

info

 FINNVERA

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Targeting promising firms in key business areas. See more on page 3.

Welcome public funding for a great green idea

The Turku-based biochemical firm MetGen is developing a range of industrial enzymes with potential for saving huge amounts of energy at pulp and paper mills, speeding up wastewater treatment, and facilitating the production of sustainable biofuel. Finding suitable early-stage financing has been crucial in getting the company off to a successful start.

TEXT: Fran Weaver PHOTOS: Jussi Vierimaa

Laccase enzymes occur naturally in fungi. They are able to decompose various organic compounds including the lignin that binds the cells of woody plants. "At MetGen we realised that laccases could have useful industrial applications, if we could develop new varieties in the lab that can thrive and function in the conditions they would face in industrial processes, such as high acidity or high temperatures," says the company's founder and present **CEO Alex Michine**.

MetGen has been based in Turku Science Park since May 2008, in facilities that have been specifically designed to house new biotech companies and their laboratories. MetGen's lab technicians have successfully used complex genetic engineering techniques to create laccase strains for specific purposes, including enzymes that can withstand temperatures of up to 70°C.

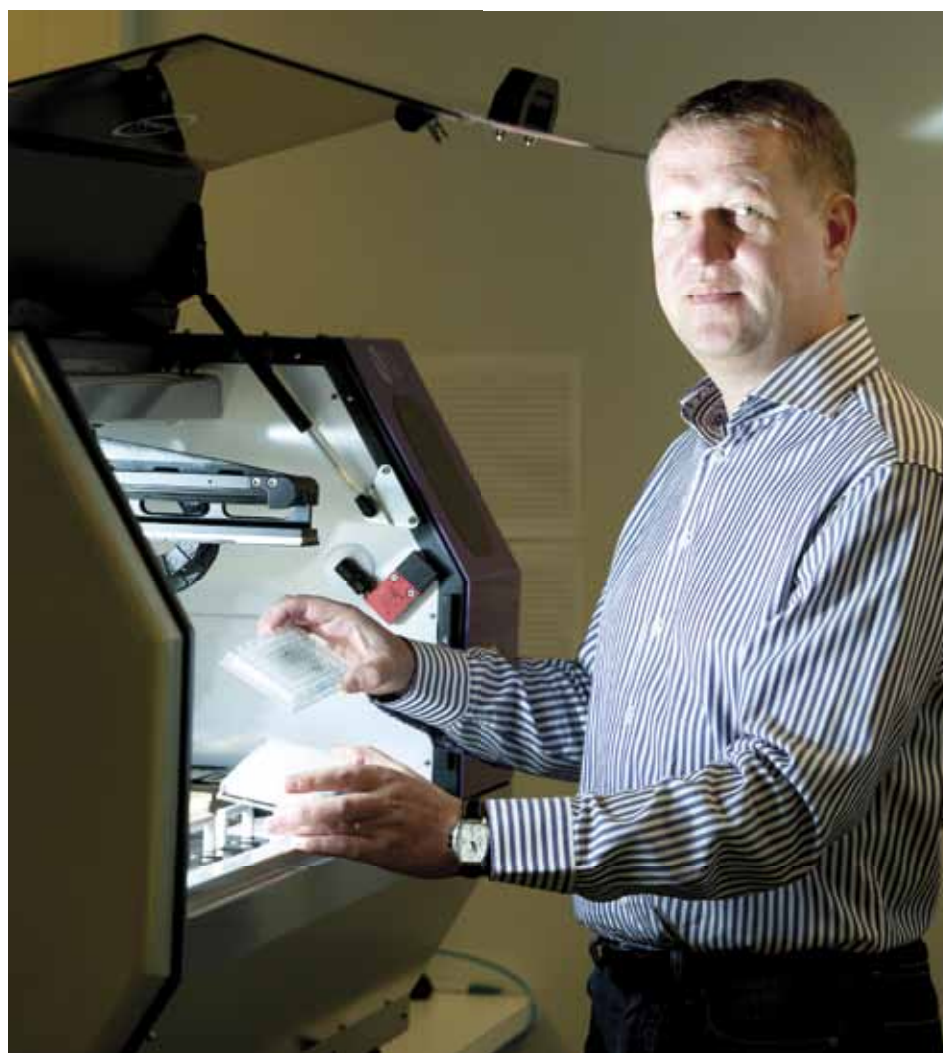
Huge savings in energy use and costs

MetGen has proven that clients in the pulp and paper industry could save enormous amounts of energy by treating steamed woodchips with heat-resistant laccase to start breaking them down already before they are crushed mechanically in the pulp-making process.

"Pilot trials run in collaboration with a major paper company indicate that each pulp mill could save large amounts of energy every year by pre-treating woodchips in this way," says Michine. "This represents a fantastic opportunity for pulp mills around the world to save energy and money."

MetGen has also developed laccase strains that can break down harmful toxic compounds in wastewater.

A third highly promising application involves using the enzymes to decompose organic wastes such as sawdust and agricultural crop residues, or specially grown energy



Alex Michine appreciates the way the Vigo Programme encourages the partners in its selected accelerator companies to get involved hands-on in their target companies.

crops, before the remaining cellulose is converted to bioethanol. Michine sees tremendous potential in this area, where ambitious targets set for the use of transport biofuels have led to the rapid growth of innovative new businesses who are open to radical new ideas. "It's much more sustainable to make

biofuels out of these kinds of raw materials than crops that can be used as food," he adds.

Accelerating towards major markets

MetGen initially utilised public seed-stage venture capital funding from Finnvera and

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Accelerators pick up speed



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R&D funding from Tekes – the Finnish Funding Agency for Technology and Innovation to establish its lab facilities in Turku and employ highly qualified biotechnicians to create and test new strains of the promising enzymes.

Then in 2010 MetGen became part of the Vigo Programme, which was set up by the Ministry of Employment and the Economy, Finnvera and Tekes to speed the growth of promising new companies. “Through Vigo we were able to benefit from Tekes’s Funding for Young Innovative Companies scheme, and also get valuable support from the Vigo Programme’s accelerator company Cleantech Invest,” explains Michine.

Cleantech Invest has itself become a shareholder and investor in MetGen, but Michine also appreciates the way the Vigo Programme encourages the partners in its selected accelerator companies – who are typically successful serial entrepreneurs themselves – to share their personal experience and get involved hands-on in their target companies.

MetGen Ltd

- Based in Turku Science Park
- CEO Alex Michine
- Develops and produces Laccases tailored to the industrial customer needs.

www.metgen.fi

“**Tarja Teppo** of Cleantech Invest has become an essential part of our team as an active board member who has helped us in many aspects of our business development, and connected us with many potential private investors,” explains Michine. “I’ve been very happy with the way the Vigo Programme’s dynamic mechanisms have helped us to continue our work by bringing in both public and private investment.”

Prize-winning potential

In December 2010 MetGen were awarded the top prize in the cleantech track of the Eureka European Venture Contest, out of more than 300 entrants. “It was challenging to explain the scientific aspects of our work to the judges, but I think we won because our idea is a completely novel way to achieve great benefits, and not just a marginal improvement on existing technologies,” says Michine.

“We’re taking a unique innovative approach in the fast growing cleantech sector, and this is what makes us an attractive investment target at this time. We feel we have a crystal clear success story here with great potential, but it’s only been possible because of the willingness of the organisations in the Vigo Programme to provide finance enabling us to get started,” he adds.

MetGen is now aiming to secure series A round funding by the end of 2011 to raise capital for further expanding their R&D work and taking on sales personnel to spread the message about what they have to offer among industrial clients in Finland and around the world.



Accelerators pick up speed

In 2009, in order to activate seed financing and early-stage investments, the Ministry of Employment and the Economy launched the operations of enterprise accelerators, modelled partly after an Israeli concept. The goal of the programme is to use public-sector incentives so that experts with international experience in enterprise operations would commit themselves and give their input towards the internationalisation of early-stage enterprises. The programme combines early-stage enterprises and business ideas, internationally experienced enterprise professionals, and both public and private financing.

By means of public financing, the objective is to target the accelerators’ competence in international business at selected enterprises. The Finnish public-sector bodies participating in the accelerator model are the Ministry of Employment and the Economy, Tekes, and Finnvera’s venture capital investment. Accelerator operations are coordinated by a private service company, PROFict Partners Ltd.

The six accelerators selected at the initial stage of the programme have got off to a good start, with dozens of target enterprises in their portfolios. The first international breakthroughs among the target enterprises are anticipated; signs of this are already visible.

The operating model of accelerators is being expanded and developed further. A major challenge for the development of operations is the creation of the accelerators’ own funds, with private investors as the majority. In the future, such funds would enable more independent investment decisions within the accelerators.

In Israel, accelerators manage their own funds, the capital being received mostly from the international financial market. From time to time, debate arises both in Israel and in Finland about using domestic pension companies’ assets, on a small scale, for early-stage venture capital investments. The regulations on the capital adequacy of banks and insurance companies and, on the other hand, the risks involved in early-stage investment do not necessarily favour the targeting of assets at early-stage venture capital investments. The public sector is willing both to share risks and to provide capital for the building of new funds in conjunction with the accelerators.

MetGen, presented in this publication, is an example of the target enterprises of accelerators. MetGen is an early-stage innovative enterprise that operates in the clean tech sector and works to attain substantial savings in the energy costs of industry. From its inception, the company has been developed with a view to international markets. MetGen is a fine example of an innovation company that has already received international recognition at its initial stage.

We hope and expect that MetGen, Lifeline Ventures, accelerator activities and the whole Finnish innovation system will succeed in the stiff international competition.

Wishing everyone a sunny spring!

Leo Houtsonen
Managing Director, Venture Capital Investments



MetGen’s facilities in Turku Science Park have been specially designed to house new biotech companies.

Acceleration boost for high-potential start-ups

TEXT: Fran Weaver PHOTOS: Heikki Savolainen



"The Vigo Programme is the first of its kind in Finland," says Seppo Ruotsalainen from PROFict Partners.



Dozens of promising innovative young Finnish firms are benefiting from the Vigo Programme, which gives them help from experienced entrepreneurs and business experts, in addition to public funding that provides vital leverage for obtaining private venture capital.

The Vigo Programme was launched in 2009 by the Ministry of Employment and the Economy in collaboration with Finnvera and the programme's coordinator Tekes – The Finnish Funding Agency for Technology and Innovation.

"The idea is to bring together public funding, the Finnish innovators with the brightest ideas, and experienced serial entrepreneurs in the shape of accelerator companies whose partners get actively involved in their respective portfolio companies," explains **Seppo Ruotsalainen** of PROFict Partners, who have been assigned by Tekes to coordinate programme activities.

The Vigo Programme is designed to meet the need for early-stage growth financing. In Finland, as in many other countries, high-potential growth companies have found it hard to obtain sufficient funding from private equity investors such as business angels and VC firms.

Vigo channels public funding from Tekes or venture capital financing from Finnvera in combination with private equity investment and the personal expertise of the accelerators to kick-start carefully targeted firms, aiming to help them reach international markets within 18–24 months. After successful acceleration the start-ups should be ready for an extensive series A funding round, after which they can then continue to grow on international markets with no need for further public funding.

Targeting promising firms in key business areas

The programme currently encompasses six accelerator companies, each run by 3–5

active serial entrepreneurs. The accelerators have around 30 portfolio companies working in diverse business areas including life sciences, cleantech, food, ICT, web business, social networks and games.

"We can be pleased with our achievements so far, since within about 18 months nearly 30 million euros has been raised for the target companies, with about 60% of this being private equity from the accelerators, business angels and venture capital companies including some major international investors," says Ruotsalainen. The balance is made up of venture capital from Finnvera and Tekes funding for R&D and young innovative companies.

Since Vigo is the first programme of its kind in Finland, there have inevitably been teething troubles to overcome. "Some target companies initially found it hard to prepare all the documentation needed by the different parties involved in the case-by-case investment agreements, including the accelerators, Tekes and Finnvera," says Ruotsalainen. "But we've been harmonising the procedures, and the results show we're in a good position now. Deal flows are very promising, and we've particularly benefited from links to networks of innovators including Aalto Venture Garage and the Foundation for Finnish inventions."

Ruotsalainen hopes that the Vigo Programme will continue to expand rapidly by appointing more accelerators, who will in turn seek out further promising start-ups.

Welcome support for green start-ups

One of the Vigo Programme's most active accelerators, Cleantech Invest, has also set up a private venture capital fund of its own, called the Clean Future Fund.

"Before the Vigo Programme was launched we had already been working since 2005 providing institutional and industrial investment advisory services in the rapidly developing cleantech area, and we quickly realised that Vigo would be a good way to help early-stage cleantech companies to get off the ground," says Cleantech Invest founding partner **Tarja Teppo**.

Cleantech Invest seeks to accelerate the growth of target companies working with any technologies that reduce environmental impacts or the consumption of energy and materials. "Our four partners have been meeting as many as 150 companies a year looking for good matches in terms of concepts that we believe in," says Teppo. "It's also important to target companies at the right stage of development for the Vigo Programme. In the very earliest stage most innovators would benefit more from R&D funding to prove their concept, while at a later stage a firm's funding requirements may be much bigger, if for instance a cleantech company needs to build an industrial-scale production site," she explains.

Bridging a daunting gap

Cleantech Invest and the other Vigo accelerators aim to help innovative Finnish firms bridge the often daunting gap between start-up and internationalisation, with the help of public funding and private equity capital.

Teppo's own track record includes a successful stint with Nokia Ventures as well as ten years of experience of clean energy markets and environmental management. She also emphasises the role of personal chemistry in partnerships where the accelerator's partners work very much on a hands-on basis within their portfolio companies as active board members in operational roles.

"Vigo has been very good for us, though it can sometimes be challenging to find the right balance between private and public funding. Within just a year we've made investments from our Clean Future Fund in six fast-growing Finnish cleantech companies, and we're constantly seeking out more companies to invest in," she says.



Tarja Teppo, Cleantech Invest founding partner

Filling a gap in Finland's innovation system

Finnvera and the Vigo Programme are playing a vital role in Finland's internationally acclaimed innovation system by encouraging private investors to contribute welcome venture capital.

TEXT: Fran Weaver PHOTO: Heikki Savolainen

"Policies promoting research and innovation have been in the centre field of successive Finnish governments' economic policy agendas for two decades, with commitment from all parties to build competitiveness on the basis of education and knowledge," says **Petri Peltonen**, Director General of the Innovation Department at the Ministry of Employment and the Economy.

Peltonen emphasises the importance of the agile and politically independent funding mechanisms through which Tekes can support partnerships between companies and research organisations including universities. "We're very much a country of programmes, with Tekes providing 600 million euros of co-funding annually for industrially relevant R&D, on top of the Academy of Finland's annual funding of 400 million euros for research programmes where the main criterion is scientific excellence," he explains.

With 4% of gross national product invested in R&D annually by the private and public sectors, Finland regularly lies near the top of rankings of the most research- and innovation-intensive countries. But since Finland's economy is small in international terms, and strongly based on a small number of export industries, it makes sense to focus on strategically selected areas. Public-private partnerships known as Strategic Centres for Science, Technology and Innovation (SHOKs) have been established in six key areas: the forest cluster, metal engineering, energy and environment, building, and health and well-being.

Peltonen believes that through Finnvera the public sector has a good selection of tools to support new firms, including seed financing, start-up and other loans, guarantees and export credit guarantees. "But when it comes to the later-stage funding of growth and internationalisation, the Finnish venture capital market has not previously been sufficiently strong," he says.



"Government actions can continue to replace some of the missing private risk capital, but we will ultimately have to encourage private investors to enter the venture capital market more readily," emphasises Petri Peltonen.

Encouragement for private risk capital

"The Vigo Programme is a welcome development, since its accelerator companies bring in their own business know-how from the private sector, while also increasing the visibility of the target companies among private venture capitalists in Finland and internationally," says Peltonen. "Vigo also demonstrates that the government is prepared to co-invest without being in the driver's seat."

Peltonen recently visited Israel as part of a Finnish delegation studying how Israeli accelerators have raised funds. "We can benchmark by looking at other countries, but we must adopt our own Finnish model to

suit the environment here, with the government playing a prominent role in early-stage growth," he says.

Peltonen envisages Finland developing an asymmetrical model where public funding is used to leverage larger amounts of private venture capital. He believes tax incentives could also be introduced for private investors providing risk capital. "Government actions can continue to replace some of the missing private risk capital, but for promising companies to grow further and internationalise, we will ultimately have to encourage private investors to enter the venture capital market more readily," he says.

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Finnvera Venture Capital

Finnvera makes venture capital investments in early-stage innovative and technology intensive enterprises. Investments are made through its subsidiary Seed Fund Vera Ltd.

Both equity investments and capital loans are possible. The fund makes

minority investments, and the share of ownership in the enterprise is normally from 10 to 40 per cent. The maximum investment during the first investment round is EUR 500,000.

Finnvera also develops regional venture capital investment activities. The com-

pany makes investments in regional evergreen funds through its subsidiary Veraventure Ltd.

In addition, Finnvera's venture capital activities include the management of the business angel network InvestorExtra.

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