The innovation quartet changing the world

By Maria Zamkova of Fenix Legal



The Öresund bridge that opened in 1999 between Denmark and Sweden, further connecting southern Scandinavia with central and Western Europe, is not just a practical example of constructive cooperation between Denmark and Sweden. It can also be seen as a symbol of inventive collaboration in the region.

The most recent example is the Hanseatic League of Science (HALOS), a new EU project in the union's Öresund-Kattegatt-Skagerak (ÖKS) inter-regional cooperation programme which started February 1, 2019.

HALOS will build a unique collaboration between Hamburg and south-west Scandinavia, bringing together four unique research facilities:

- MAX IV, a laboratory at the University of Lund, Sweden, providing scientists with what they consider to be the best X-rays for research;
- The European Spallation Source (ESS), a facility that will open soon in Lund, enabling new opportunities for researchers across the spectrum of scientific discovery, including materials and life sciences, energy, environmental technology, cultural heritage and fundamental physics;
- The Deutsches Elektronen-Synchrotron (DESY), in Hamburg, Germany; and
- The European XFEL, a Germany-based independent research organisation, with 12 countries, including Sweden and Denmark, working on the creation of the world's largest X-ray laser that is opening up completely new research opportunities for scientists and industrial users.

The HALOS EU project has created a centre for integrated, world-leading life science innovation and research, which is led by the Faculty of Medicine at Lund University in Sweden.

As presented by the project manager Kajsa Paulsson at a seminar at Medicon Village in Lund, HALOS has a budget of **€**.6 million (\$4 million) and enables further development of the ÖKS inter-reg project, ESS & MAX IV: Cross Border Science and Society. It includes stakeholders from academia, regional development actors, research facilities and industry in Sweden, Denmark and Germany.

HALOS' combination of the four previous projects mentioned above will create synergy effects and a globally unique infrastructure region with great opportunities for research in life sciences. It includes a regional development project, where overall mapping, analyses and seminars with key players will result in common key messages and strategies.

The focus is on innovation and tech transfer, researcher mobility and, of course, to link business more closely with research facilities.

The main part of the project will build expertise on using free electron laser (FEL) light, synchrotron light, neutrons and electron applications in life sciences.

Cross-border research

HALOS has now opened for applications for six-month cross-border research projects. The proposals will be evaluated by the Cross Border Research Steering Committee, composed of members from each of the 13 partners as well as industry representatives, according to the main goals of the Cross Border Research programme:

- Scientific merit;
- Horizontal criteria;
- · Outreach to industry plan;
- Value for the life science sector in both academia and industry; and
- Innovation potential.

That these kinds of cooperative crossborder efforts work can be seen from the 2018 annual report of the European Patent Office (EPO): Medical technology remains the technical field in which the most patent applications are filed at the EPO (up 5% in 2018). Combined with related fields such as pharmaceuticals and biotechnology, the increase was +13%, compared to 2017.

Patent protection related to digital

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communication and computer technology is also growing, and all these technologies are in fact closely related to each other, as shown in the HALOS project.

Germany is still the top filing country of patent applications in Europe (+4,7%, meaning 26,734 applications in 2018), but the speed of growth is even more significant for Denmark (+14,4%) and Sweden (+7,8%).

The EPO's report also shows that of the applications originating from European countries 71% were filed by large companies, 20% by small and medium-sized enterprises and individual inventors, and 9% by universities and public research organisations.

The HALOS project confirms the importance of cooperation between universities, small entities created from the result of innovative solutions that started at universities, and large companies which provide a safe financial base for further development and protection.

The result of life science innovation and research is necessary and long-awaited for all final consumers and patients worldwide, together with patent and similar IP protection as a guarantee that the product is reliable.

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