Creative urban regeneration: the case of innovation hubs

Inês Vilhena da Cunha* and Catarina Selada

Policy and Research Unit,
INTELI – Intelligence in Innovation, Innovation Centre,
Av. Conselheiro Fernando de Sousa, nº 11, 4º,
1070-072 Lisboa, Portugal
E-mail: ines.c@inteli.pt
E-mail: catarina.s@inteli.pt
*Corresponding author

Abstract: Despite the trends towards globalisation, regions and cities are emerging as the main arenas for territorial competitiveness. Cities have begun to act as communities of knowledge, innovation, creativity and learning, becoming more dynamic, complex, diverse, open and intangible. In this context, new urban strategies and policies have to be considered. In this paper, we will try to clarify the concept of “innovation hub” as an outcome of creative urban regeneration processes. Based on a case study research methodology, we intend to distil best practices for the design and planning of these intelligent spaces.

Keywords: knowledge; creativity; innovation; cities; urban policy; creative urban regeneration; innovation hub; iHub; regional development.


Biographical notes: Inês Vilhena da Cunha graduated in Architecture of Urban Management and has a Masters in Environment and Urban Regeneration at the Faculty of Architecture of the Technical University of Lisbon, Portugal. She is a Researcher in the Policy and Research Unit of INTELI – Intelligence in Innovation Centre (Lisbon, Portugal). During the past years, she has participated in many national and European RTD projects, in the areas of regional development, urban regeneration and innovation.

Catarina Selada graduated in Economics and has a Masters in Science and Technology Economics and Management at the ISEG-UTL (Technical University of Lisbon), Portugal. She is a PhD candidate in Governance, Knowledge and Innovation at the Faculty of Economics of the University of Coimbra, Portugal. She is the Coordinator of the Policy and Research Unit of INTELI – Intelligence in Innovation Centre (Lisbon, Portugal). During the past 12 years, she has participated in many national and European RTD projects, often with leading roles, in the areas of innovation policy, technology and innovation management and regional development.
1 Introduction

The objective of this paper is to examine and clarify the concept of ‘innovation hub’ (iHub) as a tool for strategic intervention through creative urban regeneration processes. We intend to answer to the following research questions: how can science, technology, innovation and creativity (and arts, culture, design, media, etc.) be placed at the service of urban policy and redevelopment? What are the best practices that should underlie the definition of urban policies as regards to the design and planning of iHubs?

In order to achieve these objectives, the first part of the paper is centred on the analysis of the concept of iHub within the context of creative urban regeneration processes. It goes on to give an in-depth analysis of three case studies of iHub using a specific methodology: ‘Arabianranta’ in Helsinki/Finland, ‘One-North’ in Singapore and ‘The Digital Hub’ in Dublin/Ireland. After comparing the three paradigms through the development of a benchmarking exercise, we intend to establish a set of critical factors for success in the creation of iHubs as well as best practices for defining innovative urban policies.

2 Cities and creative urban regeneration

We have been seeing the emergence of a new era characterised by the growing importance of knowledge, innovation and creativity, along with the trend towards globalisation and dissemination of information, communications and media technologies.

However, in apparent contrast with this global world, regions and cities have been rising as the main arenas of territorial competitiveness. In fact, ‘there is a growing consensus among both academics and politicians that the innovation processes have a pronounced regional dimension and that the relevance of region-specific features for innovation processes is indeed increasing’ (Regional Innovation Policy, 2005). The recognised ‘death of geography’ postulated by several authors has been counterbalanced by the specific historical trajectory and the economic, political, social, cultural and institutional characteristics of regions and cities. Concepts like ‘agglomeration economies’, ‘tacit knowledge’, ‘face-to-face contacts’, ‘social capital’ and ‘organisational networks’ have been associated with the successful development of innovation processes. So, ‘globalisation and localisation, far from being mutually exclusive processes, are actually much more interwoven’ (Morgan, 1997).

But, more than this kind of ‘regionalism’, we have also witnessed an ‘urban turn’. According to Parkinson (2005), between 2000 and 2006, there was a general recognition of the contribution of cities to regional economic development (namely at the European Union level), after previous phases that were marked by a hesitant emergence and consolidation of the urban agenda.

In this sense, cities have begun to behave like communities of knowledge, innovation, creativity and learning, becoming more dynamic, complex, diverse and intangible. Several authors have introduced the concept of ‘knowledge cities’ (Carrilo, 2004; Ergazakis et al., 2004; Van Winden and Van Den Berg, 2004), ‘intelligent cities’ (Komninos, 2002; Edvinsson, 2005), ‘innovative cities’ (Simmie, 2001) and ‘creative cities’ (Landry, 2000; Florida, 2002) to describe this phenomenon, which has many of its roots in the work of Peter Hall and others.
Komninos (2006), for example, defines intelligent cities as territories with a high capacity for learning and innovation, which is built into the creativity of their population, their institutions of knowledge creation and their digital infrastructure for communication and knowledge management. In fact, the ability to attract and retain creative talent and knowledge-intensive companies becomes the main feature of these kinds of cities (Florida, 2005).

This, of course, does not imply focusing exclusively on central urban spaces, but rather, a consideration of their insertion in the designated ‘city-region’. According to Parkinson (2005), ‘there are no examples of successful urbanised regions which have unsuccessful cities at their core’. In this vein, Jones (2006) introduced the concept of ‘ideopolis’ as a sustainable knowledge city with the ability to effect development in the surrounding city-region.

In this new context, new and alternative urban strategies and policies must be considered, namely in the area of urban regeneration. Traditional urban renewal policies were mainly centred on combating social exclusion and were concerned essentially with physical interventions. But, as we said, cities are not only buildings and material structures, but also people, networks and intangible elements, like memories, history, social relations, emotional experiences and cultural identities – they are ‘places of interaction’.

The main idea behind innovative urban regeneration strategies is ‘integration’: integration of dimensions of intervention, integration of urban functions and integration of partners and resources (Guerra et al., 2005). In this sense, coordination of public policies in the fields of science and technology, industry and economy, education and training, transports, immigration and so on, is a key factor for the success of this new approach.

Thus, as a complement to mature urban policies, innovative urban strategies are emerging that aim to foster and create intelligent spaces within the city; we call them iHubs. According to Verwijnen (1999), ‘the notion of the creative city draws our attention to the fact that beyond the traditional forms of urban renewal and urban regeneration, cities show a growing interest in creating districts imbued with a climate of innovation and creativity’.

3 The ‘iHub’ initial concept

For our purpose, iHubs are tools of urban policy oriented towards developing creative places within the cities, such as in their historical centres or in old industrial or logistical areas (the so-called ‘inner-city’). The main idea behind this concept is that we can use science, technology and engineering (as well as design, arts, culture and media) as driving forces of urban regeneration and redevelopment. They will contribute to reinforce the conjecture of Hall (2001): the cities of the future will be a creative conjunction of technology, arts and community. Thus, we are talking about ‘cities within cities’ as breeding places in an experimental phase (Modder and Saris, 2005).

These are ‘fusion places’ where different uses coexist, such as business or entrepreneurial, research and development, education and learning, shopping and entertainment or community functions. In fact, iHubs foster a wide variety of interactions and the appearance of mixed-use environments, blurring the boundaries between physical, digital, economic, social and cultural spaces. Multidisciplinarity is the main
feature of these creative communities, where we can find a high density of knowledge intensive workers, who look for quality of life, inclusive environments, social and cultural diversity, and digital and physical connectivity. In other words, they are ‘good places to work, live, learn and play’.

Figure 1 ‘iHub’ concept

Examples of iHubs can be found in several parts of the world: 22@bcn in Barcelona/Spain, ‘Milla Digital’ in Saragoza/Spain, ‘Dubai Knowledge Village’ in Dubai, ‘Crossroads Copenhagen’ in Copenhagen/Denmark or ‘Avenue of the Arts’ in Philadelphia/USA.

Figure 2 Shortlist of iHubs around the world

<table>
<thead>
<tr>
<th>iHub Name</th>
<th>Country/Region</th>
<th>Area (ha)</th>
<th>Date</th>
<th>Mass Developer</th>
<th>Website</th>
</tr>
</thead>
<tbody>
<tr>
<td>22@bcn</td>
<td>Barcelona/Spain</td>
<td>160.0</td>
<td>2005</td>
<td>22@bcn, S.A.</td>
<td><a href="http://www.22ben.com">www.22ben.com</a></td>
</tr>
<tr>
<td>Arasomar</td>
<td>Helsinki/Finland</td>
<td>86.0</td>
<td>1994</td>
<td>ADC - Art and Design City Helsinki</td>
<td><a href="http://www.helsinki-iticulturalvillage.fi">www.helsinki-iticulturalvillage.fi</a></td>
</tr>
<tr>
<td>Avenue of the Arts</td>
<td>Philadelphia/USA</td>
<td>n.a.</td>
<td>1993</td>
<td>Avenue of the Arts, Inc.</td>
<td><a href="http://www.avenueofthearts.org">www.avenueofthearts.org</a></td>
</tr>
<tr>
<td>Crossroads Copenhagen</td>
<td>Copenhagen/Denmark</td>
<td>47.0</td>
<td>2016</td>
<td>Crossroads Development Corporation</td>
<td><a href="http://www.crossroadscoopenhagen.com">www.crossroadscoopenhagen.com</a></td>
</tr>
<tr>
<td>Diamond Incubator</td>
<td>Gyeonggi City/Korea</td>
<td>590.0</td>
<td>1973</td>
<td>Korean Government</td>
<td><a href="http://www.dbongpo.go.kr">www.dbongpo.go.kr</a></td>
</tr>
<tr>
<td>Dubai Knowledge Village</td>
<td>Dubai</td>
<td>21.0</td>
<td>2005</td>
<td>Dubai Holding</td>
<td><a href="http://www.doe.gov.ae">www.doe.gov.ae</a></td>
</tr>
<tr>
<td>Innovation Place</td>
<td>Saskatoon/Canada</td>
<td>31.0</td>
<td>1995</td>
<td>Saskatoon Innovation Opportunities Corporation</td>
<td><a href="http://www.innovationplace.com">www.innovationplace.com</a></td>
</tr>
<tr>
<td>Lower Manhattan</td>
<td>New York/USA</td>
<td>220.0</td>
<td>1935</td>
<td>Lower Manhattan Development Corporation</td>
<td><a href="http://www.lowermanhattan.com">www.lowermanhattan.com</a></td>
</tr>
<tr>
<td>MediaCity, UK</td>
<td>United Kingdom/Manchester</td>
<td>81.0</td>
<td>2002</td>
<td>Agency, Creative Retail Urban Regeneration Company</td>
<td><a href="http://www.medialey">www.medialey</a> bury.co.uk/</td>
</tr>
<tr>
<td>Milla Digital</td>
<td>Saragoza/Spain</td>
<td>107.0</td>
<td>2005</td>
<td>Ayuntamiento de Saragoza</td>
<td><a href="http://milla.saragosas.g.o/e">http://milla.saragosas.g.o/e</a></td>
</tr>
<tr>
<td>MIT and Environ</td>
<td>Cambridge/ Massachusetts/USA</td>
<td>128.0</td>
<td>1916</td>
<td>n.a.</td>
<td><a href="http://web.mit.edu/world">http://web.mit.edu/world</a></td>
</tr>
<tr>
<td>One-North</td>
<td>Singapore</td>
<td>200.0</td>
<td>1998</td>
<td>TTC Corporation</td>
<td><a href="http://www.one-north.com">www.one-north.com</a></td>
</tr>
<tr>
<td>Pudong New Area</td>
<td>Shanghai/China</td>
<td>3234.0</td>
<td>2005</td>
<td>Pudong New Area Government</td>
<td><a href="http://puddong.shanghaichina.org">http://puddong.shanghaichina.org</a></td>
</tr>
<tr>
<td>Raffles Place</td>
<td>Penang/Malaysia</td>
<td>460.0</td>
<td>2005</td>
<td>Raffles Place S.A.</td>
<td><a href="http://www.penangpencil.com">www.penangpencil.com</a></td>
</tr>
<tr>
<td>Seoul Digital Media City</td>
<td>Seoul/Korea</td>
<td>55.0</td>
<td>1994</td>
<td>Seoul Metropolitan Government</td>
<td><a href="http://dcn.seoul.go.kr">http://dcn.seoul.go.kr</a></td>
</tr>
<tr>
<td>Smoking Valley</td>
<td>Lithuanian/Prisksis</td>
<td>2.4</td>
<td>2002</td>
<td>Smoking Valley (public company)</td>
<td><a href="http://www.smokingvalley.com">http://www.smokingvalley.com</a></td>
</tr>
<tr>
<td>The Innovation Hub</td>
<td>Guangzhou Province/South Africa</td>
<td>60.0</td>
<td>2000</td>
<td>The Innovation Hub Management Company</td>
<td><a href="http://www.theinnovationhub.com">www.theinnovationhub.com</a></td>
</tr>
</tbody>
</table>
In this paper, we are going to centre our attention on three case studies based on their diversity and heterogeneity: ‘Arabianranta’ in Helsinki/Finland, ‘One-North’ in Singapore and ‘The Digital Hub’ in Dublin/Ireland. These criteria make possible to achieve a rich and comprehensive set of results and conclusions, besides the inherent limitations that this kind of research work is subject to.

4 Case studies of ‘iHubs’

4.1 Methodology

The methodology used for this case study research strategy can be broken down into the following phases: definition of a conceptual model, establishment of a set of dimensions of analysis, construction of a system of indicators and extraction of conclusions. The empirical work was based on the collection of bibliographical elements, direct observation and field interviews.

Starting with the concept of iHubs as creative urban places, we can identify seven important dimensions of analysis of the phenomenon: governance, connectivity, clustering environment, talent environment, built environment, cultural environment and natural environment.

- ‘Governance’ refers to the coordination of actors – public and private – involved in the management of the innovation habitats. We are speaking not only about urban public policies and programmes, but also of the degree of participation of the community in the project development.
- ‘Connectivity’ is related to physical accessibility, such as transport networks, as well as to digital infrastructures and flows. The strategic partnerships between the iHub and other creative spaces and urban and regional cooperation processes are also included in this dimension.
- ‘Clustering environment’ is associated with the business climate and knowledge infrastructure of the iHub and with the interactions between universities and other research institutions and companies. The level of entrepreneurship and the intensity of the creation of start-ups is also an important factor in the dynamics of the territorial system.
- ‘Talent and social environment’ concerns the human capital component, comprising the level of qualifications, mobility and diversity of the residents and workers in the innovative community. The degree of social equity is another relevant element in this dimension.
- ‘Built environment’ includes aspects related to the physical dimension (namely urban design) of the iHub and includes land use, urban grid, architecture, public spaces and urban art. The prevalence of a mixed-use strategy is an important factor in the evaluation of this environment.
• ‘Cultural environment’ comprises cultural and entertainment amenities located in the creative hub as well as public attendance of cultural events and visits to historical sites (heritage). Other important elements can be identified: the presence of restaurants, bars or coffee shops and other facilities promoting a vibrant and diverse nightlife.

• ‘Natural environment’ is related to the natural system of the area (waterfront, green spaces, etc.) in addition to the environmental quality (water, air, soil, etc.), weather, climate and energy, namely the use of renewable sources.

The ‘governance component’ is the nucleus of the model and the basis for the interaction between different environments: clustering, talent, built, cultural and natural, oriented towards developing a creative, distinctive and sustainable urban hub. Additionally, ‘connectivity’ is a prerequisite condition for the success of innovative habitats since it fosters cooperation between people, objects and places.

Each dimension of analysis can be evaluated with the help of a specific system of indicators that can be quantified or qualified based on the information collected through the empirical work.4

This uniform and homogeneous methodology aids in the development of benchmarking exercises comparing the case studies and in extracting global characteristics and best practices.

Figure 3 Conceptual model of an ‘iHub’
4.2 Arabianranta – Helsinki/Finland

The Arabianranta district is the place where Helsinki was originally founded in 1550 and where it remained until the early 1800s, when it was relocated to its current site (Gabbe, 2006). It is situated along Helsinki’s eastern waterfront and it was occupied mainly by industrial sites. The district’s name, Arabianranta, comes from the Arabia porcelain and ceramics factory, which had operated in the area from 1874 (Hargrave and Kangasoja, 2003).

During the 1980s, the city of Helsinki decided that ‘the undeveloped shorelines would be used for housing production’ (Kangasoja and Schulman, 2007). And, at the same time, in 1984, by government decision, the University of Art and Design Helsinki (UIAH) was relocated to the unoccupied industrial building of the Arabia porcelain factory. Later in 1992, the city took the decision of considering Arabianranta as an urban redevelopment area and started to develop a local detailed plan, which was approved in 1998 (Silva, 2005).

This project is led by the Art and Design City Helsinki Oy (ADC), established in 1995, a public-private partnership, where the public partner is dominant. It operates as a local development agency and as a marketing company for Arabianranta, promoting business activity there (Somervuo, 2007). The company’s aim is to make Arabianranta ‘the leading design centre in the Baltic Sea area’.

The Arabianranta project is centrally managed and coordinated by the Development Unit of the City of Helsinki Economic and Planning Centre, working as a hub of communication among the several stakeholders and as a joint partnership (Somervuo, 2007).

Arabianranta, occupying about 85 ha, is a new urban area in Helsinki under an innovative and urban regeneration pilot project that ‘embodies the diversity of the area, linking past and present, the natural environment with the urban fabric, and science and technology with arts’ (Kangasoja and Schulman, 2007).

Regarding the physical connectivity of Arabianranta, there is an excellent public transport network comprising bus, tram and subway. In what concerns digital connectivity, in 1997, the Helsinki City Council decided to develop the district as a technology hub. The intention was to implement a local area network by building a broadband optical fibre network as a local experimental project – ‘Helsinki Virtual Village’, linking residents, companies and educational institutes.

As far as the clustering environment, initially, the only institution located in the Arabianranta area was UIAH, but during the development process, a whole new knowledge infrastructure was created encompassing: the Portal Business Park, the Faculty of Culture and Services of the Helsinki Polytechnic Stadia, the Swedish Arcada Polytechnic, the University of Helsinki Faculty of Science, the Helsinki Pop and Jazz Conservatory, the Helsinki City College of Technology Audiovisual Unit, the vocational institute Prakticum, Arabus – Design, Media and Art Business Centre (Arabianranta business incubator) and Designium – Centre of Innovation in Design. Although outside of this infrastructure, the business and entrepreneurship climate is not a strong ingredient in the district, it is still under development, focussing on the creation of a hub of companies for art, design, media and information and communications technologies (ICT).

Concerning the talent environment, the Arabianranta Plan proposed that, by 2012, the district would have 10,000 residents, 8,000 jobs and 6,000 students (ADC, 2004). The
goal was to form a mixed and inclusive community, combining students (Finish and foreign), workers, artists, researchers, and residents and at the same time integrating people with different social backgrounds (Sotamaa, 2006).

The built environment of Arabianranta area is a mixed use urban neighbourhood combining residential areas, education and learning infrastructures, media and design cluster business, commerce and services, and leisure and relaxation areas. The Arabianranta organic urban grid is unique in the surrounding area due to its open web of roads, with long streets mixed with short ones in a fluid communication network interrupted only by the sea (Silva, 2005). Around these elements, open city blocks are being developed facing the waterfront, forming a big ‘U’. Inside the open blocks, there are common grounds with different attractions, such as gardens, playgrounds and public art. The common grounds are interconnected by underpasses that go between the buildings, forming a network of public open spaces.

The housing stock of the area is multi-storey buildings and it includes ‘social housing, rental housing, right of occupancy housing, privately owned housing controlled by HITAS system and market-driven production of rental or private ownership housing’ (Hoppula, 2007).

In this project, there has been a strong emphasis on urban and architectural design, as well as with the quality of construction, incorporating public art, produced by artists or students, in buildings and public open spaces. Currently, there are about 200 of these art pieces installed throughout the district (Hargrave and Kangasoja, 2003).

The cultural environment of the Arabianranta district is strongly related to the founding of Helsinki in 1550. Another important cultural mark in the history of this place is the profile of the industries that have operated there since the 1800s and that are now being reconverted into different uses.

Cultural and entertainment facilities do not have much expression in the lifestyle of the Arabianranta district, although the library (‘Aralis’ – Library and Information Centre) and the museums of design and industry play important roles in the area.

The Arabianranta’s natural environment is central in the project. The area is built around a long waterfront park, a protected area teeming with birdlife and nature, with a nice view of the river Vantaanjoki (Kangasoja and Schulman, 2007). Arabianranta land has been contaminated since the 1930s by fill, which comprises frictional soil, quarried rock and ceramic industry waste material, so a soil cleaning and remediation action plan was developed (Isohanni, 2002; Somervuo, 2007).

The entire area is interconnected and oriented to face the waterfront and to involve the green spaces: ‘to have the streets as narrow as possible and the courtyards spacious, both arms embracing the landscape’ (Lehtovuori, 2007).

4.3 One-North – Singapore

The government of Singapore decided in 1996 to develop a science hub located in the Buona Vista area. This was considered a strategic national initiative that acted as an icon of Singapore’s transition to a ‘knowledge-based economy’ and it has allowed Singapore to maintain its economic competitiveness in the wake of the Asian financial crisis (Wong and Bunnell, 2006).

This flagship project, later renamed ‘One-North’, covering about 200 ha, is strategically located in Singapore’s technology corridor, between the Singapore Central Business District (CBD) to the east and the Nanyang Technological University to the
west (Aw and Koh, 2005). The location to develop this project was carefully selected, mainly considering the infrastructures already available, such as public transportation, roadways and R&D institutions (National University of Singapore, the National University Hospital, the Singapore Polytechnic, the Singapore Science Parks and the Singapore Campus of the Insead Business School).

After the decision to implement the One-North Project, the One-North Steering Committee was established in 1998. By the Committee’s suggestion, in 2000, the management and coordination of One-North was delegated to a public agency under the Ministry of Trade and Industry (MTI), called JTC Corporation (JTC).

JTC, as the master developer of the One-North hub, is responsible for the development of anchor projects and the supporting infrastructures (roads and utilities). The private sector also plays a role in this project by developing up to 80% of this area (Wong and Bunnell, 2006).

JTC, through an international competition, selected Zaha Hadid, Lda. to develop the One-North master plan concept and MVA Asia as the transport consultants.

The master plan will be developed in three different phases over the next 15–20 years. These phases are defined under a non-continuous development plan in order to be more flexible. The first phase of development comprises of three districts – ‘Xchanges’ – out of seven: ‘Life Xchange’, ‘Vista Xchange’ and ‘Central Xchange’, which will form the core of One-North, acting as catalysts for urban intensification and for the development of the other stages. The other districts, ‘Future XChange’, ‘Ayer Rajah’, ‘Wessex’ and ‘Temasek’, will be developed in subsequent phases (Aw and Koh, 2005).

A strategic dimension of the One-North Project is its connectivity. With regard to physical connectivity, there are very good public transport services (bus and tram) and strong pedestrian networks linking the park, other green areas, plazas, paths, linear atria and activity zones (Barth, 2003). The Information Technology (IT) network is also very good, based on a sophisticated IT infrastructure, with broadband internet, cable and wireless access, mobile and other technologies, in order to customise the area and interact with the local and the global community (JTC Corporation, One-North: The Future Is…).

Looking at the clustering environment, we find that the project is focused on three key economic areas: biomedical R&D, ICT and media. The clustering effort can be seen in: ‘Biopolis’, a well-equipped central facility for biomedical research; ‘Fusionopolis’, an intelligent building providing facilities to infocomm, science and media enterprises; and ‘Phase Z.Ro’, an incubator for innovative technology-based start-ups.

Regarding the talent environment, in the next 20 years, the One-North area will be home to 40,000 to 50,000 new residents and 70,000 workers. To achieve this, One-North intends to attract highly qualified and experienced foreign researchers and technopreneurs, who will bring with them new knowledge and skills, by offering an excellent location and new opportunities.

The cultural environment is characterised by the presence of public art and cultural facilities integrated in the area and also by the preservation and regeneration of the
existing cultural heritage, such as Rochester Park, Nepal Park and the Wessex Estates, in order to provide different residential options in One-North area as bohemian spaces to become a culturally vibrant city (Wong and Bunnell, 2006).

Concerning the natural environment, Buona Vista Park is its key element. The winding green park that runs through One-North from north to south, works as a strategic element that links the seven districts of the area to an open space of distinctive landscape, a diversity of places and materials fostering social interactions (Barth, 2003).

4.4 The Digital Hub – Dublin/Ireland

The Irish Government, in 1999, announced its decision to support the establishment of the MIT Media Lab Europe in Dublin. In association with this flagship project, the government resolved to develop The Digital Hub as the foundation for a new economic base for Irish and international digital media companies (Digital Media Development, 2001).

The Digital Hub, as a strategic Irish Government project, has the objective of ‘creating an international centre of excellence for knowledge, innovation and creativity focused around digital media enterprises’ (DHDA, 2003).

The digital media district, occupying about 11 ha, is strategically located in an exceptional area in Dublin’s city centre, around the Guinness Brewery buildings and within the Liberties/Coombe area, a historical area with a strong sense of place located in the south-western part of the inner city.

In 2001, the Digital Media Development published The Strategy Document – The Digital Hub as a result of a participated process involving local community, public and private stakeholders in order to define the vision and the plan for the project.

Later, in 2003, by government decision, The Digital Hub Development Agency (DHDA) was established based on a unique model of partnership, involving the community and the public and private sectors (CPPP). The DHDA manages and coordinates the project through the ‘Development Plan for The Digital Hub’ concluded in the same year.

The Development Plan considers The Digital Hub as a piece of Dublin City Council’s Integrated Area Plan (IAP) for the Liberties/Coombe area.

The Digital Hub is being implemented in two different phases, the first (2003–2005) concerns the creation and implementation of the digital media district; and the second (2006–2012) deals with the growth and development of a digital media cluster environment (DHDA, 2003).

In terms of physical connectivity, the digital media district is not very well served, although it will be close to a station of the new light rail system – LUAS, and it will also benefit from a quality bus corridor for Thomas Street and from a transport hub at nearby Heuston Station (Digital Media Development, 2001). Actually, it is within walking distance from the city centre. The digital connectivity is developed under a broadband network infrastructure enabled for local companies, schools and for the community.

Regarding the clustering environment, the project is focussed on digital media and digital content. It benefits from being located close to knowledge infrastructures like the National College of Art and Design, Trinity College Dublin, Dublin Institute of Technologies and Liberties College.

The Digital Hub has been attracting international companies, such as Amazon and Riverdeep and at the same time has created an incubator – The Digital Depot, in order to
attract and support start-up companies. The project aims to reach 150–200 companies by 2012 and currently, it has 76 companies established in the area (Flynn, 2007).

As far as the talent environment, The Digital Hub Plan proposed that by 2012, the area would have 1,200 new residents and 3,000 jobs (DHDA, 2003). It wants to achieve an inclusive and diverse community of artists, researchers, educators, technologists, entrepreneurs and consumers, linking the Liberties and Coombe area, promoting local educational and training programmes developed by the Diageo Liberties Learning Initiative (DLLI) designed to provide opportunities for acquiring and enhancing the skills needed to live in the digital age (DHDA, 2003).

The built environment is based on an urban consolidation area, with the presence of historic industrial buildings that are being maintained in terms of the original property design features, although most of them are being reconverted to new functions. The Guinness Brewery buildings are an iconic landmark in the built landscape.

The Urban Regeneration Project aims to create a vibrant and dynamic place for living, working and learning, encompassing a mixed use environment involving the surrounding area.

The cultural environment is enhanced mainly by the presence of the historic Guinness Brewery (since 1759), although it also lies within a historic neighbourhood – the Liberties/Coombe area, which has a strong cultural heritage and is also close to other cultural areas such as the Temple Bar.

The project does not encompass or develop significant actions concerning with the natural environment.

4.5 Synthesis

Based on the analysis above, we can see that there are some differences between the creative hubs examined and highlight the driving forces and excellence factors behind them. While the success of the Arabianranta district arises mainly from its natural environment and the presence of an anchoring institution – the UIAH, the One-North project bases its international projection on a distinctive built environment and strong interaction between biomedical, media and IT companies, and knowledge infrastructures. The ‘Digital Hub’ case stresses its social environment strongly concerned with integrating all social layers of the community in the project, for example, through specific training sessions. The clustering environment is another relevant characteristic of this hub with the development of a strong cluster of digital media companies.

The governance dimension appears to be very important in all of these cases, but while the One-North is supported by a top-down approach led by the government, the others are based on public-private partnerships.
Good practices for urban design and planning of iHubs

Although there are relevant differences between the political, economic and social contexts of the countries and the regions/cities analysed, a comparison of the case studies (added to a general review of other international examples of iHubs) can be fruitful in identifying best practices for the planning and urban design of these creative places. It is worthwhile to note that a model is always a simplification or an artificial representation of reality and this constitutes a limitation of our research. Moreover, each case has institutional specificities which would make it difficult to imitate and transpose, as is, into other environments.

Strong leadership is a key element for the success of an iHub. It is usually based on public-private partnerships and comprises innovative urban policies and redevelopment strategies and flexible, non-continuous development phasing. Good physical and virtual connectivity is also essential for social, institutional and territorial interaction within the area, fostering its integration into the city and the overall city-region. First-class digital
infrastructures and bridging elements are two of the distinctive features of these creative places.

Interaction among the different environments – clustering, talent, built, cultural and natural – stimulates the dynamics of the zone. Best practices point to the presence of good knowledge infrastructures (education and science and technology institutions) in cooperation with companies of creative or soft industries. A culture of entrepreneurship is also important. Besides the presence of knowledge and creative workers, the environment tends to be diverse, multicultural and vibrant, with the presence of foreign talents.

A mixed-use environment combining residential, working, learning, shopping and entertainment functions is one of the main characteristics of these hubs, fostering the emergence of a good place to live, work, learn and play. Other relevant factors are related to the existence of cultural amenities, good environmental quality, a dynamic and iconic spatial concept, distinctive landscape and architectural features along with a specific unique identity.

In what concerns future research, additional benchmarking case studies will be developed. It is also an objective of this work to construct a synthetic indicator designed to measure the level of creativity and innovation of each iHub.

Figure 5  iHub critical success factors
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Notes

1 This relationship between ‘innovation’ and ‘territory’ has been analysed by several authors since the beginning of the XX century, which has led to the emergence of diverse territorial innovation models, such as: ‘industrial districts’, ‘innovative milieux’, ‘clusters’, ‘regional innovation systems’ and ‘learning regions’ (without being exhaustive).

2 They are more concerned with combating problems, namely social and environmental questions, than exploring opportunities related with innovation based-competitiveness.

3 As opposed to the traditional concept of ‘Science and Technology Park’ located, in most cases, far from the city centre.

4 For example, the dimension ‘talent environment’ can be divided into the following sub-headings: qualifications, occupations, mobility, diversity, and social equity and each of these can be further broken down into specific indicators. For a detailed list of indicators, please contact the authors.

5 Represents the latitude of Singapore at one degree north of the equator.

6 Xchange came from the expression ‘new economy Xchange’, the driving force of this project. Each of the seven districts or Xchanges identified in the project is characterised by its own identity and focuses on a particular industry or business cluster.

7 Liberties/Coombe is one of the five areas in the inner city targeted by Dublin Corporation (1998) for the preparation of the IAP. IAP focuses on distressed urban areas with the objective of developing sustainable places through urban regeneration projects.