

22@: 10 years of economic transformation

Oriol Molas

Gaps

Martí Parellada

University of Barcelona

The 22@ Barcelona project

In 2000, Barcelona City Council created a municipal company, 22@ Barcelona, to promote and manage a project whose aim was to transform obsolete industrial zones of Poblenou into an area with high urban and environmental quality, where new knowledge and innovation-related activities could be carried out. The project was based on a model of a compact Mediterranean city with neighbourhoods in which to live, study and work at the same time. To achieve this, the former land use designation of 22a, which established that these city centre areas should only be used for industry, had to be changed to the new status of 22@, which permits the coexistence of all production activities that do not cause a nuisance or pollution, normalizes the presence of dwellings that have been affected since 1953, and favours their restoration. The objectives were, and continue to be: urban, social and economic transformation that involves combining dwellings, premises, facilities and green spaces; the promotion of industrial, commercial and service activities; and the fostering of technical, scientific and cultural development. The project does not overlook the infrastructures and public services that ensure opportunities and quality of life. Thus, the 22@ Barcelona district has adopted a high-quality, compact, diverse and sustainable urban model to make the resulting city more balanced, more hybrid and more ecologically efficient, with a stronger economy and greater cohesion.

1. In accordance with Article 7 of the MPGM approved in 2000, activities that are characteristic of the 22@ zoning designation are those related to the sector of information and communication technologies, and those asso-

This is a city project that covers urban development, planning and the management of urban development, heritage and infrastructures, as well as economic development through the promotion of clusters, the organization of public-private platforms, and the establishment and support of companies.

Below we highlight two basic characteristics of the project, beyond the political commitment to its implementation. There is an emphasis on the required legal and financial resources, and a form of project governance that distinguishes 22@ Barcelona from most urban operations whose objective is to promote the location of economic activities.

One factor that has boosted the location of '@ activities' in the district, particularly in the initial stage, is the incentives included in the urban development plan. As a result of these incentives, property developers could make better use of the zone than of other spaces in the city and metropolitan area. This has clearly been an important factor in the location of new activities in the district.

A second factor to consider is the project governance. The municipal company 22@ Barcelona is not only responsible for the district's urban planning, but also for implementing its urban and economic renewal project. To achieve this, the company's team has promoted around 40 projects to attract new companies in sectors in which Barcelona could attain a certain degree of international leadership; to promote the establish-

ciated with research, publishing, design, culture, multimedia activity, database management and knowledge management.

ment of the main institutions' university centres; and to enable the installation of the required support services.

To assess the introduction of activities defined as '@', that is, activities that use talent as the main productive resource, the 22@ Barcelona district carried out studies on their evolution in 2007, 2008 and 2009. In addition, the need to assess the overall impact of public policies in this district and to evaluate the results obtained during the first decade of the project led to a study² to identify indicators that could be used in a synthetic analysis of the economic growth generated by the project. The initial results of this study are presented in this article.

As the object of study is broader than in previous research, we should be able to perceive the clearly strategic nature of the sectors that have been promoted. For beyond the intrinsic added value of the @ economy, it is clear that it has positive secondary effects: from the generation of indirect activity (restaurants, shops and business services, among others) to the renewal and consolidation of a brand - a territorial identity that could attract other independent activities (in the hotel and catering trade, traditional sectors that are being updated and freelance professionals, among others). Furthermore,

taking into account the model of a compact city that inspired the 22@ Barcelona project, this brand could even attract residential housing, which, in turn, would generate more economic activity.

Urban development and population growth

The first focus of transformation of the 22@ district, which is the most obvious and the most relevant from the perspective of public investment, is the territory. The urban area³ that the project covers forms part of the transformation project itself and constitutes one of the greatest challenges that the city of Barcelona has taken on in recent years.

The 22@ district covers an area of 198.26 ha (which is equivalent to around 115 blocks of the Eixample neighbourhood), with a potential 4 million m² of gross floor area, of which 80% is destined for the establishment of production activities and 20% for dwellings, facilities and services. The original number of dwellings in a census of the area was 4,614, and the aim is to construct a further 4,000 new subsidized dwellings. The transformation is closely tied to a 180-million-euro infrastructure plan, which has provided the district with new fibre

Table I
State of urban development activity up to 31/12/09

PLANNING	<ul style="list-style-type: none"> • Start of the renovation of 65% of the industrial areas of Poblenou • 117 plans approved: 78 (76%) private initiative, 2,830,596 m² of gross floor area: <ul style="list-style-type: none"> - 136,837 m² of land for facilities - 119,720 m² for open spaces - ± 3.000 dwellings built as subsidized housing
FACILITIES AND GREEN AREAS	<ul style="list-style-type: none"> • Eight public green areas have been designed: 21,898 m² (6,724 m² are under construction) • A total of 82,137 m² of facilities have been built above grade (Ca l'Aranyó/Pompeu Fabra University, Mediacomplex building, etc.)
DWELLINGS	<ul style="list-style-type: none"> • Planning of 70% of the subsidized housing envisaged • 1,502 dwellings: 892 dwellings constructed, 521 under construction and 107 with building permits • 2,041 dwellings built, in the permit stage or approved (51% of the 4,000 envisaged in the General Metropolitan Plan)
CONSTRUCTION	<ul style="list-style-type: none"> • Permits for a total of 1,323,000 m² of gross floor area: <ul style="list-style-type: none"> - 70% for economic activity uses - 18% for dwellings - 12% for facilities

Source: municipal company 22@ Barcelona.

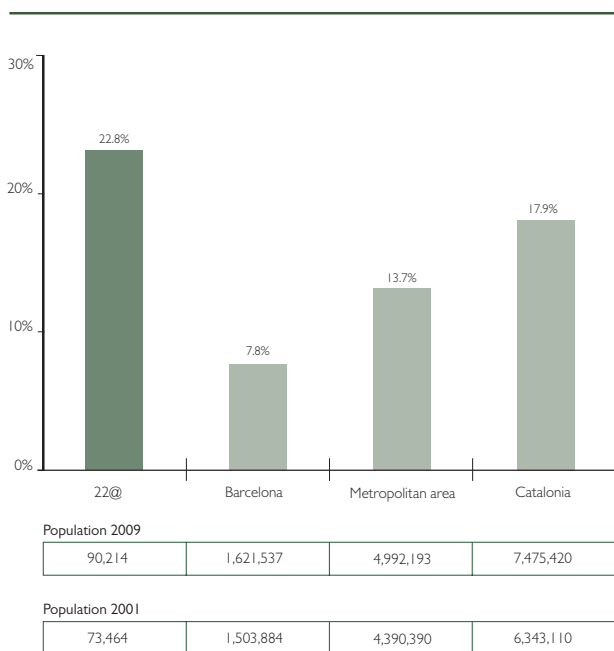
2. TC-field work, '22@ Barcelona: 10 anys, 2000-2010'. February 2011.

3. Geographic boundaries of 22@: C. Wellington / Av. Meridiana / Pl. de les Glòries Catalanes / Gran Via de les Corts Catalanes / Rambla de Prim / Pl. de Llevant / C. del Taulat / Ronda del Litoral / (coastal area).

optic, electricity and general infrastructure networks, and with a detailed mobility plan. It has been accompanied by the promotion of private investment, which has led to the development of 117 plans for facilities, open spaces and dwellings, as shown in the table below.

One effect of the investment is that the resident population of 22@ has increased by 16,750 people since 2001 (according to 2009 data). Currently, the 22@ district has over 90,000 inhabitants, which represents 5.6% of the population of Barcelona (according to the municipal register of 2009). In percentage terms, the population growth in the 22@ district (23%) has been much higher than in the city as a whole (8%), in the metropolitan area (14%) and in Spain (18%) for the same period.

Graph I
Comparison of population growth (as a %) for the 2001-2009 period



Source: Statistics Department of Barcelona City Council and IDESCAT.

Likewise, the characteristics of the 22@ district have meant that its population is younger on average than

that of the entire city of Barcelona. This indicates that the zone is attractive to the younger age groups who opt to live in this area of the city.

The location of new economic activities in the zone and the population growth have boosted, and continue to boost, a considerable amount of indirect activity. This helps to increase the number of services in the neighbourhood that make it more habitable. In turn, an upwards spiral is generated that feeds back on itself. Cadastral data reveal an increase in land use for activities associated with the increasing vitality of the zone, as the area occupied by non-residential premises is 10 decimal points higher in the 22@ district than in the rest of the city (42.4% compared to 32.6% in Barcelona).

This process has been intensive in recent years, as the city lost almost 5% of premises dedicated to non-residential uses between 2002 and 2010, whilst in the 22@ district the percentage rose by over 7%⁴.

The number of companies located in the district has doubled in the last ten years

It is calculated that there are now 7,064 companies in 22@ Barcelona, which represents 3% of all companies in the province of Barcelona (according to DIRCE data). It is also estimated that 4,400 freelancers work in the district. The number of companies has more than doubled in the last ten years, as in 2000 there were just over 3,400 entities. Therefore, there has been a growth of 105%, which is far higher than that experienced in the entire province or in Catalonia (around 60%).

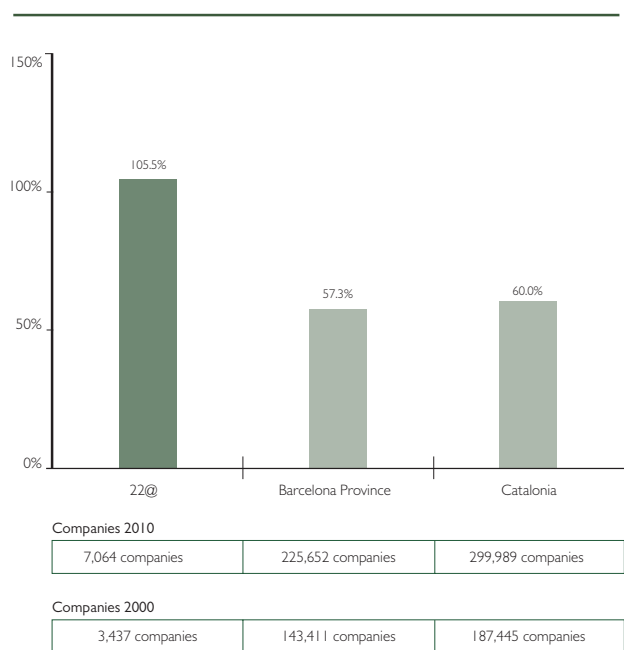
Most of the 3,437 companies in the district at the start of the 22@ project remain there today (just over 7 out of every 10 companies, or around 2,500 firms in total). However, approximately 1,000 have disappeared or moved to other zones (27%). Nevertheless, this is just a snapshot, and is therefore static. During 2000-2010, the zone was particularly dynamic, and was witness to the emergence and relocation of a large number of compa-

4. Currently, the district has around 42,000 premises for dwellings, almost 30,000 for parking, just over 6,000 for industrial use, close to 4,300 for

shops, restaurants and hotels, around 1,300 offices and approximately 270 for other services (education, health, sport, etc.).

nies. Furthermore, we should not underestimate the effects of the recession, which have made it impossible for companies founded in recent years to consolidate their position. According to information provided by companies specialized in business surveys and in the use of commercial registers, each year between 800 and 1,000 companies have been founded in the area, but between 500 to 700 have folded. This is a very fast pace, which shows the dynamism of the territory. According to these sources, the balance of growth was clearly positive up to 2008. However, in 2009 and 2010 a slightly higher number of companies folded than were founded.

Graph 2
Comparison of the increase in business activity (as a %). 2000-2010 period



Source: TC-fieldwork; 22@ Barcelona: 10 anys. 2000-2010; February 2011 and DIRCE.

Despite the recession, since 2000 approximately 4,500 companies have been established in the district (almost 25% in the first three years, 2000-2003, 40% in the second, 2003-2006 and 35% in the third, 2007-2010). If we add the 2,500 companies that were already present in the area, we reach the figure of over 7,000 companies present in the zone today. On average, 454 new compa-

nies have set up in the area per year, or 1.2 per day. Just under half of the new companies registered since 2000 are start-ups; the rest are companies that have relocated. In absolute figures, it is calculated that around 2,150 companies have been newly founded in the district, whilst the rest (around 2,400) moved from other zones, mainly the city and its metropolitan area.

Knowledge and technology as a strategic focus of growth

In line with the original vision of the project, 22@ Barcelona is fully committed to clustering in various sectors in which Barcelona could become a notable leader, such as the audiovisual sector, information and communication technologies (ICT), media technologies, energy and design. 'The aim in these zones is to increase the innovative capacity of companies by creating production environments that bring together leading companies, institutions, public agencies, universities and research, development and innovation centres in each sector. In these entities, an enterprising culture shall be promoted. Added value services, tools and infrastructure shall be provided for the competitive development and growth of companies, and contact shall be promoted with the leading business and research, development and innovation projects worldwide'.

Thus, in addition to the objective of attracting leading companies, the project has promoted the establishment in the district of various university centres, with over 25,000 students, and numerous research and technology transfer centres.

Initially, five clusters were promoted (Media, ICT, Medical Technologies, Energy and Design), which are those that have been analysed in studies carried out to date and on which we have data. However, the economic development in recent years has led to the inclusion of new, priority strategic sectors such as Agri-Food, Higher Education, Aeronautics, Automotive and Logistics. These are emerging areas that also require special attention and should continue to be promoted in the future.

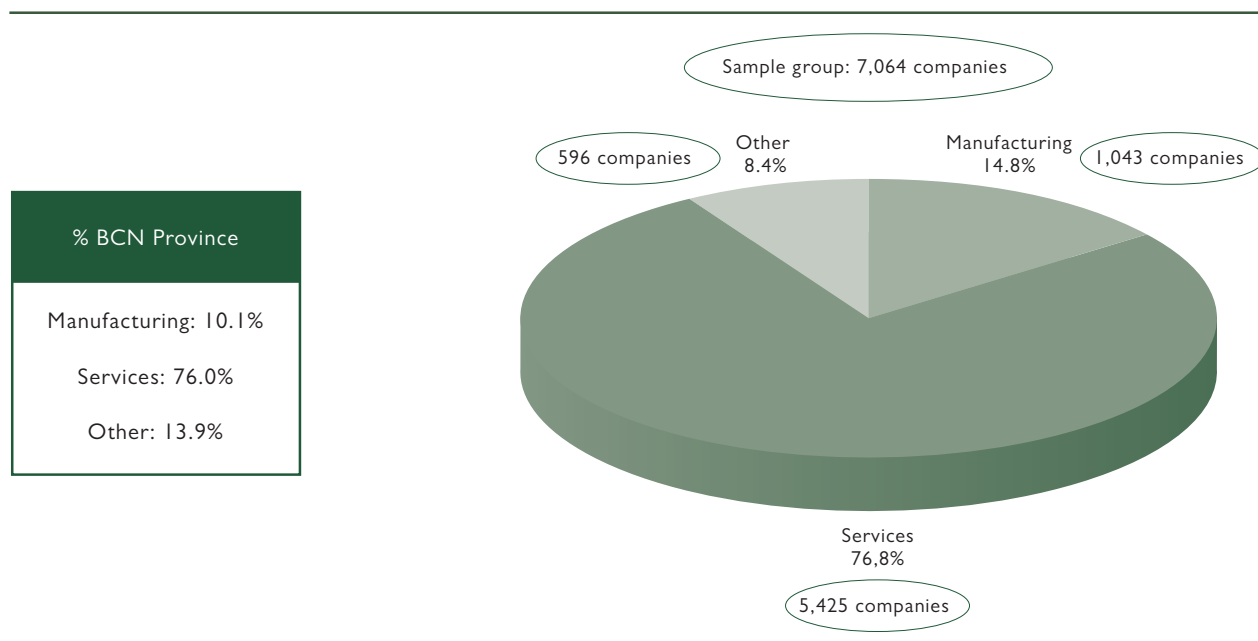
There has been a clear change in the types of activities carried out by companies in the district. Records of the Barcelona City Council's business tax (IAE), which are only available up to 2005, are an indicator that can be used to measure change in production structure. Statistics on this information indicate that the number of service companies in the zone has increased considerably, at the expense of manufacturing. In 1996, 27% of the companies in Poblenou carried out industrial activities. In 2005, when the 22@ project was already fully underway, this figure had dropped to 18%. This change occurred extremely rapidly if we compare it to the evolution in manufacturing activity in the city as a whole.

Currently, over 3 of every 4 companies in 22@ work in the service sector, 15% in manufacturing and 8% in other sectors. This production structure is very similar to that of the entire province of Barcelona, although the

proportion of manufacturing is still 4.7 points higher in the zone. The main industrial activity is related to publishing, the graphic arts and the production of recorded media. These represent 4.5% of the total activity in the district and 30% of the existing manufacturing activity. Within the service sector there is greater diversification of companies. However, commercial activities (24%) and business services (19%) predominate.

If we use as an index the OECD categorization, which groups economic activities according to their level of knowledge and/or technology intensity⁵, we can see that traditional manufacturing sectors have contracted, whilst knowledge- and new technology-intensive sectors have expanded. If we use as a reference data from the IAE records, the number of companies in these sectors has increased considerably in 22@. In 1996 - 4 years before the launch of the 22@ project - knowledge-intensive

Graph 3
Companies in 22@ by activity. 2010



Source: TC-fieldwork, 22@ Barcelona: 10 anys. 2000-2010. February 2011, and data from DIRCE 2010.

5. Groups based on CCAE-93 rev.1, in parenthesis. **High-tech manufacturers:** Pharmaceutical products (224), Office machinery and computer equipment (30), Manufacture of electronic materials, radios, televisions and communication devices (32), Medical and optical precision instruments (33), Aeronautical and space construction (353); **Mid- to high-tech manufacturers:** Chemical industries - except pharmaceutical products - (24-

244), Machinery, equipment and mechanical material (29), Machinery and electric material (31), Manufacture of vehicles and trailers (34), Manufacture of railroad material and other transport equipment (352/354/355); **Knowledge-intensive services:** Mail and telecommunications (64), Finances and insurance (65 a 67), Business services, except real estate activities (71 to 74), Education (80), Health (85).

activity in the zone was five percentage points below the figure for Catalonia. By 2005 it had reached the same level, and now it is three points above it. In 2010, 27.4% of the companies located in 22@ carried out knowledge-intensive activities, compared to 24.4% in Catalonia and 22.8% in Spain.

Some activities that are prioritized in the strategic plans of the 22@ Barcelona project, such as graphic arts and cultural and recreational activities, are not included in the aforementioned OECD classification. If we group these activities together, we find that in 2001 they represented 17% of activity in the district (according to data from IAE records), whilst in 2005 their presence had increased to 21%. Currently, 31% of the companies in this territory, or around 2,200 firms overall, carry out @ activities, whilst in the whole of Catalonia only 23.6% of companies undertake such activities.

Probably the employment data most clearly reveals how the district has successfully attracted knowledge-and/or technology-intensive sectors throughout the process. It is estimated that approximately 2 out of

every 3 current employees in 22@ work in knowledge-and/or technology-intensive companies. This high percentage is mainly due to the establishment of companies in recent years.

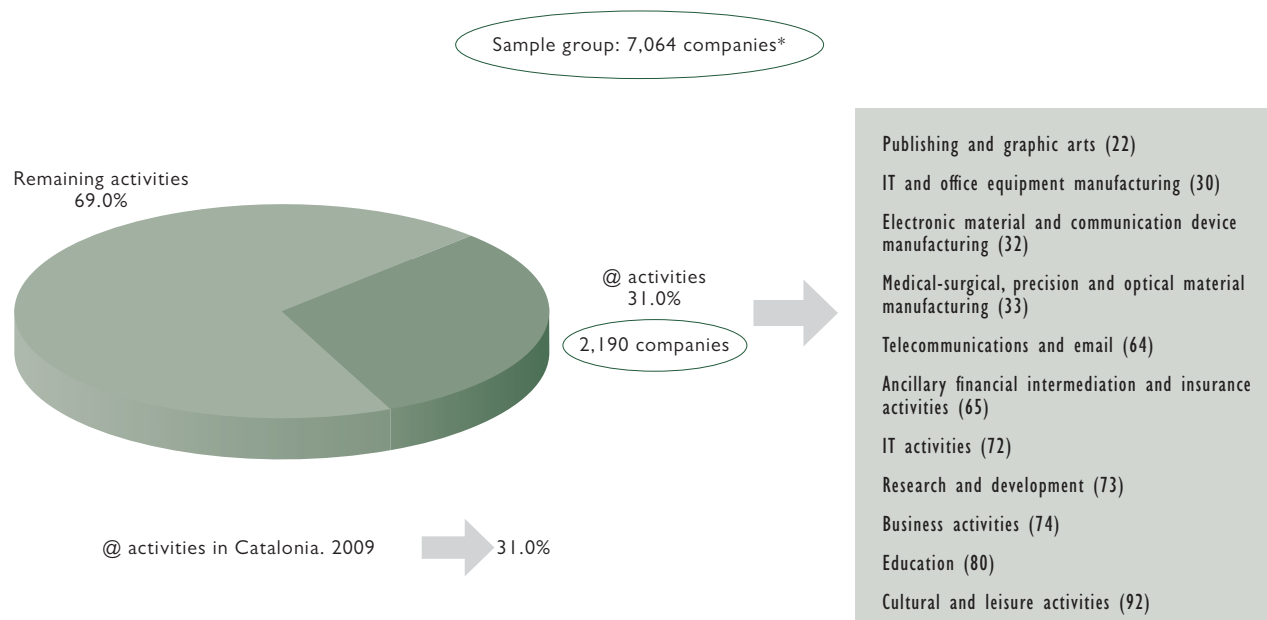
Table 1
Distribution of workers in 22@ by knowledge intensity of the company that employs them. 2010

Sectors	Total 22@	Before 2000	After 2000
Knowledge-intensive activities	67.5	56.6	73.8
High-tech manufacturers	3.7	5.9	2.3
Mid- to high-tech manufacturers	4.2	8.0	1.7
Knowledge-intensive services	59.6	42.7	69.9
Non-knowledge-intensive activities	32.5	43.4	26.2
Mid- to low-tech manufacturers a	0.8	1.6	0.3
Low-tech manufacturers	6.8	9.5	5.2
Non-knowledge intensive services	21.3	26.3	18.7
Unclassified in OECD	3.6	6.1	2.0

Source: TC-fieldwork, 22@ Barcelona: 10 anys. 2000-2010. February 2011.

Population: ± 90,000 workers. Calculation basis: 1,029 companies that have provided information on this aspect. These results show a trend. However, they do not show the exact distribution of workers in the district (they are calculated using estimations). They are not comparable with the information available for the city or for Barcelona as a whole (data from registers).

Graph 4
Companies in 22@ who undertake activities @. 2010



Source: IDESCAT (2009). Data from DIRCE.

In 2009, it was established that one of the distinctive elements of workplaces in @ companies is their high human capital. On average, 72.5% of employees in @ companies with workplaces in the district were university graduates. This figure is significantly higher than the 37% of the employed population of Catalonia with higher education qualifications, stated in the labour force survey (EPA) for the fourth quarter of 2009. The 2009 figures also show that @ companies are withstanding the impact of the recession better than others. Managers of such companies were aware of the difficult context, but most stated that their companies were stable or growing. Therefore, we can conclude that one of the main objectives of the project is being met: that of attracting and concentrating economic activity based on talent, which must act as a catalyst for an economy with high added value, to better face the current economic challenges.

In addition to the establishment of large firms in the district, small and micro companies have played a key role in the economic dynamism.

Some company relocations to the neighbourhood are particularly well-known and attracted media attention. During 2010 or 2011 alone, companies such as National Geographic, Aenor, Marcus Evans, Quantum Solutions, Bassat Ogilvy, CMT and Telefónica moved or were in the process of moving to the area. Although these companies have a strategic value beyond their quantitative value, much of the success of the 22@ Barcelona initiative is due to the attraction of a large number of small and even micro companies who see an opportunity for their projects in the area.

It is calculated that there are currently around 90,000 people working in 22@, which is approximately 10.2% of the number of workers in the city of Barcelona⁶. Of these, 62.5% work in 'new' companies that have moved to the district in the last decade.

Approximately 8 out of every 10 companies employ fewer than 10 workers. Small companies, which employ between 10 and 49 workers, represent 12% of the total, whilst medium-sized and large companies that have 50 or more employees represent 5%. If we compare these

Graph 5
Distribution of workers in companies in the 22@ district. 2010



Source: TC-fieldwork, '22@ Barcelona: 10 anys. 2000-2010'. February 2011, and DIRCE 2010.

6. The number of workers in the district is not exact, but is the result of an estimation calculated on the basis of a sample of 1,029 companies for which data are available on the total number of employees in the company and the number of

employees working in 22@. Using the ratio of the number of workers in the district by ranges of company size, and information on the number of employees in the rest of the companies that are registered, we made the subsequent estimates.

figures with those for the production fabric of the province of Barcelona (DIRCE), we can see that 22@ has a higher percentage of medium-sized and large companies (4.9% compared to 2% in the entire province).

However, these data are on entire companies, not just the staff at workplaces within 22@. The use of aggregate data shows that micro companies employ 22% of the workers in the district, whilst small companies employ 36% and the 160 or so medium-sized and large companies are responsible for 42%.

Some final considerations

1. The results of actions carried out in the 22@ district in its first ten years of existence are clearly positive, if we consider the initial objectives that were established. This is demonstrated by some of the most relevant indicators:

- The population in the 22@ district increased by 23% in the 2001-2009 period, which is much higher than the population growth in the city (8%), the metropolitan area (14%) or the whole of Catalonia (18%).

- Since 2000, approximately 4,500 companies have set up in the district. When we add this figure to the 2,500 existing companies, the total number of firms in the zone in 2010 was just over 7,000. Of the 4,500 companies in the district in 2010 that had been installed during the decade, around 2,150 were start-ups, whilst the rest had moved from other zones, mainly in the city of Barcelona itself or its metropolitan area.

- One of the main objectives of the project was to boost @ activities in the district. These activities include those related with the ICT sector, research, publishing, design, culture, multimedia activity, database management and knowledge management. The results show that 17% of companies in the district undertook @ activities in 2001. By 2010, this figure had risen to 31% of the companies in the district, whilst in Catalonia the figure for the same year was only 23.6%.

- The specialization due to the increasing presence of 22@ activities in the district has considerably increased the human capital that is found there. In total, 72.5% of employees of companies that have workplaces in the district are university graduates. This is in contrast to a figure of 37% for the whole of Catalonia.

2. Considerable social consensus has been attained on actions carried out in the district⁷. All the political groups in Barcelona City Council voted in favour of the change in the General Metropolitan Plan (PGM) to renew the industrial areas of Poble Nou-District with 22@ activities. The actions that have been progressively implemented have attained sufficient consensus to be able to continue with scheduled activities. Disagreements about PERI Llacuna, priority reservation for residents of some of the subsidized flats built in the neighbourhood, and the safeguarding of items of industrial heritage in the zone are areas of debate in which consensus has been reached.

3. Although the territorial area of the 22@ district is limited, it could be an example of the renewed importance of considering territories as units of economic development. This contrasts with economic development through the expansion of mass production, in which large companies sought the most efficient territories on a global scale. In this case, development within a territory was no longer able to guarantee the development of the territory. The rediscovery of an urban and regional policy has led to a re-evaluation of the role of social and institutional conditions and the mobilization of endogenous resources as a way to ensure development, together with the factors that have traditionally been taken into account, including training, innovation, infrastructures and enterprising ability⁸.

4. Studies carried out to assess policies implemented in the 22@ district have focused not on determining whether they have contributed to attracting activities such as those classified as @, which is clearly shown by available data, but on evaluating whether the changes that have occurred in the district are specific to this zone

7. See M. Martí, 'El proyecto 22@Barcelona. Glocal governance, renovación urbana y lucha vecinal en Barcelona'. VII Congreso Español de Ciencia Política y de la Administración.

8. M. Parellada, prologue to the book *El distrito industrial de la cerámica*, A.M. Fuertes (dir), Fundación Dávalos Fletcher, 2005.

or reflect a trend can also be found in the rest of the city or the metropolitan area. Comparisons of the situation in the district with other districts of Barcelona, the metropolitan area as a whole or towns with industrial specialization close to the central city show that there are slightly different positive effects in 22@. In addition, the results show that economies of location, that is, economies that value the importance of proximity to other companies in the same sector, have been relevant to determine the location of companies that carry out @ activities⁹.

Therefore, although the 22@ project has only been implemented for a relatively short period of time and the attraction of the 22@ district is evidently dependent on the attraction of the Barcelona metropolitan area, the results obtained to date can only be classed as positive.

5. The importance of location factors in the Barcelona metropolitan area and the development of new territorial areas whose characteristics make them suitable for policies similar to those implemented in the 22@ district (for example, in the city of Barcelona itself, the impact of the La Sagrera station and the BZ Barcelona Innovation Zone project in Zona Franca; and in the metropolitan area, the Barcelona Synchrotron Park around the Alba synchrotron and the DeltaBCN Aerospace and Mobility Park) mean that it is reasonable to consider the promotion of location policies for new economic activities that include the offer of land required for these urban development activities in the city of Barcelona itself and in the metropolitan area. The desire to promote all of these areas together under the brand 'Barcelona Economic Triangle', the experience gained in the 22@ district, the potential represented by the provision of land for the aforementioned projects and those that could be developed, and the opportunities for action provided by an entity such as the Barcelona metropolitan area are all essential factors that will help to ensure the introduction of economic activities associated with the knowledge society.

9. E. Viladecans-Marsal, J.M. Arauzao Carod, 'Can a knowledge-based cluster be created?. The case of the Barcelona 22@ district', *Papers in Regional Science*, 2011, own publication.