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### **“Caen Science Park”: from traditional science park management to a prospecting and eco-system management model**

Parallel Session 1

Organisation of STP Services

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## **“Caen Science Park”: from traditional science park management to a prospecting and eco-system management model**

### **Executive Summary**

Caen-Normandy has developed the EffiScience Science Park, specialised in ICST, NFC, hosting world-renown tenants like NXP. Since 2007, all traditional ingredients have been put in place to ensure the success story of this Science Park: services to the tenants and their employees, pleasant working environment and building design. However a new step should be undertaken in order to ensure its continuous growth and attractivity which means revisiting the management and organisation of this science park. Local stakeholders, especially the economic development agency Synergia, and the urban planner Normandie Amenagement, are aware of the necessity to manage the science park at different levels of eco-systems: integrated in its environment, in regional and network logics. Anew model of well-built governance mobilising all type of territorial players is under construction, aiming at a co-development and a reinforced attractivity of the science park, especially through a coordinated prospecting strategy.

## 1. Is standard management a suitable solution for a regional science park?

### 1.1. Caen - Normandy's location and context



Located 2 hours from Paris and with approximately 400,000 inhabitants, the Caen conurbation boasts genuine economic vitality:

- 165,000 jobs, 2,500 new jobs created every year
- business creation rate of 18%
- annual Added Value progression of +4%

The University, founded in 1432, welcomes 30,000 students in the very heart of the city:

Contributing towards forging industrial skills, companies of national and international renown from the automotive, electronics, logistics and healthcare sectors have chosen Caen for their development: Renault Trucks (Volvo), PSA (Peugeot-Citroën), Robert Bosch Electronics, Valeo, Philips Semi-Conductors, GlaxoSmithKline, Stryker, Orange Labs ...

Research and Development is also an essential ingredient in Caen's economic landscape, with internationally recognised facilities such as the GANIL (National Heavy Ion Accelerator - CEA, CNRS) and France Telecom, whose R&D constituent, Orange Labs, employs a staff of 400 in Caen. Philips Semi-Conductors, now known as NXP, has been established in Caen since 1957.

Partnerships have multiplied between fundamental research teams in the fields of matter, materials, algorithms... whilst businesses have created a quite unique eco-system, which is both collaborative and propitious to innovation. Hence, step by step, Caen has acquired an enviable international reputation in the field of semiconductors and, more generally, ICST.

- NXP has maintained and developed its R&D centre in Caen (800 employees).
- Near Field Communication, or simply NFC, was created in Caen by Sony and NXP.
- ACER chose Caen for the promotional launch of its NFC smartphone, *Liquid Express*.

- Other internationally renowned firms have also chosen Caen, thanks to the presence of rare and difficult to relocate skills.
  - o IPDiA produces electronic chips for the healthcare sector.
  - o Presto Engineering, formerly established in the Silicon Valley, designs services to facilitate the industrialisation of semiconductors.
  - o CRFTech is the Japanese firm Asahi Kasei's French R&D centre in the electronics field.
- the business incubator Plug N'Work has welcomed freshly created companies, either ex nihilo or as the result of spin-offs.

These success stories have collectively consolidated the territorial foothold of pre-existent stakeholders: Orange Labs, public and private laboratories... Job creation has accelerated in the communication sector.

## 1.2. The fundamentals of the Science Park

When, in 2007, NXP was effectively established within the Science Park which took on its new name: "EffiScience", two key ingredients for the success of any science park then converged: the presence of an internationally renowned company and an established identity in the field of contactless technology and interactive mobile devices. One impetus was to follow another. Internationally renowned Caen-based research teams working in the fields of semiconductors, nanoelectronics and photonics recognised in this site a high quality environment, with a powerful image - and the services that go with it - for them to maintain and develop their skills within the territory. A strategy that proved successful: the EffiScience Science Park equates to 2,500 jobs, a 76-hectare estate, a capacity of 150,000m<sup>2</sup> of SHON (net floor area) and links with Normandy's other major innovative hubs. On both a local and national scale, it is a significantly important Science Park, whose very foundation has always been in keeping with the fundamental values of any science park. Indeed, to satisfy the need for visibility, collaboration and networking likely to deploy propitious skills, the Science Park reunites a number of ingredients that are essential to its success.

First of all, the Science Park offers companies and their employees a pleasant working environment, accessible via public transport networks and just 5 minutes from the railway station and the Caen-Paris motorway link. Public areas are attractively landscaped, include pedestrian zones and are suitable for soft modes of transport.

Furthermore, employees benefit from a wide range of services within or close to the Science Park, in the form of trade outlets, a concierge service, a nursery, sports associations and restaurants.

Building design and quality is also of the utmost importance when establishing a business: for the Science Park's 'anchor tenants', buildings have been designed in consultation with management teams (NXP in particular), in order to best fit the company's specific needs and potential future expansion. A progressive business accommodation offer targets small start-ups and spin-offs, ranging - within the same site - from pre-incubation to incubation, before finally heading for larger, permanent premises. These are undeniable advantages that both attract companies and establish their loyalty. For example, the "Plug N'Work" business incubator has, since 2008, welcomed 29 businesses for a total of 119 jobs, hence representing the first link in a chain of property developments aimed at offering a flexible premises offer to suit the needs and the maturity of young businesses.

Coordination, connections and dialogue are also essential ingredients to further enhance the Science Park's attractiveness. Within EffiScience, the economic development agency Synergia plays a vital role in stimulating exchange by organising events such as job dating sessions or business conventions, whilst coordinating the Science Park's promotion at national and international

conferences and trade fairs and via communication tools. Furthermore, the presence of the TES (e-secure transactions) Competitiveness Cluster, and of collaborative platforms, a business centre and a living lab, further facilitates the essential networking to ensure the Science Park's development. The great diversity of on-site organisations, from research laboratories to links with engineering schools, via both international and small innovative businesses, offers further wealth and encourages complementarity.

In a sense, EffiScience is a "traditional" science park, perfectly established within a territory offering highly qualified manpower, and applying attractive rates compared to the Paris basin, just like so many other science parks throughout France. Yet "traditional" recipes are not enough to ensure that EffiScience, and the town of Caen, stand out amidst this territorial competitiveness and that Caen consolidates its position as a reference location for developing mobile technologies, within an increasingly globalised economy and a sector in which innovation progresses each and every day.

If NXP has chosen Caen and EffiScience to establish its European R&D centre, if ACER has chosen Caen and EffiScience for the European launch of its NFC smartphone, and if AKM and Presto have chosen to establish or take over existing companies within Caen, it is because - over and above the Science Park's traditional ingredients - EffiScience and the town of Caen also offer innovative organisational and managerial logic: integration within regional logics, complementarity with major territorial developments, coordinated mobilisation among development players.

## **2. Developing eco-system management around the Science Park**

### **2.1. Integration within regional logics**

Although Caen and the EffiScience Science Park accommodate internationally renowned companies and laboratories, they are not renowned in their own right, which is a drawback in terms of territorial competitiveness. Hence the importance of developing sufficient critical mass to ensure exposure on the international scene. Caen, Rouen and Le Havre are Normandy's 3 leading economic hubs. For the past 6 years, collaborative action has gradually been developed in an aim to planning for the territory's future, to increasing its visibility and proposing shared services. These 3 cities, former competitors, have become complementary and interlinked. From the many prospects that emerge from such an approach, we place priority on 4.

1. To ensure that, within a context of international competition, a company chooses to establish in Normandy.
2. To pool together development levers. The Port of Le Havre, in the heart of the Seine Gateway, is one of Europe's leading sea ports. The constant flow of goods and merchandise is followed by a flow of data, requiring to be monitored, stored, secured... and for which Caen's skills in the STIC field are an undeniable asset.
3. To develop a shared higher education, training and research offer via Normandie Université (70,000 students, 4,000 lecturer-researchers, 2,200 PhD students and a staff of 2,400 engineers, technicians and administrative officers throughout 140 research units).
4. To build a coherent and complementary range of host facilities and services and to intelligently manage potential competition.

All of the above under a common and federative banner, Normandy Avenue<sup>®</sup>.

On a higher regional level, Normandy and the Paris capital region combine to form a common territory for business establishment under the Axe Seine-Normandie designation. This enlarged territory represents a total of 15 million inhabitants (23% of the total French population, 7.3 million jobs (28% of national employment), a GDP of 640 billion Euros (33% of national GDP), 680,000 students (31% of all French students), 100,000 researchers (41% of the national total). The Axe Seine project stretches well beyond its infrastructure chapter (ports, high-speed trains...). Firstly, it consists in building an attractive offer by highlighting complementarities:

- between hubs and R&D skills,
- between science parks,
- via a range of services including property in particular
- among brand names of world renown

Secondly, it also involves pooling together development efforts, and in deploying the necessary energy and resources:

- to invest in new development priorities: logistics, electric engines, renewable energies (offshore wind farms), smart grids, new materials, vegetable fibre-based composites, healthcare, foodstuffs...
- to exchange on good practice (business incubators, soft landing...)
- to boost the *network effect*, by organising - for example - BtoB encounters for businesses.

One last regional logic within which Caen's Science Park is perfectly integrated concerns our consolidated links with the United Kingdom. The European programme entitled CHAIN (Channel Innovation Network), for example, offers companies housed within French and British incubators initiatives that are likely to contribute towards their future growth: business encounters, R&D programmes, search for new suppliers, cultural training sessions (business practice...), soft landing...

## **2.2. complementarity with facilities throughout the Caen conurbation and its surrounding territory**

The EffiScience Science Park is designed as one piece in a vast puzzle that must fully integrate and maintain dialogue with its environment. For this very reason, it has always been designed, not simply to offer an improved business park, but to constitute an integral part of the town's very fabric, with its public areas, its streets and its links. In order for the park to be economically sustainable, it needs to be durably inhabitable and useable. As such, two residential zones and one retail zone are currently under development within the immediate vicinity, public transport networks being concurrently developed to offer 5-minute links between the park and the town centre. The aim is to render the park more accessible and approachable from the town centre and to truly integrate it within its nearby inhabitants' living environment. For indeed, in order to attract the new businesses (and their employees!) targeted by the Science Park, it is now essential that its working environment coincides with the demands of city life and with its consumer habits.

Concurrently, whilst building on the already strong identity around contactless technologies, the park and the businesses it accommodates will need to be flexible and capable of anticipating market changes, and of finding new applications for the technologies they develop. Exchange and synergy will offer such sustainability - hence offering these businesses a solid foothold within the territory - and must be designed and coordinated with the territory's other fields of excellence and future opportunities in mind.

Caen's north plateau, located just 10 minutes from EffiScience, is home to a number of high added value institutions and constitutes a primary hub for propitious exchange. It reunites engineering, medical and management schools, along with the University's economic sciences and physics departments. It is also home to a number of pharmaceutical and biomedical laboratories, in particular: a) the National Heavy Ion Accelerator, administered by the CEA (Alternative Energies and Atomic Energy Commission) and the CNRS (National Centre for Scientific Research), whose developments focus on projects such as SPIRAL 2 or EURISOL; b) the Archade project, focusing on research in hadrontherapy, c) CYCERON, a centre devoted to the detection of Alzheimer's disease via biomedical imaging. Several gateways already exist between the North Plateau and the EffiScience Science Park, thanks to the great complementarity between the various fields of activity on both sites. In order to generate an increasingly efficient reinforcement of this existing collaborative framework, the territory is turning towards the formation of a vast dual-purpose Science Park,

under a common banner. The result will include the emergence of developments designed to facilitate interrelations, such as shared work platforms, meeting points or easier mobility from one site to another.

A new, emerging site is now offering the territory increased attractiveness: in the form of Caen's sustainable "Presqu'île" quarter, comprising the former port and industrial wasteland, upon which, over the coming years, a dense programme of mixed residential, trade and economic developments will see the day. This zone is behind a highly determined metropolitan ambition and many a big name in architecture is involved in the project, including OMA (Rem Koolhaas) in charge of the *Bibliothèque Médiathèque à Vocation Régionale* (Regional Library and Media Library), together with AUC, François Leclercq and MVRDV, in charge of overall urban planning. This quarter's design and coordination take into account its complementarities with the Science Park and propose an experimental site focusing on the new consumer usage opportunities offered by the technologies developed by EffiScience's stakeholders. Caen Presqu'île will become a life-size living lab studying the opportunities developed via NFC, ITC... within the town's economic fabric. It will also serve as a venue for exhibitions and events enabling consumers to discover and understand the technologies developed by companies housed within EffiScience, to grasp the problems inherent to such developments and to better accept them. For example, a demonstration on secure personal data management could be organised in order to explain how it works, hence demystifying certain concerns among the population on the use of such personal information.

Beyond the living lab, the Caen Presqu'île quarter also aims at becoming an amenities site, with a high-quality residential offer via a new concept of city life. It is a further asset to enhance territorial attractiveness and, consequently, that of the companies likely to set up business within the Science Park. The impetus that will be generated via the development of the railway station and facilitated links between Caen and Paris is also an essential ingredient in the Science Park's global strategy towards attractiveness.

The organisational logic that prevails between these 3 polarities within Caen's territory is a logic of complementarity and mutual reinforcement. The aim is not necessarily to reunite them within an urban continuum, but to facilitate gateways between their respective vocations, in order to generate a collective impetus.

### 2.3. mobilising territorial players

This organisational logic, which will offer the Science Park increased exposure thanks to its impact on other major territorial sites, will be relayed via collective management of territorial players. Indeed, science parks are tools that should be capable both of anticipating and of renewing themselves based on the temporality of their users, investors, territorial needs and urban change. To do so, they need to coordinate a multiplicity of skills, present throughout a number of different organisations. Territorial stakeholders, Synergia, Normandie Aménagement, public authorities and businesses are perfectly aware of existing potential and of the importance of exploiting and promoting it to guarantee its longevity. They are reunited in a shared commitment towards attractiveness, pooling their respective skills and resources to comprise a "welcome package" to satisfy the needs of project initiators looking to set up business within the territory. Each player is an expert in a specific field (property, funding, export, marketing, recruitment...). Tailored to suit specific needs, it is a made-to-measure collective engineering service to accompany and support business projects throughout their establishment and their development.

- Synergia, the urban community's economic development agency, offers a number of promotional and marketing tools, whilst coordinating networking events and tools in the form of breakfast debates, newsletters and business conventions.

- NormandieAménagement, in charge of developing science parks and of the Caen Presqu'île quarter, offers evolutive solutions for future buildings, facilities and developments. The agency is highly reactive, offering a vast range of flexible projects, hence satisfying project initiators' concerns with regard to anticipating change.
- Local mayors and councillors have also demonstrated their voluntarism by acting in favour of innovative investment, through their support for projects that reinforce our identity in the field of NFC and ITC, such as the "territorial leader in contactless mobile technology" project, or by facilitating the establishment of new businesses by offering them top-quality services, such as VHB fibre optic coverage throughout the territory.
- Existing companies throughout the territory are efficient relays of the Science Park's ambition, acting as prime ambassadors with their clients or potential partners, encouraging them to continue their own development in and around Caen.

Such convergence among the territory's community stakeholders is perfectly evident to all of the players involved. It is implemented naturally, via concrete action; yet, new prospects need to be explored to increase the effectiveness of this global management approach to the Science Park, via even greater attractiveness.

### **3. New organisational prospects for the Science Park**

#### **3.1. organising joint prospecting**

To date, territorial players have essentially been mobilised to ensure the Science Park's promotion, proving to be highly reactive to available opportunities. Their new challenge will consist in developing prospecting for new businesses and adopting a pro-active approach in order to anticipate market change and to identify future companies, subsidiaries or laboratories whose profiles are in line with the EffiScience Science Park.

Two priorities will be concurrently explored and developed:

- the compilation of an offer for target organisations, via communication and promotional tools and a common line of attack.
- the implementation of prospecting tools that are complementary to business conventions, or of project incubators, that are more specifically tailored to suit each target.

The idea is that all territorial players - property investors, business angels, international R&D centres... alike - preserve their own specificities, whilst relaying the potential contribution of other stakeholders and initiating a global impetus focusing on welcoming new targets. Tools aimed at pooling information will also be integrated to ensure that the various territorial players involved can exchange on the advancement of their respective prospecting efforts, in order to incite one or another player to actively participate or to consolidate potential opportunities thanks to shared information.

In Caen, managing a science park is therefore essentially a question of anticipating its future, and of federating all of the stakeholders who combine to form the territorial offer, to ensure the development of its attractiveness.

#### **3.2. a new model for well-built governance**

In 10 years, Synergia, NormandieAménagement and, more generally, the town of Caen have acquired experience tested locally, then on Normandy Avenue and shortly at Axe Seine level.

A few fundamental principals are to be shared before launching the project:



- identification of the critical mass required to ensure efficiency, competitiveness and visibility
- development of networking strategies in order to create business links, to improve skills and to fully exploit all existing expertise
- concentration of efforts on a few local fields of excellence (investments, experiments...)
- constant innovation in services and accompanying measures for projects and businesses to ensure we remain totally in line with their needs
- positioning of all territorial stakeholders as a joint "operating system" with a common aim to boost attractiveness and competitiveness.

This operating system will be endowed with the necessary skills to develop and compile customised solutions:

- the capacity to mobilise suitable tools and expertise for each need or each phase
- the ability to facilitate the implementation of collective action (fairs, conventions...)
- the concurrent management of several tasks
- the ability to arbitrate among territorial competitors
- the securing of shared information, guaranteed confidentiality
- the management of interfaces with the various players and levels involved in such governance
- ...

The principle aim of this operating system is to accompany creation and/or development projects initiated by businesses, laboratories... in time with the company's own evolution. It will implement networking strategies, will invent new tools aimed at professionalising its service offer and at adapting it to specific needs. Acting as a business - territory interface, it will also need to propose solutions aimed at sharing the weight of each challenge.

Three complementary participants will be involved in this system:

- elected representatives and executives from regional authorities, whose responsibilities cover the town's various dimensions and its evolution (facilities, infrastructures...)
- competitiveness clusters, businesses, R&D laboratories which, throughout the company's development, innovate, develop new products, establish technological, industrial and commercial partnerships;
- mediators, such as Synergia or NormandieAménagement, acting as operational links which, at the very heart of the operating system, ensure the connection between the two aforementioned groups.

This type of governance will enable:

- each party involved to concentrate on its own role, its essential mission, its profession
- energy to be mobilised on operational projects.

Flexibility will enable different levels to intermingle, hence ensuring the necessary reactive potential for optimum business development. The distinction between elected representatives and operational players will avoid political bias.

In order for such a model to work, confidence in all players is prerequisite. The standards and professional requirements pertaining to an IASP label will contribute towards securing development ventures and towards reinforcing the "operating system's" credibility. They bear witness to a shared level of excellence and shared values.

## Conclusion

In this period of extensive dematerialisation, territories are no longer simply sites for a business to establish itself, or even a place where it can find skills. They are collaborative sites, where the business can develop, experiment projects... but also adapt and react to economic variations (change, merger/buy-out...). Innovation is a culture we can disseminate. Technology is the produce of laboratories. Inhabitants are involved in development, from product specifications to their first market tests. Science park organisation and management must adapt to this new context, must anticipate new trends. It is both a challenge and a unique opportunity for emerging territories to distinguish themselves on the national and international scene. It is the impetus that Caen, Normandy and the EffiScience Science Park have chosen to follow.