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Case study on RTO's programs to promote spin-offs - EURECAT, Spain

Contribution to the OECD TIP Knowledge Transfer and Policies project

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Please cite as:
Garcia, A. and J. Guasch (2019), "Case study on RTO's programs to promote spin-offs - EURECAT, Spain: Contribution to the OECD TIP Knowledge Transfer and Policies project".

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EURECAT, Spain: Contribution to the OECD TIP
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Executive summary

Eurecat was born three years ago with a clear aim of transferring the results of its research and innovation activities to the market. As a relevant part of the research is carried out with public funds, Eurecat is very demanding when considering the valorization of these research results. Eurecat has developed a “Regulation on Intellectual and Industrial Property” that includes the regulation of the research results developed by Eurecat, as well as guidelines for its commercialization and the creation of technological companies emerging within Eurecat for the exploitation of those results. Creation of spin-offs companies is one of the paths being used to place the research results in the markets. The strategy, the resources allocated, the activities and the governance of such a model of exploitation are described in the next pages. The report also presents a case study of Watener, a company offering new solutions for water supply and distribution networks. This is one of the eight spin-off companies created so far by Eurecat.

Introduction

Eurecat is the result of a merger of the most important Technology Centres in Catalonia, a process which started in 2015, has led to the merger of seven Centres, and is still ongoing. Its legal form is a nonprofit private foundation. Eurecat is currently the leading private technology centre in Catalonia, and the second largest private research organization in Southern Europe. Eurecat manages a turnover of EUR 58 million and 600 professionals, is involved in more than 160 R&D projects and has a customer portfolio of over 1 000 companies.

Eurecat is currently participating in more than 70 EU funded collaborative projects, mainly in the Horizon 2020 Programme. In addition to this wide experience at European level, Eurecat is also a strong player in the various R&D programmes sponsored by the Spanish and Catalan administrations, with more than 160 ongoing projects. Examples of such type of projects are TOLERA, MyVENT, SENTINEL and IMAQUA.

- TOLERA is a Spanish research funded project lead by the company Ordesa. With a total budget of EUR 9,5 million, a consortium of 21 partners (seven firms and 14 RTOs) and a total duration of four years, it has the objective of identifying the nutritional ingredients useful to prevent the allergic response of certain foods. With this, it will be possible to formulate specific individual recipes for a personalized nutritional pattern.
- MyVENT is also a Spanish research funded project executed in collaboration with the company Oxigen Salud and the University of Lleida. The MyVENT project improves healthcare and treatment of patients with home mechanical ventilation thanks to the implementation of a smart telemedicine technology system. The system will enable to monitor the therapy by the patient itself. It has been granted with EUR 0.5 million.



- SENTINEL is a Catalan innovation project with the company Array Plastics. It consists on the development of a new monitoring system applied to plastic injection, which uses artificial intelligence, automatic learning, Big Data and advanced data analysis techniques, to improve the supervision of the production process and the control of the quality of its products. With this system of data capture, the key parameters of each piece injected will be stored and analyzed through an artificial intelligence engine. This artificial intelligence system will detect potentially defective parts immediately and allow them to be removed from the process and undertake improvement actions. The total project budget is EUR 0.35 million.

- IMAQUA is a Catalan research funded project in the area of water management. Seven industries and five RTOs are developing monitoring technology and monitoring tools to allow the integral management of the water from the capture to the point of consumption, assuring the quality and minimizing both the leakage and the losses during its distribution. This project is coordinated by Eurecat and it has a total budget of EUR 1.7 million and a total duration of three years.

Technology transfer is also an essential activity in Eurecat, with 36 international patents and eight technology-based companies started-up from the centre.

Eurecat's R&D, innovation and training activities span from Industrial Technologies (metallic, plastic and composite materials, manufacturing processes, autonomous and professional robotics, functional printing and fabrics, simulations, sustainability and chemistry) to Digital Technologies (Digital humanities, Big Data analytics, IT security and smart management systems, e-health, data mining and multimedia technologies) and Biotech (Omic science, nutrition and health). Additionally, EURECAT has been accepted by the European Commission as a KETs (Key Enabling Technologies) Technology Centre in order to collaborate with SMEs on close-to-market research and innovation activities.

The organization of the Centre is based in this different knowledge division and also in the different type of activity.

Directorate-General Corporate and Operations:

- Technology Development and Transfer
 - Industrial Division
 - Digital Technologies Division
 - Biotech Division
 - Training and Skills Department
 - Consultancy Department
- Financial and IT Department
- Human and Organization Resources Department
- Legal Department
- Corporate Development Department

Directorate-General Business:

- Private Sectors Area
 - Industrial Markets
 - Digital Markets
 - Biotech Markets
- Public Programmes Area
- Valorization Area
- Marketing, Events and Communication Area

And above all, there is the Board of Trustees which meets four times a year to discuss about the management of the Foundation and decides on the coming actions to be taken.

1. Strategy to support spin-offs

Eurecat has a Regulation on Intellectual and Industrial Property that includes the regulation of the research results developed by Eurecat, the guidelines for its commercialization and the creation of technological companies emerging within Eurecat for the exploitation of those results. This policy regulates, among other things, the management of the results generated in Eurecat and the transfer activities of these results. It establishes, for example, the management and distribution of the profits that can be obtained in the commercialization of the results.

Eurecat's Valorization Area leads the process of identifying the technological assets that are being developed in the Industrial, Digital and Biotech Divisions and works to bring these assets-owned by the center to the market. The process of Valorization at Eurecat begins with the evaluation of the market opportunity of the research itself and also involves validating the commercial interest of the selected lines of research from the outset. This Area executes the entire cycle of technological recovery activities: from awareness and internal dissemination of the service, identification of technologies, maturation and, finally, road-to-market in any of the following paths: spin-off, licensing, single agreements and co-industrialization. Other paths may also be considered if necessary.

After identifying the results that might be put into value, a pipeline of projects to be valorized is set-up. Each of them is clearly defined, with an annual budget and a bi-monthly review and evaluation follow-ups. This allows focusing investments in the selected strategic projects of the Center. Projects in the pipeline are selected based on the following criteria:

- Technology and protection
 - Technology Readiness Level at the end of the project
 - Technology protection/owner of decision maker
 - Critical challenges to overcome before reaching of the market
- Market opportunity
 - Market analysis
 - Benchmark
 - Local market impact
- Investment
 - Minimum investment required
 - Time required for implementation of investments to reach prototype and product
- Management
 - Human resources and skills to launch and run of the start-up

The projects are validated by a Technological Valorization Committee composed of the following members:

- Chief Management Officer
- Valorization Area Manager
- Technology and Transfer Manager
- Business Development Manager
- Scientific Director

The following members may also participate in this Committee to evaluate certain projects:

- Director of Industrial Division
- Director of Digital Division
- Director of Biotechnology Division
- Private Sectors Area Manager
- Members of the Valorization Area

Selected projects are commercialized through a technological maturation process that ends with the licensing of the technology to a third party or the creation of an TBC (technology-based company). This second option is mostly considered when more relevant innovations are envisaged beyond the original one. Attraction of public and private funds for the maturation of technology are also part of the process.

1.1. Authorization procedure of the Spin-off

The internal procedure foresees both the creation of spin-offs for the commercial exploitation of the results of Eurecat and the participation of Eurecat in a company already constituted. The request for authorization must include the following information:

1. Presentation of partners / entrepreneurial team, indicating their link with Eurecat.
2. Authorization applications, in the case of joining the spin-off.
3. Draft of the Business Plan, which includes the following aspects:
 - Technical feasibility study, including aspects related to matters such as risk prevention, environmental management, etc. in accordance with current legislation and specific regulations.
 - Economic-financial feasibility study evaluating the economic potential of the project, possible viable financing alternatives, forecasting of necessary investments as well as sales and expenses and the cash flow forecast in the first years, with the expression of the rate expected profitability.
 - Strategic viability study, where the competitive advantages of the proposed project are collected to successfully complete its implementation in the market to which it is directed.

If the spin-off is already founded, the following additional information needs to be provided:

- Social Statutes of the company and social agreements signed between its members.

- Certificates issued by the Tax Agency and the Treasury General of the Social Security who prove that the company is aware of its obligations to both Administrations.
- Annual accounts and report of the last four financial years, if available.
- Descriptive report of the results to be exploited by the spin-off, or copy of the transfer contract of the results subscribed previously with Eurecat, where appropriate.

Eurecat's Valorization Area will analyze the feasibility of the business project, in particular the technological, market and financial aspects.

The Board of Trustees, after analyzing the documentation of the business project, will resolve the terms of the creation of the spin-off, as well as, where appropriate, the participation of Eurecat. In the event that the Board of Trustees does not approve its participation in the share capital of the spin-off, it will authorize, if applicable, the eventual signature of the corresponding technology transfer contract between Eurecat and the spin-off.

1.2. Participation of Eurecat in the share capital of the spin-off

The authorization of the Board of Trustees for the participation of Eurecat in the share capital of the spin-off will establish the terms and conditions in which it will be carried out. As a general rule, Eurecat will participate in technology-based companies temporarily and with the objective of enhancing the value of a technological asset (a result) generated from the research center itself. Thus, the proposal of participation of Eurecat in a spin-off will have to include the estimated period of permanence, after which the Board of Trustees will analyze, on the proposal of the Valorization Committee, the suitability to maintain or to get rid of the shareholding participation of the center or vary and negotiate new terms and conditions.

The contribution of Eurecat for its participation in the share capital of the spin-off may consist of:

- Preferably, contribution with assets or rights, such as the rights to the research results necessary for the development of spin-off activity, valued based on their market value.
- Exceptionally, direct monetary contributions may be considered.

Companies that are willing to participate must submit their accounts annually, as well as a management report, and any other documentation legally determined, in the Valorization Area, who will transfer it to and analyze it together with the financial management of Eurecat.

1.3. Participation of Eurecat in the governing bodies of the spin-off

The participation of Eurecat in the share capital of spin-offs may involve the presence of representatives of Eurecat in its administrative body. In any case, Eurecat will not assume neither the presidency nor the general management. As stipulated in the Statutes of Eurecat, participation in the capital cannot exceed 25%. Eurecat will have the right to designate and, if applicable, replacement or removal of its representatives to the Spin-off management body. In the case that Eurecat agrees not to appoint representatives to the Spin-off

management body, it will retain an option to appoint one or more observers to attend their meetings.

1.4. Participation of the personnel of Eurecat in the spin-off

Eurecat may authorize the participation of its personnel in the share capital and the spin-off management body. The staff of Eurecat that wishes to participate or provide services in a spin-off, may request the following:

- The recognition of compatibility between their activity in Eurecat and their participation in the share capital and the spin-off management body.
- The recognition of compatibility between their activity in Eurecat and the provision of services to the spin-off, through a job contract.
- Temporary leave of absence to join the spin-off.

The Ratification Committee will analyse the request for participation of Eurecat staff in a spin-off and the specific proposal will be transferred to the Executive Committee, which will take the final decision.

In case the leave is requested for a period of not more than one year, the worker may be given the right to return to Eurecat to a position of the same category as the one previously held, and the leave period will be computed for seniority purposes. Before the end of the leave period, the employee of Eurecat will have to communicate their willingness to continue their activity in the spin-off or to return to Eurecat.

Eurecat staff that participate in a spin-off will have to protect the research results of Eurecat. Eurecat will establish the necessary measures to protect its position in the face of possible conflicts of interest. In relation to the staff of Eurecat who accept the participation in the spin-off, it will be presumed that the results that they have developed during the period of compatibility or leave of absence will be applicable to the scheme of Works or Inventions developed under Labor relationship with Eurecat, unless agreed otherwise. In this sense, the necessary measures will be established contractually for the purposes described in this clause.

1.5. Use of facilities

Exceptionally, Eurecat's spin-offs can request to set their office in the same facilities of Eurecat, as well as to use Eurecat's equipment. In all cases, the subscription of an agreement that will regulate the conditions and terms in which these companies could contract Eurecat spaces, services and facilities is required.

In any case, Eurecat does not envision a recurring incubation and acceleration of start-up activity and, therefore, proposals for the provision of services and spaces to spin-off companies must be evaluated and ratified by the Board of Trustees and will include in any case a temporary limitation. For each case, this temporary limitation is studied as there is no standard period. Every agreement specifies a maximum period, which can be extended depending on the circumstances.

1.6. Financing

Eurecat participates in the search for public or private financing in order to promote projects that can lead to the creation of a TBC. This is the case, for instance of the Catalan Agency for Universities and Research (AGAUR) call that supports technology development projects with a TRL of more than three years. Another typical source of funding are private programmes such as Caixa Impulse, that finance projects in the health field and also provide mentoring services. Eurecat has two projects under the AGAUR call and 3 in the Caixa Impulse program. These are very competitive programmes and with limited budget items.

1.7. Key challenges

It is never easy to create a spin-off for several reasons. According to its statutory mandate, Eurecat cannot hold more than the 25% of the spin-off shares, so it is always in a non-majority position. Regarding the team, Eurecat recognizes the risks of transferring employees (that is, talent) into the spin-off. To find new specialized and short-term productive talent to keep going with the centre's research lines is always difficult. Based on Eurecat's experience, other critical issues are to find the right partners and to have the IP rights very well protected, as well as to have identified potential external support to help in the process. It is not as critical to have the management staff because it could eventually be outsourced.

In order to address some of these challenges, Eurecat has recently slightly modified its policy on creating spin-offs, with more restrictive criteria (selection of the technology and partnerships) and by trying to license technologies first before creating a spin-off. Sometimes creating a spin-off is only a vehicle to go into second and third capital investment rounds before selling it.

2. Results achieved so far

Currently, Eurecat participates in eight spin-offs and, approximately, analysis of viability of two new businesses initiatives per year are being done. The last one was established at the end of 2016. Its name is Watener and the case is explained below. None has been created in 2017 nor 2018, and this is because Eurecat was “legally” constituted in mid 2015. Thus, the priority for the board of directors and the board of trustees has been the consolidation of Eurecat’s project.

There is a project to launch a new one in 2019. In addition, negotiations to sign an agreement to license another technology created by Eurecat are very advanced.

2.1. The case of Watener

The company Watener S.L., the latest one funded by Eurecat, was started in 2014 with the signing of an agreement between Eurecat and the company Grupo Inclam on December 23, 2014. The agreement established the intention of the parties to collaborate in the development and marketing of a new solution for water supply and distribution networks. The agreement also established that a possible continuation was the creation of a joint venture. The agreement defined the concept of the refined Watener solution in 2014 and established the tasks and responsibilities of the two parties. The contribution of each party was valued at EUR 112 100, which implied the co-ownership of the solution at 50% for each part, a fundamental fact that later allowed to ensure the joint exploitation and prevent Grupo Inclam from exploiting the technology on its own without Eurecat.

A key point for the valuation of Watener was the ownership of the assets of the solution that were compromised by the participation of the parties (Grupo Inclam and Eurecat) in a European funded project that ended in 2014 and in which other partners also participated. In order to specify the IP rights that could be claimed by the other partners of the European project, different legal analyses were carried out and the conclusion was that the best way to protect ownership with respect to the other partners of the project was through a delivery of the project itself. Clearly, Eurecat and Grupo Inclam were 100% responsible for all the results required for the Watener solution. A joint strategy was prepared with Grupo Inclam and the other members were able to accept a delectable payment under the conditions that were favorable to the exploitation that the future company required. Watener has four employees and its annual revenue was EUR 578 000 in 2017. The breakeven is expected by 2020.

2.2. Lessons learnt from Watener experience

The recovery process is long and there can be changes of people, market conditions, new technologies, new legal frameworks, etc. For this reason, it is important to document adequately all the steps that are being made, stating by means of signed contracts or other documents that in the future can be used to defend the position of each party. For example, contracts between the parties that have exploitation rights, which can be delivered from research projects in consortia, indicating which partner has rights held on a result, etc. Having done correctly this process was critical to ensure that Eurecat could negotiate its share of participation in the shareholding of Watener, S.L.

Another lesson learnt relates to the need to reduce the expectations of the business plans of the investee companies, especially in their initial phase when there are still many

uncertainties. In this case, even though Grupo Inclam held a deep sectorial knowledge, the business plan of the first year was not fulfilled. This was because Grupo Inclam underestimated the complexity of introducing a technological product to the market. These products require an enormous task of adaptation to the market that cannot be underestimated.