

# **XX IASP WORLD CONFERENCE ON SCIENCE AND TECHNOLOGY PARKS**

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## **MADAN PARK – S&T PARK IN LISBON: THE GENERATION OF AN EXTENSIVE INNOVATION INTELLIGENCE NETWORK**

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### **Executive summary:**

This paper describes the major work conducted by Madan Park, a Science and Technology Park located near Lisbon (Caparica) in the field of innovation promotion. Madan Park is aiming at converting itself into an Innovation broker outside the Campus, a Regional Innovation body, as well as an Intelligence-innovation facilitator, by means of assuring the commercial impact of research activities deployed along the Campus, and bringing up industry strategies and needs into the Campus itself. The means employed so far are fairly obvious, though the level of ambition and Government support is not.

### **Where, Who!**

Madan Park Science & Technology Park is located in Caparica, to the South border of Tagus River. It is built around the University Campus of Caparica, where the Faculty for Sciences and Technology of the New University of Lisbon is located. Shareholders, besides two University bodies (Rectorat and the Faculty of Sciences and Technology), consist of two Municipalities, Almada Municipality (founding member) and Seixal Municipality (adhering member), and also UNINOVA a Private-Owned Research Institute (University-Industry partnership).

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## **The University Campus**

This S&T Park is based around an University Campus, with about 5,500 students of engineering and science domains, 470 professors, 340 R&D collaborative projects (with national and European Union partners, being involved both universities and companies). Major departments in the Campus are: computer science; electronics; chemistry; material sciences; physics; environmental engineering; industrial and mechanical engineering; mathematics, earth sciences and civil construction. There are also smaller departmental units, such as the sections for biotechnology, ecology and hydrosphere and applied social sciences.

## **The Model: a Science Park**

Madan Park stands out as a typical Science Park, i.e., where a considerable array of state-of-art, new knowledge, skills, R&D results should be instrumental for the creation of new high-tech, technology-based firms. Nevertheless, there is still a deficit of technology transfer, high-tech entrepreneurship, high-tech spin-off momentum and foreign companies R&D units. Madan Park's management board is going to implement thus important short-term measures, in order to counter-effect this situation in the near future.

Madan Park is hosting nowadays 25 firms, most of them generated within the Campus, as a direct and concrete result of R&D projects and teams working together for some years. There is also a particular case study regarding a major multinational telecom operator: they have settled down a part of their Portuguese-based Training/R&D body (named as "Foundation") in Madan Park's premises. This infrastructure is designed to involve students in company-related thesis, etc. in the Campus.

As stated above, Madan Park is promoted by FCT-UNL, UNINOVA, and the New University of Lisbon (UNL), together with local Municipalities (Almada and Seixal). The University-based shareholders have assigned to Madan Park a twofold mission: to act as a broker for innovation and to host - physically speaking - the new firms generated in the Campus or attracted to it.

To perform the latter, a slot of land of 2,5 hectares has been donated to Madan Park by the Municipality of Almada. An incubator building has already been projected to serve around 15 new micro-firms. There are planned still some 5 slots of 1,500 m<sup>2</sup> each for mid-sized firms (Hub-like firms. i.e., firms capable to generate a lot of activity around them and attracting sustained business into the Campus).

## **The Brokerage Mission**

To perform the brokerage mission, Madan Park is engaged in a pro-active stand. Performing this mission requires a double ability:

- a. On one hand, to gain exposure along time with Industry, in the sense of becoming the "innovation front-office" to the Campus, by means of some

- “conventional”, straight-forward actions (media dissemination, visits to companies);
- b. On the other hand to stimulate Campus insiders, local industry, local authority and national authority bodies, by means of inter-playing with the Campus, and generating innovation and business intelligence.

### **An Innovation Intelligence Body**

The making of an innovation intelligence “centre” in the campus is not a simple task. In fact, this should prove capable to bring to fruition the Campus potential as well as to address local industry needs (which tends to be poorly responsive). It requires a number of dimensions to be brought into play: entrepreneurship at both professor and student level, relevance to business on the part of the research teams, innovation-seeking attitude on the part of local industry, Madan Park’s team vision and innovation skills, financial resources to invest by Madan Park management.

### **The Making of the Performance**

We set out to this ambitious task by means of the following actions:

1. Firstly, structuring a (small) team capable to perform this job at a level of excellence. This proved to be a success so far, but lengthy a task. We started recruiting a sociology practitioner, marketing practitioner towards a small team;
2. Secondly, we planned for a project finance;
3. Thirdly, we have drawn up a strategic plan where we have brought together a number of elements which make up the substance of this Paper

### **In-House and... Outside**

We have started out an extensive job directed in-house into the Campus. In parallel, we have included the surroundings, that is the local and regional partners both as a target and source of our marketing & innovation brokerage activity.

In-house, we have set out to review the research pathways of the research groups; this includes the screening of R&D results over its commercial potential, the mapping-out of current paths against the background of the decisions and strategic orientations already undertaken, etc.

Moreover, we have set our eyes quite beyond the borders of the Campus. We entered then the adventure of assuming ourselves standing out in front of everybody (industrialists, local authorities, industrial, regional development associations, industry experts) ready for acting as an innovation organisation...”indeed”...in place... We developed thus a number of actions and projects that we spell out in the next paragraphs.

## **Action by Action...**

Firstly, we have put together a joint-venture project, alongside with IAPMEI-Portuguese Institute for SME's Support. The project is named CeBaTe – Technology-Based Start-Up's Creation, and got the financial support of European Union's and Madan Park's own funds. This project is of paramount significance: it opens up the way towards innovation brokerage, both within the Campus as well as the avenues towards industry outside.

### *The Madan Park Portfolio for Innovative Projects*

Inside, we moved to establishing the *Madan Park Portfolio for Innovative Projects* (patents, start-ups, future RTD collaborative projects, commercial high-tech servicing to Industry). We are now calling for the R&D Groups in the Campus to perform with us strategic analysis on their scientific capabilities in order to: i) identify the commercial potential of past research work, ii) to map out R&D complementarities in the domestic, national arena with a view iii) to enhance subsequent involvement to EU research (the most popular FP VI EU RTD programme). And mostly, putting industry quite on top of the agendas whilst not undermining the excellence, future-oriented mission of this University. For each major area of science in the Campus we plan to set up a dedicated Forum structure designed to be instrumental in the strategic planning for scientific research and industrial innovation to be led by the Professors and research groups in sustained contact with industrialist, authorities, etc.

### *The Madan Park Observatory for Critical Technologies*

We have established then a second line of innovation-strategy work: the *Madan Park Observatory for Critical Technologies*. This is designed towards mapping out the trajectories by some clusters of technology (micro-electronics; non-conventional energy; standards & norms- sensitive technologies; logistic technologies). This forecasting, trajectory-mapping work will enable future research work in the Campus to be quite focused on technologies, which can benefit from direct application to industry. Typically, MSc and PhD work will be focussed on these trajectories and a technology build-up process will be permitted. Alongside, we submitted an Expression of Interest to the FP VI seeking partners to study these technology clusters (and a couple of others more) and establish signposts to guide future R&D. This forecasting work is set to be conducted alongside two strands: to map out the business trajectories of leading firms in the relevant industries and to build-up R&D capability with the ultimate goal of attracting R&D Units from relevant Multinational Firms into the local regions.

### *The Madan Park Observatory for Nanotechnologies*

Similarly, we have set up the Madan Park Observatory for Nanotechnologies. It is clearly understood that these technologies will be in the heart of a wide number of industrial developments in the coming 10 to 15 years. Being a formidable task to develop R&D capability in these domains for a single Science Park as ours, located in a medium-to-small country we definitely opted for targeting a national audience to this job, and not a Campus-only audience. Again, we are starting to perform strategic analysis on the avenues of research that have already some relevance today to Portuguese industry.

Then, guidance will be offered to building-up R&D capability whilst keeping industry closely aware and “in touch with”.

#### *The Madan Park Start-Ups Tutorialship Network*

- a. Fourthly, we are setting-up the *Madan Park Start-Ups Tutorialship Network* where we invite along senior top-managers and senior consultants to keep in touch with the companies (generated or simply having entered) in the Madan Park. Tutors shall not be paid for this job which is rather informal in its kind and we are now busy to design and plan for the convenient type of in-house events (Round-Tables, Conferences, etc) that will be instrumental in creating an attractive environment.
- b. Fifthly, we are setting-up a competences centre on entrepreneurship. We have conducted a pilot survey into samples of graduating engineers in the Campus designed to establish the individual attachment to entrepreneurship (and intra-preneurship, e.g., pro-activeness within the company by individuals) and to determine the random level of occurrence of discussions/opportunities on new start-ups by individuals in the Campus.

#### *The Madan Park Forum on Aeronautics and Automotive Industries*

Still within CeBaTe project we have established outwards, beyond-the-Campus’ walls working platforms for innovation: the *Madan Park Forum on Aeronautics Industry* and the *Madan Park Forum on Automotive Industry*. The membership to these Forum bodies is mix: industrialists, industry experts, and technologists. In the region there are both the major aeronautics company in Portugal (OGMA, S.A.) and the major OEM Automotive company (Autoeuropa, S.A, of VW, A.G.). Work started out 6 months ago is proving effective and, we believe it, promising indeed. We have identified a number of opportunities for new industrial projects in the aeronautics industry that we have already submitted to Governmental authorities and agencies. Those, will be subsequently assessed by industrialists, investors. Obviously, they should return technology opportunities if they ever come to fruition. Its main aim is to forge ahead new high tech industries.

#### **A Digital Corridor: Almada Cidade-Digital**

- a. On the outside-to-the-Campus, external area of innovation activity, Madan Park management originated a consortium that would subsequently be entrusted with the job of building a “*Digital Corridor*” around the Municipality and the Campus (“Almada Cidade Digital”). This project already in operation is designed to bring the local Government fully into the Internet, including the panoplia of services, electronic forms, portals, etc typical of the e-Gov standards. This includes the building of a dedicated fibre optical infrastructure, schools into the web, etc. On the other hand, the Faculty in the Campus is setting up a Virtual Campus based on Wi-Fi (students will buy their PC’s enabled by blue tooth at nation-wide, advantageous conditions) wireless technology that will enable ubiquitous, permanent connection to the Web at their academic business.

- b. Within this “*Almada Cidade Digital*” project, Madan Park is conducting the outsourcing for a i) Business Portal to be put to use across the whole Municipality (e-Commerce, with state-of-art, innovative functionalities, e.g., banking for finance, services for industrial innovation). Moreover, Madan Park is to run ii) the *Madan Park Forum for the Information Society*, designed to ii.a) keep a permanent round-table for discussing further, new projects that require multi-partners and aim at scaly effects, ii.b) monitor best practices across the nation and world-wide, ii.c) to conduct innovation-intelligence gathering for the R&D Groupings in the Faculty’ s Department for Informatics. Additionally, Madan Park is up-grading its telecom and Internet facilities in order to better provides facilities for their companies in the Campus. Finally, Madan Park is aimed to build-up a virtual and an intra-net platform for gathering, processing and disseminating innovation-intelligence over the Campus and over the local industry and all regions, where at the same time be instrumental in attracting knowledge-based firms, e.g., business intelligence, data-mining, data-warehousing, etc. Altogether, we have the vision that we are all partners together building a Digital Corridor right south Lisbon capital which should attract further high tech firms into the region. The financial support for this “*Almada Cidade Digital*” project is co-financed by the EU (Structural Funds) and Portuguese Government.

### **Support to High-Tech Business Plans**

Our portfolio of on-going projects goes further to the project named LISACTIV where Madan Park together with another start-up promoter (CPIN; Portugal) and Catholic University Caldas da Rainha and the FCT/UNL in its Campus. This project is designed to provide consultancy assistance to technology-based will-be-entrepreneurs across the whole region 50 KM north to 50 Km south Lisbon. We are not just looking into the Campus, but rather into the whole region, with emphasis on graduate unemployed people registered in local Employment Centres. LISACTIV project is co-financed under the Programme Lisaction, which is a pilot innovation, regional development programme run by the European Commission and the Lisbon Development Commission (CCR-LVT).

### **Promoting Industrial Engineering Bodies**

Still, a major project presently run by Madan Park is the one named LIS-I&D (same funding source as LISACTIV above), which is performing market studies and promoting the creation of a major Project Design Centre for Aeronautics in Lisbon region and a Test Centre for Cars and Components to be locate din the south of the region. The high-tech stance of these two industries will generate innovation opportunities both to the regions as to the Campus and Madan Park business.

### **Some Other Actions...**

- a. We are also involved in EU projects included in the FP V. Topic: planning sustainable Science Parks, on the behalf of the “Energy, Environment and Sustainable Development Programme”.
- b. Finally, one word on public funding: Madan park is being extensively supported by the EU Structural Funds and Government funds at this new phase of growth where 2,5 ha of land will be built into a new Incubator building, 5 slots for mid-size companies to build their installations, the new Madan Park services and administration building on a total of 5 Million euros investment, where public funds will account for 75 % non-reimbursable funding.

### **An Ambitious Mission...**

Basically, we believe that Madan Park is a three-fold innovation operator, in the sense of:

- a. Promoting typical incubation and hosting activities: land and facilities provider in compliance with the model of a Science Park (around an University Campus);
- b. An innovation-intelligence facilitator, into the Campus research activity
- c. A regional Innovation body, particularly focussed on industry.