



May-June 2013

## CLUSTER POLICY

- New phase of the cluster policy > A new contractualisation between the cluster and the public authorities
- Documentation > The competitive clusters boost growth and employment in companies
- Investments for the future > 3<sup>rd</sup> call for PSPC projects: a new series of submissions of dossiers

## CLUSTERS IN ACTION

### FOCUS ON COMPLETED PROJECTS

- Chemicals > Intensification of the processes: the project that prefigures the factory of the future

### CLUSTER NEWS

- International partnership > A new Franco-American partnership for therapeutic innovation
- Support for small and medium-sized companies > The “Route des Lasers” cluster on Chinese territory: the novelties of the 2013 China mission
- Support for small and medium-sized companies > “Images & Réseaux” assists its small and medium-sized companies to boost their reputation thanks to press relations
- Support for small and medium-sized companies > Capenergies: a successful example of assistance in fundraising



## CLUSTER POLICY

### ▪ NEW PHASE OF THE CLUSTER POLICY

## A new contractualisation between the cluster and the public authorities

The new phase of the policy for competitive clusters (2013-2018) envisages a contractualisation between the clusters, the Government, the regions and the other local authorities that want it in the framework of performance contracts covering the next six years.

These new performance contracts stipulate the commitments, objectives and priorities for action of each cluster to ensure their development on an individualized basis. They also specify the commitments of the public authorities as regards support for the clusters. These contracts are accompanied by progress and results indicators adapted to each cluster. The level of performance of the performance contract will constitute one of the principal bases of the next appraisal of the clusters.

The strategic roadmap of the cluster is the main component of the performance contract. It presents the working subjects of the cluster, the target markets and the technological and non-technological challenges that the members of the cluster envisage overcoming jointly in 3 to 6 years. Beyond this technological-market roadmap, the cluster also establishes its objectives in favour of the development of the member companies and, in the first place, of the small and medium-sized companies. The actions of the clusters are focused in 4 directions: the internationalisation of the companies, access to financing, anticipation of skills requirements and support for the small and medium-sized companies. To specify their roadmap, the clusters must draw up an overview of the priority needs of their members and specify the action that they envisage taking during the coming years, consistent with the resources of their territory.

Three-year action programmes, revisable annually, supplement this performance contract. They provide a detailed vision of the cluster's action and allow the cartography of its services to be established. These action programmes serve as the basis for the financial authorisation of the cluster.

59 clusters are currently preparing these performance contracts, which will be presented for signature by the public authorities as from next June.

### ▪ DOCUMENTATION

## The competitive clusters boost growth and employment in companies

A new study conducted in a partnership between the DGCIS and INSEE shows that companies which join a competitive cluster or participate in an FUI project create more jobs on a lasting basis than other companies. Better still, this great dynamism of the member companies of the clusters, *a fortiori* when they participate in the projects of the FUI, result in greater investment in R&D by them than other companies. Far from generating a deadweight effect, the FUI is supplementary to the private financing of the companies.

The independent small and medium-sized companies that participate in a collaborative project of the Single Interministerial Fund (FUI) see their sales increase by 2% per year compared with equivalent companies, namely one million Euros per year and by company, on average.

Furthermore, companies which belong to a competitive cluster or participate in a project of the FUI create most jobs on a lasting basis than equivalent companies that do not join one. Thus, the member companies of the clusters have employed, on average, 0.7 researchers and engineers more than similar companies remaining outside of the clusters.



Analysed on the basis of the total annual public financing of the competitive clusters policy (FUI, local authorities, etc.), this corresponds to a public investment of €40,000 per qualified permanent job thereby created. This increases in R&D jobs amounts to an average of 1.3 per year for member companies of the clusters that participate in an R&D project of the FUI, namely a public investment per job of only €35,000. The cluster policy represents a very good public investment, which the new phase beginning in 2013 will further strengthen.

This great dynamism of the member companies of the clusters, *a fortiori* when they participate in the projects of the FUI, results in greater investment by them in R&D, the engine of innovation. On this subject, the clusters policy and, more specifically, the projects financed by the FUI do not generate a deadweight effect for the companies. The study shows that the public financing of the R&D made in the framework of this policy does not replace the private financing of the companies since the latter does not fall when the public financing increases. This leverage effect of more than 2 times is one of the most important among the public measures that have been assessed so far.

These economic benefits are going to increase in coming years with the new phase of the competitive clusters policy. This aims, in fact, at transforming the competitive clusters into “factories for future products” with, as the objective, the strengthening of the industrialisation of the clusters projects to create more growth in companies and jobs.

This information comes from the conclusions of an econometric study conducted by the General Directorate for Competitiveness, Industry and Services (“Direction générale de la compétitivité, de l’industrie et des services”) (DGCIS) and the National Institute for statistics and economic studies (“Institut national de la statistique et des études économiques”) (INSEE). It aims at assessing the impact of the competitive clusters policy and of the Single Interministerial Fund (FUI) on the growth of companies. Eliminating the bias of selection and the impact of the other measures of support for innovation, the study isolates the economic effect of participation in a competitive cluster. It shows a significant positive effect from this participation. This effect is further accentuated in the case of participation in a collaborative project of the FUI.

#### ■ INVESTMENTS FOR THE FUTURE

### 3<sup>rd</sup> call for PSPC projects: a new series of submissions of dossiers

A second series of submissions of structuring R&D projects is planned for between now and 13 September 2013.

The third call for structuring R&D projects for the competitive clusters was launched on 8 April 2013. The next series of submissions is expected for **13 September 2013**. The initial call for the submission of projects had been fixed for 26 April 2013.

## LANDMARKS

**24%**

This is the average increase seen between 2006 and 2009 compared with 2005, in employment devoted to the R&D of the small and medium-sized companies involved in the competitive clusters. These companies are more than 2 years old and devote less than €15 million to R&D.

(DGCIS source)

## CLUSTERS IN ACTION

### FOCUS ON COMPLETED PROJECTS

#### ■ CHEMICALS

### Intensification of the processes: the project that prefigures the factory of the future

A chemical reactor sufficiently miniaturised so that one can eliminate more efficiently the release of heat produced by the reaction, capable of operating at a higher temperature with increased kinetics and without danger: this example illustrates the principle of the intensification of the processes.



Copyright : IFP Energies nouvelles

The Axelera cluster called the project "Intensification of the processes". The latter benefited from a subsidy in the framework of the 1<sup>st</sup> call for projects (FUI).

#### The context

The future factory concept consists of developing new processes that respect the environment throughout the chain of production of a product, until the finished product and during and after its use. These processes consume little energy, use few raw materials, and discharge little effluent. They use efficient processes of transformation.

The intensification of the processes is one of the means to achieve this. It analyses in depth the bases of traditional industrial processes. It applies new technologies and new processes which lead to more compact production units, with a smaller visual impact and pressure on the environment. It is aimed at making units consume less energy, water and raw materials. The intensification of the processes often entails miniaturisation, by processes operating continuously and by the use of new technologies.

#### The objectives of the project

The project was at the origin of the concept of the factory of the future. It should develop one of the principal methods of eco-design: the intensification of the processes. This method focuses on a new way of producing, with two major challenges:

-  **Adapting industrial facilities** to eliminate restricting transfer phenomena, for example, to produce in 1 minute instead of 2 hours, by eliminating the problems of thermal exchange
-  **Combining several operations** in one piece of equipment.

Initially, the project focused on chemical processes but it can be generalised to any process of transformation. For chemicals, we are thinking, in particular, of the design of new synthesis reactors (smaller and capable of operating in inaccessible domains with traditional technologies, where the role of catalysts is expended, etc.). Other chemical engineering unit operations are also targeted in priority, such as reagent mixture operations, separations with reactions, etc.



## The partners of the project

- **Arkema, the project leader, a chemical producer using a vast domain of manufacturing processes.**
- **Rhodia, a chemical producer using a vast domain of manufacturing processes**, complementary to the above producer. 8 laboratories of the CNRS: laboratories specialised in process engineering, already involved in the intensification for some of them, such as the laboratory for catalytic process engineering (LGPC).
- **IFP Energies nouvelles**, a centre of expertise in the oil industry involved in the development and management of new processes, with the objective of intensifying them.

## Description of the works executed

The works have targeted representative processes of existing processes, with high potential for improvement:

- Intensified laboratory techniques for the purpose of obtaining the basic data of the processes more reliably
- Technologies of mixing, reaction, crystallisation and drying, - twin functions such as reaction and separation
- Techniques for the improvement of the performance of catalysts
- The taking into account of analytical techniques adapted to the new technologies
- Advanced work to optimise energy consumption and the safety of the processes.

## First technological and economic spinoffs

### ➤ Results, products, prototypes, demonstrators and services produced by R&D works

The project has allowed the development of several prototypes, prefiguring the transfer to the industrial stage:

- **intensified laboratory techniques for the acquisition of the basic data of the processes with a view to optimising energy expenses**
- **a wired reactor prototype** consisting of a long tube with a very small diameter, with the latter having the size of a catalyst grain. It permits a refined examination of what happens at the level of the grain, as opposed to a traditional bed containing a catalyst. This prototype allows rapid reactions to be developed and a more reliable industrial extrapolation to be provided
- **an innovative cold plasma synthesis reactor** that consumes less energy
- **two prototypes dedicated to reaction/adsorption and reactive distillation**. They permit lower consumption of products, a gain in space and a reduction in cost.

The project has permitted significant advances at the industrial level in the domain of the safety of the industrial processes and in terms of competitiveness.

A gain in industrial installations thanks to the development of efficient processes (7 significant examples) and significant gains in the performance of reactions (increase in yield, less energy consumption). It also entailed establishing the functional specifications of the factory of the future and designing the systems thereof. Certain results are in the process of industrialisation.

- **Patents** : 17
- **Conferences** : 14 attendances at congresses, of which 11 at the international level
- **Theses** : 6
- **Jobs**: more than one hundred jobs ensured on several industrial sites.
- **Placing in perspective**: To enrich and widen the discussions, contacts have been made with market players to share the methodologies and competence necessary for the design and operating of the factory of the future. It seemed that the development of the intensification of the processes involved the sharing of the experiences of numerous professions (mechanical, electronic, analytical, modelling, etc.), thus by the contribution of numerous small and medium-sized companies, equipment manufacturers and university laboratories, alongside major groups.



*Reactive distillation column – Copyright Rhodia*



*Continuous moving equilibrium reactor – Copyright Arkéma*



## CLUSTER NEWS

### INTERNATIONAL PARTNERSHIP

## A new Franco-American partnership for therapeutic innovation

The Alsace BioValley competitive cluster, OSEO and the American Massachusetts Life Sciences Center (MLSC) “cluster” sign a new partnership agreement to finance joint projects for therapeutic innovations.



These projects will be implemented jointly by companies from Massachusetts and Alsatian companies. The agreement is going to allow these projects to be financed thanks to OSEO, the future financing arm of bpiFrance and the MLSC. The agreement was officially announced at the international life science show, Bio, held in April 2013 in Chicago.

*Press conference to announce the partnership at the international show, Bio in Chicago.*

*From left to right : Agnès Legoll, International Affairs Manager of Alsace BioValley, Nicole Bricq, Minister of Foreign Trade, Jean-Yves Bonnefoy, Chairman of Alsace BioValley, Catherine Trautmann, European Deputy and Vice-Chairman of the Strasbourg Urban District, Dr Susan Windham-Bannister, Ph.D., President and Manager of the Massachusetts Life Sciences Center. Copyright: MLSC*

After having examined the advantages of several international territories, the MLSC has chosen to conclude new partnerships with 4 regions in the world: Victoria (Australia), Wallonia (Belgium), Quebec (Canada) and Alsace (France). The United States is the largest market in the world for health industries and the Massachusetts ecosystem is one of the most dynamic.

In France, the Alsace BioValley competitive cluster was able to convince the MLSC of the unprecedented possibilities offered by Alsatian companies in the domain of therapeutic innovation. « *The challenge to convince an American cluster was not necessarily easy. But the highly-developed competence of our Alsatian companies in life sciences and health, combined with the expertise of Alsace BioValley in international partnerships made all the difference*” said Jean-Yves Bonnefoy, Chairman of Alsace BioValley, and he continued: « *In the current economic climate, this agreement offers our companies new potential for business. And thanks to our partner OSEO, it is also a new financing opportunity to help them to make their innovation projects a reality in the health field. Lastly, this partnership gives them access to exceptional international competence.*”

This partnership entails, in concrete terms, the launching of an initial joint call for projects, open to companies in the following sectors: biotechnological, pharmaceutical, medical technologies, diagnostics and bio-informatics.

The selection of the projects will be made in the framework of a competition with two stages:

- The pre-selection phase: submission of the projects for 16 September 2013 to the ICIP platform and results of the pre-selection on 8 November 2013.
- The final selection phase: submission of the detailed project for 1<sup>st</sup> December 2013

The announcement of the projects financed will be made in March 2014.

This agreement follows the initial contacts made by the Alsace International Office in Boston.



▪ SUPPORT FOR SMALL AND MEDIUM-SIZED COMPANIES

## The “Route des Lasers” cluster on Chinese territory: the novelties of the 2013 China mission

Since 2009, the Route des Lasers cluster supports its small and medium-sized companies in China. Thanks to particularly effective means, it aims at improving their positioning in China and to strengthening the « high tech » image of French photonics in Asia.



For more than ten years, the Aquitaine Region in France and the Hubei Region in Central China have collaborated at the institutional, economic, cultural and university levels. These two territories have the joint ambition to establish themselves as major players in the photonics sector at the international level. They are based, respectively, on the Route des Lasers competitive cluster in Aquitaine and “The Optical Valley” in Wuhan in China.

### The initial Franco-Chinese collaboration between 2009 and 2012

The cluster’s collaboration with China was launched in 2009 with the hiring of an international company volunteer (VIE) organised thanks to Ubifrance. After two years of work, the feedback from this experience was very positive. Opportunities for cooperation were identified, such as new markets for companies in the cluster and academic collaboration with the Chinese campuses of the Hubei Region. Lastly, the signature of a letter of intent for a partnership between the Route des Lasers cluster and the Wuhan National Laboratory for Optoelectronics (WNLO) gave rise to the creation of a platform for collaborative development in the domain of laser applications.

### The cluster created a China mission in 2011

Boosted by the success of this first stage, the Route des Lasers cluster decided to establish a more structured and permanent China mission as from January 2011, at the end of the VIE contract. It was in these circumstances that Balthazar Boyer, a Frenchman living in China for more than 10 years, speaking the language fluently, was hired to become the permanent representative of the cluster in China. The objectives of the mission were to strengthen the visibility of the Aquitaine optics/photonics sector in China. It should also train this French representative in the technologies and markets of the photonics companies interested in the Chinese market. Lastly, the permanent presence of a person totally operational in China should help Aquitaine companies by simplifying and encouraging their development in this territory.

It was with this dynamic that crossed collaboration agreements were signed at the end of 2012, between the Aquitaine Region and the government of Hubei, and then between the cluster and the Laser Association of China in Wuhan. The Laser Association of China groups more than one hundred Chinese companies positioned in the laser market. This cooperation holds out the prospect of technical and commercial discussions to identify new joint development projects. It also aims at increasing discussions about the problems of procurement of components, laser machines, laser sources and other optical equipment.



In this very favourable context, the China mission of the cluster should, however, further develop and be strengthened to cover new strategic challenges. The Aquitaine Region has confirmed its commitment to strengthening its relations over time with the Hubei Region. It envisages, in particular, setting up an Aquitaine House in China to promote its high technology sectors, including photonics. Furthermore, Edit Laser, an innovative small company member of the cluster, proposed sharing its premises with other industrialists of the cluster after the opening of its offices in Suzhou in 2011. This is how another innovative small company of the cluster, “Eolite lasers”, set up in China in 2012.

Edit China, a subsidiary of Edit Laser in China, now coordinates the China mission of the cluster. This organisation allows, de facto, the sharing of the cost of the Laser Road cluster’s presence and of its industrial members in China. It provides a greater visibility for the Aquitaine photonics sector. The cluster provides full coordination of the action. It signed an agreement in January 2013 with the companies, mostly small and medium sized, participating in the action, (Amplitude Systèmes, Cordouan Technologies, Edit Laser, Eolite Systems and Quantel). It specifies the rules of operating of the China mission and establishes, in particular, the scope of the intellectual property rights of this complex multipartite structure. In fact, the intellectual property aspects were taken into account from the beginning of the discussions in order to protect the interests of the small and medium-sized companies as far as possible

After 4 years of presence of the Laser Road cluster in China, the history of Aquitaine photonics in Asia is only beginning. The new mission has been calibrated to operate over time, well beyond 2013. It should allow the strengthening of the position of the small and medium-sized companies in China and reinforce the “high tech” reputation of French photonics in Asia.

## Contact

 [Bertrand Viellerobe](#)

### ■ SUPPORT FOR SMALL AND MEDIUM-SIZED COMPANIES

## “Images & Réseaux” assists its small and medium-sized companies to boost their reputation thanks to press relations

To assist its small and medium-sized companies, the cluster has established an original tool, the “press relations kit”, for the good use of press relations in the communications strategy.



Since its creation in 2005, the “Images & Réseaux” cluster established a range of services for its members. It thereby contributes to the growth of the small and medium-sized companies in their strategic domains. This assistance is shown in all the stages of the lifetime of the projects of its small and medium-sized companies.

Pursuant to increasingly frequent requests made at the time of the implementation of collaborative projects, Images & Réseaux has developed two press operation services, in collaboration with Tukilik, its partner press agency. Specifically designed to meet the needs of the small and medium-sized companies, these services are the subject of preferential tariffs compatible with the companies’ means. They involve two ways, one to enhance the value of the collaborative projects and the other to communicate more widely about the company’s activity.



## The principles of the services offered

The “press starter pack” services are reserved for the collaborative projects and the member small and medium-sized companies of the cluster. Their purpose is to execute an initial targeted media relations operation, in such a way as to develop the reputation of the small and medium-sized companies. Creating the initial level of presence and reputation in the media for the small or medium-sized company, project or consortium, testing the press relations, communicating at the regional and national level, increasing the exposure of the company its manager, its brand, enhancing the value of the project and its economic and scientific benefits, etc. are objectives refined at the time of the “brief” with the agency.

## The tools provided

The service is performed over 8 weeks, 2 weeks of which for the preparation and 6 for the operational. The drafting and the distribution of a press release built around a well-defined message initiate the process. Followed by a reminder campaign in 8 to 10 core target media, the organisation of an interview and the monitoring of the press feedback with a weekly report to inform about the progress of the campaign supplementing this service.

### Stage 1

- 1<sup>st</sup> contact with Julie Hary (Images & Réseaux) for a presentation of the press relations (PR) service and for the validation of the project (objectives, messages, positioning, etc.) in terms of feasibility and potential results.
- Assistance of the cluster, if need be, for the creation of the PR “brief” and for the finalisation of the messages.

### Stage 2

- Presentation of the “brief” made by the small or medium-sized company with Tukilik: definition of the objectives, presentation of the small or medium-sized company (activity, products, positioning, etc.).
- Sending of a programme proposal including an action plan depending on the objectives of the small or medium-sized company, a press list and a list of the items to provide for the drafting of the press release.

### Stage 3

- Provision by the small or medium-sized company of the information for the drafting of the press release as well as of the other information necessary for the press relations campaign (product notices, financial results, list of customers, etc.).
- Drafting of the press release by Tukilik and sending of the first version to the small or medium-sized company for validation before distribution to the press list.
- It should be noted that the press release will only have two versions (version 1 and version 2) before distribution to the media.



## Stage 4

- Campaign of telephone reminders to the press list, sending of a weekly “report” to inform the small or medium-sized company of the progress of its project.
- This “report” will be followed by a weekly conference call of 30 minutes with the account executive.
- Press monitoring: collecting of the articles, organisation of press meeting.

## The Images & Réseaux assistance

Beyond the negotiation of the “pack”, the communications team of the cluster works alongside the project leader or the small or medium-sized company. It assists them in the definition of the objectives, messages, and positioning sought. Images & Réseaux is also present at the time of the “brief” with the agency. The cluster can participate in the validation of the action plan established by Tukilik. It can also take part at the end of the collaboration in the framework of the analysis.

## Some concrete results

3 member companies of the Cluster used this system in 2012:

- **Artefacto** for the launching of one of its solutions dedicated to the increased reality with local authorities as the target.
- **Archividéo** for the launching of a touch table solution in partnership with Itekube sent to the local authorities and administrations
- **Shop Application** for the launching of its cash register in cloud mode for physical shops and e-business sites.

These three companies obtained very encouraging press coverage in the specialised national media, notably in 01Net, Maires de France, Revue des Collectivités Locales, ITespresso, ITR News, etc. With the press relations kit, the small and medium-sized companies have access to targeted media coverage, effective for a limited period of 8 weeks. They are then free to continue the collaboration with the Tukilik agency if they wish to do so.



#### ▪ SUPPORT FOR SMALL AND MEDIUM-SIZED COMPANIES

### Capenergies: a successful example of assistance in fundraising

The cluster has an initial positive impression of the measures taken to assist its small and medium-sized companies in the search for financing.



*Meeting of the panel of financiers – Copyright Capenergies*

The Capenergies competitive cluster has an initial positive impression of the measures taken to support the growth and financing of the small and medium-sized member companies. It provides its feedback on the structured approach deployed, as well as the future prospects as regards new directions of the cluster policy.

In less than three years, Capenergies has presented thirteen companies to a panel of investors within its panel of financiers. Six of them have raised start-up funds, for amounts ranging from €130,000 to €490,000, at the end of a process of 9 to 18 months.

The last three examples of fundraising concern the 3 small and medium-sized companies “Solaire 2G, GreenPriz and Atoll Energy”. They have just raised one million Euros in total, for the marketing of their innovative products and services in promising sectors such as hybrid solar panels, intelligent power points and energy consumption optimisation of diesel generators.

This assistance in fundraising is an illustration of the policy of assistance to companies which includes all support measures, including, in particular, pre-industrialisation, relations between major contractors and small and medium-sized companies, industrial property and the GPEC.

#### Contact

 [Bernard Besnainou](#), Assistant Manager of the cluster



Consult the archives [<http://www.competitivite.gouv.fr/spip.php?article116&lang=fr>]

Sign up [<http://competitivite.gouv.fr/>]

## Legal mentions

This newsletter is published by the DGCIS and DATAR.

Address: 8, rue de Penthièvre, 75008 Paris - France

- Director of publication: M. Patrick Crézé
- Editor in chief and copy: Martine Maillard
- Editorial committee (in alphabetical order): Delphine Abramowitz, Constance Arnaud, Rémi Arquevaux, Véronique Barry, Aurélie Faitot, Olivier Hébrard, Caroline Mischler, Sofiène Lourimi and all of the associated competitiveness clusters
- Design and production: **Stratis**
- Photos: **Stratis**, IFP Energies Nouvelles, Rhodia, Arkéma, MLSC, Capenergies, X.

In accordance with the French Data Protection Act n° 78-17 of 6/01/1978, you have at all times the right of access and rectification of data concerning you. You may exercise your right of rectification by writing to us or by clicking on this link. In order to protect your privacy and your personal data, the DGCIS and DATAR undertake not to divulge your personal information to other companies for their use. Your e-mail address will not be used for any purposes other than distribution of this newsletter.

For any further information/requests: [contact@competitivite.gouv.fr](mailto:contact@competitivite.gouv.fr)

