

Co-operation Is the Strength of the Finnish Biosector

Europe Must Join Forces

■ **The Finnish biosector is still reeling from the recession that hit as the new millennium began. The key to recovery is all parties—private and public—working together for the benefit of the sector and the national economy as a whole. Co-operation has broadened and strengthened within Finland, but it is also urgently needed throughout Europe.**

Saara Hassinen

The recession that has hung over the new millennium must eventually lift. Recovery depends upon attracting new international capital and players: at the moment, only 10% of Finnish biosector investments come from abroad, while the rest is national, mostly public investment. In other words, the twin problems plaguing Finnish biotechnology—too narrow a domestic financial base and too little foreign investment—must be solved as soon as possible.

Long doesn't work. You can't say meanwhile after referring to the future. Some major strategic decisions and choices will have to be made in the near future. The good relationships among industry, research units, government officials and financial organisations do create a platform for tackling prob-

lems together. Progress is already being made thanks to the favourable investment in biotechnology from the public sector and increasing co-operation of the various ministries, Tekes and the Academy of Finland.

This commitment to biotechnology on the part of the public sector is also evident in Tekes' new technology strategy, which was announced at the beginning of 2005. However, we must not forget that the key to success is the efficient use of limited resources.

Time is running out for Europe

While Finland becomes more closely tied to Europe, Europe's problems are extended to Finland. At the same time as the continent is struggling with the need to be



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High Level Research a Driving Force

The foundation for high level research in biotechnology was laid in the 1980s with heavy public investment. The Academy of Finland targeted its funding to basic research, while Tekes (National Technology Agency) and Sitra (Finnish National Fund for Research and Development) supported applied research. The public sector input, together with a solid contribution from the private sector, has continued unabated ever since.

Tekes is the principal source of public funding for applied technology research and industrial research and development., Tekes funded 2,244 research and development projects in 2004 for a total value of 409 million euros. Of this, investment in the chemistry and biotechnology sectors represented 109 million.

Together with communications technology, biotechnology has been designated a priority area for the future. A special interest is being taken in promising start-ups.

Time to start marketing and sales

The number of companies exploiting biotechnology or closely related technologies is currently about 140. Besides these core companies there are a variety of support companies, mostly subcontractors or consulting firms, which focus in areas such as clinical research, patenting, licensing, contract law or business development.

Large companies focus on the production of pharmaceuticals, diagnostic test systems, industrial enzymes and the application of biotechnology in food processing. Most new firms are operating in medical and diagnostic fields or biomaterials, while a few are engaged in plant biotechnology and bioinformatics. Functional foods with health promoting effects are extensively studied in Finland's food industry.

Regrettably, the contribution of biotechnology industries to the gross national product is minimal because too many companies continue to focus on research and product development rather than on productisation, marketing and sales. Only a few companies are publicly listed: Orion, Biotie Therapies and Biohit on the Helsinki Stock Exchange and, since 2004, Ark Therapeutics and Inion on the London Exchange.

competitive, reality is pulling in the opposite direction. Only at the start of the new millennium did Europeans awaken to the wide gap between Europe and the rest of the world in applications of biotechnology.

The European Commission announced a strategy in early 2002, by which Europe should catch up to the United States and continue as a strong competitor internationally. In 2005, realisation of that strategy remains terribly short of the goal. Recent statistics also show that Asia and the Pacific are bounding ahead in biotechnology and soon will outperform Europe. In short, time is running out for Europe to get its biostrategy on track. We must act now or never.

Good opportunities in white biotechnology

Environmental friendliness and sustainable development are driving objectives in all areas of endeavour today. The end is meanwhile in sight for fossil fuels. Raw materials and energy sources to replace fossil fuels are being sought and developed with some urgency.

The interest in biotechnology within the chemical industry, the forest sector and energy production continues to intensify. Moreover, a growing number of biotechnology companies are gradually moving from the research and development phase into production planning.

Industrial biotechnology, or white biotechnology, has ramifications for most of the biotechnology industry and is exciting interest around the world. With her strong position in bioprocess technology, Finland is at the forefront of this development.

Forum knotting networks

Finnish Bioindustries established the Industrial Biotechnology Forum at the end of 2004 to intensify co-operation and dialogue among the different players through networking. Participating in the Forum are companies, research institutes, universities, professional schools, government officials and funding bodies.

The Forum also wishes to encourage public sector actions that support the development of industrial biotechnology, as well as its exploitation in other fields. Both the Academy of Finland and Tekes are currently drafting the relevant technology programmes. Furthermore, the Forum intends actively to influence the content of the EU Technology Platform for Sustainable Chemistry. This is a good change! ▲

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Development Intensified by Government Network

The government takes an interest in many aspects of biotechnology: from basic research to applications, from the regulation of genetically modified organisms to issues of funding and development.

Several ministries are concerned with international agreements, EU regulations or national rules. Matters related to biotechnology are seldom questions specific to one administrative sector—industry, environment, agriculture or health—but rather they spill over into many areas. Coordination early in the drafting stage and in tracking of different projects is thus of key importance.

A contact network for biotechnology spanning the various ministries was established by the government in 2001. The Ministry of Trade and Industry was made responsible for coordinating matters related to biotechnology, but all ministries and the prime minister's office are represented in the network.

Key factor: competitiveness

The contact network for biotechnology is tasked with ensuring adequate contacts and exchange of information among the different administrative areas. The network tracks the execution of the EU framework programme in biosciences and biotechnology, but its scope is not limited to EU matters. It can freely deal with matters of current interest and inform the various administrative bodies about questions related to biotechnology.

The network does not make decisions nor does it replace official working groups or other bodies involved in drafting legislation. As the need arises, national and global matters requiring a policy decision can be handled by government officials as well as in a ministry working group.

For its part, the Ministry of Trade and Industry is stressing factors of competitiveness. How can research findings in the bio-sector be exploited, transformed into innovations and turned into marketable products? This is the key question to be answered in the nearest future.

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BioFinland.fi

The Finnish biosector's portal
www.biofinland.fi provides an easy entry to information about Finnish biotechnology companies, regional centres and parks, public funding bodies and research centres.