# SME GROWTH NEEDS REPORT ILE-DE-FRANCE & ESSONNE, FRANCE



Role of ENGINEERING SMES within the Regions

# CLUSTERS IN THE REGION

THREATS TO FRENCH SMES

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# 01

## **INTRODUCTION TO THE REGION**

The Essonne is now part of Grand Paris Sud, a geographical entity in the south of the Ile-de-France region, comprising 23 municipalities in two departments, Essonne and Seine-et-Marne.

With a population of 352,123, Greater Paris Sud is the first French agglomeration community in terms of population and one of the engines of population growth in the Ile-de-France region.

A major economic hub of the French region, Greater Paris Sud is home to more than 21,000 companies, many head offices of large groups (Safran, Arianespace, Truffaut...), high-tech industries (hightech, eco-activities, medical research, etc.), and five regionally renowned shopping centres. The economic dynamism of the territory translates into an employment rate close to equilibrium. Grand Paris Sud is also a cultural hub with quality, local and regional facilities. The territory has for example 11 rooms dedicated to live performance, including two national stages, 22 media libraries, a dense network of conservatories and music schools, multiplexes, seven cinemas and space for art and writing.

230 hectares of undulating land are expected to accommodate the development of the "Greater Paris South" complex running on the Essonne and Val-de-Marne. This new territorial complex organizes many events in support of the economy and in particular entrepreneurship.



French Region Source: (WDC, 2019)



The Essonne is part of the economic dynamics of the lle-de-France. A powerful region that relies on highperformance infrastructure at the centre of global trade, it has an attractive corporate real estate market, in addition to a diverse productive fabric and an active cosmopolitan and graduate population. The region is a leader in research and innovation, but the economic trajectory of the region also shows weaknesses as it has little jobcreating, and rising unemployment and inequality have been a problem for years. As a result, overall attractiveness is declining for some families and the region experiences a dependence on other areas for energy and resources. To counter this dynamic, activities are being renewed, driven by the booming service economy, digital technology, and the greening of the economy. Agriculture and agri-food remain fragile, albeit resilient, activities. Logistics is an essential sector for metropolitan operations.

### **Essonne in numbers:**

1268 228 inhabitants (source INSEE 2017)
1804 sg. km

Out of a total population of nearly 1.3 million (INSEE 2017), the labour force in Essonne numbers around 620,000 workers, of which around 550,000 were employed (INSEE 2013 census).Within the department, there were a total of 72,213 companies as of January 1st, 2015 (INSEE, REER) within 271 activity zones (DDT Essonne).The economic fabric of the Essonne is extremely varied and reflects the peculiarities of the department of Ile-de-France, between overcrowded cities considered the suburbs of Paris and rural territory.

The overall market for Essonne is valued at  $\leq$ 13 million, of which 9 million are generated by non-food products.



French Region Source: (WDC, 2019)

# 02 CLUSTERS IN THE REGION



## **IDENTIFICATION**

Clusters in Ile-de-France and Essonne are numerous and offer wide opportunities for engineering companies by being more or less specialized. It isn't possible to mention them all but the few mentioned below highlight the subject addressed:

- The Genopole, based in Evry-Courcouronnes/ Corbeil-Essonnes: This is the first biocluster in genomics/biotechnology. It hosts 96 biotech companies, 17 research labs, 29 shared tech platforms, 2,500 direct and is responsible for creating the 2,000 indirect jobs.
- 2030 aims- 30-35 research labs for 2,000 people, 200 companies creating thousands of jobs.
- C19: a cluster specializing in video range and digital interaction cluster.
- Logistics and Ecommerce Innovation Stream Part of NOV@LOG Competitiveness Cluster.

The most emblematic cluster is that of Paris Saclay, which is seen in public policy as an engine for the renewal of French and European industry. Paris-Saclay already accounts for 15% of French public and private research. Inspired by Silicon Valley, the project of this scientific and technological cluster being built on the Saclay Plateau is ambitious because it pursues three objectives: A scientific component: the establishment of the University of Paris-Saclay (1 January 2020): 14 higher education institutions and research organizations and 280 laboratories. Its goal is to be in the top 20 of the world's research-intensive universities. The Paris-Saclay campus is also home to the Institut Polytechnique de Paris, a grouping of the École Polytechnique, ENSTA ParisTech, ENSAE ParisTech, Telecom ParisTech and Telecom SudParis.

An economic component: the establishment of the research and development centres of large companies, the creation of an ecosystem favourable to innovative start-ups and the commercial development of scientific and technological advances made on the plateau.

A land use component: the construction of a large urban campus, modern and attractive, mixing student and residential housing as well as living spaces, services and public spaces.

The concentration of large groups and innovative SMEs associated with a global university cluster makes the Paris-Saclay cluster one of the eight most important <u>innovation hubs</u> in the world.

# 03 ROLE OF ENGINEERING SMEs

## GROWTH MANAGEMENT

### **Regional Growth Support**

The economic fabric is varied from manufacturing of navigation aid equipment, electronics components, and aeronautics parts. Essonne alone represents 33% of the employees of the Ile de France's research and development, especially around Saclay, thanks to the research and university clusters that we will discuss later.

Agriculture is the second largest component of the region's economic fabric. Among them is the leading national producer of watercress and farms growing vegetables, and fruits, which quadrupled in number over the last ten years. One of the main reasons for this growth is the joint growth in France of the neorural movement. This movement sees urban people settling outside the big cities to launch their farms, often micro-farms of about two hectares, in biodynamics or other environmentally friendly agricultural practices. This increase in the number of farms also responds to a growing need for various food products in a logic of increasing demand for products in short circuits.

This is important in the Paris basin, that though very agricultural, is also very specialised and currently cannot meet the food demands of the population of Paris Ile-de-France region in either quantity or variety. In Essonne, it is also possible to find players in the eco-construction and cultivation of hemp for the purposes of construction.

Crafts are also an important component of the economic fabric of the department with 27,800 companies representing 31,648 employees in 2019. Logistics and construction freight sectors account for 82% of jobs and 80% of non-food companies.

The Ile-de-France region is extremely dynamic in terms of research as is Essonne. The territory is home to many research and academic centres. This particularity benefits Essonne engineering companies. 5168 researchers and research engineers and researchers work in the sector according to the following company distribution:

Agri-food research activities	718 companies
Scientific, technical research activities	975 companies
Analysis, testing, technical inspections	211 companies
Industrial Engineering, Technical Engineering Design Office	1756 companies
Advice, audit, research, telecommunications studies	1 company
Drawing in building	2 companies
Studies in industrial robotics, automation	1 company
Studies, precision mechanics advice	1 company
Studies, mould design, models	4 companies
Agricultural, food engineering	718 companies
Security Engineering	718 companies



### POLICY AND FINANCING

### **Financial and Policy Resources**

Essonne, to support this dynamic, has put in place a major investment plan from 2021 to 2027 and mobilizing 2 trillion euros spread out over education, healthcare, green growth, housing to permit job access and growth.

As has already been mentioned, state resources and funding are numerous and declined in Ile-de-France and Essonne via numerous relays.

In addition, a massive plan of 100 billion euros called the "France Revival" plan has been approved which engineering companies can benefit from. The plan calls for massive investments in several areas of development and innovation, some directly related to engineering sectors such as energy retrofits, industry decarbonisation and green technologies. An example of one of the projects is the development of a green hydrogen pipeline in France.

The plan also includes reducing corporate taxation by strengthening the capital of small and mediumsized enterprises (SMEs and ETIs) and proposing an export support plan. The France relaunches plan also provides a specific component for research and development to preserve jobs and to reverse in what the plan sees as an investment of the future and supporting the ecosystems of higher education, research and innovation and by proposing a Strategy for the recovery of research and development - based on the national research agency.

### **Government support**

There is a great deal of government support for SMEs in Essonne. There is very little current policies geared towards engineering companies, however pre-existing public policies already benefit them such as the CIR, the CIFRE, the research tax credit. These different schemes allow the management of all, or part of, research and research expenditure to foster innovation, including innovation from university research centres. In addition to national relief and aid, there are additional public policies in the Ile-de-France region and Essonne. Including PM'up or Innov'up devices to finance according to the scheme, operating costs, financing in part of strategic recruitments or development of innovative competitive advantage. The Ile-de-France Region has adopted a comprehensive economic strategy for the period 2017-2021 with the ambition of renewing in depth regional action in the service of growth, employment, and innovation. This decision is part of a context marked by opportunities related to the transformation of the economy, digital technology that reverses established models, energy transition, initiatives of excellence as well as the implementation of major infrastructure projects. There are also many challenges, such as the continuation of deindustrialisation, security issues or dependence on resources. More specifically, with regard to policies to support the growth of engineering companies, there is a strong focus on innovation.

### **Financial Support**

In fifteen years, financial support for innovation by the government has doubled in euros, adjusted for inflation. The choice to devote ever more resources to this policy has been maintained over the course of political alternations.

The first result of this work is the consolidation of all aid for innovation. Ten billion euros, or half a point of GDP, are now spent on supporting innovation by the various public actors including the state, regions and Europe. An amount of more than 25% more than the justice budget, for example. Secondly, the landscape of support for innovation is characterized by a multiplicity of objectives and a proliferation of devices, creating a highly complexity environment. In 2000, the State proposed nearly 30 national schemes, a number that has increased to 62, but those managed by local authorities, including Essonne, are added. Getting the right financing and getting to know them first and foremost is a real job.

### **Public Policy**

In France, a strong public policy is also aimed at start-ups, not just SMEs already established in recent years. A three-year plan has supported this dynamic, which now seems to be bearing fruit since French tech is known for its dynamism on the international scene and attracts many French, European and American investors. Today, Extends the approach of coconstruction on territorial ecosystems in design, greenTech, fashion tech, medtech and so on.

This specific policy mobilises a significant part of the public finances. To deploy the numerous public policies on the territory, France, and the Essonne de facto, has been meshed by various agencies specialized in supporting the development of the economy in France, but also internationally: The Essonne Development Agency and the Chamber of Commerce at Essonne Industry (CCI Essonne) - complementary and tailormade services to company leaders at the different stages of development.

Departmental Council- collaborates with the CCI Essonne and Chamber of Trades to finance commercial animation actions of municipality traders, the "Trophées des Espoirs de l'Économie en Essonne" and the "Success in the suburbs" partnership support system in political districts and promotes craftsman know-how in the ecohabitat forum.

### Collaboration

Assist business creation by supporting associations designed to support projects and initiatives that promote emerging businesses- especially those relevant to city policies (Essonne Initiative, Network Entreprenndre Sud Ile-de-France are examples helping to develop SMEs via loans at good rates).

L'Essonne is also involved in the Ile-de-France territory pact aimed at bringing players: together institutional region, departments, EPCI, and CCI Essonne, among others, to implement a partnership programme to promote economic employment, development, innovation, apprenticeship and vocational training.

### STRUCTURAL RESOURCES

The Essonne is home to a large number of business parks, nurseries and incubators allowing companies to enhance their area of expertise and benefit from privileged land offers.

Living in Essonne means participating in a dynamism from every point of view. The Saclay Plateau and the Genopole, two scientific centres of excellence, are for example a pride for the Essonne. Many structures are dedicated to engineering companies or are likely to host them, including theParis/Villaroche Aeronautics and Technology Park, home to the SAFRAN Villaroche plant (7,500-8,000 jobs), the flagship of French aeronautics.

Senate Ecopole (Lieusaint, Moissy-Cramayel, Combsla-Ville), first business park in IDF dedicated to eco-

### **FLAGSHIP COMPANIES**

The Essonne is home to large national flagship companies such as Thales and Danone and numerous engineering companies. In the Ile-de-France region, flagship companies are numerous since it was the first economic basin in France. This radiation clearly reaches the Essonne as an integral part of the Paris basin. It is impossible to list them all, but a few notable ones are Altran, Setec and Tractebel. business and eco-nursery for young entrepreneurs. Cluster Grand Paris Sport Association, which specializes in sport, is home to many start-ups developing innovative solutions in engineering for sport.

The IMT starter, incubator at the IMT Business School specialised in engineering, was one of the first incubators in France and is renowned for its accompaniment and provision of equipment to support innovations. These include a Fablab or a control apartment to test engineering solutions for people with disabilities.

One specifically in Essonne is Safran Aircraft Engines (Evry-Courcouronnes/Corbeil-Essonnes and Ray), the flagship of French aeronautics and the iconic Dassault Group.



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## KNOWLEDGE MANAGEMENT

# DIVERSE AND QUALITY

The Essonne is particularly rich in scientific resources for the engineering sectors since this specialisation has been at the heart of the department's policies for more than 20 years. The expertise developed is now particularly strong and at the cutting edge. One example is the "synchrotron sun" centre (French synchrotron radiation centre), large both а multidisciplinary instrument and a research laboratory, under the tutelage of the state-of-theart research centres (CNRS and CEA). The area also hosts the inescapable Genopole d'Évry (description in the cluster section) and numerous specialised institutes research in engineering. Some poles being joint to the region and the department include:

- Polytechnic
- Paris South University
- Telecom SudParis
- Evry-Val d'Essonne
- Paris-Saclay
- AgroParisTech
- The National School of Computer Science for Industry and Enterprise (ENSIIE)
- Telecom Mines Institute





### Produce Human Resources

"More than 20 years ago, many industrialists thought that getting involved in the education system, participating in the training of future managers and engineers was the best guarantee that it would meet their expectations" (source Itii Ilede-France).

The French engineer has always been considered a voice of strategic training at a national level. Of course, the lle-de-France, including Paris, is home to a very high number of universities. No less than 17 in all sectors of study combined. The lle-de-France region is home to 34 engineering schools.

As far as engineering is concerned, there are eight engineering schools in Essonne (cited above). More specifically, the presence in Essonne of the huge campus of Paris-Saclay, renowned internationally for its PhD and research and centralizing the research laboratories of the largest French schools (like Central, Polytechnic and other famous ones...).

This specific policy about higher education aims to attract both young talent seeking recognized and quality training while attracting companies that need these talents and want to collaborate with these research-leading universities to develop high valueadded innovations.



## CHALLENGES/ BARRIERS

The economic dynamism of the Essonne is driven above all by what France has identified as the "industry of the future". The industry of the future refers to a set of transformations of production systems introduced by new technologies. Robotics, virtual or augmented reality, sensor and software networks, data processing, non-destructive control and other digital technologies allow the industry to reinvent itself to gain agility, flexibility and meet new requirements for environmental and societal responsibility.

Several indicators show, however, that France is lagging in the appropriation of the technologies of the industry of the future, especially among SMEs. The rate of equipment in industrial robots is particularly low in France: 132 robots per 10,000 employees in the manufacturing industry, well below that of Italy (185 robots per 10,000 employees) or Germany (309 robots per 10,000 employees).

In 2018, the Government launched an action plan to accelerate the adoption of these new technologies in small and medium-sized enterprises (SMEs) and mid-sized enterprises (ETIs). This plan is based on several axes:

- <u>A new support offer to accelerate the</u> <u>transformation</u> of SMEs to the industry of the future
- <u>An investment support scheme for industrial</u> <u>SMEs</u> (over-amortization)
- <u>The deployment of the industry acceleration</u> <u>platforms of the future</u>

The establishment of digital platforms in the channels of the National Industry Council

The Greater Paris South Project also has a very strong impact on the Essonne department in terms of infrastructure, mobility and economic development.



## CLUSTER COUNCIL MEETING

## FRANCE, 7<sup>TH</sup> JULY 2021

### PARTICIPANTS

Firstname	Surname	Position
Pierre-Yves	le Daëron	co-founder of Stratex and partners, advising SMEs, mid-caps and large groups
Jacques Robert	Moulinet	co-founder of Stratex and partners, advising SMEs, mid-caps and large groups; also responsible for the SME manager certificate atHEC
Antonia	HERIOT	In charge of the valorization of research, UFR Sciences de l'Homme et de la Société Paris Saclay, University of Evry
Amélia	Tiscronia	Operational Director of Scoping
Rodolphe	Roy	Ceo of ATS

### AGENDA

- 1. Presentation of the European project Growth of SMEs Erasmus +
- 2. Presentation of the various members present at this first meeting
- 3. General vision and mission of the Board
- 4. First topics: European aspect of the programme and relations with universities as well as the first major topics that emerge from the interviews and use cases carried out within the framework of the European programme
- 5. Calendar of future meetings (quarterly)

### CONTENT OF THE DISCUSSIONS

#### **General Vision of the Board:**

- Cluster members can help by contributing to SME Growth:
- Visibility so that SME managers can participate
- Experts intervene within the framework of the program but also to bring their own expertise within the program once it will be delivered.
- Advice on adapting the general programme to the realities of French SMEs
- Challenge the roadmaps from the beginning of the school year
- Help find a sustainable business model so that the program can continue
- Bring in new members to join the Board

More specifically, Amélia, Jacques-Robert, Pierre-Yves le Daeron and Rodolphe will spread this initiative in order to enrich and attract potentially interested people to join us at the next Cluster.

Amélia will also help bring in Syntec and OPCO Atlas, though she herself could represent Syntec since she has joined their office. Rodolphe will also ask BPI again to participate in the start of the school year.

#### Board members may be:

- Managers of growing SMEs
- Incubator and accelerator managers
- Representatives of entrepreneurship centres
- Representatives of higher education institutions
- Regional venture capital investors
- Experts in SME growth
- Innovation intermediaries



### ON THE EUROPEAN ASPECT OF THE PROGRAMME, WHAT COULD BE INTERESTING AS AXES WOULD BE:

- Benchmarking to discover how SMEs are organized in other European countries. This will add a real reflective dimension to accompany SME managers in their reflection on what it brings them by observing other organizations, modes of operation, employee profiles, management methods, commercial dynamics.
- This point requires preparation for reflection. At the end of the programme, it must be possible to visit companies for very specific reasons of success and good practices on targeted subjects. People who have developed real know-how and expertise within the management of their organizations.
- It will be necessary to take into account the tendency of engineering to remain very focused on its profession and on its country.



- Segmentation by activities might be interesting. Another interesting segmentation would be that between companies in the private market and those responding to public contracts.
- It would be possible to mix lessons and visits on what is common to SMEs and meetings by industry between countries.
- There are therefore two elements: good practices and a common basis. It is important to highlight the common foundation that is Europe, as it is not necessarily known, in order to create an appetite for the European side of the program that is perhaps not shared by all managers of SMEs in engineering.
- It would also be interesting to improve our understanding of how to welcome apprentices and trainees beyond our borders, the training, the devices to overcome the language barrier and to be able to accommodate the program more widely than our territory.
- The encounters themselves are also of interest from a human point of view. Managers of French engineering SMEs know very little about each other, and know even less about European colleagues. The understanding of engineering SMEs in other countries is based on a lot of misunderstandings via the competition axis, especially on prices (due to the specificities of the French social system).
- It would be interesting to take advantage of the European aspect of the programme to learn to talk to each other about the substance, professions, reasons for being, values, and ways of doing things. It would also be interesting to have feedback from SMEs that already have international interventions.
- To achieve this, it is necessary to support SME managers to help them understand the value of such a benchmark.



### THE RELATIONSHIP WITH UNIVERSITIES

- At the level of the University of Evry and Paris Saclay, the chairs of the LITEM laboratory are quite autonomous, there are no investments with industrialists but it would be interesting. It would be interesting to develop them to bring a dynamic to the research teachings and inform those who do not know how to achieve this type of partnership.
- Antonia also suggests that we contact Guillaume Tiffon, the director of the CPN sociology laboratory and Liliana Mitkova, who is trying partnerships for collaborative research through the Eulog programme.
- Researchers can have a contribution, not only on their areas of expertise within the framework of the programme, but also on their ability to demonstrate their ability to reflect with regard to their practices in order to accompany SME managers throughout their reflection.
- There should be an opportunity to clarify the traditional process of collaboration between universities and SMEs. Knowing that SME managers have generic subjects that they have great difficulty in translating into needs and do not know how to find the right interlocutors.
- It would be interesting to think about how to make the university's offer and the needs of the company readable.
- Engineering SMEs have an interest in working on these topics and modeling them collectively.
- There are two main topics on training. The first is to organize rapprochements between IUT universities, engineering schools, high schools (BTS or others) and engineering SMEs through presentations and the participation of employees who would intervene to animate practical work or directed work in training. This will make sure that SMEs can financially support certain laboratories or certain practical work so that there is a real relationship between the SME and teachers who have no means or access to companies except when they come to see the trainees. Today, universities and schools do not know enough about local SMEs and these silos can be quite despairing.

- It might be interesting to think about the animation of this community between SMEs and universities and schools so that it is not the goodwill of each one.
- There is also a major challenge around the capitalization of knowledge and the transmission within the company itself. Because it is not the job of the manager, nor HR. It would be interesting to think about how universities could support this transmission of internal knowledge to the company within the company itself. Why not by mobilizing transmission professionals such as teachers on the creation of internal schools to companies or internal transfer workshops to companies.

### FIRST THEMES RAISED IN THE STUDY:

- Collaboration with universities (including the joint development and management of university chairs)
- Innovation
- Relations with major groups
- The search for capital
- Internationalization for SMEs
- The development of knowledge of engineering professions (it is necessary to raise awareness almost from middle school to reach both boys and girls before the first orientations)
- The feminization of engineering (testimonies of Turkish women entrepreneurs? With models, but also to understand their journeys and the keys to success that allowed them to get there)
- Knowledge of European SMEs

### OUTSTANDING ISSUES:

Do not forget the problem of language => a program entirely in English will have little appeal.

Would it be possible to get good practice testimonies and participants from countries that are not part of the initial partners via UIIN?

### NEXT STEPS

It is planned to organize a council of two hours per quarter. The next one will take place in January. In the meantime, the participants in this first cluster should not hesitate to continue to comment on the reflections contained in this first document, and to propose to new members to join us.

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