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The Bizkaia Science and Technology Park: a lovable place, where people enjoy working

PARALLEL 3 - Making STPs liveable and lovable

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Bizkaia Science and Technology Park, Spain

TITLE:

## **The Bizkaia Science and Technology Park: a lovable place, where people enjoy working**

### EXECUTIVE SUMMARY

Sustainability, recreational and leisure activities link people within the same work environment, something difficult to achieve by other means.

Bizkaia Science and Technology Park is a “traditional” Park, the first created in Spain in 1985, which has turned into an outstanding innovation hub in the region, with an environment that encourages collaboration, well-being and enjoyment, building a lovable park.

Today, the commitment of the Park management company to maintain sustainability, as one of the key values, and to continue working on the awareness of all the actors involved is noteworthy. The exquisite care of the rural environment as a leisure space, the creation of a Sustainability Forum, great social responsibility projects, facilitation of leisure activities and spaces, Organisation of events for citizens, BTEK Science and Technology Interpretation Centre, etc. are among the results that make the park a lovable place where more than 8,000 people enjoy working.

### INTRODUCTION

Innovative management and sustainable environmental development is an emerging tendency. Traditionally, the main aim of Science and Technology Parks has been to promote the culture of innovation and the competitiveness of its associated businesses and knowledge-based institutions. Because of market demands, companies in Science and Technology Parks need advanced management models and further developments in technology, safety, environmental impact and relations with societal actors, among others, that strongly influence their image.

From this basis, the evolution towards the innovative Eco-park approach seems a natural step, integrating sustainable development concept in management activities, together with technological and economic development, not only limited to the park area, but also to the community where is located. This advanced and forward-looking guidance involves many actors like citizens and local authorities, companies and research centres, NGO's or workers associations, with the support of Park Management Organisation as catalyst vehicle.

The benefits of the involving many actors in the innovative management are abundant: global improvement and innovation of the park's structures; minimisation of environmental impacts; development of shared processes, co-operation and technology exchange among companies; enhancement of the communication flow with the local actors; wider services variety or promotion of innovative products and processes, among others. The most important benefit is the building of a lovable place.

The new global knowledge economy has forced a new role in the Technology Parks: they are efficient access doors for their regions into the international context; they may lead networking and new ways of cooperation skills needed in the new economy, they may connect the global hubs and global nodes, broadening the cluster concept, and they have to be involved in new value added services including leisure and sustainable development for the creative class to be installed in the parks.

Cultural activities are recognized as an important way for individuals to contribute to their community. In fact, culture is an essential tool for understanding the values, shared meanings and goals of the residents within a community. Broad, inclusive participation in cultural activities contributes to community vitality and supports sustainability. (Dang, S. 2004)

In that regard, cultural facilities and centres provide appropriate spaces in which to create, share, present, communicate, learn, socialize and build a community. Cultural resources are embodied in people's creativity, skills, and talents. Public spaces are where community members can debate values, meanings, and purposes as active, engaged citizens. But it is not merely through training and the transfer of knowledge that communities build human and social capital, thus increasing the

sustainability of their community and the workforce. In that sense, creative cities provide a cultural landscape that supports and attracts innovative thinkers. In fact, community art is a dialogue through creative and imaginative means, intended to foster cultural understanding and social cohesion. It creates a wonderful opportunity for collaborative, inclusive community projects. (Merita, I., Tolman, J. 2003)

Florida, R. (2002), identifies recreational activities as critical in the development of effective creative workplaces. He illustrates the natural progression from the working class to the new creative class as the natural evolution of the economic norms in our society. The creative class, according to Florida, is much less apt to identify itself with an organization or the type of work its members perform. It craves flexibility in order to pursue meaningful activities outside the workplace. In fact, for the creative worker, choosing a job may have more to do with the recreational opportunities available in a community than with the contributions included in the corporate benefits package.

According to Umberger, D. (2002), this change of mentality in society is no more than a reflection of the role which has progressed from the development of leisure time to the present day. It is now possible to talk about the "leisure society" where citizens have not only re-organised their priorities towards leisure, but have also reorganized their work, adapting it to their desires to invest in their leisure time. It is a fact that true communities must not only feed on cultural activities but also leisure ones which make society more creative; i.e. recreational facilities available to citizens which determine the best location for the creative development of a community.

Recreational and leisure activities link people within the same working environment, something difficult to achieve by other means. Furthermore, they favour potentially wealthy creative environments and networking in the day to day intra-/inter-entrepreneurial work. In this regard, Bizkaia Science and Technology Park has promoted a project encouraging leisure and recreational activities, which has greatly boosted networking within the Technology Park organisation environment and where creativity has been cultivated.

## BIZKAIA SCIENCE AND TECHNOLOGY PARK: PIONEERING THE DEVELOPMENT OF A CREATIVE COMMUNITY THROUGH ENVIRONMENT AND LEISURE

### Environmentally friendly origin

The Bizkaia Science and Technology Park was created in 1985, a pioneer in Spain and one of the leading Parks in Spain and in Europe. Its creation was the result of an urgent reindustrialisation in an area, the Basque Country, heavily based on traditional metal and steel industry that was in the middle of a crisis. At that time, the Park was conceived following a "traditional" model, as a space where new sectors with greater added value could be developed around technology that didn't exist up to then.

Nevertheless, the initial design considered to build a "lovable" place with an environmentally friendly concept, which is likely to have had a significant impact on the final result. At that time, there was special awareness and consideration for some of the concepts related to sustainability, the definition of which was not coined until 1987.

From the very start of the design and development of Bizkaia Science and Technology Park, a basic criteria was the minimisation of changes to natural areas, helping to prevent, as far as possible, distortions in the flora, fauna, topography, water regime and other aspects of the land, thus preventing erosion and sedimentation, among other questions. It can be said that from the eighties to date, the natural environment of Bizkaia Science and Technology Park has not changed significantly, except for the buildings.

The Park, always maintaining this original environmentally friendly concept, grew greatly in activity and technological development in the 1990's and the start of 2000. It currently has 227 hectares that house more than 223 companies intensive in knowledge and technology, which employ more than 7700 direct workers.

Bizkaia Science Technology Park is public with a legal structure in which the Basque Government, the Biscay Provincial Council, the University of the Basque Country and the town council itself are involved, and it focuses the region's R&D investment, together with a clear environmental conception

Regarding the preservation of the natural environment, the following aspects are to be highlighted:

First, the Park considered large amount of planting, mainly with autochthonous species. At present, there are more than a hundred different species and 8000 trees making Bizkaia Science and Technology Park a unique place.

Second, there is a strict maintenance and improvement of existing watercourses and river banks, maintaining green corridors and their habitats, designing and introducing pedestrian areas for the use of employees and visitors.

Third, there is a perfect integration into the existing rural environment, such that at present high technology activities take place alongside typical rural activities. In fact, the Park's more than 56 technology buildings are next to country farms that are still working at present.

Forth, as the grounds of the Park are open, this allows the area to be used for other activities by the neighbouring inhabitants and Park employees.

Fifth, protection of the Environment is a premise to enter the Park that clearly makes it impossible for polluting businesses to install themselves in the park.

Lastly, the concept of urban land use or development potential: from the start the need for low levels of development and land occupation were proposed to make the grounds more pleasant and spacious.



### Sustainability strategy at BSTP

These were deciding factors for setting out the need for sustainability in the Park's own structure in this first decade of the 21st century, when Bizkaia Science and Technology Park started, as such, a sustainable development strategy

In order to assess the improvements, in 2001 a diagnosis of the situation was conducted under the premise of "Everything that can be measured can be improved with the "Ekoscan" tool which identified, in collaboration with IHOBE (Basque environment Protection Agency), various areas for improvement which were put into practice.

In 2002 a strategic decision was made at Bizkaia STP to promote a sustainability and approaching society policy that appeared as a STP's concern when other goals that were considered a priority up to then were met. In the geographical environment where the Park is located, is when policies and actions directed at sustainability become more important, and that is why in 2002 it became, de facto, another of the Park's policies.

Sustainable development at Bizkaia Science and Technology Park is understood in the broadest sense of its definition: "Development which meets the needs of the present without compromising

the ability of future generations to meet their own needs.( World Commission on the Environment and Development's report; the Brundtland Commission, Oxford: Oxford University Press, 1987).

Subsequently, as a result of a strategic reflection, to go a bit further towards Innovation, and sustainability, the Park management company decided to apply for a European Project as coordinators, to work together with sustainability experts. This ambitious project called ECOPADEV was approved in 2002 in the Fifth Framework Program EESD (EVK-4-CT-2001-00064). This project aimed at the development of new decision making tools to promote sustainable development in industrial areas using the eco-industrial park model. The project was funded with 2.2 M€ for a period of 4 years. As a result of the project we worked on the eco-park approach and a diagnosis of sustainability was made at the park to identify improvement areas in order to achieve social, economic and environmental benefits, integrating the three of them.

The coordination of the "Ecopaddev" project and the development of the sustainability tool, were the start of the journey towards sustainability and the park started following the approach towards an ecopark.

In 2005, sustainability was identified in the Bizkaia Science and Technology Park's Mission and defined as one of its Key Values. From then on, innovative management was introduced at the Park.

This innovative management implied the enhancement of the potential for communication, interactions and co-operation between different actors (industrial companies across the value chain, local/regional government, citizens or societal actors and research institutions) focused towards the optimised use of resources and structures. This way the relations with the society, nearly absent until the moment, were also considered, searching for converging interest.

In order to involve many actors, once the diagnosis was made, In January 2007, the Bizkaia Science and Technology Park Sustainability Forum was launched, with the park's tenants and stakeholders. The aim of this forum was encouraging collaboration among the different members of the Park in the analysis and diagnosis of the situation as regards sustainability. Actions in several areas were made, not only Environmental ones, but also in the areas of Transport, Energy and Sustainable Construction, Marketing, Human Resources or Quality of Life and Integration in the Community.

This Forum allowed co-operation of all actors in the management oriented towards sustainable development, promoting symbiosis between companies in material and energy exchange or in technology improvement and setting communication structures and information systems that co-operate on the connections of the site among companies, between companies and the park and with social actors. It was also important to monitor and evaluate performance for continuous improvement systems for the companies, maximising the efficiency through a correct planning.

On 30 September 2008, more than 50 organisations of the Park ((businesses, technology centres, the City Council, etc.) publically signed an undertaking to adhere to the improvement of the sustainability of Bizkaia Science and Technology Park. The creation of new task forces (working groups) was fostered to assess and search the options for improvement, and study their viability.



Among the results of the development of this strategic project of the Park the following start-ups in the Bizkaia Science and Technology Park are worthy of mention:

- Energy efficiency. Several energy audit projects and implementation of energy efficiency and savings projects, among which the introduction of renewable energies must be highlighted.
- Sustainable building with the first building with LEED sustainable certification (US Green Building Council) in a technology park.
- Development of mobility improvement projects via the diagnosis and implementation of measures to increase public transport and car sharing.

#### Promotion of cultural and Leisure activities

After the strategic reflection in 2002, it was decided to encourage innovation open to society. Several expert-supported research projects were carried out for this in collaboration with the University to encourage the use of the leisure and natural areas by the Technology Park workers.

As a result of a collaboration project with Deusto University (Bilbao, Spain), concretely with the Leisure Studies Institute, the possibilities of promoting cultural and Leisure activities in the Bizkaia Science and Technology Park environment were studied.

The project began with the study of leisure resources extant in the Park environment, their offer and use by Technology Park workers, the degree of user satisfaction and the likelihood of a demand for new services, etc. Results confirmed the existence of a varied and numerous quality offer in the environment. However, it was hardly used by the workers, either because they were unaware it existed or due to the long distance from their homes. Thus, it was decided to publish the Biscay Technology Leisure Resources Guide, presented as a tool for potential Park environment users to foster the use of existing resources for leisure, cultural events, sports and recreation.

On the one hand, it indicated those spaces most inclined towards interaction, including existing resources (leisure equipment and activities to be carried out) within the Park's boundaries, in addition to those extant in the neighbouring municipalities of Zamudio and Derio. This guide served as an important communication tool for all Technology Park members, and was a great help in promoting better use of the Park.

On the other hand, a study was made to boost these activities. Originally, a work group with the most representative companies and bodies in the Technology Park was created to identify activities of interest and to involve people in organising the activities. It was found that the most appropriate structure was an association of people who were interested in cultural and sports themselves, as opposed to representing Technology Park companies and organisations. Volunteers were found to be ideal for encouraging workers' cross-cutting participation.

Thus, "Aisiatek" (Basque abbreviation of leisure and technology), a non-profit association, was created at the end of 2005. The association promoted by the Park is oriented towards:

- Promoting leisure times and areas in the Park.
- Organizing cultural and sporting activities aimed at promoting leisure, relaxation and co-fraternizing among associates.
- Encouraging friendship, companionship and citizenship among association members.
- Encouraging relationships and the search for synergies among Biscay Technology Park companies and people.

Aisiatek, as an active association for encouraging creativity and leisure has managed to enrol over 1,200 members this year, which means that over fifteen percent of the total Park population takes part. The members are employees of companies located in Biscay Technology Park, who are offered

the possibility of actively taking part in the Association. To join, future members, in addition to their usual details, must also indicate hobbies/interests and availability for attending meetings, taking regular and active part in the organising committee, and occasionally organizing a leisure activity, thereby providing an offer more in line with previously received demands. Thanks to this method of cross-cutting collaboration, workers are encouraged to take part in decision-making, thereby giving members with a greater feeling of belonging to a community.

Since Aisiatek began, different kinds of activities have been carried out:

- Sports - namely: Paddle tennis tournaments, 7-a-side football championships and Popular annual races held within the Park with the participation of well-known athletes, that have undoubtedly attracted the largest number of participants. This year 2013 have participated more than 700 runners in the race which has been solidary to “Run for Parkinson” (3.767 km. for this initiative organized worldwide in the international month of Parkinson’s disease awareness every year).
- Leisure-cultural activities: “Mus” tournaments (a popular card game in the Basque Country), wine tasting at prestigious Basque cellars, traditional cookery courses with the collaboration of prestigious chefs, photography competition entitled “Nature and Technology” with photographs taken in and around the Park.



As a leisure platform, Aisiatek has enabled the creation of a more appropriate environment for collaboration and networking which promotes an explosion of creativity within the Technology Park. Thanks to it, taking part in leisure activities in a working environment has strengthened relationships among workers. The creative experiences are later applied to their environment with a positive impact on standard work groups created inside companies. In fact, establishing relationships outside work induces the execution of new activities within the industrial environment. The association has proved to be an excellent medium for encouraging inter-entrepreneurial collaboration, thus preventing the Technology Park companies from having to resort to out-sourcing due to an unawareness of what is going on inside.

In short, we could conclude that on the one hand, high participation in activities promoted by the association has increased satisfaction and the number of collaborations arising among the Technology Park customers, as statistics confirm. On the other hand, the resulting work groups have achieved better results derived from synergies than those of Park population who did not take part in the leisure and recreational activities.

Finally, a greater feeling of community towards a “creative city” has been achieved while leaving room for outside work activities. Thus, on the way to developing this creative city, Bizkaia Science and Technology Park promotes, identifies, nurtures, attracts and retains talent, enabling the mobilisation of ideas and a creative organisation that attracts talent and remains young in spirit.

### Development of leisure areas and Organisation of events and Symposiums for citizens

Green spaces and new leisure areas have been increasing the last four years, identifying nature routes where tree species have been classified. These areas and routes have been identified through large information panels and the publication of a pocket guide book containing photographs of each species in its natural state in the Park, together with its identification features. With the guide book, one can follow the routes with greater knowledge and enjoyment.

At the Park, more than 50 events and symposium are organized every year, of general interest regarding advance management or technology use. The most important event is the “Open Day”, a leisure activity opens to all citizens to discover the science and technology in the park that brings together over 7,000 people of any age every year.



### BTEK Science and Technology Interpretation Centre

The Science and Technology Park of Bizkaia took the first steps to create BTEK in 2005 in order to take technology closer to young people in a social approach. At that moment, it established the basis of the project and began preparation of the pre-project. From this point, they began contacting Educational and R+D+i agents as well as different institutions; they prepared the definitive project, approved the building project, and presented the business plan and museology and museography reports. In 2007 the Education Ministry supported the project through a collaborative agreement with BTEK. In 2007 the BTEK Foundation was established. The founders of the Technology Park of Bizkaia, the Confederation of Basque Schools, and public and private entities are members. BTEK was inaugurated in June 2010 and the first visits were organized for educational centres.

The aim of BTEK, the Technology Interpretation Centre of the Bizkaia Technology Park, is to take technology closer to young people, mainly at secondary school level, promoting a scientific and technological culture among young people. To achieve this objective, a space of more than 1,000 sq. meters has been designed for a broad range of content, divided into various modules. BTEK is located on building 602, which was designed to be a landmark in the landscape, using two pyramidal volumes, free-standing on the outside, but joined together below the ground. To date, this unusual and original building has already received several awards.

The contents of BTEK are organized following different areas of Technology and Innovation.

1. The Innovation Kiosk: This area pretends to offers introductory information about the R+D+I developed at the Science and Technology Park of Bizkaia, and to inform about different types of companies, research centres and incubators.



2. The Internet and the Digital World: Through interactive modules the visitors learn about special features of digital devices, their language, about internet and its different applications etc.
3. Domotic and New Materials: It explains what will the home of the future be like (with
4. Views on Nanotechnology - Biotechnology - Robotics - Society - Sustainability. Here there are different modules to explain from knowing the scale of a nanometer, and the difficulties on working in nanotechnology to genomics and Biotechnology or real emotional robots that reads your thoughts which represents new trends. Finally, we reflect upon the relationship between Technology and Society.
5. Laboratories (Labtek) -This is a multi-use area where we have workshops. Experimentation is one of the key components in the process of teaching and learning science in different fields : Biotech, robotics, renewal energy, et



More than 3000 secondary school pupils from 80 different schools have been at BTEK last year, and also several Park workers and tenants because BTEK provides a place dedicated to driving creativity its area of influence. Multiple innovative activities converge in this area enabling the creative community to take part in the new advances, converting the Park thereby into the new reference creative nucleus in the region at the cultural, educational and social level, and also at the corporate level.



## Conclusion

Today, Bizkaia Science and Technology Park, a traditional Park with more than 220 companies and 8000 workers is not only a landmark of technology and innovation, representing more than 46% of company R+D investment in the region which is above the European average. Its commitment of the management company to maintain sustainability as one of the key values and to continue working on building new areas for leisure and creativity together with of all the actors involved in Bizkaia Science and Technology Park, as an essential condition for growth is noteworthy.

Thanks to these actions, the park has become a lovable place.

The Park has had to turn into a creative city that provides a cultural landscape which supports and attracts new innovative “thinkers” from all sectors. In fact, communities today have developed such a sense of belonging that the quality of life offered within an environment is one of the most influential factors when it comes to deciding on a company location. It provides motivation with high added values for those who are already installed.

Bizkaia Science and Technology Park has decided to lean towards the “creative city” concept via different actions. Encouraging cultural and leisure activities has been a highly positive experience for creating cross-cutting inter-entrepreneurial links which in turn have boosted the generation of networks and informal networking, thus generating an interesting creative environment. This creative environment has also been favoured with the provision of specific training in creativity techniques, has generated and sustained favourable environments, and has created specific facilities to continue boosting such creative environments.

Due to the leisure and training activities, and the creation of necessary facilities to develop a creative mentality in Bizkaia Science and Technology Park, its inhabitants feel more “integrated” within this community, as the satisfaction surveys carried out demonstrate.

Finally, the drive for co-operation promoted by the Technology Park has enabled the Park to increase its service offer via leisure and training platforms. They now offer not only services arising from purely working relations but also other services of a more civic nature going beyond work and delving into the feelings and capacities of Park members.

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