The university is facing increasing competition in access to funding – both national and European – and must strive to maintain its level of excellence.		W2 – The cultural heritage of ceramics is weak, and not served by any major museum.	W3 – as for the rest of the country, living standards in Delft are expensive as regards European average		
Opportunities	O5 - New college buildings (higher education) are under construction so as to increase research and education capacity		O1 – TU Delft is open to change and has further developed the fields of building process innovation and environmental engineering. The initiation of thirteen Delft Research Centres for multi or interdisciplinary fields of re-search has proven to be a successful strategy and an opportunity for improved cooperation with industry. O2 – High demand for applied technical knowledge	O2 – The Ducth national innovation system provides several incentives for scientific production		O4 – The projected Royal Delft Museum Factory, will at last provide Delft with a cultural assest worth of its image; its proximity to TU Delft is an asset for a dynamic usage of the space for other, more innovative, purposes.			O3 – The image of Delft, if correctly marketed, is attractive to a cult, qualified and innovative target public that suits its development strategy.

Threats		T1 – Competition from other Dutch towns in the capture of knowledge companies is intense			T2 - Delft has reached its boundaries for development, so instead of expansion there can only be intensification, with risks of losing its entity.				

Main Findings

— Delft has already in large scale accomplished its transition into a knowledge economy, supported by a dynamic and open to change university (S1)and a competitive services and knowledge-based industry sectors in areas such as hydraulics, electronics, …(S3) . This change has also been strongly supported by an aggressive national innovation system (O2), with top class programmes for university-industry cooperation (including the pioneer "voucher scheme for R&D" which is now being transferred into several other European countries) and an innovation –directed public procurement policy. The challenge for Delft now is to strive and progress in this knowledge economy, in direct competition with other cities in Holland and elsewhere in Europe (T1) for capturing the best companies and the more talented people. For it Delft must seek into its unique characteristics and into its heritage, which need to be further valorised and marketed (O3).

— The university started with a Centre of Valorisation, to bring their knowledge on the market. It should support our endeavour to exploit the knowledge, specially in broad use of innovation for ceramics. Also the input of the faculty of Industrial Design will be an great opportunity, who will join us in the process of making product innovation, to design new products for mass-production and to make ceramics a lively design product for a younger generation. As a consequence of this, the marketing of the product of ceramics will be more attractive for producers, distributors and consumers. Hopefully it will also attract artists, designers and (traditional) ceramists to Delft, so the climate for ceramics will be strengthened for the long term. To make it work is to connect of production-distribution-consumption of ceramics in Delft and make them work together. A major periodical event could to the trick. As a example, if we can marketed this in our European network and in its effort to compete in world globalisation, we should getting value for money. But, it should not be only focused on ceramics. A more wide-extended perspective with the history of innovation in Delft (17th century The Golden Age), our local history and tradition of water (management and engineering, IHE on Deltares) to present innovation, should completed the transition of a knowledge based city by connected it with its own heritage: "*good future plans are always rooted in the past*".

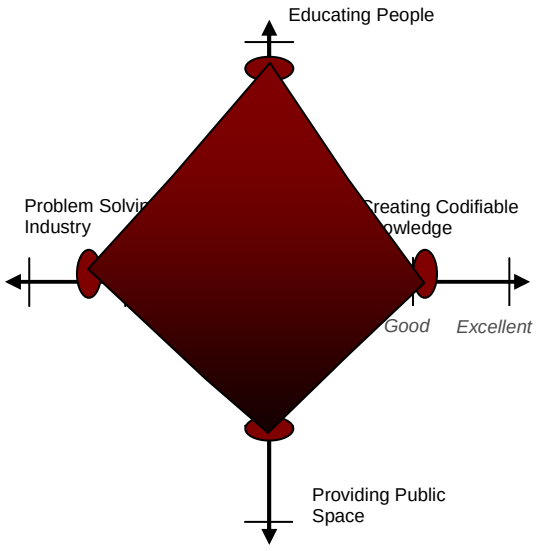
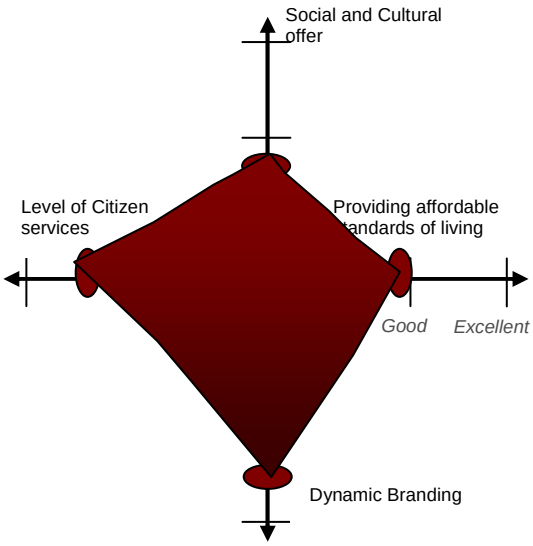
— The process of proactive marketing of the image of Delft has already begun, and the city authorities have understood that the marketing of a city is as important as – and in fact not very different from – the marketing of a mass product as soap or a soft drink. For that the city has created a marketing service and hired marketing professionals that have started by clearly identifying the main city values and are starting to deploy a marketing campaign around them (S9). This process is a good benchmark for other cities which need to better project and disseminate their images at both national and international levels.

— As important as marketing may be, for a sustainable favourable image, the characteristics of the product are still the most important. And while the Delft tradition in ceramics – and in particular the famous "Delft blue" type of porcelain – have been identified as one of the city three main assets (together with the links with the Orange royal family and with the Vermeer painter, the author of the portrait "Girl with Pearl earring" that was the basis for a Hollywood picture – i.e.

Blue, Orange, Pearl), the city actual heritage is ceramics is poor. Delft lacks a European level museum and at present, doesn't even have a relevant factory museum (W2). The city is aware of this and a plan exists for the creation of a factory museum in the last survival ceramics factory, Royal Delft. The proximity of this factory to the Delft University campus and the striving artist community in Delft, do however suggest the opportunity to go beyond a simple factory museum and to establish an Arts and Creativity Centre, with public and private shareholders, including the University and the City Council (O4).

— The Technical University of Delft has played a key role in the city transition into the knowledge economy and must continue to play a leading role, for which it will continue to need public support. The recent creation of thirteen Delft Research Centres (O1) for multi or interdisciplinary fields of research is an opportunity for improved cooperation with industry, and support for emerging sectors, but it also represents a risky and costly strategy that needs to be backed by public funds and programmes, as it happens in many other European countries.

3.3.4.4 – Positioning

New knowledge creation (Combining heritage and innovation)	New identity creation (City as a centre of attraction)
	

Main Findings:

— The transition into a knowledge economy is largely accomplished; the city based higher education schools accomplish their role in terms of educating people, but also in problem solving for industry and in creating codifiable knowledge that can

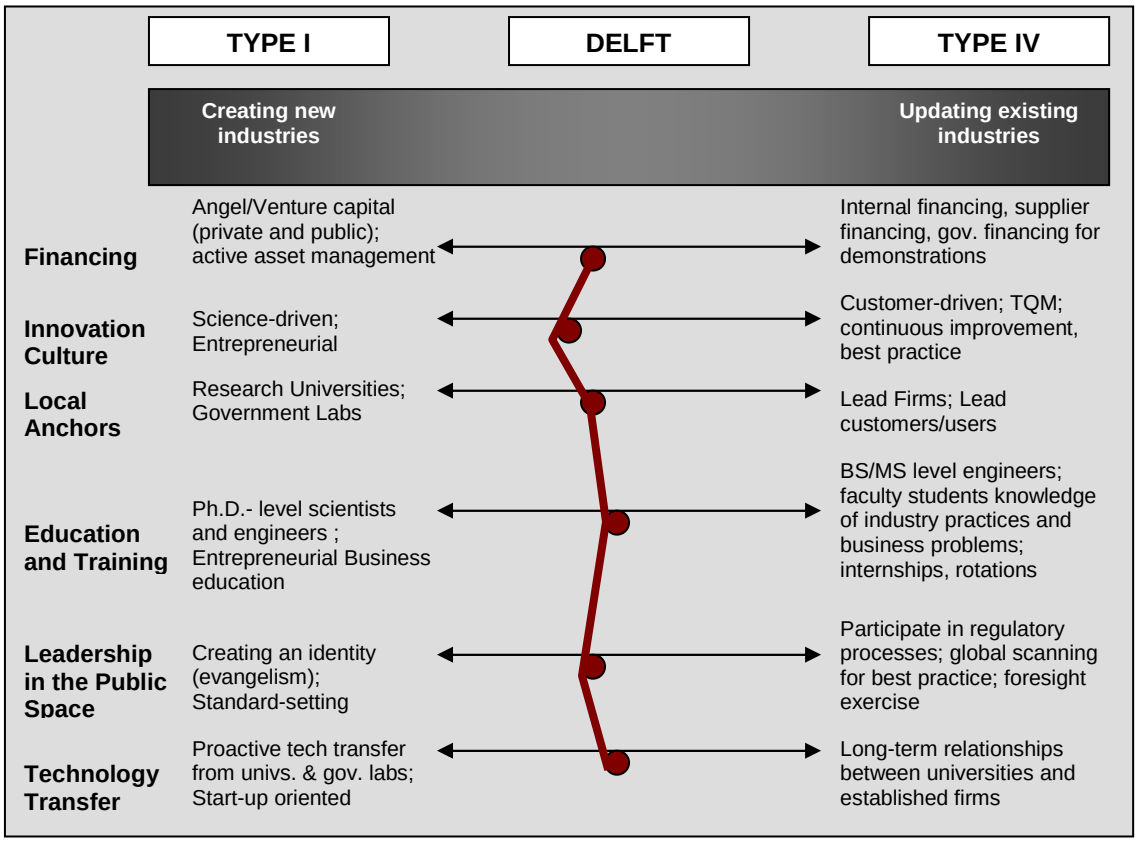
be at the basis of new sectors and industries. It also provides public space under the form of science parks and incubators and for cooperation and innovation.

To perfect the system, it is only needed to further develop the financing system, to provide more maturity for venture capital and other private financing sources bring more private agents into the innovation and technology transfer processes (brokers, consultants, private incubators….).

— The city of Delft has a very good level of citizen services in level with the rest of the country and good, albeit expensive, standards of living, The city is a benchmarking in branding of its image, at least within the UNIC framework of cities, but needs to reinforce its ceramic heritage to go along with its image, and be able to make the sought step further in terms of visitors and international visibility.

The creation of the Museum Factory at Royal Delft is a first step into that direction, but to fully exploit its potential the city would need a major periodical event in the field of ceramics – like a biennial or a major thematic exhibition.

3.3.4.5 – Innovation Path



Financing	The innovation system comprehends both public and private financing sources, and angel and venture capital is well established in Holland.
Innovation Culture	Delft has a strong innovation culture, nourished not only by its dynamic university but also by a multitude of competitive firms.

Local Anchors	The university is the main anchor, but the industry sector is strong and innovation focused, albeit it lacks a "big name" to catalyse innovation around it.
Education and Training	The university is focused on problem solving for industry and university courses follow and adapt to market trends. There is a good degree of entrepreneurial education and business oriented courses and post-graduations.
Leadership in the Public Space	By its size and nature Delft is very much a Living Lab, and the town has a leading position in public space for innovation.
Technology Transfer	Like all Dutch universities, also TU Delft is active in technology transfer and creation of spin-offs although not with the same success of Twente.

Main Findings:

The innovation system in The Netherlands is amongst the most advanced and mature in Europe and Delft is no exception. The city innovation system, strongly based in a dynamic and open to change university and in a network of innovative firms is suited for TYPE I and TYPE II forms of innovation, i.e. creation or capturing of new industries, which has already taken place in several knowledge intensive services and industries, as hydraulics, electronics…
For further innovation, the city and university needs only to perfect their innovation model (with cities as Oxford and Twente as a benchmark) through more pro-active technology transfer and financing mechanisms, possibly with the encouragement and support of more private actors (agents, brokers, private incubators) – and also to wait for a large scale "success story" to show up.

3.3.4.6 – Conclusions

Delft has already largely accomplished the transition into a knowledge based economy, on the basis of an open and dynamic university, not afraid to experiment new courses and new research centres, and a competitive and supportive national innovation system. The Dutch innovation system and its measures has been an inspiration for many other systems in Europe, and the role played in the development of Delft knowledge based industries by schemes as the "R&D vouchers", "voluntary agreements" and "innovation oriented public procurement" should be further studied.

The city of Delft has assessed the need for a clear and professional marketing strategy, that valorises the city main assets, and has put it in place by means of a professional and dedicated structure served by marketing professionals, in a positioning that serve as inspiration to other cities in Europe.

While Delft continues to project a strong image based on its ceramics past, the preservation of the industrial and cultural heritage in the field has been less than excellent. With a strong aim to increase the number of year visitors (currently much below a town as Stoke-on-Trent for example) the city must develop more cultural attractions and organise large scale periodic events that can exploit the city's potential.

What Delft can share with the UNIC Network:	What Delft can learn from the UNIC network:
The largely accomplished transition into	The preservation of cultural heritage and

knowledge economy, based on a dynamic university and a strong national innovation system	the management of tourism sites and campaigns.
The role of its University, in exploring new industry-oriented courses and research areas	The cooperation and interaction between local politicians (executive) and local stakeholders like TU, industry, cultural institutions, designers, ceramists to promote ceramics as a main asset of the city, and the organisation of large scale events
Its marketing strategy and implementation	

3.3.5 CITY OF SELB (D) – Partner city

3.3.5.1 - Overview

The city of Selb, a town with nearly 17.000 citizens, is located in the north of Bavaria, at the border to the Czech Republic.

The city's industry has been dominated by the production of porcelain. In the middle of the 90ies, the ceramic industry suffered from a sales crisis which constituted a drastic break in the urban development: the number of employees decreased by 19%, the number of inhabitants by 9% (with a further downward trend). The unemployment rate of 10% is accompanied by the ageing of the inhabitants (42% are older than 50 years). Therefore, a sustainable urban development, taking into consideration both demographic and economic changes, is the central urban and economic aim.

Selb is also developing an approach to new economic fields like suppliers for the car industry, tourism or electronics.

The challenges for Selb are to continue with its economic transformation, through the development of areas such as electronics, automotive components and the licensing of new large shopping outlet areas, while building on the strong heritage established by firms such as Rosenthal or Hutschenreuther.

3.3.5.2 – The Local Support Group

Selb will be represented in the project by Porzellanikon, the The European Industrial Museum of Porcelain Manufacture.

3.3.5.3 – SWOT Analysis

SELB									
Strengths	S1 – Selb benefits from the strong education system in Germany and from the vicinity of several renowned universities, such as Nuremberg or Hof.	S3 – The city has a technopole where several high tech companies are based	S4 – Germany has a strong tradition of university –industry cooperation, and SElb based industries have research connections with neighbour universities and government research labs.			S5 – The European Industrial Museum of Porcelain Manufacture, a technical museum on a resolutely European scale, with workshops open to the public.	S6 – Housing prices in Selb are much below Germany and Bavaria averages, average cost of living is fairly reasonable for Germany.	S7 – Like elsewhere in Germany, the standard level of citizen services is of good quality, which in Selb is reinforced by the proximity between the citizens and the local authorities.	S9 – The "German capital of Porcelain" image
	S2 – Selb has a renowned professional school for designers, albeit with a reduced number of students (about 100/year)					S10 – Selb attracts a large number of one-day visitors, for its factory shops		S8 – Selb is located close to the Czech border, in the axis Hof-Rehau-Selb-Marktredwitz-Cheb, with good connections.	
Weaknesses	W1 – There is no university education in Selb, students have to move elsewhere and often do not return						W2 - Unemployment figures above the Bavarian average		W3 – Selb is poorly known outside Germany, and there is few or none international promotion of the city.

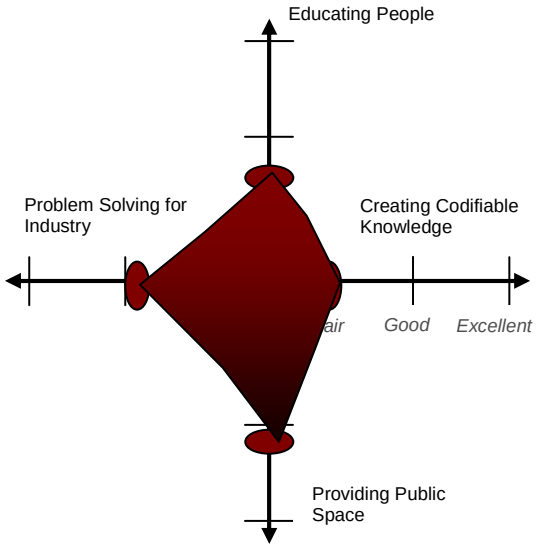
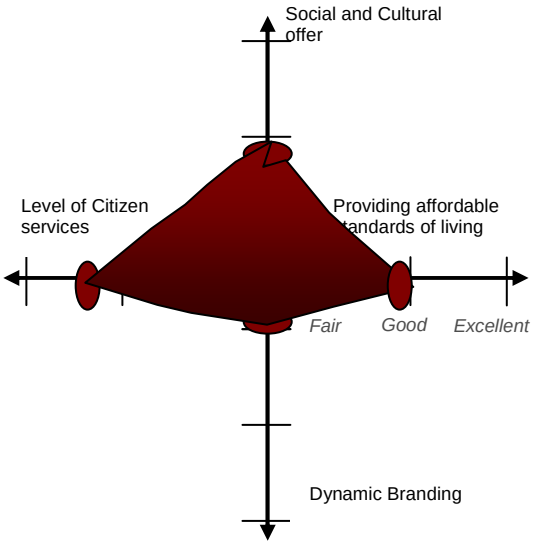
Opportunities			O1 – World leading high tech companies such as H.C. Starck, VISHAY and market leaders such as BHS are based in Selb.			O2 – The European Industrial Museum could provide a basis for larger scale cultural and business events			
Threats		T1 – The town suffers from a lack of critical mass, due to is small number of inhabitants	T2 – Restructure of the ceramic sector is an unfinished business; albeit the industry sector in Bavaria has largely completed its restructuring process, some structural reform problems remain in traditional industries such as porcelain.			T3 – The financial situation of the museum is weak, number of visitors is low – is it sustainable?	T4 - Ageing and decreasing population		T5 – If not preserved, the image of Self as capital of porcelain might be lost, and with it Selb's main differentiation character.

Main Findings

— Selb has a unique image in Germany, as the national capital of porcelain that clearly differentiates it (S9). However, the turmoil of the sector in Europe, hit by competition from low labour costs countries, has been particularly felt in Germany, and in Selb, in particular. Icon producers as Rosenthal maintain their factories in the city, but employment has decreased drastically (W2) and the sector is not as predominant as it used to be, both in economic and in strategic and policy terms. However, Selb maintains a strong ceramic heritage, visible on its streets and buildings, and the factory shops of Rosenthal, Villeroy & Boch and others still attract a large number of one day visitors (S10), which is a competitive advantage for the city. There is a habit of shopping in Selb, which the authorities now what to profit from, with the licensing of major outlet areas in domains as clothing, that may attract visitors from inside the country and from near Czech Republic (S8). While the strategy appears as correct, there is the danger that the ceramics ad porcelain heritage – which is what in the end brings the visitors to Selb – is eventually lost (T5), and with it the (single) differentiation factor of Selb. To prevent that from happen it is important that the local authorities continue to develop the porcelain-oriented cultural and commercial tourism, based on successful experiences as those of Stoke-on-Trent (5M visitors/year) and Faenza, which implies the development of an integrated networks of factory shops/ateliers/museums, other heritage sites, and in particular their main asset, the European Industrial Museum of Ceramics (S5).

— The city of Selb is too small to have an autonomous entity and lacks critical mass to develop its own development strategy, and must therefore follow the turns of German and Bavarian economic cycles (T1). While it can benefit from low housing costs and convenient facilities and services (S6) to compete in the very dynamic German market for the capture of industrial investment, it lacks the strategic instruments – e.g. university, large technology park, critical mass in terms of workforce, sea or air connections – to be able to attract large scale investments. Its main instrument is indeed the European Industrial Museum (S5) – an infrastructure unique in Europe, by its size and nature, but also with high maintenance costs for a small city as Selb (T3). The real challenge for Selb is to figure out what to make advantage of this infrastructure for its economic development. While its role in tourism is obvious, as mentioned above, its potentialities in terms of education, arts centre and creativity hub (e.g. a living lab for ceramic industry innovations) should also be exploited (O2). Albeit at a total different scale, the impact of the Guggenheim Museum in the transformation of Bilbao, Spain, is worth studying. One of the most viable applications for the Museum could be the association with a nearby university, in order to establish a pole for a design/creativity/innovation course and/or research institute based in Selb, and in that sense, a sharing of experiences with the changes held, and the new courses created at Delft and Staffordshire Universities is mostly recommended.

3.3.5.4 – Positioning

New knowledge creation (Combining heritage and innovation)	New identity creation (City as a centre of attraction)
	

Main Findings:

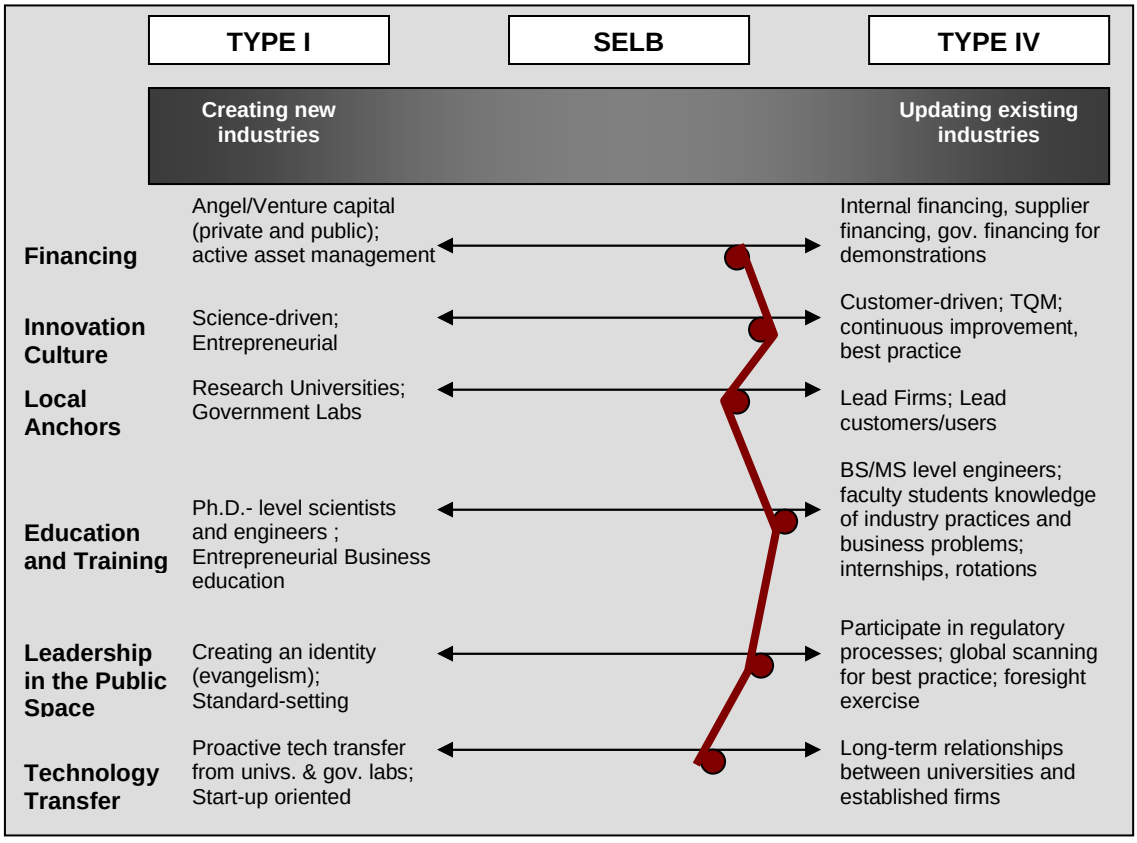
— Selb does not have local public research centres within the city limits, but is closely located to well know universities as Nuremberg or Hof, and to the Fraunhofer institutes in Erlangen (Integrated Circuits, Integrated Systems and Telecommunications) and Nuremberg (Logistics Service Industries), which have contributed to attract electronics and other high tech companies to Selb. With good road and rail connections to the major nearby centres, education at all levels, including on business and entrepreneurship, is also within easy reach.

To move a step further, Selb would need nevertheless to create a research identity of its own, preferably in a field where it already has a tradition as ceramics, and deploy public space for research and innovation. With the European Industrial Museum of Ceramics as its main asset – albeit the management is independent from the city council – the city should consider how to foster its relation with industry and research, one possibility being its association with an university for the development of a pole for higher education and/or research in an exploratory interdisciplinary field as innovative design, creativity or other.

— With a level of citizen services and standards of living in line with the rest of Bavaria, or below in terms of costs, the main need for Selb is to develop its social and cultural offer and in particular its branding and promotion, in order to attract more visitors but also inhabitants, to face an ageing and decreasing population. Tourism in particular is a major opportunity for Selb, and one where its image of "capital of porcelain" can be successfully exploited as shown in the examples of Stoke and Faenza.

But for that, Selb offer must be improved and an integrated offer with factory museums/shops and the European Industrial Museum must be planned and promoted, to serve as a sustainable anchor for other commercial oriented offers, as in the plans for a large fashion outlet.

3.3.5.5 – Innovation Path



Financing	Financing system for innovation is mature in Germany, but not significant in Selb, due to its small size
Innovation Culture	Innovation culture in Selb is deeply rooted in its ceramic industry tradition, and focused on quality control and continuous improvement. A change in mentality is needed to face the demands of the new electronics, car component and other high tech industry, more science-driven.
Local Anchors	Selb does not have public research institutions within its limits but firms as BHS (in the past) and H.C. Starck and Vishay (currently) are leaders in innovation, albeit too small to cause a catalyser effect towards other local companies.
Education and	There are no Higher Education Schools (HES) in Selb, only professional schools with a very limited number of students, highly focused on niche industry needs.

Training	
Leadership in the Public Space	The city has an industrial heritage to preserve, but lacks the symbols and public places to develop it and renovate it. The most obvious one, the European Industrial Museum, is not being used by the City for any economic development activities, at present.
Technology Transfer	Germany has a strong technology transfer tradition, namely in institutions as Fraunhofer, which has premises close to Selb. But no local TT or entrepreneurship infrastructures or services exist in Selb.

Main Findings:

Selb is at present undergoing a TYPE 4 – updating existent industries type of innovation, mixed with some efforts to bring new industries (TYPE 2) into the area. But Selb assets for this type of innovation are limited, with a clear lack of local anchors and financing and technology transfer instruments. To pursue and expand this type of innovation Selb authorities must consider the possibilities to set research anchors in the city.

3.3.5.6 – Conclusions

Selb is a city that maintains a unique image as "Germany capital of porcelain" but with a ceramics sector in crisis and loss of jobs and competitiveness, while other sectors start to take relevance and place higher in the list of political priorities. But to continue to attract new high tech companies and industrial investment in the very competitive German market, Selb needs to develop local services networks and anchors in terms of research and innovation, and build on its differentiation factors and on its major assets, of which the largest is possibly the European Industrial Museum of Ceramics – a unique equipment in Europe, but that needs to be exploited for the benefit of the city.

The city already benefits from a considerable number of one-day visitors, that stop at the factory shops of the porcelain manufacturers, but has the potential to increase their number and the duration of their stay. For that it must improve its cultural offer, and integrate the current factory shop offer, with ateliers and factory museums (as in Stoke or Limoges) and with the European Industrial Museum. While the city has plans to diversify the commercial offer for visitors, the differentiation and competitive advantage of Selb lies on its ceramics tradition, and this should be exploited before expanding to other offers, where Selb has less competitive advantages over other cities.

The effort on tourism promotion also requires more efforts on the promotion of the image of the town, and a strategic reflection on its core values, and how they should be projected.

What Selb can share with the UNIC Network:	What Selb can learn from the UNIC network:
The unique characteristics and potential of the European Industrial Museum of Ceramics	Development of local anchors in research and innovation
	How to better exploit ceramics-oriented tourism
	Marketing of its image and assets

3.3.6 CITY OF STOKE-ON-TRENT (UK) – Partner city

3.3.6.1 - Overview

Stoke-on-Trent, is formed by a linear conurbation almost 19 km long, with an area of 93 km², making it an atypical town in terms of urban development. Population is about 240.000. The city formed by the federation of six originally separate towns and numerous villages in the early-20th century. The original settlement from which the federated town (not a city until 1925) took its name was Stoke-upon-Trent, because this was where the administration (and chief mainline railway station) was located. After the union, Hanley emerged as the primary commercial centre in the city, despite the efforts of its rival, Burslem. The three other component towns are Tunstall, Longton, and Fenton. The city is the only one of the twelve English districts with elected mayors to use the mayor and council manager system rather than the mayor and cabinet system.

Stoke-on-Trent is considered to be the home of the pottery industry in England and is commonly known as The Potteries. Formerly a primarily industrial conurbation, it is now a centre for service industries and distribution centres. Since the 17th century the area has been almost exclusively known for its industrial-scale pottery manufacturing, with such world renowned names as Royal Doulton, Dudson Ltd, Spode (founded by Josiah Spode), Wedgwood and Minton (founded by Thomas Minton) being born and based there.In the late-1980s & 1990s Stoke-on-Trent was hit hard by the general decline in the British manufacturing sector. Numerous factories, steelworks, collieries, and potteries were closed, including the renowned Shelton Bar steelworks. This resulted in a sharp rise in unemployment in the 'high-skilled but low-paid' workforce. However, at Q2 2004 the unemployment rate had recovered to almost the same as in the wider West Midlands. KPMG's 'Competitive Alternatives 2004' report declared Stoke-on-Trent to be the most cost-effective place to set up a new UK business, which shows the efforts made by the city council through projects such as the ‘North Staffordshire Regeneration Partnership’.

The city is home to Staffordshire University (formerly North Staffordshire Polytechnic), with its main site in Shelton, near Stoke-on-Trent railway station. It gained its university status in 1992, and includes a Faculty of Arts Media and Design which holds several activities in support of the Ceramics Industry in Stoke-on-Trent. Other relevant universities in the region include Keele University, which is currently managing a ‘Bio technology Cluster’.

The City Council manages four museums, including the Potteries Museum & Art Gallery, home to a collection of Staffordshire ceramics and The Gladstone Pottery Museum, a working museum allowing visitors to see how 19th century potters worked.

The city’s main challenge is to continue its transformation from a declining manufacturing town into a more competitive economy, building on its rich ceramics heritage to attract knowledge based services and creative industries. One key element within this strategy is the organisation of the British Ceramics Biennial event, major new project for Stoke on Trent, building on the experience of the Stoke Ceramics

Festival 2003-07. The British Ceramics Biennial is intended to become a flagship cultural event that will significantly advance the North Staffordshire Regeneration Partnerships' strategies for the cultural industries.

3.3.6.2 – The Local Support Group

The Local Support Group includes the following organisations:

1) Local Authorities – Managing authorities Operational Programmes	City Council	www.stoke.gov.uk
2) Education and Research	Staffordshire University	www.staffs.ac.uk
3) Cultural organisations	A Fine Line Cultural Practice	www.afineline.co.uk

3.3.6.3 – SWOT Analysis

STOKE									
Strengths	S1 - There are four higher education institutions in the local area, and the city is home to Staffordshire University.	S3 - Most cost-effective place to set up a new UK business, according to KPMG, and North Staffordshire is the 'Enterprising Britain' Winners for 2007/08. This is a prestigious UK award given by the national government.	S5 – The university has build a reputation in new technologies and innovative courses, to follow the changing image of the city and region, including "Computer Games Design", "Broadcast Media", "Football Technology" and "Motorsport".			S6 – Stoke has a dynamic and integrated network of museums on the topic of potteries and ceramics, and several preserved industrial sites.	S7 – The city has the advantage of offering very affordable business and private property	S9 – There is a good level of social services, and good education and qualification facilities,	S10 – Stoke has a good image for tourism: around five million tourists visit Stoke each year, directly supporting around 4,400 jobs, and around 80% of visitors have previously visited, which shows a very strong image and offer.
	S2 – Stoke has undergone several projects for qualification of adults and has grown a solid experienced in that area	S4 – The city is home to about 9.000 companies, including some "new economy" success stories such as Bet365, and Phones4U a large retailer of mobile phones, and to a major employer as Vodafone.	S11 – In spite of the sector decline, some niche ceramic companies have survived and progressed, and could benefit from the city new focus on knowledge based services. In particular the region is still a major supplier for hotel ware.				S8 - Surrounded by a belt of extremely affluent areas (The Peak District, Stone, south Cheshire, Newcastle-under-Lyme) and having excellent road and rail links.		

Weaknesses			W1 – Manufacturing industries, which have been the economic basis of the district and the main innovation driver, are in severe decline.	W2 – Staffordshire University is a relatively recent university and is scientific production is below UK average	W3 – The city is fragmented with a weak city centre and poses several constraints in terms of urban development.				W4 – The image of the "the most 'Blue-Collar' city in England" still lingers
Opportunities		O1 – Venture Capital is more developed in the UK than elsewhere in Europe – what can be a major boost for the development of new companies, in particular in the creative area; should the city council also play a part on this?	O2 - The focus on creative and cultural industries opens good possibilities – this is a growing segment both the City Council – through the Creative Industries Programme, and Staffordshire University, through its Faculty of Arts Media and Design and other innovative departments are approaching it.	O6 – Nearby universities, as Manchester ad Keele University provide a good scientific basis for the knowledge based sector		O3 - The British Ceramics Biennial is a major opportunity to foster the city's social ad cultural life and reinforce its dynamic positioning towards the growing segment of creative and cultural industries.	O4 – Sustainability has been a major drive of change since the last 60 years and can become an attraction force for the future.		O5 - The British Ceramics Biennial offers a good opportunity for a more dynamic branding of the city; the city has followed an innovative approach towards is organisations, commanding it to a private company.
Threats		T1 – Market failure for the ceramics sector	T2 – The economic downturn is still sensible in the region				T3 - Investment is going in but people are still moving out – until when?		T4 – There is a conflict between the "old" image of Stoke (that brings visitors in) and the "new" image that attracts businesses.

Main Findings

— Stoke-on-Trent has been hit hard by the decline of ceramic industry in Europe (W1), but the city has been able to find a new focus for development and initiate its transition into a knowledge-based economy (S4), combining its strong heritage with new market trends. Based on a strong network of regional universities (S1), and in particular on local Staffordshire university, which has been developing new technologies and innovative courses to follow the changing image of the city and region (S5), Stoke has focused on creative and cultural industries, a promising sector with huge potential for development and well into the spirit of the town (O2). To promote the sector and the city renewed image, Stoke has upgraded its main event – the Ceramics Festival - into a more high profile and broader event, the British Ceramics Biennial, which will take place for the first time in 2009. To cope with its new ambitions, the management model has also been changed and the organisation has been commissioned to a private organisation which has the responsibility to place the biennial where Stoke needs it to be (O5) – a flagship cultural event, that will mobilise and catalyse the city's growing creativity and cultural sector (O3).

— To support its new strategy, Stoke needs a strong local innovation system, anchored on local universities and in particular on Staffordshire University. The university has proven to be dynamic and attentive to market trends, but is a recent establishment and its scientific production is still below what is required to lead local innovation (W2). But of the neighbour universities, Manchester has a solid scientific reputation and very dynamic creative and cultural cluster with potential spill over effects on Stoke (O6), which can build on its advantage on costs, having been considered by KPMG the "most cost-effective place to set-up a business in the UK" (S3). This competitive advantage (S7), the proximity and good connections with Manchester (S8) and the quality of local services (S9) offer good prospects for the development of creative and cultural companies in Stoke (O2), and the Ceramics Biennial may just be the decisive factor on this, providing the city with the promotion and visibility required. But to reinforce the local innovation system, also the Venture Capital availability, the support to entrepreneurship and the technology transfer components should be reinforced. Stoke should take advantage from the maturity of these elements in the UK (O1), to reinforce their presence and intervention in the city, either by promoting and supporting the establishment of private agents (private incubators, technology brokers, innovation consultants) or by direct action, with the possible participation of the City Council in a local Venture Capital Fund, composed by public and private funds for support of creative / cultural new firms and spin-offs (the typical model being matching each private pound invested with a public pound, and leaving the management to privates subject to a minimum ensured profitability and pre-fixed eligibility rules for investments).

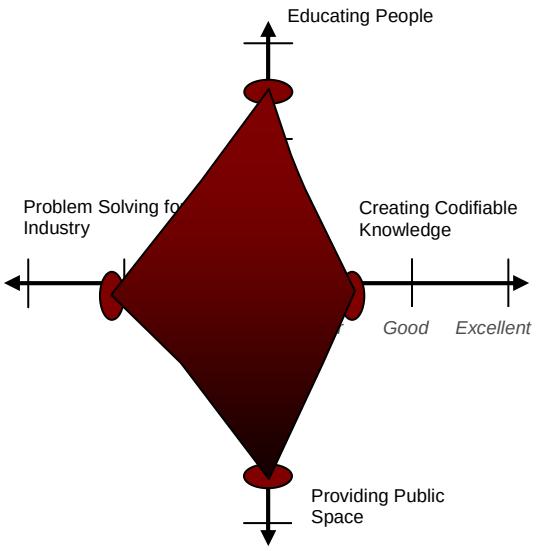
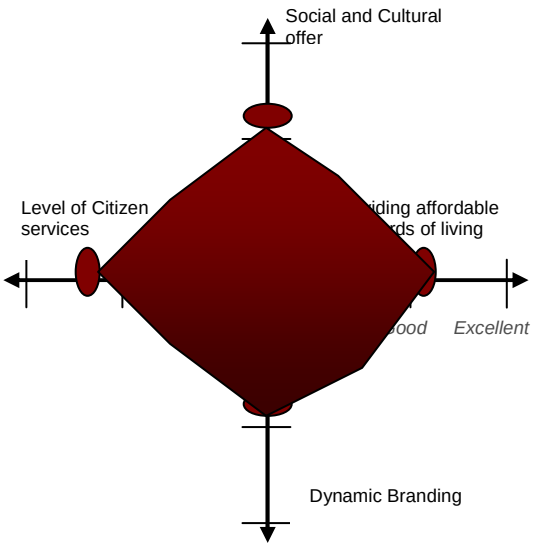
— To suit its strategy, Stoke also needs to increase the level of qualification of its workforce, which has been done through the conduction of several training programmes (S2) with the participation of local actors, including Staffordshire University. While the results are positive and a good benchmark for other cities with similar problems, a lot still needs to be done considering the low starting point, and more efforts in this sense, including taking the opportunities available through ERDF, is to be expected.

— While the ceramics sector is no longer the predominant economic sector in Stoke, some manufacturers have managed to survive the crisis and to progress, thanks to a specialization in niches such as hotel tableware (S11). These companies can very much benefit from the growth of knowledge-intensive services in the area, to develop multidisciplinary processes and broaden their creativity and innovation activities, and, as bearers of the ceramics heritage of the town, are key for the development of future network in the line of the Competitiveness Centres action.

— Stoke has been able to build on its heritage as "the pottery town" to attract a high level of visitors – over 5 million a year, with the subsequent weight on local economy (S10). Tourism is supported by a network of museums established on old factories (S6), and the success of the cultural offer developed is measured by the statistics that reveals that 80% of visitors had already been in Stoke before. But the city may face a "conflict of interest" in the near future, as the image that brings visitors to Stoke – the "blue collar" tradition, linked to old shut-down factories and archaic production processes (W4) – is in absolute contradiction with the new image of progress, technology and urban development that the city wishes to project in order to attract businesses (T2). To handle this paradox, which may already come out at the forthcoming first Biennial – which image will it project, the one of the old pottery town that attracts visitors, or the one of the high-tech city that attracts businesses? - the city needs an in-depth reflection on its core values and a professional marketing campaign that disseminates its results, trying to conciliate the best of both worlds.

— Stoke also as an image of a city that has managed to evolve from the deepest pollution to an environment-caring town, even at the sacrifice of economic sectors. At a time where sustainable development is at the top of the world priorities, Stoke should exploit the fact of having been amongst the first cities to take action in the right direction, and take sustainable development growth as one the city priorities (O4).

3.3.6.4 – Positioning

New knowledge creation (Combining heritage and innovation)	New identity creation (City as a centre of attraction)
	

Main Findings:

— Stoke innovation system is rooted on its neighbour universities and in particular on the local Staffordshire University. This relatively new establishment, while clearly focused on local priorities and on problem solving for local industry, still has a scientific production below the country average and needs to further deepen relationships with industry, technology transfer and entrepreneurship creation practices and scientific cooperation with other universities, both at national and international level. However, other near universities as Manchester and Birmingham have solid tradition in scientific production and in creation of codifiable knowledge.

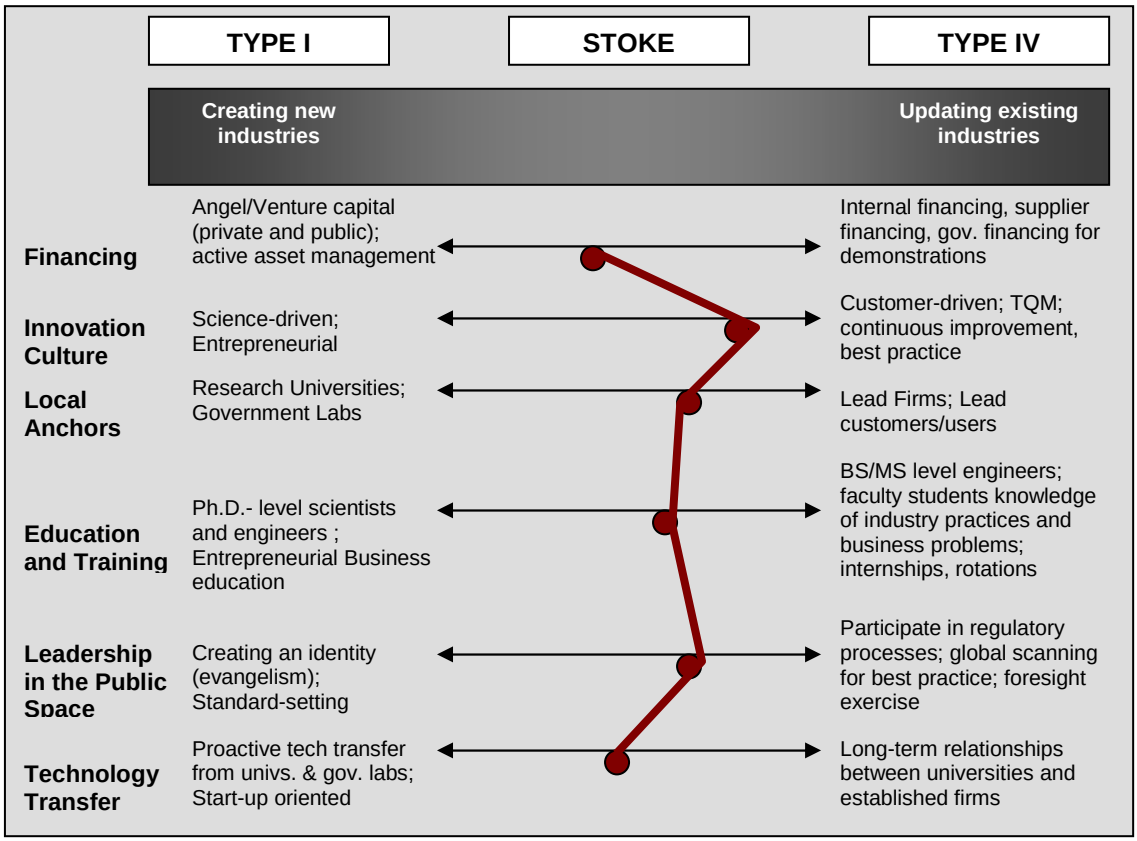
The priority for Stoke should therefore be in reinforcing its local innovation system, namely by supporting or promoting the local implementation of private agents as technology brokers, private incubators, innovation consultants and by considering the creation of a local Venture Capital Fund , combining public and private funds, directed at local cultural, creativity and ceramic industries.

— Stoke, despite social problems caused by the economic transformation, is a region where basics needs are fulfilled and standards of living are less costly than in other regions. But the city still suffers from a “blue-collar” image and from a fragmented

urban development, and needs to improve its image and further animate social and cultural offer, targeted not only at visitors but also at locals

The Biennial has the potential to become a landmark in terms of city's image projection and cultural animation. The choice to take a professional management path for its organisation sounds correct, but the city authorities need to ensure the mobilisation of the different players around it and its integration with other events and actions, in order to maximise its return.

3.3.6.5 – Innovation Path



Financing	The UK has by far the most mature financing system in Europe, with a well developed Venture Capital system. Stoke should take advantage of the fact, by attracting some of this private capital to the city, possibly through the creation of a public-private VC fund for application in strategic sectors.
Innovation Culture	Innovation culture is rooted in the ceramics industry tradition, but this is changing with the establishment of Staffordshire university and the development of knowledge-intensive services in the city.
Local Anchors	The creation of Staffordshire University has provided Stoke with a local anchor in terms of public research, complementing the offer provided by nearby towns as Manchester and Birmingham, but level of scientific production is still below average and industry demand, from a transforming sector, is still growing.
Education and Training	With Staffordshire University, Stoke now offers all levels of education, and the city has developed major training programmes for the re-qualification of its working force, to get rid of its "low qualifications blue collar" image. While results have globally been positive, a lot is still to be done, and the effort should be continued.
Leadership	Stoke has a successful experience in preserving industrial heritage and in reconverting

in the Public Space	old factories in museums, with impressive results in terms of visitors. But that is part of the "old image" of Stoke, while now it is necessary to provide public space for new sectors and companies, in line with the new sought image for the city.
Technology Transfer	UK research institutions have a solid tradition in technology transfer, and the private technology brokerage market in the UK is the most dynamic in Europe. Stoke authorities should take advantage of this fact, trying to attract technology brokers (e.g. the IP Group) to the city and supporting the development of TT structures at the local university.

Main Findings:

Stoke has been able to bring new industries into the city (TYPE II innovation), thanks to a mature financing and technology transfer system and an investment in the creation of research and education anchors, as the University of Staffordshire, complemented by important training and qualification programmes for its workforce population. In order to pursue that path, the city needs to further consolidate its research infrastructures and further strengthen its financing and technology transfer elements, attracting new agents to the city or reinforcing the existent ones. The city also needs to develop its offer of public space and reinforce its image, something on which the British Ceramics Biennial can play a major role.

3.3.6.6 – Conclusions

Stoke has started a transformation process from a manufacturing based economy into a knowledge and services economy, which has taken investments in several fronts. Of particular relevance are the experience with the creation and development of Staffordshire University and its focus on market trends with the focus on in new technologies and innovative courses, to follow the changing image of the city and region, including "Computer Games Design", "Broadcast Media", "Football Technology" and "Motorsport". The university and the city have also strongly invested in training and re-qualification programmes for its workforce previously employed by the ceramics industry, making extensive use of European funds and programmes.

The city has now taken a clear strategic bet on the creativity and cultural sector, profiting from the proximity and good connections with Manchester, the low implementation costs and the support from local Staffordshire University. To consolidate this strategy, the city needs a flagship large scale event and has found it on the form of the British Ceramics Biennial, which will occur from 2009 onwards. The city has taken an innovative approach with the organisations – commissioned to a private company – and places high hopes in this event for the projection of the new Stoke-on-Trent image, in an example that is worth sharing with other cities.

To further accomplish this strategy, Stoke needs nevertheless to consolidate its research and innovation anchors and in particular to strengthen the research – industry links, between local companies and Staffordshire University. Experiences like the Ceramics Cluster in Limoges are worth to study, in particular to consider the integration between the new service sector and the ceramic companies specialized in hotel tableware, and their relations with research groups.

While accomplishing its transformation, Stoke has bee able to keep its identity as "The Potteries" and to attract an impressive number of visitors to its heritage sites and museums, in an approach to tourism promotion that is a benchmark to other cities.

However, for the future, and caught between the old "The Potteries" image that bring visitors and the new "Creativity and cultural city", of which the new biennial is expected to be the flagship, and that should attract businesses, Stoke must reflect on which values it wishes to market, and seek inspiration in professional marketing actions as those being carried out in Delft, to see how to combine the best of both worlds,

What Stoke can share with the UNIC Network:	What Stoke can learn from the UNIC network:
Diversification of educational and research offer at Staffordshire University and experience in adult qualification	Marketing campaigns in order to conciliate traditional values with new image.
The experience with the Biennial	Research-industry connections
Tourism approach	

3.3.7 CITY OF FAENZA (IT) – Partner city

3.3.7.1 - Overview

Faenza is noted for its manufacture of majolica ware glazed earthenware pottery, known from the name of the town as "faience". Situated in the in the province of Ravenna, Emilia-Romagna, it has around 55.000 inhabitants, and is the home of the International Museum of Ceramics in Faenza that represents the greatest collection of ceramics in the world.

Nowadays the pottery sector no longer has significant revenue-producing weight in Faenza's economy: only a few industries and about 60 craftsmen produce artistic pottery. However, Faenza's strength in this field is its network of agencies and services revolving around the local ceramics sector: the schools structure, revolving around the potter's culture at all ages and levels of studies, with various specialisations, from preservation to restoration, moulding to decorating; scientific research; amongst these organisations are included ENEA FIM-MATING (the Physical Technologies and New Materials Department of ENEA), the Faculty of Industrial Chemistry of University of Bologna which is located at Faenza and the Institute of Science and Technology for Ceramics (ISTEC) belonging to the National Research Council, CNR.

Faenza has also supported and promoted, over recent years, a series of initiatives to valorise pottery cultures, ranging from international meetings to competitions and exhibitions, up to the recent foundation of AICC - the Italian Ceramic Town Association, whose mission is to create a national network of towns with a significant history of ceramist activity. Of particular relevance is International Competition of Contemporary Ceramic Art that has marked the cultural history of Faenza during 20th century, setting a worldwide ceramic benchmark especially starting from 1960s.

Today economic situation of Faenza is characterized by the presence of engineering firms and the manufacture of metal products widespread in the territory. The industrial network is partly linked to agriculture through the production of agricultural machinery, partly to activities connected with the port and to off-shore activity, and partly produces structures and moving machinery for the shipbuilding industry. Recently enterprises operating in innovative, skilled segments have shown strong development. In the last few years the chemical sector has undergone fundamental changes, going from a situation characterised by the strong presence of vertically-integrated large-scale industry (particularly Enichem and Agip), to one which can be identified with a distinctive industrial district model with small and medium-sized manufacturing plants.

The major challenge for Faenza is to reinforce and strengthen the town's network of of agencies and services revolving around the local ceramics sector through the creation and development of a Park of Art and Science, which can also play a key role in the city's urban development – the Torricelli Park.

3.3.7.2 – The Local Support Group

The Local Support Group includes the following organisations:

1) Local Authorities – Managing authorities Operational Programmes	Municipality of Faenza	www.comune.faenza.ra.it
2) Cluster	Agenzia Polo Ceramico	www.agenziapoloceramico.it
3) Education and Research	ENEA FIM-MATING	www.enea.it/ente/centri/faenza.html
	Faculty of Industrial Chemistry	www.materiali.fci.unibo.it
	ISTEC	www.istec.cnr.it
4) Industry	Centuria RIT	www.centuria-rit.com

3.3.7.3 – SWOT Analysis

FAENZA									
Strengths	S1 – Faenza is close to one of Italy's top universities (Bologna) which has a pole in the city	S3 – The Torricelli Park, albeit at an early stage, already offers an unique agglomeration of research organisations.	S4 - Academic institutions located and specialized in function of industrial needs, as ISTEC and ENEA FIM-MAT in Faenza	S5 - Good patent productivity (University Bologna)	S11 – Like most Italian towns, Faenza offers its inhabitants and visitors a rich and well preserved city centre.	S6 – The International Museum of Ceramics, is one of Europe's top museums in the field	S8 - High employment rate and knowledge for workers	S9 – The city shows a good service provision with a relatively balanced dispersion of functional poles that ensure the basic services to local population	S12 – Faenza name is on itself an asset, immediately bringing an image of ceramics
	S2 – The schools structure, revolving around the potter's culture at all ages and levels of studies, with various specialisations, from preservation to restoration, moulding to decorating					S7 – Faenza has a strong cultural tradition and hosts a high profile event such as the International Competition of Contemporary Ceramic Art		S10 - Central position in the national and European network of transport infrastructure	

Weaknesses		W1 – Financing and technology transfer sub-systems are underdeveloped.	W2 - Weak coordination between actors at national and regional levels	W3 - Low level of expenditure for R&D				Wx – Low level of e-services, lack of coordination of services.	Wx – The International Competition of Contemporary Ceramic Art, Faenza's main event, is not sufficiently known outside Italy.
Opportunities		O1 - Structured strategy on research and economic development, and a major opportunity with the development of Torricelli Park O3 - Positive growth of start ups and academic spinoffs			O2 – There is an harmonised mixture between rural areas and urban agglomerations, providing a good platform for sustainable development oriented growth strategy				O4 – With its image and location, tourism activities could still be expanded, especially if rooted in a stronger cultural offer
Threats		T1 - Limited role of industrial associations T3 – Without a reinforcement of the innovation system, the Torricelli Park might suffer from a surplus of research offer, and become a "money pit".	T2 - Long term loss of competitiveness due to economic structure (small and micro companies)		T4 – The Torricelli Park presents a major challenge in terms of urban development, as it may unbalance the city's centrality.				

Main Findings

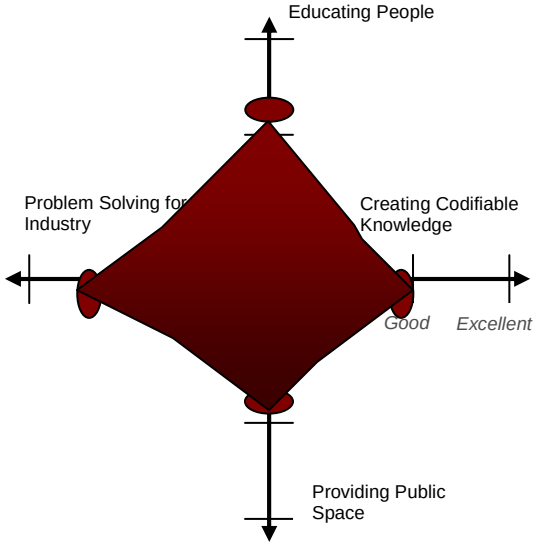
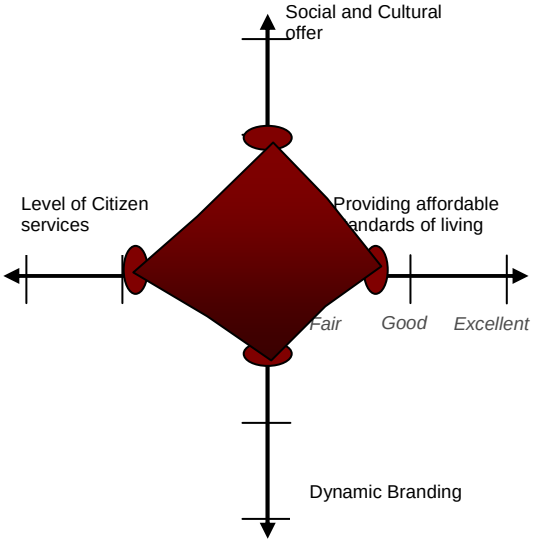
— Faenza's main strength is certainly the network of agencies and services revolving around the local ceramics sector, including scientific research organisations such as ENEA FIM-MATING (the Physical Technologies and New Materials Department of ENEA), the Faculty of Industrial Chemistry of University of Bologna which is located at Faenza and the Institute of Science and Technology for Ceramics (ISTEC) belonging to the National Research Council, CNR (S4). The new "Torricelli Park" project intends to group all these organisations under a common space (S3), creating a strong anchor in terms of research and innovation services, and enabling the conditions for the emergence of spin-offs (an incubator is foreseen), new companies and services and the flourish of creativity and arts, under the patronage of the International Museum of Ceramics in Faenza which will promote open air exhibitions in the park. The "Torricelli park" is a major infrastructural project, that combines economic development ambitions with urban planning (offering the city a new centrality), the whole building on Faenza strong ceramics heritage (S12). To be successful the project requires a strong coordination amongst all involved actors, not always visible (W2), and a massive investment, but it may well change the face of the Faenza and represent a major step into a knowledge-based economy, strongly supported in top-class research services and talents (O1).

— While the city is very well provided with science-driven research services, it lacks the innovation-driven services, as does most of Italy and Southern Europe in general. There are no major Venture Capital actors in the region, and the technology transfer offices of the research organisations are underdeveloped, while private agents are absent (W1). This may be a major flaw for the "Torricelli Park" project, which might end with a surplus of research offer and low entrepreneurial demand, evolving, as it has happened with other projects in the South of Europe, heavily funded by structural funds, into a "money pit". To prevent this situation it is important to attract VC and TT agents to the project at its early stage, and eventually to consider the possibility of having the municipality and/or the region investing in the creation of local VC funds and technology transfer offices through Public-Private- Partnerships, to follow-up the opportunities in terms of growth of start-ups and academic spin-offs (O3).

— In addition to its ceramics heritage, other assets of the Faenza region are on its important agro-food sector, the world renowned quality of its original products, the good level of quality of living and the relative good preservation of landscape and nature – all important components of a sustainable development growth strategy, that Faenza can embrace as guidance for its economic development, in line with world preoccupations (O2).

— Faenza has very good figures of year-round visitors and tourism is an important economic activity, building on the city image (S12) and on sites of relevance as the International Museum of Ceramics (S6) and large scale events as the International Competition of Contemporary Ceramic Art (S7). But apart from the International Museum, all year round cultural offer is scarce and not related with ceramics. It would be important to develop a more consistent and integrated offer, possibly including factory historical museums (as in Stoke) or craftsmen ateliers (O4).

3.3.7.4 – Positioning

New knowledge creation (Combining heritage and innovation)	New identity creation (City as a centre of attraction)
	

Main Findings:

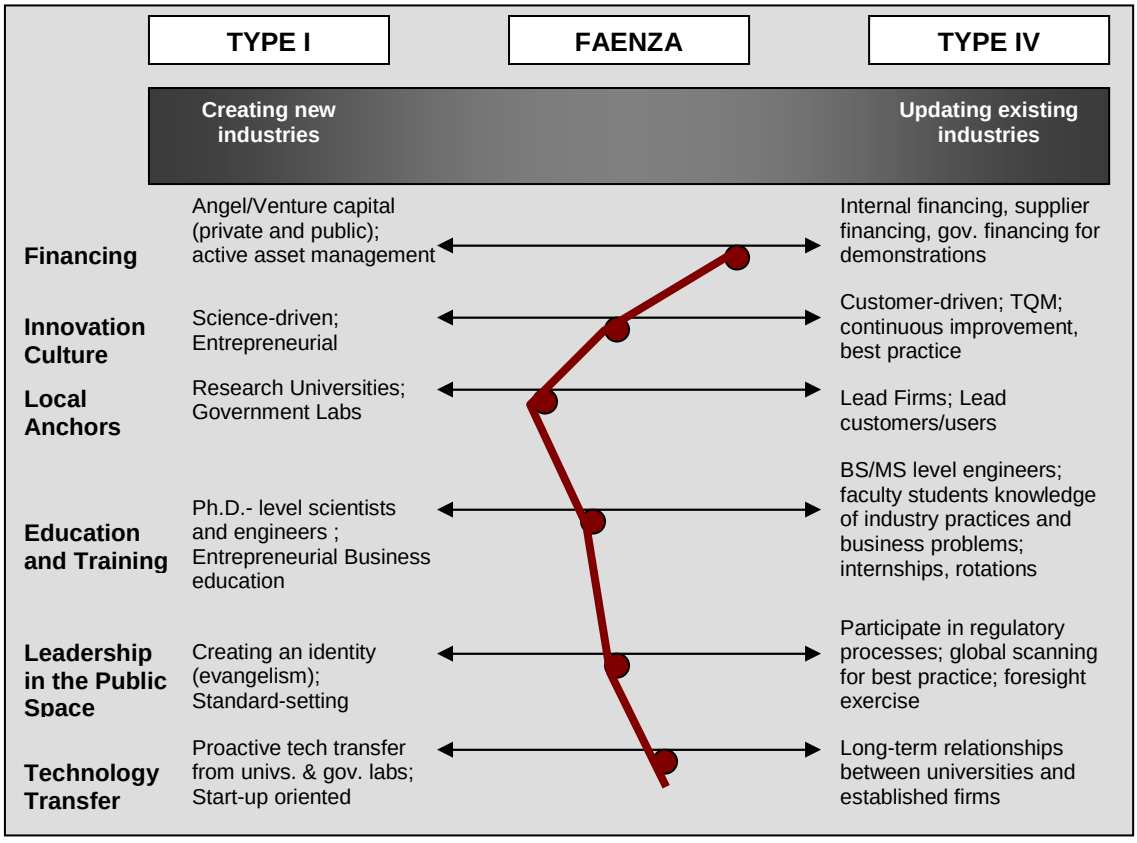
— Faenza has developed an excellent network of research services for industry, with all the main national research organisations being represented in the city. The research offer is in excess of the local demand, and the local institutions cooperate with industry from the whole country, contributing to make Faenza an important knowledge centre. The city does not have a local university, but it hosts a small pole of University of Bologna, while Bologna itself is within easy reach by car or train. The research services are agglomerated at what is the cradle of the future "Torricelli Park" which, once complete, will become the city's main centre of innovation and entrepreneurship.

But to ensure the long term sustainability of the park, the city must ensure that in addition to research-drive services, the innovation-driven services are also present, which is not granted at present. Of particular importance is the development of the financing and technology transfer systems, especially in their private components, as well as the development of business and entrepreneurship education centres.

— Faenza has a very strong image as an historical and ceramic city, in spite of a shy marketing and promotion, especially at international level. The city has also good standards of living and a strong cultural tradition, but should reinforce its cultural and tourist offer, in order to better exploit the city potential.

The city has a growing image as a "knowledge centre", thanks to it excellent network of institutions, but needs to promote this image at international level, in order to attract more talents and partner organisations for its flagship project, the "Torricelli Park". With plenty of natural resources, the focus on sustainable development research should also be considered as a priority for the city development and promotion.

3.3.7.5 – Innovation Path



Financing	Financing system is almost exclusively dependent on public sources
Innovation Culture	Faenza has a strong firm innovation culture, that is being progressively shifted to a more science-driven culture, with the presence of research organisations.
Local Anchors	The city has an excellent network of research services, with all the major governmental research organisations represented.
Education and Training	The city relies on Bologna for higher education, but it also possesses a local pole focused on Industrial Chemistry, with a strong industry focus.
Leadership	The "Torricelli Park" project is the flagship project for reinforcing Faenza entity as a

in the Public Space	"knowledge city"
Technology Transfer	Technology transfer and entrepreneurship activities are weak and not organized as a system.

Main Findings:

With the exception of the Financing (too dependent on public sources) and Technology Transfer (not mature enough) systems, the city has, or is in the process of, address each component that it requires in order to foment TYPE I (indigenous creation of new industry) and TYPE II (transfer of new industry into the region) forms of innovation. It has an excellent network of anchor research organisations, focused on the materials field, it has developed the links with regional Higher Education Schools, and in particular University of Bologna and is developing a major project to host new firms , industries and labs under the "Torricelli Park". The strategy, albeit it has already produced some results (chemical industry, machinery investments), is long term and could pay off, especially if the city is able to intervene in the two weaker components, which are essential for entrepreneurial innovation.

3.3.7.6 – Conclusions

Faenza has a local network of research organisations that is top-level amongst all UNIC city partners. The city experience in developing such a network and in capturing investments from the city is key for the project, while on the other side Faenza can learn with others on the coordination between all actors – e.g. in a structure similar to the French "Pôles de Competitivité" – and on the development and management of technology parks, e.g. with the Cartuja'92 experience in Sevilla.

Faenza also has very good figures in terms of tourism, with an experience of managing an International Museum of European standards, and of organisation of a large scale event such as the International Competition of Contemporary Ceramic Art, which is highly known on Italy but could benefit of further international projection. In order to increase its tourism revenues further, Faenza also needs to improve its cultural and animation offer, and better market its image in the international markets.

What Faenza can share with the UNIC Network:	What Faenza can learn from the UNIC network:
The network of research / technological services	Tourism promotion and increased cultural and animation offer.
Management of European Funds for large projects	Technology Park / incubation management experience
Experience in organising large scale events	

3.3.8 CITY OF CASTELLÓN (ES) – Partner city

3.3.8.1 - Overview

Castellón de la Plana is a historical city dating back to medieval times (13th century), is situated between the sea and the 'Desert de les Palmas' mountain range. The city has two main population centres: the city heart and the "Grao" located by the harbour, which are separated by 4 kms. Castellón, like the rest of Valencia region, is a region to which internal migrants have traditionally come to and in recent years there has been a significant influx of foreign immigrants.

The beaches along the 'Costa Azahar' receive thousands of visitors every year. In addition to tourism, ceramics and agriculture are other important industries in the province. In terms of Net Added Value (NAV), the region's economic structure is very similar to that of Spain and it is also becoming a tertiary economy like the majority of the other advanced economies. Today, with a population close to 160,000, Castellón de la Plana is a city which is still strong on growth, with a high quality manufacturing sector and craft industry, and a bustling, modern University Campus. Universitat Jaume I (UJI) came into being as a higher education and research centre on 27 February 1991 to meet the unanimous social demand in the Castellón area. Today, Universitat Jaume I has consolidated itself as a dynamic and enterprising university. There are currently 28 degree and diploma courses available to about 13 500 students

The main challenge for Castellón within the UNIC project is to build on the industrial wealth of the region to strengthen the image of the city as centre of attraction with a strong network of service organisations and facilities, including the building of major new exhibition centre, the "Palau de Convenciones".

3.3.8.2 – The Local Support Group

The Local Support Group includes the following organisations:

1) Local Authorities – Managing authorities Operational Programmes	Ayuntamento de Castellón	www.castello.es
2) Cluster	Asociación Española de Técnicos Cerámicos	www.atece.org
	ASCER, Asociación Española de Fabricantes de Azulejos y Pavimentos Cerámicos	www.spaintiles.info
	Cámara de Comercio, Industria y Navegacion de Castellón	www.updcastellon.com
3) Education and Research	Universidad Jaume I	www.uji.es

3.3.8.3 – SWOT Analysis

CASTELLÓN

Strengths	S1 – There is a strong higher education system in the whole of Valencia region, made up of 7 universities, 5 of which are public and 2 Private.	S3- Valencian universities have developed interrelation mechanisms such as science parks and business incubators. There is a common trend towards introducing mechanisms of this type and to develop new facilities aimed at providing the area with better services.	S4 - According to the information provided by the National Institute of Statistics and the 2003 Technological Innovation Survey (Table 1.13), the business world displayed a more positive attitude towards innovation in the Region of Valencia than in the rest of the country.		S6 – The use of Ceramics in the city streets and buildings		S7 – The city has good standards of living and has welcomed and absorbed a large immigrant community, which is important for its industries.	S8 – The city benefits from a solid financial situation to continuously improve the level of services for its citizens	
	S2 - The Valencian university system offers a considerable range of third cycle programmes and the number of students is comparatively higher than the rest of Spanish universities		S5 – There is a considerable effort from local universities to respond to the needs of the region, as can be seen from the fact that the majority of external private funding for R+D comes from regional sources.						

Weaknesses	W1 - There is limited ability to attract research students from other regions in comparison with the rest of Spain.		W2 - Innovative effort, measured by the expenditure on innovation undertaken by businesses in the Region of Valencia, is still below national figures	W3 – The largest part of expenditure on R+D in the region was still undertaken by universities and in 2003, this represented 53% of total investment in R+D. W4 - The main purpose of collaboration with companies is not the transfer of research results or "technological packages" and relations are often limited to the provision of services. In addition, patents and licences are seldom used for the administration of research results.		W5 – Castellón social and cultural life is limited, and the strength of its ceramic sector is not reflected in the city cultural life			W6 – Castellón has a "greyish" and too industrial image, which does not contribute to attract knowledge based services.
Opportunities		O1 – The sound financial situation of the city, enables it to foresee major projects, which may provide new dimensions to public space.	O2 – The ceramic tile industry is fully aware of its need to rely on innovation to maintain its position, with the loss of labour costs and productivity advantages to other markets – there is	O3 - The decline of labour intensive industries and the fact that these industries need to be restructured offers the opportunity to diversify the			O4 – The sound financial situation of the ceramics tile industries opens perspectives for further investment in the city		O5 – The city and region have a huge tourism potential, which has been largely unexploited so far

			therefore an increasing demand for innovation from industry. O6 – The ceramic industry has capital to invest and may provide a basis for a growing private financing system for innovation.	productive sector by investing in new industrial sectors which have a high added value and which require R+D.					O7 – The planned projects (Palau de Convenciones, Rectoral building) may give a "fresh" and more attractive image to Castellón, which may contribute to attract further industrial investments
Threats			T1 -There are, shortcomings in the transfer support mechanisms and a good structure and model is required for the new support structures (science and technology parks, mixed centres, business incubators). T3 – Castellón is largely a mono-industry region, and innovation demand is single disciplinary, which limits its horizons.	T2 – Castellón faces increasing competition from other markets, not only in aspects as costs and volume, but also on research and innovation.					

Main Findings

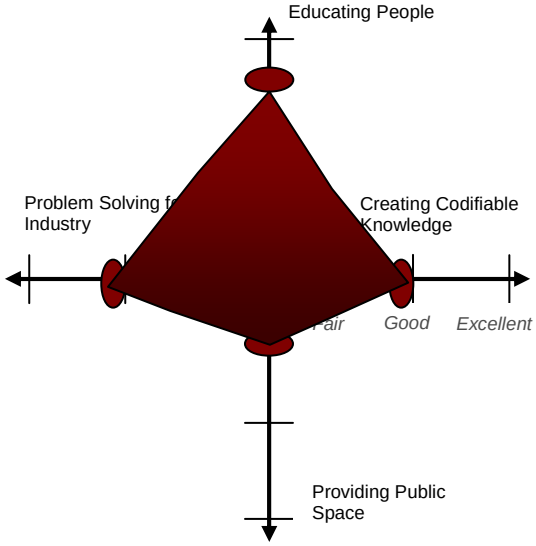
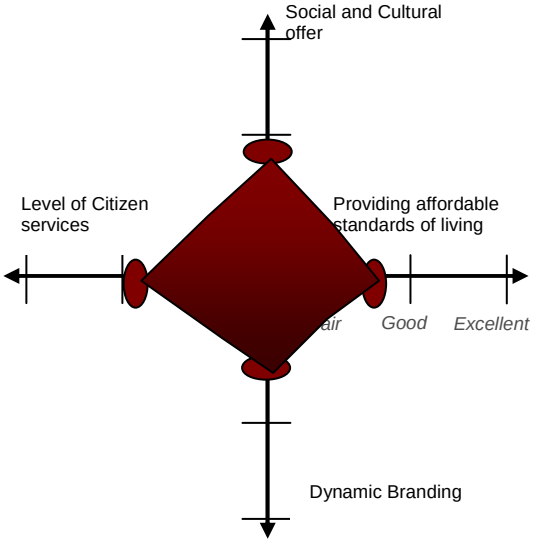
— Castellón has been able to establish virtually from scratch, in what was previously an agricultural region, a ceramic tile industry and to make it into a world leader. This has been mainly due to the entrepreneurial and risk taking capacity of its people, but also due to excellent natural conditions and to the progressive development of a solid service system, based on a strong network of universities, having its exponent in Castellón own Universitat Jaume I (UJI) (S1). UJI and other Valencian organisations provide an excellent basis for problem solving for industry (S5), but scientific production and innovation expenditure is still below national average (W2), with private innovation expenditure being particularly low (W3). The industrial sector in Castellón has strongly invested in modernisation and automation of processes, with great gains in productivity, but now, to face growing globalisation challenges, must invest further in innovation and knowledge (O2), at the risk of losing their competitive advantages to China, other Asian countries and Latin America (T2).

— With greater investments in R&D in the horizon, critical mass and cooperation are essential. Up to know, research- industry cooperation in the region as been main through bilateral arrangements between individual firms and the university(ies), with scarce cooperation between firms (W4). In a more innovation-intensive system, more cooperation is needed, and universities must reinforce their role in leading edge research, providing a cluster of companies with the scientific basis that can later be developed into applications by each one of them (O3). More cooperation based models of research and innovations, as clusters or Competitiveness Centres, should be considered, and UJI and other universities and industrial associations should take the lead in this process.

— Strong as the sector may be, the fact that Castellón is largely a mono-industry region (T3), also bears important threats. The city has the potential for the development of other sectors, some based on its natural resources, as tourism (O5) – until now largely unexploited at city level, albeit important in the region – and some dependent on the creation of support infrastructures. The city is investing considerably in the development of public infrastructures that may contribute to expand other economic areas (O1), as the “Palau de Convenciones” and the new rectoral building of UJI, but it is also important to develop research and innovation capabilities in other fast growing areas (ICT, nanomaterials, energy, sustainable development), either in the university or through capture or promotion of both public and private investments (O6).

— The planned investments, and in particular the “Palau de Convenciones” might alter the face of Castellón and enable the projection of more dynamic image of the city (O7). That process should go together with a serious and professional effort in terms of marketing of the city, that projects its core assets – most of all its image of economic success, also visible in the utilisation of ceramics for the city boardwalks pavement and building – and enables also to promote its tourism (both internally and externally) and its business environment to other sectors, other than ceramics. The effort in infrastructures should also be followed up by an effort in increasing the city cultural and social offer, at present quite limited (W5).

3.3.8.4 – Positioning

New knowledge creation (Combining heritage and innovation)	New identity creation (City as a centre of attraction)
	

Main Findings:

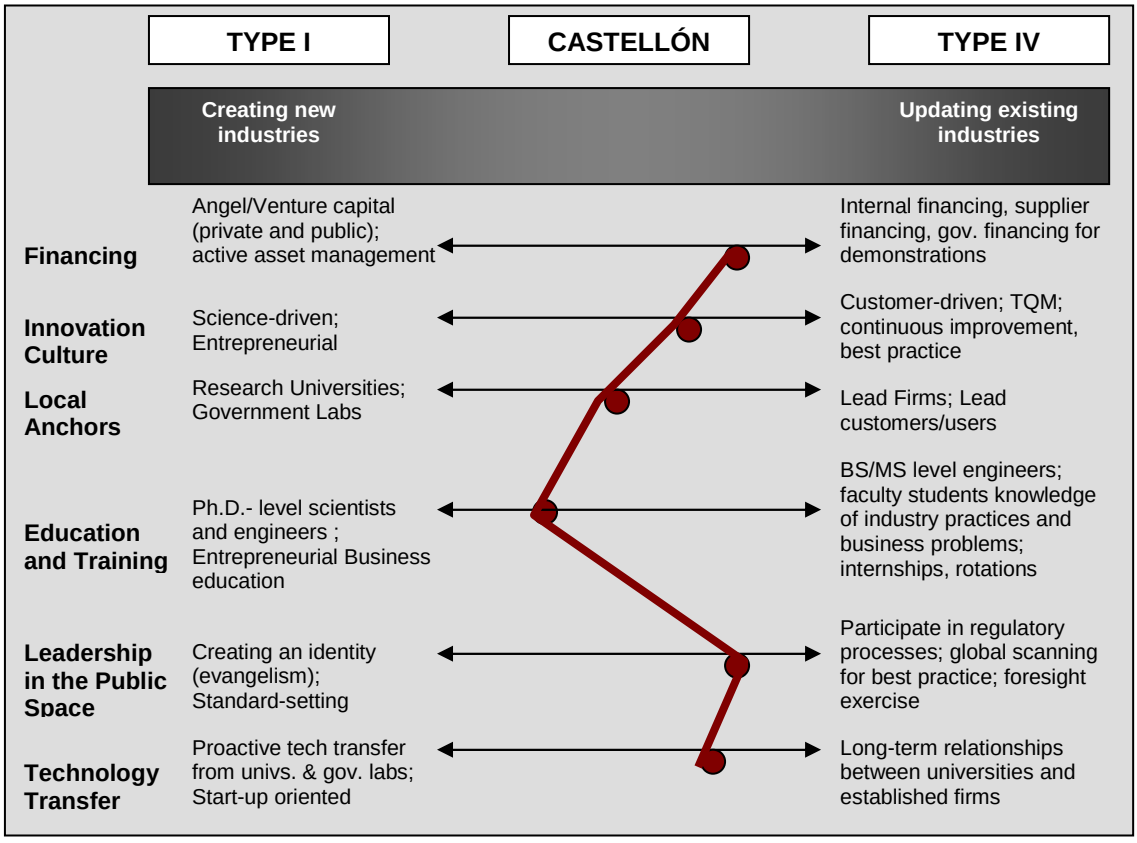
— Castellón benefits from a strong university system, but biased towards education, and, at a minor level, problem solving for industry. The innovation expenditure is below national averages, in particular in terms of private expenditure, and cooperation practices are mainly through bilateral arrangements. There is a lack of public space, in terms of infrastructures (technology parks, incubators) and system components (cooperation projects, private research labs, venture capital and innovation agents).

In order to promote innovation in its core sector and also promote the development of new emergent sectors, local universities and industrial associations should develop enhanced cooperation models, more based in clusters or competitiveness centres, with a reinforcement of the leading edge research capabilities of research centres and a greater investment in applied research from private organisations. It is also important to foster the creation of private, or public-private venture capital and technology transfer networks, in addition to the existent OTRIs in the universities.

— In terms or new identity creation, Castellón would benefit from a more dynamic image, broader than the greyish industrial image it now has, and a better cultural and social offer and animation, as well as a stronger presence of knowledge intensive services (KIS).

The city on going or planned investments, as the use of ceramic tiles in the boardwalks and building panels – but why not more lavish colours and designs, instead of the grey? - or large projects as "Palau de Convenciones" can certainly play a role in this change of image. But once an equipment as the Palau de Covenciones is ready, Castellón would need to be involved in the organisation of major periodic events that make use of such equipment and mobilise economic actors towards a given strategic sector (as Stoke's British Ceramics Biennial or Faenza's International Competition of Contemporary Ceramic Art) and promote a complementary offer of cultural (city museums, exhibitions, factory shops and museums) and social events that capture the business and tourist visitors that the "Palau" will bring to the city.

3.3.8.5 – Innovation Path



Financing	Financing system is mainly based in public sources. Private investment in innovation is below national average.
Innovation Culture	Innovation culture is deeply rooted in firm tradition, and focused on continuous improvement and total quality management practices. Science driven innovation culture is still developing.

Local Anchors	In spite of a company-driven innovation culture, research expenditure is mainly carried out in public universities, albeit often on behalf of companies. Lead firms in the tile sector are now starting to take a more proactive attitude towards research.
Education and Training	Education system is very strong in all Valencia region, and also in Castellón with Universitat Jaume I.
Leadership in the Public Space	There is a lack of leadership in the public place, and industrial associations and universities should take a more proactive leading role in the promotion of cooperative research, that would benefit the whole region.
Technology Transfer	Spanish universities have had Technology Transfer Offices ("OTRIs") since over 20 years, but these are typically more active inward (structuring the university research offer) than outwards (promoting university results towards industry and the creation of spin-offs). More market-active technology transfer agents and entrepreneurship promotion activities are needed.

Main Findings:

Castellón has watched the birth of an indigenous new industry (TYPE I innovation) about 50 years ago, with the emergence of industrial mass production of ceramic tiles, but has since developed a network of services focused on serving and updating this same industry (TYPE IV innovation), with considerable success as Castellón is still a world leader in this field. But as the threat of mono-industry deepens, with growing globalisation concerns, it is probably time for Castellón to diversify and strengthen its innovation system once again, in anticipation of more difficult times for the tile industry. For that it most reinforce the financing and technology transfer sub-systems and strengthen the scientific production capabilities of its research anchor, also aiming at capturing more private research investments.

3.3.8.6 – Conclusions

Castellón has a very competitive industrial sector, and a dynamic higher education system that is focused on supporting it, providing the courses and the applied research facilities that are required by the industry.

But to strengthen its innovation system, Castellón needs to improve the cooperation model between research and industry, with research organisations playing a more leading edge research role towards an extended community of users, and companies developing more in-house applied research competences, in line with a cluster or competitiveness centre model.

Castellón has been developing its image to go along with its economic development, and has started a policy of using ceramic tiles in street boardwalks and in buildings that is a good example of industrial heritage preservation, and that should be made even more visible, through the use of more innovative colours and designs.

The measure above mentioned is a good step towards changing the current "greyish" and "industrial" image of Castellón, as are the plans for the construction of landmark buildings as the "Palau de Convenciones". But to continue this path, Castellón also needs to improve is approach towards tourism promotion and in the organisation of large scale events, as well as to improve its cultural and social offer.

What Castellón can share with the UNIC Network:	What Castellón can learn from the UNIC network:
The dynamics of its Higher Education System	Improved research-industry relations
The use of ceramics in the city streets and buildings	Tourism approach, experience in big events, cultural animation

3.3.9 CITY OF SEVILLA (ES) – Partner city

3.3.9.1 - Overview

Seville, capital of Andalusia and of the province of Seville, is the artistic, cultural, and financial capital of southern Spain. The population of the city of Seville was nearly 700.000 as of 2007 (INE estimate). The population of the metropolitan area (urban area plus satellite towns) was 1,450,214 as of 2007 (INE estimate), ranking as the fourth largest metropolitan area of Spain.

The 1990s saw massive growth in investment in infrastructure in Seville, largely due to the hosting of the Universal Exposition of Seville in 1992, which saw the economic development of the city and its urban area is supported by good transport links to other Spanish cities, including a high-speed AVE railway link to Madrid, and a new international airport. Seville also has excellent conference facilities, including the Congress Palace, home to many annual event.
Agriculture represents less than 1.3% of the workers of the city. Industry contributes up to 28% of the economic output of Seville and it employed in 2005 15.2% of workers in the city. It is well established in the metropolitan area, stimulated by the various industrial parks, the presence of good infrastructure and the proximity of the complexes of the Bays of Cádiz, Algeciras, and Huelva. The service sector employs 83.5% of the working population of Seville. It represents a significant share of the local economy and is centred on tourism, trade and financial services

The city and its surrounding province have a number of large industrial parks and technology centres: Dos Hermanas accommodates the largest Andalusian industrial park, while Alcalá de Guadaíra has the largest industrial complex by surface area in Andalusia; the Parque Científico Tecnológico Sevilla Tecnopolis, gathers companies, research centres and university departments directed towards the development of new technologies; the Parque Tecnológico y Aeronáutico Aerópolis is focused on the aircraft industry. Moroever, the scientific and technological activity of the three Seville universities has to be added, whose certain laboratories and research centres work in close connection with the local socio-economic power. The city of Seville makes a significant contribution to scientific research, as it houses the first and largest DNA bank in Spain, through the local company Neocodex. Neocodex stores 20,000 DNA samples and is recognised internationally. In addition, Seville is also considered an important technological and research centre for renewable energies and the aeronautics industry. The principal innovation and research orientations are telecommunications, new technologies, biotechnologies (in relation to local agricultural specificities), environment, materials and renewable energy.

Ceramic industry, and in particular decorative tiles, albeit not economically relevant any longer, are a strong part of Seville cultural and historical heritage. Within the UNIC project, the challenge for Seville is to map, develop and market the city's ceramics industry cluster, in order to give it an identity within the city.

3.3.9.2 – The Local Support Group

The Local Support Group includes the following organisations:

1) Local Authorities – Managing authorities Operational Programmes	Sevilla Global	www.sevillaglobal.es
2) Education and Research	CITIUS – Centro de I&D de la Universidad de Sevilla	www.investigacion.us.es/**citius**/

3.3.9.3 – SWOT Analysis

SEVILLA									
Strengths	S1 - Founded in the sixteenth century, the University of Seville, with a student body of over 70,000, is one of the top-ranked universities in Spain.	S3 – Sevilla has benefited from the World Fair to develop public spaces devoted to R&D and innovation, including Parque Científico Tecnológico Sevilla Tecnopolis (Cartuja 93), and the Parque Tecnológico y Aeronáutico Aerópolis	S5 – Very good research infrastructures, including CITIUS labs devoted to materials research	S7 – The scientific production starts from a low basis but is catching up: in 2007 Andalucía was the 3rd Spanish region in patent submission behind Cataluña and Madrid. 2000 and 2007, the level of patent submission in Andalucía increased 32% against a national average of 13,3%.		S8 – Top level, social and cultural offer		S10 – Strong and dynamic commerce and retail sector	S11 – Very strong international image, in particular since the world fair in 1992
	S2 – Sevilla hosts a site of EOI Business School, created in 1955, the first school offering business administration training in Spain, and one of the oldest in Europe.	S4 – Sevilla is at the core of an expanded network of scientific and technological parks and clusters, including: Parque Científico Tecnológico de Andalucía (PTA) de Málaga, Cien-cias de la Salud en Granada; Geo-lit, en Jaén; Tecnobahía en Cádiz; Rabanales 21 en Córdoba.	S6 – Sevilla has a strong high tech sectors, including a very strong aeronautics cluster that can act as a catalyser to other sectors, including ceramics			S9 – Experience and infrastructures for the organisation of large scale events			

Weaknesses		W1 – Private financing system for innovation is weak	W2 – Ceramics sector is not economically relevant	W3 – Difficult to attract world-class researchers		W4 – There is no major museum on ceramics, industrial heritage is not properly preserved		W5 – Level of services is unbalanced within the region, e-services are underdeveloped W7 – Health system is below European standards	W6 – Ceramics are not a main asset in the promotion of the city
Opportunities		O1 – an expanding network of technology transfer organisations (IAT; RETA, Citandalucia) offers good possibilities for expanded research-industry cooperation	O2 – Based on a growing scientific production and good infrastructures, the high tech sectors still have a very good potential of growth in Sevilla.						O3 – Sevilla has a know-how and reputation of hosting and successfully managing large scale events, that can contribute to the city development
Threats								T1 – While GDP per capita as been growing up, it is still below national average (82%)	T2 – The new "high-tech" image of Sevilla might completely wipe-off is ceramics heritage

Main Findings

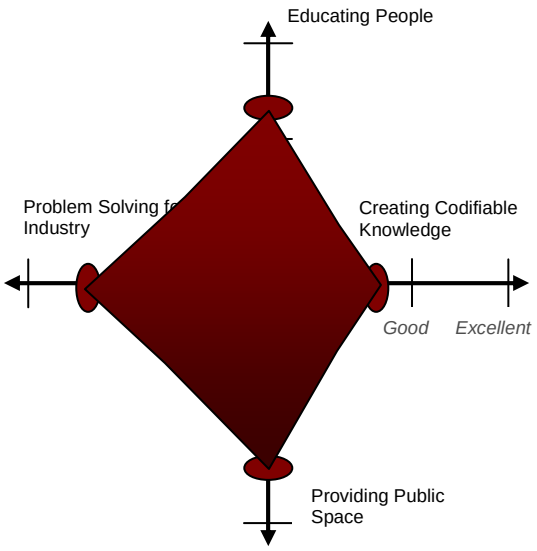
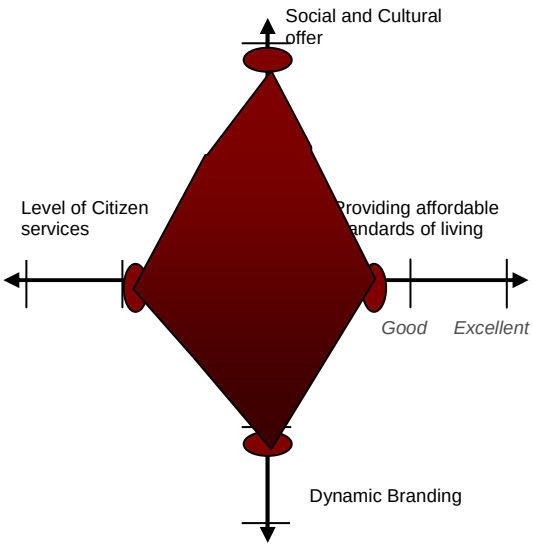
— Sevilla has become a major technological centre, anchored in very good infrastructures, and in particular a network of technology parks and research facilities and organisations (S4). The city is currently home to several high tech industries, with in particular a very strong aeronautics cluster. The town also hosts the prestigious University of Sevilla (S1), with over 70.000 students and with a renowned tradition in research in several institutes, including CITIUS (S5) which has several labs devoted to materials research equipped with leading edge technology. Scientific production started from a low basis but has been increasing at a higher rate than the rest of country (S7), which provides the basis for an increase in high-tech sectors (O2)

— Sevilla has been home to several large scale projects, of which the most known has certainly been the 1992 World Fair (S3). This event has led to an in-depth urban regeneration, with the transformation of the Isla de La Cartuja area, which after the event has been successfully transformed into a technological park (Cartuja'92) that continues to expand, in what is a good example for other cities with major projects planned, and a marketing tool for further large scale projects (O3).

— In order to improve its innovation system, Sevilla must address weaknesses that are common to most European systems: it has a weak financing system, too dependent on public funding (W1), and technology transfer networks, while counting with the addition of new organisations from outside the academic world, as Instituto Andaluz de Tecnología (IAT), Citandalusia and RETA, are still too focused on promotion of academic research results, but have been gradually increasing their industry penetration (O1).

— Sevilla is a city with good standards of living and many attractions (S8), but ceramic heritage, albeit deeply rooted in the city and in the region history, is not preserved as a cultural or tourist asset (W6). The city does not have a museum dedicated to ceramics, the few factories left do not have factory museums – albeit some projects do exist – and the architectural and urban preservation of ceramics does not gather a unanimous favourable opinion (W4). Albeit Sevilla has many other tourism and development paths to explore and it seems clear that ceramics is not at the top of political priorities – as it is linked with an "old, traditional, relaxed and Moorish" image of Sevilla, while the focus now is on a "new, high-tech, dynamic and European Sevilla" – it seems important than in order to project is future, the city must preserve its past (T2).

3.3.9.4 – Positioning

New knowledge creation (Combining heritage and innovation)	New identity creation (City as a centre of attraction)
	

Main Findings:

— Sevilla today has a local economy where high tech sectors lead the way, supported on a strong network of infrastructures, including scientific and technological parks, public and private research labs and a dynamic university. The public labs are catching up in terms of scientific production, but having started from a very low basis, its results are still fairly standard by European levels.

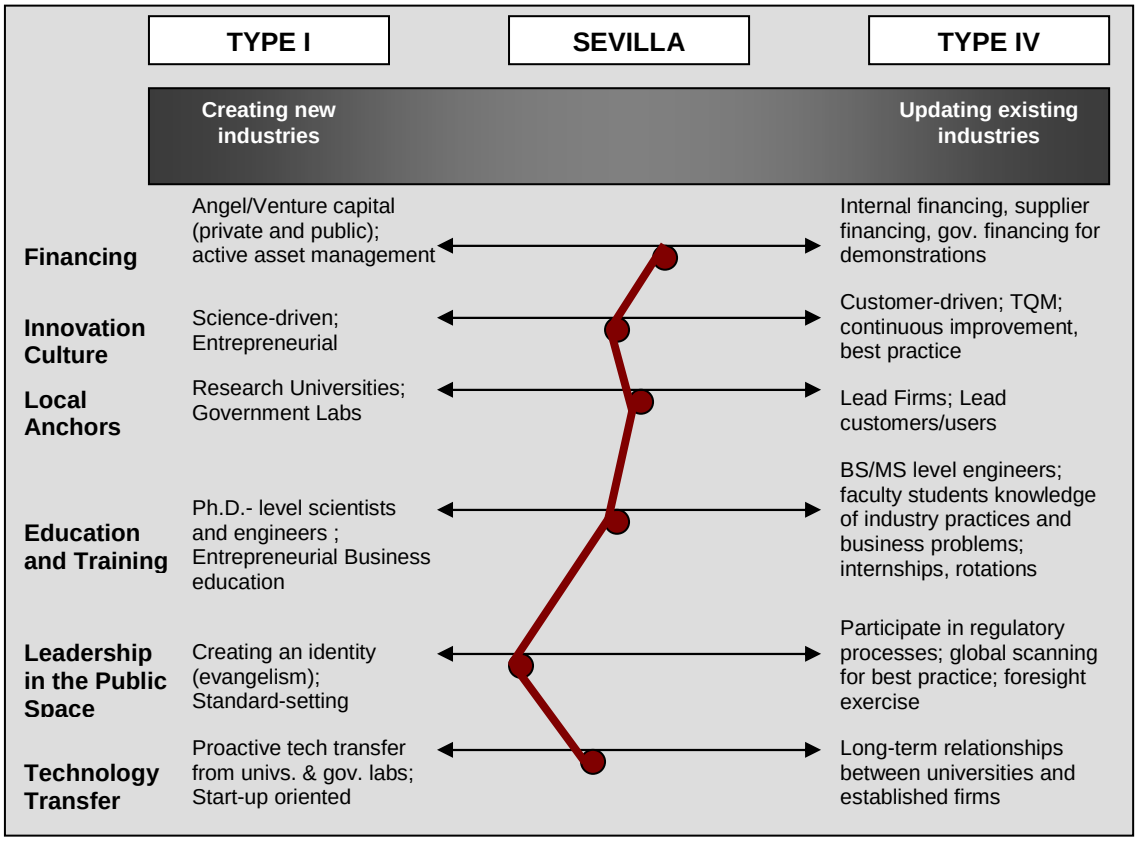
> To further improve its already dynamic innovation system, Sevilla, its university and public labs must continue to improve the level of its scientific production, which implies the recruitment of more top-level researchers – something that is facilitated by the good quality of the life and the excellent image of the city. The city must also improve its technology transfer and financing networks, currently too dependent on public funding, for which it should promote public-private-partnerships, e.g. for the creation of local venture capital funds (for supporting spin-offs and new technology based firms in relevant local sectors as aeronautics and electronics) or market-oriented technology brokers.

— Sevilla has a thrilling social and cultural life, and a great image, which facilitates the recruitment of talents around the world for its growing research centres or local

companies. But standards of living are still unbalanced throughout the great metropolitan areas, and some basic infrastructures still need to be addressed. Citizen services are below European standards, with in particular a low level of e-services available.

Sevilla already has a great cultural life and a strong promotion worldwide, but the ceramics heritage plays only a very minor part of it. The city should pay more attention to this relevant topic of its history and invest in cultural (city museums, factory ateliers and museums, tourist tours, preservation of urban heritage) and economic (events, exhibitions, contests of ceramic arts, innovation awards in ceramics.)

3.3.9.5 – Innovation Path



Financing	The financing system in Spain is mainly dependent on public sources, but Sevilla, thanks in particular to its dynamic aeronautics sectors, has a considerable ratio of private expenditure in innovation.
Innovation Culture	Innovation culture is mainly customer driven, but entrepreneurial and science-driven culture is gaining space, with the growth of technology parks and research labs.
Local Anchors	Research is split between lead firms – mainly in the aeronautic sectors – and university research and public labs, as CITIUS.
Education and Training	The education system is strong, anchored in the University of Sevilla, but university – industry interactions are still underdeveloped, and curricula do not follow market demand. Sevilla has top-class business education.
Leadership	Andalusia has made a strong investment in technology parks, contributing to a new,

in the Public Space	more technology driven identity; amongst these, Cartuja'92, the aeronautics technopole in Sevilla and the science park in Malaga are the most prominent.
Technology Transfer	In spite of the existence of the universities' technology transfer offices (OTRIs), and the appearance of new organisations (Citandalusia) technology transfer still needs to be more market oriented, and entrepreneurship promotion activities, albeit strongly boosted through the network of technology parks, still needs to be improved.

Main Findings:

Sevilla has gone through several transformations over the last 20 years and due to massive investments (largely supported by European Structural funds) and political will, has been able to secure new industrial sectors for the city (TYPE II innovation), in particular aeronautics, but also electronics and renewable energies, in addition to a glooming service and retail sector. The city and region continue to invest in infrastructure and public space for innovation and research, and Andalusia has now one of the best networks of technology parks in Europe. With a strong image and good living conditions, and remaining as Objective 1 region, Sevilla is still a very attractive location for new investments. But to move one step further, the innovation system still needs to be improved, in particular as regards the efficiency of the financing and technology sub-systems, currently too dependent on public funds.

3.3.9.6 – Conclusions

Sevilla and Andalusia, are an example in the development of infrastructures for economic development and creation of public space for innovation, with a strong and dynamic network of technology parks, most with a sectorial focus, and anchor public research organisations.

One of those parks, Cartuja'92, is the result of an urban investment initially made for the space of the World Fair of 1992, in large scale the event that marked the transformation of Sevilla into a modern, competitive city. After the event, the space has been developed as a technology park, with a major concern on sustainability, which is an example for other cities currently involved in large projects, e.g. Pécs.

The investment in development and innovation has contributed to attract to Sevilla major industrial investments in fields such as aeronautics and other high tech sectors, as electronics and renewable energies.

The aeronautic cluster is the most known in Sevilla, but the city has also important economic sectors – electronics, renewable energies and, at a smaller scale, ceramics and materials, which are less organised. An organisation in a model such as a cluster or a competitiveness centre would be beneficial for the international projection and development of such sectors.

Ceramics in particular, while deeply rooted in the city history, are not being promoted – in cultural, economic and tourism terms – as they probably deserve, and the sharing of experiences with other cities can provide Sevilla with valid lessons on how to address this issue.

What Seville can share with the UNIC Network:	What Seville can learn from the UNIC network:
The creation of public space, with a strong and dynamic network of technology parks	Better coordination of economic sectors, at the image of the aeronautic cluster.
The location in Sevilla of new high tech sectors, and in particular aeronautics	Better promotion of ceramics heritage
The effort in ensuring sustainability of large projects, as Cartuja'92 following the world fair.	

3.3.10 CITY OF CLUJ NAPOCA (RO) – Partner city

3.3.10.1 - Overview

Cluj Napoca is the third largest city in Romania and the seat of Cluj County, in north-western Transylvania. Geographically, it is roughly equally distant from Bucharest, Budapest and Belgrade. The city lies in the valley of the Someşul Mic River and is the capital of the historical province of Transylvania.
According to the 2007 data provided by the County Population Register Service, the total population of the city is as high as 392,276 people. However, this number does not include the floating population of students and other non-residents—an average of over 20 thousand people each year during 2004-2007, according to the same source.

Cluj-Napoca experienced a decade of decline during the 1990s, however, the situation changed dramatically on the turn of the century, partly due to political changes in local governance, with the city entering a period of rapid growth in terms of economics and demographics—the city's population is projected to more than double by the late 2010s. Today, the city is one of the most important academic, cultural, industrial and business centres in Romania, the second after the capital. Among other institutions, it hosts the largest university in the country, Babeş-Bolyai University, with its famous botanical garden; nationally renowned cultural institutions; as well as the largest Romanian-owned commercial bank. Monocle magazine identified Cluj-Napoca as one of the top five places worldwide that are due their turn in the international spotlight during 2008.

The American online magazine InformationWeek reports that much of the software/IT activity in Romania is taking place in Cluj-Napoca, which is quickly becoming Romania's technopolis. Nokia recently invested 200 million euros in a mobile telephone factory and a research centre in Cluj-Napoca. The ceramics sector is no longer economically relevant in the region, with the last big manufacturer (ISIS) disapperaing with the economical changes that followed the change of regime, but a fabric of small familiar companies and crasftmen active in ceramics still exists.

The Babeş-Bolyai University (UBB) is the largest in the country, with approximately 50,000 students attending various specialisations in Romanian, Hungarian, German and English. The university has 21 faculties and over 1,700 faculty members. The University offers bachelor’s, master's, and Ph.D. degrees, along with advanced postgraduate studies. The Faculty of Chemistry and Chemical Engineering includes specialization courses in Science and Engineering of Oxidic Materials and Nanomaterials and on Economical Engineering in Chemical and Materials Industry which may be relevant for the Ceramics sector, while the University of Art and Design of Cluj-Napoca has a department on Ceramics on its Faculty of Decorative Arts and Design.

3.3.10.2 – The Local Support Group

The Local Support Group includes the following organisations:

1) Local Authorities – Managing authorities Municipium Aelium Hadrianum Napoca www.clujnapoca.ro

Operational Programmes		
2) Education and Research	Babeş-Bolyai University	www.ubbcluj.ro
3) Culture	Muzeul National de Arta Cluj	
	(…)	

3.3.10.3 – SWOT Analysis

CLUJ									
Strengths	S1 – UBB is the largest university in the country		S3 – Several research institutes are based in the city, including Institut de Chimie Raluca Ripan.	S4 – Private research centres, in particular Nokia and Siemens	S5 – Good central location, equally distant to important cities as Bucharest, Budapest and Beograd.	S6– Strong social and cultural life, profiting from a large student population	S7 – very low unemployment levels		S8 – a fast growing image, based on a dynamic ICT sector, as a "technopolis"
	S2 – The University of Art and Design, graduates a wealth of artist and designers every year								
Weaknesses	W1 – Entrepreneurial and management culture is still developing	W2 – At present there is still a lack of public space for innovation	W3 – University – Industry relations are still incipient	W5 – Insufficient public-private partnerships		W6 – The city misses one major cultural event of European dimension	W7 – Income levels are still low by European standards	W8 – Level of citizen services is still weak, e-services level is low	W9 – The regions lacks a strong local brand name that catches attention over it
			W4 – Ceramic sector is characterized only by micro-companies			W10 – The city doesn0t have a dedicated Museum to preserve its ceramics heritage.			

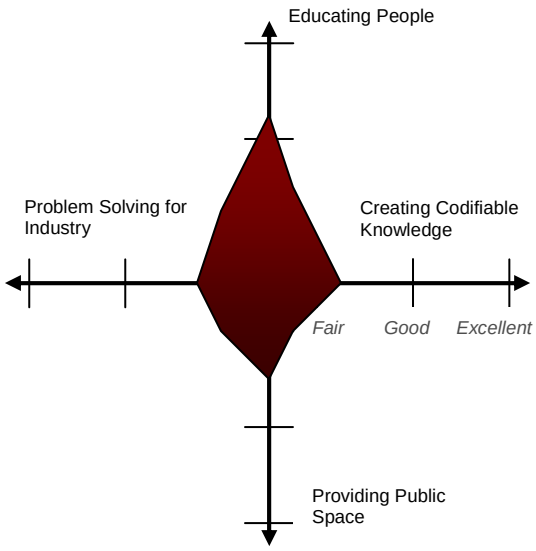
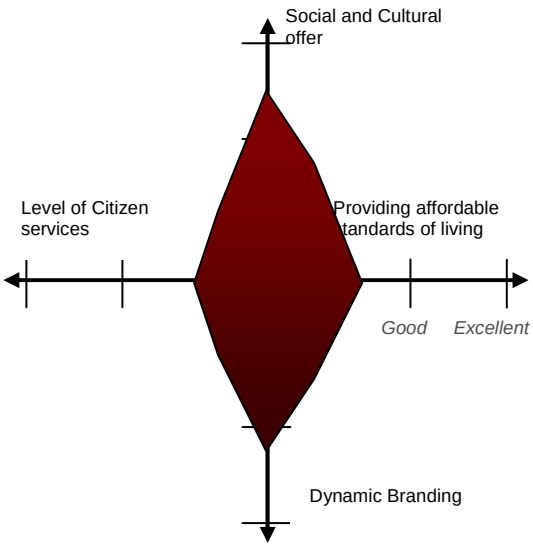
Opportunities	O1 – The city is the centre of a vast region, there is a critical mass of students	O2 – a strong banking system, may be the basis for a solid financial support for growth and innovation.	O4 – Plenty of investment opportunities, and availability of structural funds for applied research.	O5 – Expanding ICT sector, with strong private initiative	O7 – the city is aiming to double its population until 2020	O8 – The multicultural, multilingual environment		O9 – the strong investments on ICT should reflect in better e-services	O10 - One of the top five places worldwide that are due their turn in the international spotlight during 2008, according to Monocle magazine
		O3 – Several investments are on-going or planned, including 4 Industrial Parks and 1 large incubator		O6 – Skilled and educated workforces (level of alphabetization is 98,3%)					
Threats	T1 – Competition from foreign universites			T2 – Brain drain, in particular towards USA and Canada	T3 – The massive investments from the construction sector may descharacterize the city	T4 – Still some tension with ethnic minorities			

Main Findings

— Cluj Napoca is a city on the uprising. Based on a strong university system (S1), a skilled and educated population (O6) and a strategic geographical location (S5), the city has been able to attract important national and foreign investments, especially in the construction and in the ICT sectors, which have been pushing the image of the city as Romania "technopolis" (S8). This trend is being supported by important investments in infrastructure, namely in the creation of public space (O3), and by a dynamic banking system (O2), that opens great opportunities for a sustainable development if the city is capable to avoid the temptation of over-construction (T3) that has been seen before in southern European countries, resulting in the loss of distinguish characteristics. The evolution from a solid but traditional financial system (infrastructure-oriented) to a more innovation –oriented financial system, in line with the new trends is one of the main innovation challenges for Cluj.

— However, the vast economic sector that Cluj is undergoing is not visible in the ceramics sector, or at least not with positive effects. Once home to important manufacturers of tableware such as Isis, the sector at regional level is composed of only around 70 micro-companies, between family-based business and craftsmen (W4). In spite of a sectorial association, the sector lacks critical mass for innovation and growth, even if financial (O2, O4) and support conditions (universities, research centres (S1,S3) are favourable. But while industry is weak, the city is home to a wealth of artists and designers, of growing international fame, most graduated from the local University of Arts and Design (S2), which could contribute to a sector renewal. To reinforce such asset – clearly the strongest one as relates to the ceramics sector – and prevent the talents drain to other countries (T2) the city should promote a larger number of cultural events of relevant dimension that it currently doesn't have (W6), as exhibitions, creativity contests and fairs, inspired in examples as Stoke-on-Trent Ceramics Biannual and Faenza's International Competition of Contemporary Ceramic Art. The city also lacks a relevant museum on ceramics (W10) that can both preserve its heritage in the field and contribute to the visibility of a new generation of artists.

3.3.10.4 – Positioning

New knowledge creation (Combining heritage and innovation)	New identity creation (City as a centre of attraction)
	

Main Findings:

— Cluj Napoca has been able, over the last 10 years, to develop a favourable business environment, and currently the city hosts several worldwide, prestigious companies, having demonstrated to be a great location for new investments in various fields, in particular ICT, as most of the activity in this sector Romania is taking place in Cluj-Napoca, with in particular relevant investments from Nokia and Siemens. This favourable climate is partly enabled by structural reasons – a strong education system, a skilled and educated population – but also for more conjectural reasons – low salaries, consumer markets still growing. To consolidate this trend, the city must reinforce its infrastructures, in particular as regards the provision of public space – something that has already been started with the development of the TETAROM industrial parks and incubators – but also with the development of its research structures and the improvement of its capacity to serve local industry (technology transfer, industrial relations, etc.) and the foster of a financial system favourable to innovation.

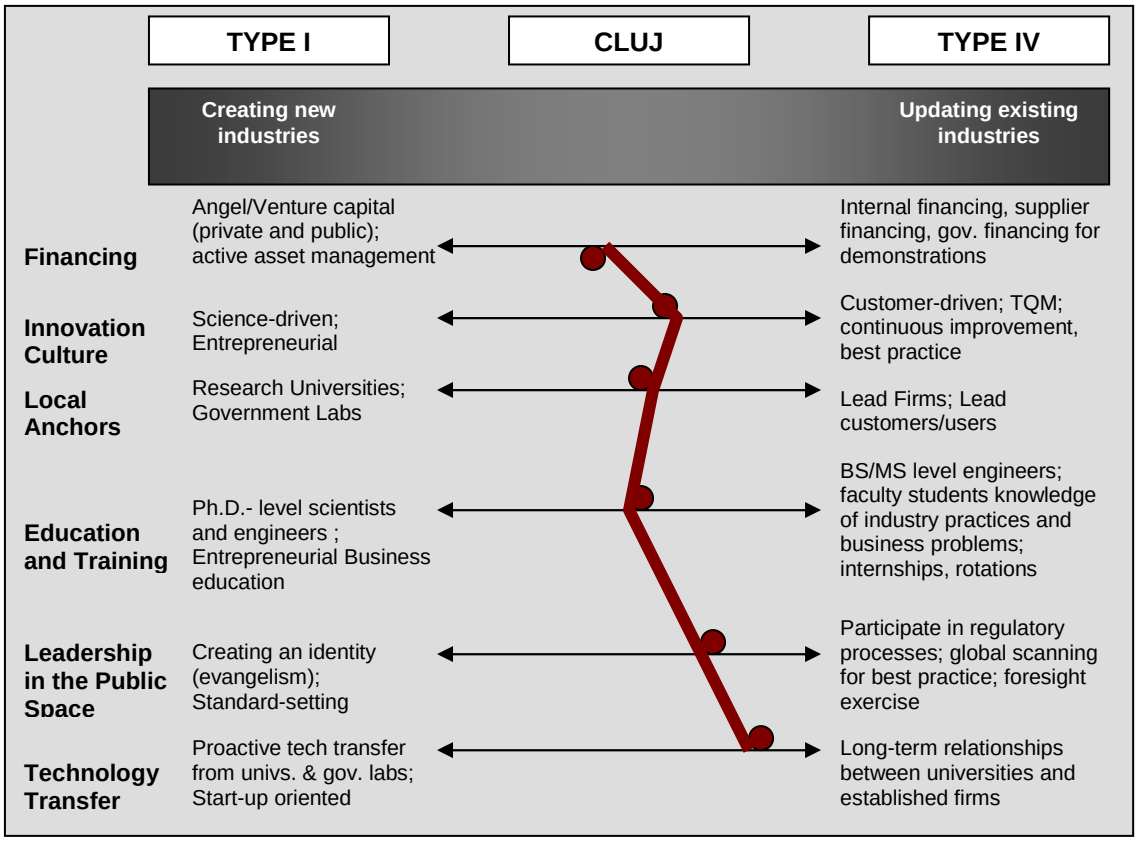
Cluj is a city on the uprising, but it must work to ensure sustainability of its present economic growth. For it, while profiting from the favourable climate and the existence of structural funds to develop its infrastructures, it most avoid the mistakes that other cities have made, with a concentration of investments on “cement” and

construction and neglecting the intangible aspects as capacity to create and disseminate knowledge and development of a innovation–oriented financing system. Of particular importance for Cluj maybe the learning of processes in the field of Venture Capital promotion and development of University – Industry relations through experiences as the Centres of Excellence.

— Cluj Napoca is a city with a dynamic social and culture life that largely is coming from its student-town status. The city has also been able to promote itself in the international arena, in particular over the last 10 years, overcoming ethnic tensions and economic problems, to shine as a future "eldorado" for ICT companies and attract foreign investment from companies such a Nokia and Siemens, together with important foreign investment in the financial and construction sectors. But the city has not been able to preserve its cultural and economic heritage, and while new sectors have emerged, traditional sectors - as ceramics – have practically disappeared from both the economic scene and from the city social, cultural and architectural life. Nevertheless, thanks to an important University in Arts and Design the city has been able to promote a community of artists, designers and creators with a growing international visibility and that may be the basis for a renewal of traditional sectors, and in particular ceramics. But to feed this trend, the city must create the conditions for this community to stay and prosper in Cluj, containing the talent drain to other countries.

To preserve its heritage and foster a renewal of its traditional sectors, with a view of a sustainable growth that is key for the future of the city – as many of the reasons for the present foreign investment are only conjectural – the city must promote the development of large scale events that may become a window for the local community or artists, while attracting foreign one, and develop heritage sites as Museums and permanent exhibitions. Of particular relevance are the examples of Stoke-on-Trent Ceramics Biannual and Faenza's International Competition of Contemporary Ceramic Art, while examples as the European Industrial Museum for Porcelain in Selb and the National Museum Adrien Dubouché in Limoges are benchmarks for a possible development of a local museum in ceramics.

3.3.10.5 – Innovation Path



Financing	The financing system in Cluj is well developed, including several foreign investments. But the system is traditionally based, infrastructure-oriented, and its conversion towards a more innovation-oriented system is a main challenge in Cluj, as elsewhere in Europe.
Innovation Culture	Innovation culture is balancing between a traditional science-based system and new private investments in applied research –centres from foreign companies. The city must identify a common ground where to develop an improved innovation culture, and the planned TETAROM industrial parks may play a role here.
Local Anchors	Education establishments are strong in the region, but ties with industries are weak, the same going for research institutes. More private-public partnerships are necessary.
Education and Training	The education system is strong in Romania and particularly in Cluj. But while the level of scientific education is top-class, interaction with industry (rotations, internships, etc.) are still underdeveloped.
Leadership in the Public Space	A strong leadership is necessary, in particular towards traditional sectors that lack public spaces (technology parks, incubators, …) for its development.
Technology Transfer	Technology transfer is still incipient, with an absence of private players and conservative public players.

Main Findings:

The city of Cluj has been able to foster the creation of a strong local ICT cluster basically from scratch, thanks to mix of structural and conjectural factors and an

aggressive approach in the international arena. However, it remains to be seen how far this example of Type I/II of innovation is sustainable, which can only be assessed in the longer-term. Overall, and taking in consideration mostly the structural factors, Cluj seems to be more tailored for a Type 4 of innovation, especially in areas as design and creative arts applied to traditional sectors, and efforts should be directed into these areas.

3.3.10.6 – Conclusions

Cluj Napoca has been able to establish itself as uprising city in the European area over the last 10 years, thanks to an aggressive promotion and marketing campaign that is a lesson for other UNIC partners.

This has led to the capture of relevant foreign investments and to the creation of a new economic cluster, in the ICT sector, basically from scratch. But the rising of new sectors has been accompanied but a strong decline in others – as ceramics – that in the long term may contribute to a loss of entity and of competitiveness. To preserve its heritage and ensure a sustainable development, the city must bet on a renewal of some of its traditional sectors, for which it possesses a relevant asset – a strong community of creative artists and designers feed by the local University of Arts and Design.

To increase the visibility of such a community and use it to leverage traditional sectors as ceramics, the city must learnt from the experience of other UNIC partners in the organisation of large scale events and in preservation of heritage. While for developing a climate favourable to innovation and sustainable growth it must improve aspects as its financing system – currently solid but too oriented towards infrastructure – and the university –industry relations.

What Cluj can share with the UNIC Network:	What Cluj can learn from the UNIC network:
City promotion and marketing at international level, capture of foreign investments	Experience of organising large scale events
The fostering of a community of artists and designers, from a university of Arts and Design.	Innovation Financing and Venture Capital good practices
	Good practices in University – Industry relations, in particular the Centre of Excellence experiences.

3.4 Baseline study – Conversion of the findings into work programme

3.4.1. Learning needs, potentials and objectives

3.4.1.1 The topic of the network

The analysis of the partner cities allows to conclude that, while there area certainly differences amongst cities, there is a common understanding of the network's core topics, in particular in its dimension of creation of new knowledge (innovation) and creation of a new identity (attractiveness). A more detailed analysis of the results for each cities clearly identifies two main clusters, as regards the first dimension – creation of new knowledge: one grouping the Competitiveness cities, and another, slightly less developed, grouping the Convergence cities, as pictured in Figure 1 below.

These findings are in line with the initial expectations and with most studies regarding innovation (e.g. the Community Innovation Scoreboard).However, such a distinction is not evident in the second dimension – creation of new identity, that will reflect the attractiveness of cities to people, companies, investments… – here are the individual merits and experience of cities, more than the global regional or national context, that seem to make a difference.

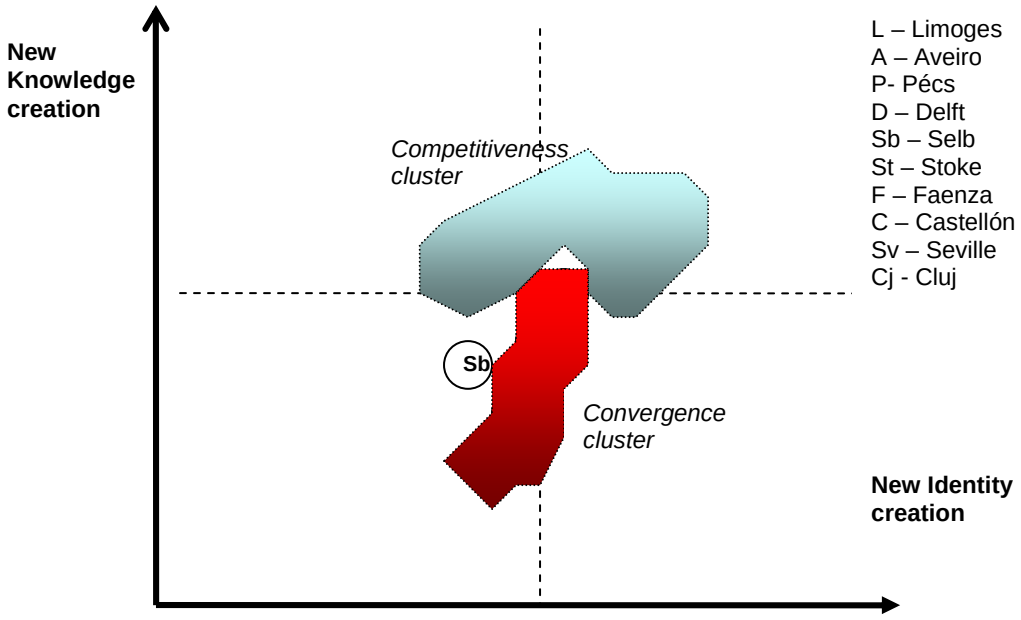


Figure 1 – Positioning of partner cities regarding the two main dimensions of the project

Overall, there is a quite extensive sharing of the topics of the project, represented in a cohesive grouping of the cities, in a relative small area of the graphic above (no "*lost sheep*" effect). The cities, albeit with very different tradition and economic relevance from their local ceramic sectors, share common concerns and objectives, and there is plenty of space for cooperation with benefits for all.

3.4.1.2 Potential innovation and inputs from the member cities

An interesting analysis for further development regards the identification of the main practical experiences with regard to any of the dimensions in each of the member cities, and that can be shared or developed within the scope of UNIC network. These are presented in the table below:

Table 1 – Main experiences identified in Partner Cities

Partner City	Main experiences
Limoges	Pôles de Competitivité (*New knowledge creation*)
Aveiro	Preservation / conversion of heritage as in Cerâmica Campos (*New Identity Creation*)
Pécs	2010 Capital of Culture /Szolnay Quarter (*New identity creation*)
Delft	University – Industry Relations, water-ceramics integration (*New knowledge creation*)
Selb	European Industrial Museum of Ceramics (*New identity creation*)
Stoke-on-Trent	The Ceramics Biennial (*New Identity Creation*)
Faenza	Torricelli Park (*New knowledge creation*)
Castellón	Use of ceramics in city architecture, new congress centre (*New identity creation*)
Sevilla	Network of technology parks (*New knowledge creation*)
Cluj Napoca	Community or artists and designers (*New knowledge creation*)

The actions / activities listed in the table above should be regarded as valuable experience / good practice in each city to be contributed to the partnership and the trans-national process of learning and co-production to be developed under UNIC.

Another way to look at this is to benchmark each city against the concept of a "knowledge city" and the existence of the so-called "Urban Innovation Engines".

In recent years there has been an intensive research about the conditions which enable and catalyze knowledge development in cities and the role of the city as a hub for intensive flows and exchanges of knowledge between its habitants and additional actors. Similar terms such as "Knowledge cities", "Intelligent Cities", "Educating Cities" and "Smart Cities" are being used for defining the good practice cases. "Knowledge" and "Innovation" are strongly connected concepts. Debra Amidon tied the two together and defined "Knowledge Innovation" as "the creation, evolution, exchange and application of new ideas into marketable goods and services for the excellence of an enterprise, the vitality of a nation's economy and the advancement of society as a whole". The process of innovation becomes expeditiously one of the ultimate managerial challenges of the next decade and beyond. It is at the heart of business survival, transformation and sustainability. But, innovation is critical not only the business but also to civic domains, such as cities, and regions. The quest for innovation is relevant not only to economic sustainability but also to social and cultural life. Therefore, the creation of an organisational climate which enables and catalyzes innovation deserves special attention from both the academic community

and the practitioners who leads all forms of organisations – be it businesses, cities, regions, non-governmental organisations, etc.

An "Urban Innovation Engine"[3] is a system which can trigger, generate, foster, and catalyze innovation in the city. Typically, it is a complex system that includes people, relationships, values, processes, tools and technological, physical and financial infrastructure. A close examination of the constructs of a typical city reveals that many of the city constructs can serve as Innovation Engines. However, not every University, or Library, or Industrial District, for example, do play the role of a true innovation engine. There is always a unique combination of intangible factors which turn a specific ordinary urban organ into an innovation engine. These factors have been described above as the principles of innovation ecology. This set might include, for example, a strategic intention, an explicit vision to use it as an innovation engine, exceptional leadership, a stimulating physical space, an urgent need or challenge, a special team.

The following table presents eight generic innovation engines: the University, the Industrial District & Science Park, the Capital Market, the brown-filed industrial zone, the Museum and its integration in the city, the Large scale Events, the city promotion, the Transport Infrastructure and highlight which cities have relevant experiences in each engine:

Table 2 – UNIC partner cities vs. "Innovation Engines"

Dimension	Engine	Description / Challenge	City experiences
New knowledge creation	The University	University of California, Berkeley in San Francisco, the colleges of Oxford, MIT and Harvard at Boston, Le Sorbonne in Paris, Monterrey Tech at Monterrey. All are fine examples of the scale, quality and different kind of innovativeness that a good university can contribute to a city. In all visions and strategic plans of knowledge cities, the local universities play an instrumental role. However, beware of ivory towers. It is not enough to nourish the academic excellence of the university. The multi-faceted linked between the university and the city citizens – children, teachers, business people, artists, industrialists, etc – turn the university from a learning and research centre into an innovation engine. All existing universities already play the role of local (and sometimes international) innovation engines. The challenge is one of intensity – how well do they play this role? How well are they equipped for this? How good are their "outputs" (graduates, research results, breakthroughs, patents, impact on social and business innovation of their environment)? What percentage of their curriculum does address innovation, directly and indirectly? How fast do they turn ideas into reality?	***Limoges,*** Pôles de Competitivité ***Aveiro***, University of Aveiro, ***Pécs***, University of Pécs, ***Delft***, TU Delft, ***Stoke***, Sttanforshire University, ***Faenza***, University of Bologna ***Castellón***, Universitat Jaume I ***Sevilla***, Universidad de Sevilla, CITIUS ***Cluj***, University of Cluj
	The	"Exploitation", i.e. the act and art of turning	***None***

[3] Based on "Innovation Engines for Knowledge Cities: An Innovation Ecology Perspective", Ron Dvir, Future Center, Israel

	Capital Market place	ideas into value, is identified as a critical element of innovation. In order to allow large scale exploitation, significant financial resources are required. Therefore we believe that the stock exchanges, banks, joint venture funds and other financial institutions can serve as engines for innovation. However, the potential of these institutions to drive innovation should not be taken for granted – it requires smart, responsible and innovative attitude from all the stakeholders. Although the capital market developed many new years in the recent 20 years, access to them is still limited, and entry barrier are high – perhaps too high for wider parts of the population to take part in it.	
	Knowledge Intensive Industrial District and Science Parks	The importance of Knowledge Intensive industrial districts and science parks as engines for urban, regional and national innovation is well recognized by policy makers at all levels. Most strategic plans for "Knowledge Cities" emphasize their role (e.g. in Barcelona, Melbourne and Delft knowledge cities). Innovation parks exemplifies that the operation of Innovation Engines requires intensive and rich interactions between many stakeholders. In a typical Innovation Park the government, international corporations, education establishments, research institutes, financial funds and local professionals are all involved.	***Sevilla***, network of technology parks and public spaces, ***Faenza***, Torricelli Park ***Limoges***, Tecnopole
Integrated urban approach	Brownfield sites	Brownfield sites are underused urban areas, generally dating from the first phase of industrialization. Many cities, including Chicago, London, Pécs and Toronto are involved in large scale projects to revitalized brownfields and turn them into lively city places which involves culture, business, education, etc. The cast of brownfields as innovation engines exemplifies that innovation engines should not necessarily be designed and build from scratch. The alternative of reusing old institutions and revitalizing them as innovation engines is more feasible in many cases. It also bears the special quality of past-present-future link, which can intensify creativity.	***Pécs,*** Szolnay cultural district, ***Aveiro***, Cerâmica Campos, ***Faenza,*** Torricelli Park
	The Museum and its integration in the city	Great museums not only show past cultural achievements but can also serve as hosts and stimulators of innovation in diverse arts fields as well as in other areas.	***Selb,*** Porzellanikon, ***Limoges***, National Museum, ***Delft*** Royal Delft Factory museum, ***Castellón***, use of ceramics in public streets.
New identity creation	The city image	Innovation requires talent, and attraction of talent requires marketing and promotion.	***Delft***, Delft Marketing, ***Stoke***, "The Potteries"
	The Large scale Urban Event	What is common to Paris 1900 and Barcelona 2004? Both are fine examples of cities that used large-scale events as innovation engines. The "Paris Exposition Universelle de 1900" was an opportunity for many nations to present and share their scientific and cultural achievements. It was also a trigger to push forward the state-of-art in diverse areas.	***Stoke***, Ceramics Biennial, ***Pécs*** 2010 European Capital of Culture, ***Faenza***, Ceramics Contest.

		Several aspects are needed for big events: Big Event: the strategic intention of the city leaders, financial capital and attention to the future.	
	The transport infrastructure	The airport symbolizes the opportunity for free flows of knowledge, ideas, different perspectives, expertise and innovation from and into the city. It is a central element of the innovation infrastructure of any modern city. As Steve Searle, a well know researcher has pointed out "…*more recently, I have been looking to identify the major "knowledge cities" of the world. And a starting point is to identify which cities have a University and an International Airport*".	***None***

3.4.1.3 Deficits and learning needs

Overall, it can be seen from the previous section, to a further or a lesser extent, all UNIC cities have already started their path towards becoming "knowledge cities", as represented in the experiences above. The goal of the UNIC project is to help them in going further into that path, in particular by sharing experiences and practices and by mutual learning that can then be reflected in their local action.

Within such a process, as important as identifying good practice is to identify deficits and learning needs that each of the participating cities formulates with regard to the network's topics. At this level it is important to know what exactly does the network have to offer and create so that the individual city will have a practical benefit and feel that is was worth the resources invested in the project.

Looking at the individual analysis of UNIC cities, in the 3 considered dimensions, and bearing in mind the need to keep the project focused and manageable around a limited number of topics, there are 5 main topics that clearly stand out, as concentrating the majority of interests and needs from the partners:

— Towards knowledge economy (Financing and evaluation of innovation)

— Industry strengthening, (in particular through university industry relations)

— Urban integration (Integrating heritage in the urban and economic fabric)

— Cultural, artistic and tourism values (City marketing and promotion), and

— Urban identity (Creating large scale dynamics)

The table below presents and overall picture of interests and needs amongst the partners, with the goal to create a coherent picture, for the development of a proposal for cooperation.

Table 3 – Interests and needs of city partners

Partner City	Combining Heritage and Innovation		Integrated Urban Approach	City as a centre of attraction	
	Towards knowledge economy	Industry Strengthening	Urban integration	Cultural, artistic and tourism values	Urban identity
Limoges	**Interest**	**Interest**	**Interest**	**Need**	**Need**
Aveiro		**Need**	**Interest**	**Need**	
Pécs			**Interest**	**Need**	**Need**
Delft			**Need**	**Interest**	
Selb			**Interest**		
Stoke-on-T.				**Need**	**Interest**
Faenza	**Need**				**Interest**
Castellón		**Interest**	**Need**		
Sevilla	**Interest**			**Need**	
Cluj Napoca		**Need**		**Interest**	

Benchmark	None	Pòles de Competitivité	Cerâmica Campos, Szolnay Quarter,	Delft Marketing	Ceramics Biennial

3.4.2 Partnership and collaboration

3.4.2.1 Expected products and outputs

The 5 identified topics will be addressed thoroughly during the implementation phase of UNIC through the establishment of working groups participated by the interested cities. Each working group should have between a minimum of 3 and a maximum of 6 city partners in order to keep the work effective.

The objective of the working groups will be that of analysing good practices in the topic and produce suggestions for concrete actions, that once validated within the network and discussed within each city at ULSG level, can make its way into the Local Action Plan that each city will develop within the project.

The overall UNIC cooperation flow should obey to some principles that have stand out during the baseline anlysis:

— Local planning should address the dynamics of knowledge development and economy of intangible assets, which are very different then the ones of the traditional economy which is based on tangible goods.

— While there are exceptions (Pécs Zsolnay Quarter, Torricelli Park, …) in most cases it will not be possible to build nor a green field "knowledge city" neither brand new "Innovation Engines" (universities, capital markets, browfields, etc.) that may lead the city into knowledge and innovation. The challenge would be usually to transform ordinary existing (and maybe even aging) urban constructs and re-invent them as true innovation engines.

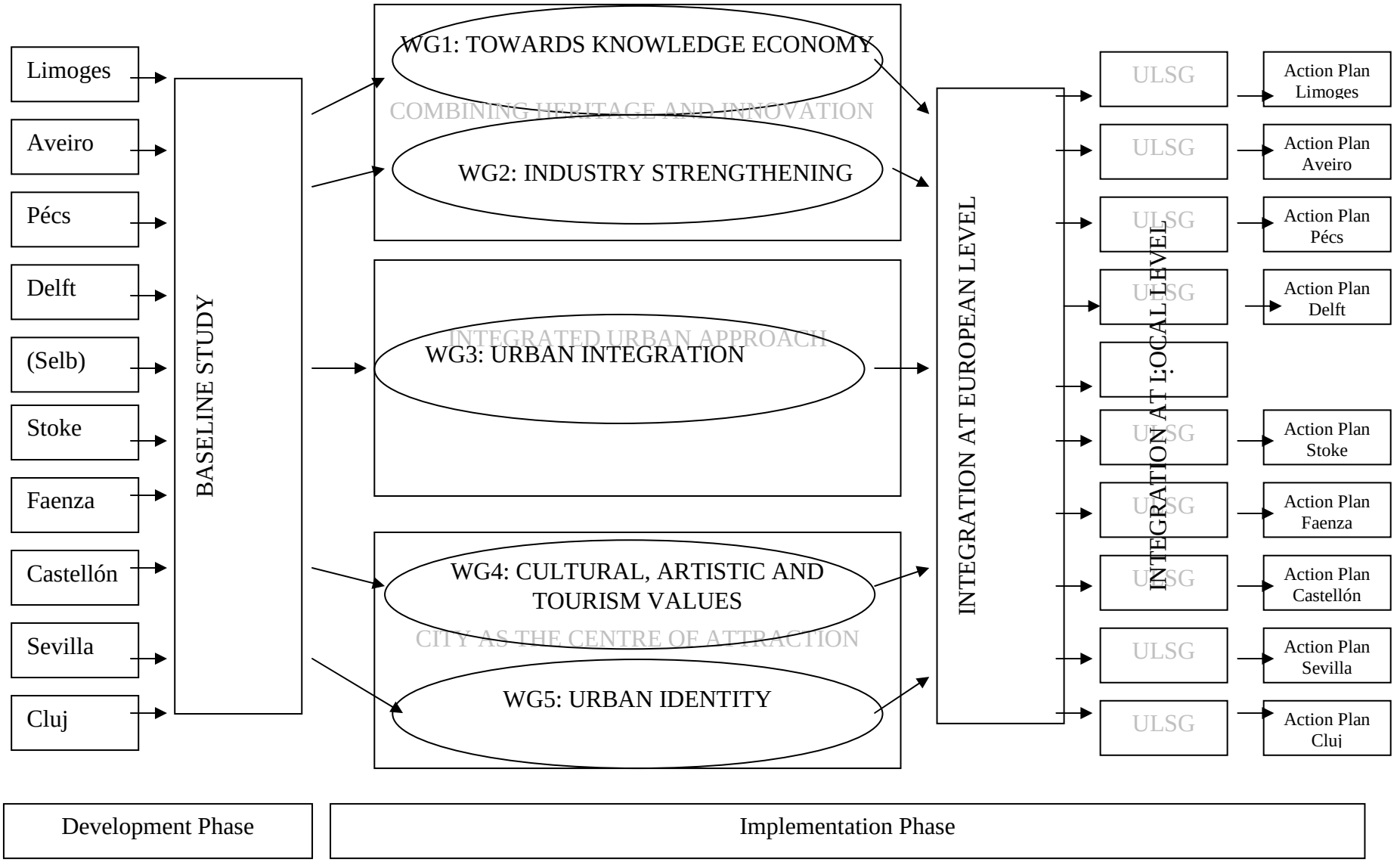
— The activities that will stem out of the Local Action Plans (or the "Innovation Engines") must not become isolated ivory towers. They must be connected continuously to each other as well as be integrated in all cities' flows.

— Each city is characterized by different cultural, economical and political conditions. Therefore, the specific set of the city' innovation paths, and the form they will take will be customized to the unique urban circumstances, competencies, opportunities and challenges, that must be characterized with the support of local stakeholders. A viable "Knowledge City" or any of its components will most likely not be architected by a single professional or urban department. Rather, it will be the outcome of a collaborative process which involves the talent, insights and perspectives of all stakeholders – council officials, senior citizens, local business people, academic, artists – i.e. the Local Support Groups in each city.

3.4.2.2 Suggested form of collaboration, exchange and learning

The project flow, designed to enhance collaboration, exchange and learning amongst all cities and respective stakeholders in presented in the next figure.

Figure 2 – UNIC Project Flow



The development phase has mainly consisted in the enlargement of the partnership and the production of the current baseline, which has allowed to filter the needs and interests of the 10 cities into 5 main topics for further development.

The development of the 5 topics by the concerned cities will be made under working groups which will be made up as follows:

Working Group 1	Working Group 2	Working Group 3	Working Group 4	Working Group 5
Towards knowledge economy	Industry Strengthening	Urban integration	Cultural, Artistic and Tourism values	Urban identity
Limoges (WG Leader)	Aveiro (WG Leader)	Selb (External Expertise – WG Leader)	Delft (WG Leader)	Stoke
Faenza	Limoges	Aveiro	Aveiro	Faenza
Sevilla	Castellón	Pécs	Pécs	Pécs
	Cluj Napoca	Delft	Stoke	Limoges
		Castellón	Cluj Napoca	
		Limoges	Limoges	

Cities may be represented in the Working Groups by any member of their local ULSG.

The following activities will be developed within the UNIC Implementation Phase:

At Working Groups level:

— The organisation of 1-2 Worskhop per working group;

— The establishment of a discussion forum (possibly over the net);

— Development of one case study (with support from External Expertise), which can be from inside or outside the network;

— Organisation of one study visit to selected case study;

— Development of one Final Report with Guidelines for Implementation in UNIC Cities, which is the final output from each working group.

At Integration at European Level:

— One large conference for presentation of the 5 WG reports;

— One conference proceedings, which will summarize the conclusions from the 5 groups and will be the main output from this stage.

At Integration at Local level in each city:

— Meetings, fora, discussions, events, as decided by each group;

— Development of Local Action Plan, which will be the main outcome of this stage;

— Testing and validation of Local Action Plan

In addition management and communication horizontal activities should be implemented, as to be described in the Final Application Form.

