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"Creating what we need from what we have - how innovation rescues traditional industries"
par Marcin KRASNOŁĘBSKI

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Creating what we need from what we have—how innovation rescues traditional industries

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In Europe, the word innovation is often associated with high-profile research and cutting-edge future technologies. It is particularly true in these recessionary times, where it is seen as a way out. However, innovation could also be used as a mean to secure the survival of traditional industries and that of modern industries in decline. Much of modern innovation stems from "existing but forgotten knowledge," points out [Jérôme Pierrel](#), historian of science at the University of Bordeaux, France. He argues that history of science and technology may be an important source of ideas for innovators.

The difference in thinking about innovation in the traditional industries and the modern ones is artificial. That's because it all sums up to an efficient publication watch. "R&D is a constantly growing reservoir of knowledge," he explains, regardless of whether one uses publications dealing with rosin chemistry from the 1920s or about textiles from the 2000s. Pierrel adds: "it is all about choosing correctly what we need from what we have." Reinventing traditional and existing industries thus requires assembling several core elements. These include exploiting existing know-how, searching for new markets, and setting up an adequate organisational structure. The following examples outline some of Europe's most interesting success stories.

Of oysters revival...

On first sight Mumbles in southern Wales does not differ from similar districts along the British coast. It is another small community trying to survive in a world where the sea no longer guarantees wealth and prosperity. What makes Mumbles special? We can find the answer in one of the local breweries. The [Mumbles Brewery](#) serves its customers a very unusual beer: an oyster stout. This might not be that surprising for someone who knows the local history. In the late 19th century the local oyster fishery [employed](#) hundreds of people, supported 200 vessels landing over 9 million oysters, many of which were transported to the London markets and beyond to the continent. However Mumbles' oysters became victims of their own success. Their over exploitation and lack of ecological balance made almost all the oyster beds disappear by the 1920s, bringing the local industry to an abrupt end. But if the oysters are no longer there, how does the Mumbles Brewery prepare its famous stout?

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It was Andy Woolmer, biologist from the University of Swansea who first came up with the idea of reintroducing oysters to the Swansea Bay. "As a benthic ecologist I was interested in their historic distribution and whether suitable habitat still existed," he told the EuroScientist, adding: "I established the likely location of some historic beds that could be restored." He continues: "whilst looking at options for native oyster restoration approaches, I hit on the concept of combining restoration with a commercial oyster farm." This idea pushed him to create [Mumbles Oyster Company](#) and to contact local entrepreneurs. One of them, Rob Turner from Mumbles Brewery, quickly saw an opportunity in oysters. "The beer became much more interesting as it could connect us with an exciting marine initiative and the associated local history" he explains.

The oyster beer was not only the first step in promoting Andy Woolmer's initiative, but also an important step for the local economy. Scientific expertise combined with traditional know-how allowed for the revival of an almost forgotten natural resource and reinvented its possible uses in the local economic context.

...and maritime pines reinvention

The members of the [Bordeaux-Université Foundation](#) in France are also perfectly aware of the opportunities lying in traditional products. La forêt landaise, for example, is a largely artificial forest planted in the second half of the XIXth century, populated by maritime pines. In the past, it constituted a major source of income for the inhabitants of the region for the decades. Pine trunks were exported to serve as pit props in British mines. And the pine gum, transformed into rosin and turpentine, had a multitude of applications in the painting industry. However, by the 1970s, the importance of pines for the local economy was largely reduced due to the slow depopulation, great fires during the 1940s, price dumping and inefficient state policies.

Now, the Foundation is looking to revive the once thriving pine industry. It [created](#), in 2007, a Chair for the valorisation of pine chemistry. This approach was designed to foster common initiatives between the University of Bordeaux and huge industrial actors such as the chemicals company Solvay. According to Patrick Maestro, scientific director at Solvay, the "Foundation allowed for financing emerging and risky research." Already "two patents have been taken during past two years," notes Cathel Bousquet, the Foundation's chief of operations.

The process of reinventing the pine industry involves employing researchers in chemistry. But it also brings together local actors and scientists in order to transmit pine-related know-how. The Foundation is particularly involved in building interaction platforms for entrepreneurs cooperating with a research hub called [Xylofutur](#).

Swiss watch renaissance

The examples from Mumbles and Bordeaux may suggest that innovative thinking—be it entrepreneur or university-driven—may help to revitalise traditional products and industries on the local scale. However, the obvious question is whether similar successes are possible on the national level. According to Fabienne Marquis Weible, the director of the Swiss Association for the Watch Research the answer is yes.

The Swiss watch industry traces its history back to the XVth century when the Geneva watches were already reputable for their high quality all over Europe. The industrial mass production in the XXth century allowed the industry to develop on an unprecedented scale, gaining worldwide markets. However, the Swiss producers missed the electronic revolution. As a result, they faced, for the first time in the industry's history, an economic recession in the 1970s. The number of employees fell from 90,000 in 1970 to 30,000 in 1984. How did industry succeed in coming back to its former glory? Innovation was the answer.

In 1985 the [Swiss Association for Watch Research](#) was created in Neuchâtel, uniting the leading scientific laboratories and watch manufacturers to encourage research activities related to the watch industry. "The Association is listening to both universities and manufacturers," says Marquis Weible. "There is a chain of different actors in the industry, all of them want to innovate and improve," she continues.

In this context, the Association fills the role of mediator between its stakeholders by surveying research paths and transmitting know-how among them. Thanks to the association and similar, more marketing oriented initiatives such as the [Federation of the Swiss Watch Industry](#), the industry is now breaking its own export records each year. It [went](#) from 4.3 billion francs in 1986 to 19.3 billion in 2011.

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Benefits to modern industries

Could the experience from these inspiring examples also serve more modern industries? The experience of the Serbian textile industry appears to demonstrate that it is the case. At the end of the military and political turmoil in the last 1990s, Serbia attempted to reinvent its economy to fit into its new international economic environment.

The obvious choice was too look for the existing intellectual capital. "There were many professional schools for the textile industry thriving in 1970s and 1980s," explains Milica Tomic, an innovation expert from [Serbia Investment and Export Promotion Agency](#), based in Belgrade. The Serbian government decided to save this struggling branch of industry by taking advantage of the existing teaching infrastructure—both vocational and academic—and by [promoting](#) its potential among European investors. In addition, new governmental investments in research were also helpful, according to Tomic. Even though the Serbian textile industry is still recovering, [recent data](#) show a very promising incline.

The previous case studies outline how innovation may emerge from past and current practice. So, is the innovation really as simple as the above examples demonstrate? "There are no universal solutions," concludes Pierrel, the historian. But we should remember that, sometimes, to move forward it is necessary to "look back in the past."

Marcin Krasnodębski

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