

Biotechnology and Life Sciences

Cooperation is Key

Over the past 20 years, Finland has invested heavily in research and development in the field of biotechnology. As a result, the country has succeeded in building a significant high-quality network of research institutes and commercial enterprises within the life sciences.

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The foundation of the biotechnology industry was laid in the 1980s, with heavy public investment in R&D activities in that area. Of the public financing agencies, the Academy of Finland provided funding to basic research, while the National Agency of Technology and Innovation (Tekes) supported applied research and development.

Tekes technology programmes and the Academy of Finland research programmes are central tools in the promotion of Finnish scientific and R&D work. These programmes offer a solid framework, not just for cooperation between academia and enterprises—and between enterprises—but also for joint R&D projects at an international level.

Strategic centres for world-class expertise

In 2006, the Finnish Science and Technology Policy Council, which coordinates the public funding for research and development in Finland, decided to launch strategic centres for science, technology, and innovation (CSTIs), initially in five focus areas. All of them are aimed at developing world-class expertise and promoting internationally important innovations and discoveries.

The strategic centres offer top research institutes and companies a new way of carrying out close, long-term cooperation. In the strategic centres, companies, universities and research institutes will agree on a joint research plan. In addition to shareholders, public funding

organisations will commit themselves to providing long-term funding for the centres.

The first CSTI to start operations was that for the Forest Cluster in spring 2007, followed by that for Finnish Metals and Engineering Competence, and subsequently by those for Information and Communication Industry and Services, and Energy and the Environment, both established in 2008.

The year 2009 saw the launch of strategic centres for Built Environment Innovation and Health and Well-being. In the latter, biotechnology with its applications will have a central role.

Potential for partnerships

The combination of knowledge, research expertise, know-how, and a solid infrastructure has been encouraging to entrepreneurs. Most new companies in the field have emerged from research and innovation that originated in universities or institutes of technology.

Biotechnology centres and science parks established with universities act as catalysts, merging companies and biotechnology-focused research units.

In 2008, there were about 200 biotech companies operating in Finland. Most of these—about 150—are companies exploiting biotechnology or closely related technologies. Besides the core companies there are a variety of support companies, mostly subcontractors or consulting firms.

More than half of Finland's biotech

companies operate in the health sector, conducting research and developing or manufacturing drugs, diagnostics or biomaterials. The largest R&D-focused pharmaceutical companies are Orion Pharma, Bayer, Santen and H Lundbeck.

Moreover, companies such as Biotie Therapies, Ark Therapeutics, Hormos Medical, FIT Biotech and BioCis Pharma have already proceeded into late clinical testing phases.

Some 40 companies work with in-vitro diagnostics and ten with biomaterials. All of these intend to place products on the international market. Thermo Fisher Scientific, PerkinElmer Human Health, Orion Diagnostica, Medix Biochemica, Finnzymes, HyTest, Biohit, Inion, ConMed and Vivoxid have already succeeded in this.

Finland also has a significant presence in industrial-scale enzyme production. In addition, some companies concentrate on high-quality enzymes for research.

Making the most of the rich potential offered by Finnish biotech relies on the ability to attract partners and funding. With enough time and investment, Finland will benefit from the knowledge generated by Finnish companies and universities. □

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