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HOW TO CREATE A FAVOURABLE ENVIRONMENT FOR TECHNOLOGY AND INNOVATION PARKS IN URBAN AREA'S"

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ABSTRACT

The object of this paper is to illustrate the growing need to develop specific innovation and technology transfer habitats that are adapted to urban/inner city environments. By using material drawn from three case studies in France, the UK and Germany this paper explores the urban innovation habitat and identifies the key ingredients that need to be assembled to make it a productive and successful innovation environment. The case study material illustrates the importance of developing concepts that ensure a better integration into their urban environment. This requires physical design solutions that help reduce the physical isolation often associated with centres of learning and research in urban locations. It also depends upon the development of broadly based partnerships that involve community and other key target groups alongside the provision of services that contribute to the delivery of an innovation and entrepreneurialism culture. Urban innovation habitats will thrive by being based around a mixed-use strategy driven forward by a visionary leader or partnership.

INTRODUCTION

Over the last 20 year's technology or science parks have evolved from being single sites, often located on the outskirts of cities with a defined and clear identity to become broader concepts based on policies and services aimed at promoting and enhancing innovation and technology transfer. Nevertheless, there remains a need to provide a physical site to accommodate innovation actors and companies. This paper seeks to explore what are the factors and specific challenges associated with promoting innovation in urban environments and why are these "habitats" different from greenfield or campus based science and technology parks.

There are broadly two major differences between these two environments. First, urban projects need to be integrated into a complex urban area that includes a diversity of "neighbours" (business and community). The concept of mixed use often underlies this approach. For urban projects to become effective innovation habitats these groups need to be associated through appropriate partnerships and networks. The needs of these different groups (social, economic, innovation etc) need to be included in the innovation activities if they are to thrive. The broader societal changes and desire to open up innovation and technology activities to non-traditional client groups are increasingly the key concerns of policy and decision makers. Second, there is the need to integrate the project into a built up urban area with existing infrastructure and buildings that need to fit into a broader urban development strategy which will often require specific remedial investments, landscaping, landmark buildings to help overcome problems of image and security. These elements are of particular importance if the project is going to try and change the innovation culture of particular groups and/or to attract new investment into the area. This latter point is often one of the major strengths of edge of city sites that have ample space for accommodating new companies.

The remainder of this paper is structured in two parts. The first part deals with three case studies and summarises the key aspects of each project. The second part seeks to identify some broad lessons and good practices that could be developed and adapted for use in similar urban areas.

CONTENT

The case study material presented below is largely based on unpublished feasibility studies which were undertaken in the 2000/1 period and seeks to illustrate in a concrete way how various projects in different locations in Europe are rising to the challenge of promoting and enhancing innovation and associated activities of entrepreneurialism in urban environments.

Digiport, Lille France

The Digiport organisation is part of the Lille Metropolitan Council economic development team with a particular responsibility for developing a citywide ICT (Information and Communications Technologies) strategy and implementing key projects such as the development of ICT incubators and business parks. A number of key ICT sites have been identified to date and each one is being developed as part of a coordinated strategy focusing on specific target groups, for example:

- Euratechnologies for ICT projects (incubator, service centre and associated property offer)
- Haute Borne Science park for greenfield research and development projects
- Image Union (Roubaix/Tourcoing) for multi media and film projects
- Faches Thumensil incubator and workshop space for music and cultural projects.

In developing such an approach the city council is providing a variety of habitats for technology and innovation activities to thrive in the city. Of all the sites being developed the Euratechnologies sites is perhaps the most ambitious because it is seeking to break the mould of what many experts regard as being the traditional role and location of science and technology parks. A brief summary of some of the key components of the Euratechnologies project will illustrate some of these points:

- The overall planned floorspace of the project is 28 000m²
- The project is based some 3km from the city centre in a former industrial area close to the city canal and adjacent to inner city industrial and residential areas (metro 500m).
- The main business incubation and service facilities will be based in two former textile factories dating from the last century.
- There are no training or research facilities within the immediate area.
- Surrounding land will be developed for business units
- Leisure, retail and community uses will be based around the canal basin
- Environmental improvements will integrate the site into the surrounding residential areas.

In adopting this approach the City Council is seeking to use the creation of a mixed-use innovation and technology habitat to lead the urban and social regeneration of part of the city centre.

The main activities of the Euratechnologies centre will include:

- Digiport team offices
- Incubation support facilities
- Business workshops and office space
- Public ICT facilities
- Temporary call centre office space
- Training and meeting rooms
- State of the art ICT infrastructure and services (broadband, back up servers and security systems, streaming services, audiovisual equipment etc.)

There are three main target groups of this initiative. The first, are entrepreneurs from either the research or business community who require help in getting their project off the ground and in growing their project ideas into viable businesses. The second group are SMEs seeking a new business location to grow or expand their business. The third target group involves the attraction and construction of ICT orientated further education and engineer schools to broaden the diversity of activities on the site. The main buildings will provide 1500 m² of incubation space and 4500m² of general business space of which a further 1500m² will be devoted to incubation follow on space.

The Digiport team has one further target group that includes the various local authorities and public sector organisations in the Metropolitan area. The aim is to ensure that they are made aware of relevant ICT initiatives.

Unlike many similar initiatives the project has taken the risk of creating a new business quarter that will support innovation, entrepreneurialism and technology transfers without the advantages of co-location with a university or research centre. To succeed the Euratechnologies project needs to overcome a number of problems, which are not typically associated with edge of town or green field campus locations. These include:

- Run down industrial area with a poor image
- Lack of local facilities (retail and services)
- Need to refurbish existing industrial buildings
- Lack of green spaces
- Need to reconcile the needs of local resident groups.

However, the urban location occupied by the Euratechnologies project has certain strengths that include:

- Proximity to city centre services such as hotels, conference centre, high speed train links and broad band ICT networks.
- The development of a new urban mixed use quarter with housing services, retail and leisure facilities
- Attractive environment for new young technology companies

Some key lessons from this project of relevance to other cities include:

- Preparation of a citywide strategy based on a collaborative approach and driven forward by a dedicated team (Digiport) and supported by a senior political representative.
- Identification of key market targets (multi site, multi sector targets)
- Critical mass of financial public and private sector investment
- Integrate science and technology project into the wider city economic development strategy.
- Develop projects within a wider urban mixed use regeneration strategy in consultation with local communities.
- Provide high quality dedicated incubation buildings and associated follow-on in the immediate area to create an urban ICT cluster.

This approach will ensure that the Euratechnologies site does not become a business ghetto or enclave with no links with the surrounding community. The mixed-use nature of the site will facilitate this integration and enhance its attractivity. The partnership and collaboration developed by the Digiport team will equally ensure that the project has broader societal impacts by encouraging use and access to the Euratechnologies site.

City of Kiel, Germany

The challenge facing the City of Kiel and its partners the Christian Albrecht University (CAU) consisted of a realisation that the city centre was losing major employment uses and that the University was not playing its full potential in the economic regeneration of the city. The partners therefore launched a feasibility study into the potential of creating a city centre science park based around a multi purpose Science Centre.

The main site examined as part of this study was a 10 hectare site (Hagunuk former arms manufacturer) adjacent to the main University campus. The site includes buildings that were immediately reoccupied and others that require demolition.

The Science Centre building designed to act as a catalyst for the development of a science park has the following four components.

- Management and Information and Communication Team 250 m²
- University Technology and Knowledge Transfer Agency 150m²
- Further Education and Life long Training Centre (UniKolleg) 750m²
- Conference/seminar facilities 400 m².

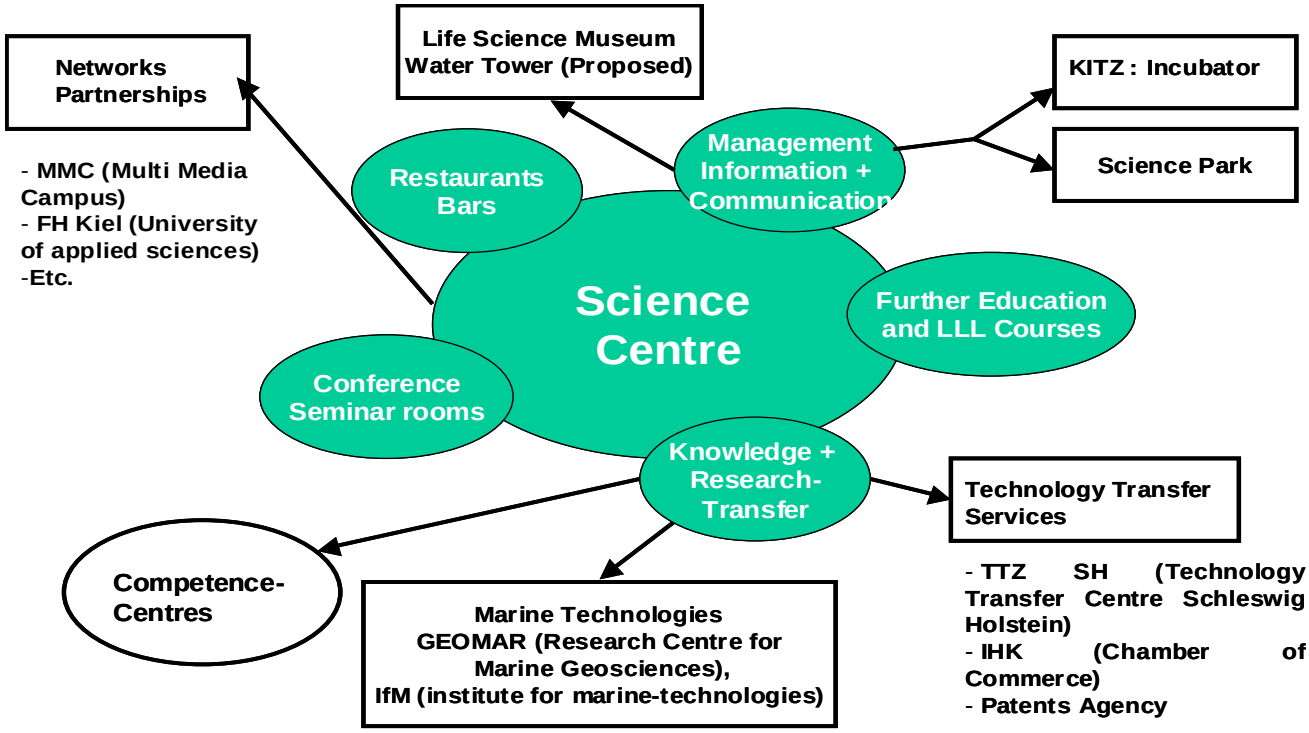
This building with a total floorspace of 1550m² will be located at the heart of the science park to provide a dynamic set of activities and will become the focus to attract companies to the area and encourage technology transfer and closer relationships between the CAU and companies.

The University technology transfer agency is at the heart of this project and will integrate the best of the current University technology transfer services. The UniKolleg (Life Long Learning) activity represents an interesting component in the project since it is not always considered a central activity on science parks but given the desire to open the Science Park to other "communities" is was deemed an essential component to achieve this objective.

City centre urban sites can also be good locations for conference and seminar activity and at Kiel this is a central part of the science park centre concept. This will provide an opportunity to host scientific and other conferences and events and enhance the linkages between different interest groups.

One of the key ideas behind the diversity proposed in the Kiel Science Centre is the desire to organise and facilitate networking between different interest groups. This can often be more easily achieved in urban mixed-use location with a juxtaposition of many different interest groups. This type of interaction can work between researchers (eg: life sciences and ICT's) and result in new innovations. Interaction between students attending Life Long Learning and new entrepreneurs can also be profitable. Furthermore, the design of the building and the management team will provide an important contribution to meeting this objective and managing the desired networking.

The development of the Science Centre will provide a focus for technology and innovation activities in the heart of city of Kiel and will act as a catalyst for the urban regeneration of the inner city. The linkages that can be created with organisations and other facilities within an urban area are illustrated in the diagram below.



An urban location can facilitate the linkages between the various interest groups illustrated in the above diagram and can have wide reaching impacts on the innovation culture of those who come into contact with the Science Centre and the associated facilities. For instance, the proximity of these various activities in an urban area can greatly facilitate the linkages between science and innovation and education. For example, in the field of Life Sciences (one of the target sectors of the Kiel Science park) the general public can be made aware of some of the ethical debates concerning the scientific advances in this area and be encouraged to take up studies in this field. In the same way, conferences and exhibitions on marine sciences can enhance the take up of courses and students in these subjects**.** These aspects should not be underestimated at a time when centres of research and learning are facing increasing difficulties to attract students and funding.

The Kiel project illustrates how an urban location coupled with the development of strong linkages between the various partners and projects involved based around a new flagship project can help create an innovation habitat in an area where none previously existed.

Salford, North West England: The Salford Innovation Park

The Salford Innovation Park is probably the most ambitious and far reaching of the three "urban innovation habitats" discussed in this paper. The project is located in Salford, close to the main Salford University Campus and forms part of the city regeneration area focussed on the Charlestown and Lower Kerswell New Deal for Community area. The area includes many derelict and run down sites and includes some of the most socially deprived wards in England. The project is being driven by a partnership between Salford University, The City of Salford, MIDAS and the North West Development Agency, Chamber Business Enterprise and representatives of the local schools and communities. It is important to highlight that the

word park is not used lightly in this context as it seeks to embrace both the concept of scale (the project covers several hundred acres) and the concept of an area in which citizenship, enjoyment, excitement and entertainment co-exist; all key elements of the meaning of the word park. The project was launched as a feasibility study in 2001 but was already operational through the functions of existing buildings and services (University Technology House Business Workshops, Academic Enterprise) and the work of the partnership. The first new buildings will become operational in 2003.

The heart of Salford Innovation Park (SIP) concept is based on the co-location of business, industry and education activities (university, further and primary education) which will stimulate innovation, creativity and entrepreneurship. By targeting such a broad range of interest groups the project is already becoming a focus for innovative growth dedicated to the creation and support of entrepreneurs from research or community backgrounds.

The core area or 'park' contains within its boundary a number of important assets and development opportunities that together provide an overall identity and create the conditions and environment, which make the Innovation Park concept a reality. Building on these existing assets is a priority for the project partners. These include:

- Salford University Campus
- Academic Enterprise other and business support outreach functions
- Technology House and the University Business park
- The location of the new purpose built Albion High School - operational in 2003;
- The Salford College New Campus;
- The Beacon Young People resource centre; and
- Other community facilities

Although the key physical investment (100€m associated with the general physical and social regeneration of the NDC area) will be focused within the core area boundary it is believed that the services, image and impact of the SIP will be felt on a wider city/regional level. The physical expression and key focus of the SIP will be the Innovation Hub Building (IHB) – a new purpose built facility in the heart of the SIP which will anchor and drive forward the development (the design proposals of the building are currently out to tender).

This building will play a key role in securing the interaction and participation from organisations and users from across the spectrum of target groups. One of the key target groups of this project is the local community. Project partners believe that one important way in which this project can impact on the innovation and entrepreneurial activities of the local community is through the involvement of the various levels of education actors. This has started with the development of a new primary school equipped with the latest ICT infrastructure and will include entrepreneurial teaching modules. Salford College will provide an input through further education courses linked to the sector priorities being promoted by the project. The University will equally play a key role through its community regeneration programmes and its technology transfer and academic enterprise activities. Within the University, the Academic Enterprise team already plays a key role in inciting and supporting new start up projects. This diversity of activities is believed to be essential if the barriers between the community, local businesses and education and teaching establishments are to be broken down. Through this sense of community, organisations from all works of life are more readily willing to help eachother and collaborate.

The urban location of the SIP ensures a certain element of proximity between uses and users but breaking down some of the traditional barriers often found in such environments will be facilitated by the co-location of activities and actors. Furthermore, the physical regeneration of the urban area will create the necessary linkages between the key sites within the SIP boundary and especially the Innovation Hub Building.

The Innovation Hub

The Innovation Hub Building will be a striking new multi-purpose building that, through the various spaces and activities proposed will bring together local people, schools, Higher and Further education and business in an environment which supports innovation and interaction whilst encouraging participation and the development of innovative new projects. It is located close to education facilities and the community the overall objective is to maximise synergy and interaction and to act as a catalyst for the regeneration of the wider area. The hub will contain:

- business incubation and intensive support for start-ups
- a range property units for new and established businesses and community businesses
- expertise and resources for community groups
- learning facilities and resources
- education space
- ICT access and support
- healthy living centre
- University of Salford - dept of Academic Enterprise
- a range of retail and leisure facilities

The IHB will be a high quality landmark building of approximately 3000m². It will provide a recognisable focal point for the SIP project and the wider regeneration of the area. Shared facilities will include a central reception area including space for shared office services (eg: copying, post, computer/server area), a catering/retail facility where companies and other users will meet on an informal basis. This facility will be located in or around a mini atrium space in which additional meeting or exhibition/showcase space will be provided.

The partners associated with this project are keen to ensure that the Salford Innovation Park rapidly becomes embedded into the 'regional circuitry'- that is to say that the Innovation Park forges and maintains active links with the Regional Development Agency and becomes an integral part of the Regional Innovation Strategy development process.

The connection and integration of the SIP into the wider physical environment particularly the adjacent university campus, the community area's and the public transport routes are key elements of the regeneration strategy being promoted for the area. The regeneration of the area includes new housing, business and landscape projects which together will create the necessary mix of uses and parkland character that will be both attractive to new investment and will also succeed in creating the necessary habitat in which local innovation and entrepreneurialism can flourish.

Some key lessons from this project of relevance to other cities include:

- Preparation of a clear development strategy and vision for a wide area based on a partnership approach to ensure the science park is integrated into the wider community.
- Breaking down some of the societal barriers (community vs research based innovation) that hinder project implementation by creating physical spaces where these can co-exist and through active "animation" of the project.
- Integrate education and community entrepreneurialism with other forms of innovation and entrepreneur support.
- Integrate science and technology project into the wider city economic development strategy.
- Develop a mixed-use urban regeneration strategy in consultation with local communities.
- Provide high quality dedicated incubation buildings and associated follow-on property space in the immediate area.

CONCLUSIONS

Over the last two decades the foundations of the European economy have shifted from an industrial one to one based on services and new forms of technologies and in particular telecommunications. Such trends have resulted in companies needing less space and adopting new forms of work and labour organisation. City centres with their mix of uses, major research and teaching centres, public transport accessibility and varied services have once again found favour with companies such as those involved in ICTs , biotechnologies research and business services etc.

City planners have sought to make the most of these trends by putting in place comprehensive regeneration strategies that seek to bring together the diversity of actors and create locations where communities can work together to deliver innovation and entrepreneurialism services. In such locations students and researchers are benefiting from enhanced knowledge flows and interdisciplinary interchanges and a new found urban quality if life.

The habitats of excellence associated with promoting innovation, entrepreneurialism and technology transfer have traditionally been linked to science and technology parks set in city edge or greenfield university campuses. The purpose of this paper has been to illustrate the growing importance of developing these habitats in urban areas and making it easier to integrate science and technology park initiatives into a broader economic regeneration policy framework. By adopting this approach, particularly in urban area's it will possible to diversify the socio economic objectives of projects and attract a broader range of community stakeholders including many groups that are not traditionally associated with such initiatives. Some of the key lessons illustrated by the case study material used in this article are as follows:

- Develop the project within a much wider urban regeneration and mixed use strategy
- Identify and promote activities that facilitate interdisciplinary and inter community exchanges
- Design buildings or spaces that can bring together users and activities interested in innovation and entrepreneurialism
- Actively explore and create links with non-traditional user groups such as community businesses, life long learning courses and schools at all levels (primary upwards).

- Support companies with comprehensive service and property packages to facilitate business retention and attraction
- Develop a high quality environmental package.
- Promote links with adjacent sites and activities that can support the dynamics of the science or technology park.

Hopefully, this paper has demonstrated some of the unique challenges and opportunities that an urban innovation environment can provide for science and technology parks. However; it should not be forgotten that there will always remain a need for city edge or campus style science or technology parks that can provide companies and research organisations with the necessary quality environment, space for expansion, generous car parking facilities and sometimes unique identity that they seek. Urban science and technology parks will succeed if they can provide a mixed use environment that create a real synergy between the diversity of actors and the mix of activities that exist in such locations.

REFERENCES

Digiport Technopole Lille Metropole Strategy 2002 : www.digiport.org