The role of the Regional Terchnological District SIIT in promoting MSMEs growth and competitiveness in Italy

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The Liguria region in Italy, despite its relatively small territorial dimension compared to other Italian regions, has an extremely efficient and articulated industrial network, particularly as regards the technological sectors and the high levels of innovation that the companies located in the area are overall capable of expressing.

The Regional Technological District SIIT - Integrated Intelligent Systems and Technologies – was activated in 2005 by Liguria region, the territorial institution which aims to the economic development of the regional production system. A specific objective of the SIIT consists in promoting the growth and competitiveness of small and medium enterprises (SME), start-ups and micro enterprises located on the regional territory, through a strong connection between large enterprises, the academic world and the MSMEs themselves, enhancing the relevant potential for innovation characterizing many MSMEs through technology transfer actions towards the large companies and strengthening the presence on the market, both at national level and where possible at international level.

The industrial ecosystem associated to SIIT is very large and heterogeneous: more than 10 large enterprises (among them worldwide leaders like Leonardo, Ansaldo, Hitachi Rail, Fincantieri), around 120 MSMEs, academic institutions (Genoa's University and CNR); such a composition of SIIT network makes the technology transfer from research to industry, as well as between large industry and MSMEs and vice versa, particularly effective.

More in detail, SIIT manages, on behalf of the Liguria region, two innovation hubs: "Polo TRANSIT", which addresses issues related to sustainable mobility, logistics and intermodality, ports and freight interports, and more generally safety in the world of transport, and "Polo SOSIA", which addresses the issues related to automation / Industry 4.0, smart factory, cybersecurity, security of critical infrastructures and protection of the territory against environmental risks. Each Pole associates around 70-80 entities, most of them are MSMEs.

This broad spectrum of areas in which innovation initiatives are developed leads to a potential market for associated MSMEs of extreme interest, which however is often not addressed in the best

possible way due to various factors, **such as the structure and small size of MSMEs, the difficulty and the fear of approaching realities that go beyond regional borders, financial limitations and, last but not least, an entrepreneurial approach that is not sufficiently open and proactive.**

The issue of Intellectual Property Rights (IPR) fits precisely into this context: many MSMEs develop innovative solutions and products with a high potential of interest for the market. They often manage to create prototypes and test them on field, perhaps even by exploiting public funds which contribute in reducing the necessary investments, but at the end of this process they do not face the final step, which consists in patenting what has been developed and therefore being able to exploit it on the market. This is a very critical aspect, **as everybody knows that the same product has a decidedly stronger impact on the market if adequately protected by a patent**.

Starting from this consideration, in the period 2020-2021 (during Covid pandemic….), SIIT decisively tackled the issue of IPR as part of the collaboration initiatives within SOSIA and TRANSIT Poles, organizing some specific seminars, at which a significant number of MSMEs (around 15) participated, proving the interest aroused by addressing this topic.

Thanks to the presence of some experts, the possible alternatives of addressing a new patent, first of all national or international, were deeply illustrated, trying to evidence in a detailed way the steps necessary to obtain such a result, together with related costs and schedule to close the process.

Some interesting points emerged from the discussion between the experts and the representatives of the MSMEs: **firstly, the lack of knowledge of the process by many of them, which consequently determines low inclination or even fear in facing it. Alongside the obvious perplexities related to timing and costs, many doubts have emerged about the fact that having a patent really allows to protect a product on the market.**

It is significant to report the observation of the owner of a micro-enterprise, which at the time made those present smile, but which is instead very significant: “once I have obtained the patent on my product, how do I find out if a manufacturer in any other country in the world does not comply with it? And even if I can discover it, how can I stop him? Do I launch an international lawsuit?”

Such a doubt of this kind is very legitimate, and no expert can be able to dispel it definitively. However, the clear illustration of the procedures helped to give greater awareness on the opportunity to apply for patents on proprietary solutions, understanding that the obtainable benefits, even if they do not fully cover possible problems, amply justify the relative investments.

During the aforementioned seminars, successful cases were illustrated by the representatives of some of the associated MSMEs, which helped to clarify the processes for obtaining patents in different contexts; some examples:

- the patenting of the MICROCOSM system, a simulation system for studying the growth of plants subjected to specific experimental conditions; born from a collaboration between an industrial subject and a research body. In a first phase, it was jointly patented together with an agreement for the management joint ownership of intellectual property, to be concluded later in a license agreement in favour of the industrial subject;
- patenting of NUGEAR system "Planetary Gearbox based on Tilted Bevel Gears with Two Reduction Stages for Very High Gear Ratios", for which it was highlighted how the availability of proprietary technologies covered by patents constituted an important strength on the occasion of participation in international tenders;
- patenting of BESTSAFE https://smarttrack.io/prodotti/best-safe/system a set of hardware and software components aimed at the safety and protection of workers operating in complex and sometimes dangerous industrial contexts.

Finally, what are the lessons learned in the course of these initiatives? On the side of SMSEs, a better awareness of the importance and usefulness of tackling the IPR issue decisively, with the awareness that an economic effort today can lead to significant economic benefits tomorrow. On the other side, from SIIT District, the belief that the issue is far from exhausted, but that it is necessary to continue this work of directing the MSMEs towards the IPR, in the interest of the MSMEs above all, but more generally of the regional industrial system. These initiatives will therefore be further developed by SIIT during the next 2023-2024 programming period.

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This article is issued as an output of the "Intellectual Properties Capacities for Smart, Sustainable and Inclusive Growth in the Mediterranean Region" Project (IPMED) which aims to contribute in enhancing the possibilities of innovation and building ideas and mechanisms of intellectual property rights for start-ups, small and micro enterprises, entrepreneurial projects, and young entrepreneurs by increasing their awareness of the principles of intellectual property rights, through a total of 1.194 million euros funded by the Cross-Border Cooperation Programme for the Mediterranean Basin within the European Neighbourhood Instrument (ENI CBCMED).

"This publication has been produced with the financial assistance of the European Union under the ENI CBC Mediterranean Sea Basin Programme. The contents of this document are the sole responsibility of (FILSE) and can under no circumstances be regarded as reflecting the position of the European Union or the Programme management structures"