

1999

Annual Report



SITRA

Finnish National Fund for Research and Development



Sitra – aims to further economic prosperity in Finland

- by developing new and successful business operations
- by financing the commercial exploitation of expertise
- by promoting international competitiveness and co-operation

Sitra – an autonomous pioneer

- enjoying economic independence
 - with courage and initiative
- initiating operations designed to break new ground

Sitra – an impartial opinion-shaper

- providing new research information
- anticipating and identifying future challenges
 - developing new solutions

The Finnish National Fund for Research and Development (Sitra) is an independent public foundation under the supervision of the Finnish Parliament. Sitra aims to promote Finland's economic prosperity by encouraging research, backing innovative projects, organising training programmes and providing venture capital. Sitra's activities are financed primarily from the yield of its original endowment.

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“Towards true welfare”

 In Finland 1999 was a year of growth in economic welfare. Sitra's president **Aatto Prihti** also sees many favourable signs. Our national self-consciousness has improved and our confidence in the future has been reinforced. In the university world attitudes have changed completely; students and researchers alike are genuinely interested in entrepreneurship and publicising their innovations on an international forum. New strong winds have begun to blow in the art industry.

But.

“The state of our society's spiritual welfare is a matter of concern. Problems can be seen extending from childhood to old age, and also in the workplace,” says Prihti,

turning to the other face of present-day Finnish society.

“A true welfare society presupposes that we care about each other. When capital was the most important factor in production, we learned to take care of every piece of machinery extremely carefully since any breakdown meant costs and interrupted the production process. Extremely sensitive systems were invented to prevent any disruption to the working of the machinery. Today know-how is our most important resource and it is man who holds the key to that know-how. We have not yet realised how much harm to a person disruptions in an organisation can cause. In the new century we will be forced to handle our know-how resources much more effectively than we do today. A new kind of management is required in the workplace and a strengthening of people's welfare.”

The globalisation of evil, for example, drugs and other international crime, threatens youth in particular according to Prihti. “To solve the problem we need closer cooperation between the home, schools, church, and social welfare organisations, authorities and an international network. Sitra has a role to play in creating this network.”

The large structural changes of today are a consequence of globalisation and of the process of building up a new society built on know-how. “Both offer us Finns great opportunities but they also create threats and problems. The need for a new kind of regional policy, for example, and the need to halt marginalisation in order to preserve national unity are areas in which Sitra has

“Know-how is becoming a trump card for Finland,” says Sitra's president Aatto Prihti.



its own part to play”, says Prihti. “Sitra’s research and its work in the field of innovations are already being directed towards these areas.”

Finnish expertise needs strengthening

The supervision, exploitation, increase and expansion of Finnish know-how to serve all the country’s citizens is one of Sitra’s key tasks. This is achieved by means of research, by innovations, by training decision-makers and by providing venture capital.

“We expanded our operations in 1999 and made them more efficient by focussing more intensely on technology transfer and capital investment. Over the past two years we have transferred the focus of our capital investment to the start-up funding of new companies. Here the need for risk capital has increased rapidly as a result of the large stake made in national research and product development. There are new enterprises from a much larger field than just electronics and information technology. The bio-sciences and pharmaceuticals, for example, are very promising areas in our portfolio.”

Prihti says that investment in international funds and cooperation with them have been important foci of rapid development. Sitra now invests in those funds which have shown a desire for concrete cooperation. The background to this demand is to ensure the future of Finnish new ventures.

“Not all know-how is built on knowledge. In the future skills will play as important part as knowledge,” emphasises Prihti. “With our new skills industry we want to find out whether the know-how built on present knowledge can be complemented by international business built on crafts and skills. The possibilities

offered by e-commerce are being tried in our pilot projects.”

With the rapid changes now taking place Sitra has striven to develop a more active information policy so that fresh knowledge can serve as many different levels as possible. This work is continuing.

Productive capital and well-educated people a condition of success


Prihti says that the economic basis of Sitra’s operations is its endowment capital, which must be invested to yield a safe and steady return. Both national and international asset-management companies are employed to assist Sitra in this task.

“The year 1999 was extremely successful because of favourable market trends. Moreover, Sitra’s second important source of income, the yield from its own corporate funding, evolved very encouragingly.”

At Sitra know-how is the most important factor for success - and it is man who has this know-how.

“I express my warm thanks to the Supervisory Board of Sitra and its Board of Directors for their support and extremely supportive cooperation. With their ideas and active cooperation our partners helped in building up and developing a common network. The year was a lively and laborious one for Sitra’s personnel. My thanks go to the whole of the Sitra team for effective work in a spirit of cooperation.”

“Tomorrow’s challenges must be recognised today”

 Sitra opens up new perspectives to decision-makers and produces **research knowledge** resulting from the pressures of change that hover on the horizons of society. The journey extends over two parliamentary periods far into the future. Sitra’s research combines a strong business and economic perspective with the various sectors of social policy.

“And it is ongoing,” says director **Kari Tolvanen**. “In addition to economic considerations we also have to bear in mind softer values in our know-how capital, i.e. our human resources, people. In our research projects we combine fields that were previously entirely separate in a multidisciplinary way. In order to carry out these projects we recruit the best scholars and researchers from different disciplines.”

Sitra’s main research areas and objects for development in the coming years will be to handle globalisation and the rules governing it, to strengthen and regionally allocate Finnish know-how, innovations and to support Finland’s EU policy.

Innovative projects have formed part of Sitra’s activities only a few years. Kari Tolvanen crystallises their aim as being to create new competitive business and new social models.

“It is our job to operate with the kinds of projects, often by exploiting different networks, that would not get under way

without us,” Tolvanen delimits Sitra’s purpose.

“Change generates the need to develop new models and to experiment. **Innovative projects** are set in motion by ideas from research or needs identified elsewhere in the Sitra network.”

Sitra’s **training** work operates as a channel for social challenges and to mediate the knowledge arising out of these challenges. Sitra’s training programmes are attended by social decision-makers and media representatives that publicise the decisions.

“**Economic policy 2000+** replaces the earlier training programme for economic policy-makers. A **programme on change in Russia** was originally intended for Finnish media people but has also been run for representatives of the media from other EU countries. For decision-makers we set up the new **Finland 2015** programme, which brings together influential people to consider the challenges facing Finland in the future.”

“Our information society project aroused worldwide interest in Sitra and Finland. Being a pioneer means that we have to go on being daring and taking the initiative in the future, too. Sitra’s cooperation with renowned foreign universities and research institutes has expanded and become much more diverse,” says Kari Tolvanen.



Factors of social change in the balance of research

■ “We do not want to dictate to decision-makers what they should do. Our job is to create a foundation and models for developing successful national strategies. We help the decision-makers to build up their own vision, their own strategic targets,” says **Antti Hautamäki**, director of research.

“By publishing our research results we hope to inspire public debate and also to get the man-in-the-street to see the need for social change. They affect every Finn’s future.”

Sitra’s research is both applied and multidisciplinary, and it does not compete with academic research. The approach is innovative, predictive, critical, independent and reacts rapidly.

“We seize upon the signs of the times, even though they may be very weak signals. We look bravely to the future. We are economically independent. Reliability is a key factor in our research. Wide national and international networks make possible cooperation with top experts.”

Sitra’s major research projects in recent years have included the Globalisation, Welfare and Employment programme and the Revision of the National Information Society Strategy, on which a number of studies were based. The Quality of Life, Know-how and Competitiveness strategy inspired seven spearhead projects which in 1999 started drawing up strategic guidelines for use in its own organisations.

Learning Ylä-Karjala as a practical pilot project has resulted in good results in the field of experimentation in information society. With the aid of information technology it aims to convert an area suffering from migration losses and unemployment into a part of the future information society of Finland. Of the 20,000 inhabitants in the Nurmes, Juuka and Valtimo area 5,000 have already joined the national network created as part of this project. Unemployed people have been trained as support persons who can use a hands-on approach to advise ordinary

people on how to make use of national information networks. The work continues along lines already proven to be successful not only in Ylä-Karjala but also in the Vaara-Karjala area in Lieksa, Ilomantsi and Tuupovaara.

“Major new research projects include the Innovation Networks in an Internationalising World programme and Multiculturalism from a Business Perspective. The economic integration and social dimension of the European Union also constitute a focus of Sitra’s research,” says Hautamäki.

Impulses for reinforcing the innovation system

The Finnish innovation system is one of the best among the OECD countries. Global competition, however, means that Finland is forced to continuously develop its own expertise.

“The aim of our innovations research programme is to recognise our weaknesses and put forward concrete proposals for improvements. The programme looks at innovations from the networks perspective. Innovations arise out of cooperation with different experts,” says Hautamäki.

The project consists of ten sub-projects that study shared expertise, innovations in the fields of biotechnology and information technology, interaction between the universities and industry, and innovations in new patterns of employment. This research project, Sitra’s largest hitherto, will be completed by the end of 2001.

Multiculturalism - a new resource for Finland

Under the influence of globalisation multiculturalism has emerged as a key factor in modern business and international intercourse. It also provides the answer to the requirement for greater flexibility and familiarity with local markets. Finnish multiculturalism is affected not only by business but also by migration, of both immigrants and refugees, and by Finland’s



“We look at the social consequences of our research projects, from the perspective of business and administration, for example. Sitra’s research objects and views are publicised in such a way as to serve as well as possible the development of successful national strategies,” says Antti Hautamäki.



The Internet is bringing about marked changes in political decision-making and in the ordinary people's opportunities to participate in it. Sitra, together with the Finnish parliamentary committee on the future, organised the international Politics and the Internet congress in Helsinki in January 1999. One of the main speakers was the American professor Benjamin Barber.

membership of the European Union; in the future its enlargement to eastern Europe and the increase in intra-EU migration will also have an impact on Finland.

“Multiculturalism brings with it many challenges, both for companies and society. At present almost 100,000 foreigners live in Finland. How can we exploit their knowledge and their experience? Companies operating in Finland are continually recruiting international professionals. In the coming years Finland will need tens of thousands of new high-technology experts and computer scientists, engineers, doctors, professionals in the service sector and small entrepreneurs. A multicultural personnel requires bosses who can handle diversity,” says Hautamäki.

The Multiculturalism project started in September 1999 will study corporate internationalisation, the potential offered by immigrant enterprise, immigration policy and the need for labour and the multicultural labour community as a factor for success in the future. The aim is to offer fresh material, especially information that can be used in the Finnish environment, to the business world and political decision-makers. The main report is due to be published in book form at the end of the year 2000.

Finland in the era of globalisation

The final report of the project examining the effects of globalisation was published in April 1999. “For decision-makers it was important to learn to look at the global

aspect: the fact that Finnish companies operate on a global scale and not just in Europe. We also need to be able to cope globally and to know the global rules. Finland, too, has to ponder what kinds of aims it has for coping on a global scale,” says Hautamäki.

“The world centres of know-how soak up people who know and can. The most important consideration in the siting of companies is no longer the question of money but of knowing and learning. In the global division of labour regions specialise. Domestic markets do not exist any longer; even within the home market there are global markets. What will happen to the nation state and the welfare state? Will jobs remain in Finland?” asks Hautamäki.

“In order for multinational companies to thrive in Finland, they have to be enticed by means of an attractive labour environment and good living conditions for workers. The state's task is to develop education, in other words, a skilled labour force, research and product development and centres of excellence. It must also ensure that families moving to Finland from abroad can enjoy a pleasant environment, can feel secure and can have access to functioning services. The jobs will remain if companies thrive here. As a traditionally homogeneous country Finland has shied off the global economy. National unity is more important than ever before but it has to adopt new forms. We must open up our thinking and become more international.”

The guidelines for Sitra's research are drawn up by the Research Council. During the year 1999 it was made up of 16 representatives from universities and Sitra's other interest groups. The Council was chaired by Markku Linna from the Ministry of Education (centre above).



The best innovative results come from cooperation networks

■ Sitra's innovative projects aim to develop new competitive business and models of social action that will contribute to the success of the Finnish economy and the welfare of the country's citizens. "The main focus is on projects that are unlikely to be set in motion by business initiatives alone and which do not form part of the public or third sector's responsibility," says **Timo Hämäläinen**, development manager.

"We start up new innovative cooperation networks. The creation of such a network is very often too heavy an economic burden for an individual company. Networks often are great benefit to those participating in them."

The number of senior citizens in Finland is increasing rapidly. Unless present service structures are changed, then by the year 2030 we shall need 26,500 new places of institutional care. We must tackle this problem now so that the prospect of an institutional Finland swallowing billions

per year can be changed into a more humane and economically viable Finland. Sitra's **Senior 2000** project provides local and national recommendations to activate the elderly and make it easier for them to live at home. The project completed its final report in the autumn of 1999.

The **Barrier-Free World** project begun in 1997 aims to create for Finland an important and internationally competitive business environment focussing on the special needs of an ageing and handicapped population. The project brings together companies that make aids for the aged and the handicapped, rehabilitation centres and other producers of similar services. By the year 2025 there will be more than 110 million retired people in the EU region. The Finland Travel Marketing company, funded by Sitra, works to bring spas and rehabilitation centres into a network that will respond to the needs of these growing markets.



"The purpose of innovative activity is to find practical solutions to the challenges that will face Finnish society in the future," says Timo Hämäläinen.

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The skills technology project raises handicrafts to new heights

■ Sitra has embarked on a project to support skills technology alongside its existing information technology. On the basis of a preliminary study the Skills Technology project (Taitek) selected handbags and leather goods for a pilot project in 1999. The second pilot project, the manufacture of musical instruments, was announced at the beginning of 2000. Altogether four pilot projects are planned, and these will test international funding models and marketing channels.

"We are not all high-tech people. In Finland there are many people with manual skills, top-class professionals, whose skills are handed down through practical work from master to apprentice - provided that there are people prepared to carry on the tradition. Sitra wants to encourage know-how based on top-class skills and to make it an internationally viable business in the fields of handicrafts, special services, culture and

agriculture. High technology is harnessed to serve the evolution of skills technology with the help of electronic commerce and high-quality design, for example," says **Heikki Ojanperä**, project director, in describing the aims of the project.

"Taitek develops business in those communities where the skills experts are to be found. The project is also a regional experiment that can be extended through labour exchanges and business centres. Handbags and leather goods are made in Handbag Valley, which comprises Äetsä, Huittinen and Vammala but also in Varkaus, Raisio, Nokia and Pori. Sitra's task is to establish an infrastructure within which the companies can function. We do not finance the business of these companies but only their internationalisation."

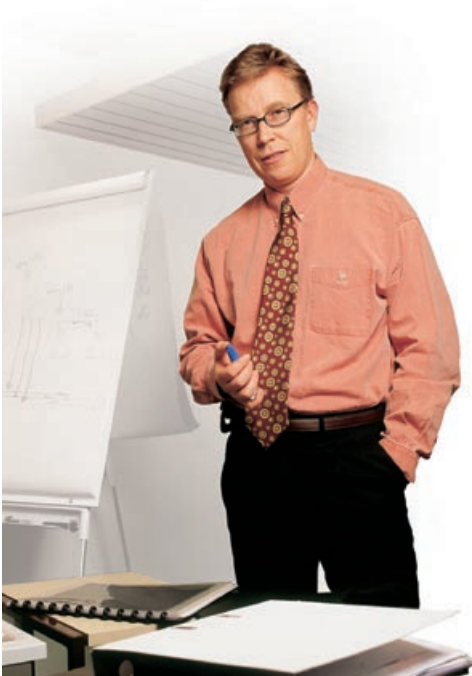
In the field of making musical instruments young entrepreneurs have been

inspired to look for international markets for their innovative products. The project covers string instruments made in Finland: guitars, violins and Finnish zithers. Their trump card is their high and even quality, successful design, and innovations such as the use of bent heated wood as a material and B-Band microphones. A quarter of the world market for guitars is in Europe, where

the interest in music has grown markedly in recent years.

“We are looking for small enterprises and concentrations of skills the competitiveness of which can be enhanced by joining a network. The opening up of international channels takes a lot of time. The time allotted to Taitek has initially been decided as three years.”

Versatile training to reinforce decision-making and know-how



“As a neutral non-profit-making organisation Sitra is a unique trainer in the world. The people invited to attend the courses represent every level of society,” says Tapio Anttila. “Training is the bridge by which we can supply knowledge to support decision-makers’ work.”

■ Sitra aims to ensure that social decision-makers, those responsible for the preliminary drawing up of decisions and informants on social matters are able to cope in an ever-changing world. In the training process for this use is made of Sitra’s own research results and those from other organisations. The training programmes are aimed at three groups: social decision-makers, media representatives and experts in the field of venture capital industry.

Since 1977 Sitra has arranged training in economic management that endeavours to improve the economic analytical and planning skills of decision-makers and experts. In selecting personnel to take part in these schemes efforts are made to ensure interaction between the private and public sectors. In this way the course participants can learn from each other’s expertise. The largest single group of trainees consists of members of parliament.

“We renewed our course in economic management in 1999. Those attending the **Economic Policy 2000+** course studied for a week core questions in the changed conditions resulting from the third phase of EMU,” says **Tapio Anttila**, director of training. The first course was held in October.

The **Finland 2015** programme has been designed for the top level of decision-making; in it key decision-makers will consider the main challenges facing our country in the future. The first course will be held in spring 2000 and the following in the autumn. Each course will make a report on the basis of the social debate made.

“The content and realisation of the Finland 2015 programme stress the international aspect. Part of our training will be held in Europe and the United States under the leadership of top experts,” says Anttila.


Sitra organises training for media representatives on questions of key significance for Finland’s future, for example, the **enlargement of the European Union**. For a number of years Sitra has deepened Finnish media people’s awareness of **Russia’s social development**. In 1999 a Russia course was arranged for foreign media representatives for the first time.

“Twenty-one persons from nine European countries took part in the course. The course was held along the Helsinki-St. Petersburg-Novgorod-Moscow axis. The experiences gained and the feedback from the reporters were extremely positive.”

Sitra offers information about important social questions at special seminars. In 1999 an **economic policy forum** and an **economic policy panel** were organised. These were attended by leading international experts.

Together with the Finnish Venture Capital Association Sitra planned and organised a training programme for this field to strengthen the personnel’s professional knowledge in an increasingly competitive situation. The **Principal Areas of Venture Capital Investment Skills** programme and the **Executive Venture Capital Management** programme were held in last year. Thirty-five capital investors took part in these programmes.

“Becoming a Sitra portfolio company means support and value-added”

 Sitra's **corporate funding** offers financial assistance in the early stages of their existence to technology companies with a promising economic future that have the opportunity, ability and desire to grow and expand on to international markets. All the first-time corporate funding made in 1999 was in companies at the initial or start-up stages of their existence.

“With the exception of information-technology and Internet companies, enterprises just getting started in business cannot get enough risk capital from commercial sources. For promising companies to develop they need financing by the public sector,” says **Olli Lindblad**, vice president, on the topic of Sitra's strategy.

“We concentrate on developing markets and their capacity to function. We fill the gaps in market activity. We develop and try out new forms of operation with our corporate funding. Our aim is to encourage the emergence of internationally competitive companies in Finland.”

Links with the international business world and participation in the activities of organisations in the financial field help to keep Sitra at the front of the running in development. Sitra also invests in **international capital funds** oriented towards technology. Often an investment offers Sitra the opportunity to cooperate and so establish a bridgehead to the companies funded. Lindblad mentions three equally important conditions that precede investment: concrete cooperation, a good return and the possibility of helping Finnish

technology companies to become more international. In addition to the European Union and the United States a cooperation network has also been set up covering Finland's close neighbours.

“Capital investment in neighbouring countries generally serves Finnish national interests.”

“In 1999 we strengthened our cooperation in Scandinavia. We invested in the Swedish fund, InnovationsKapital II in order to help Finnish companies to network with corresponding Nordic enterprises. We also put money into the American Crescendo Ventures III because it has made the strategic decision to enter European markets. Like Sitra, the fund invests in technology companies at the start-up stage.”

Sitra has had a decisive effect on the establishment of regional capital funds in Finland. Sitra develops the structure of the finance network and administrative activities with the purpose of increasing volume and efficiency.

Lindblad stresses the importance of commercialising technology as a factor for success in the future. “Our aim is to make Finland an internationally competitive organisation in the commercial exploitation of technology. Research discoveries and inventions can still be collected largely in a decentralised fashion while the expert resources needed for commercial exploitation are co-ordinated. Development work will continue in the coming years to play a part in developing the Finnish innovation system.”



“It is in the national interest that Finnish innovations remain in Finnish hands for a sufficient length of time and that they are not sold as raw products at knock-down prices abroad,” says Olli Lindblad.



"We help pioneers succeed"

"Technological entrepreneurs at the start-up stage are top experts. They often operate in university towns, in an atmosphere that encourages innovation," says Anu Nokso-Koivisto.



■ Finnish investment in research and development financing has been at top world level in recent years. Sitra funds technology companies that have emerged in this way with its own endowment capital by taking a minority interest before private investors are ready to take such a risk. The share of financing put up by the public sector into start-up companies has been almost 100 per cent in Finland. Sitra is a considerable player at this initial stage.

"Last year, together with Tekes (National Technology Agency), we charted the different forms of concrete cooperation that are needed if the public sector's stake in research and development is to be exploited to the full. Our joint aim is to eliminate the bottlenecks on the road to growth by technology companies," says **Anu Nokso-Koivisto**, director of corporate funding.

"Sitra's corporate funding is used to encourage internationally competitive industry in Finland. The number of technology companies, especially those in software, that have applied for finance has grown markedly since 1998. The Internet as a rapid channel for marketing and distribution has made it possible for new

types of service companies to emerge. The level of their technology and their prospects of going international are increasingly important criteria when it comes to our investment decisions."

According to Nokso-Koivisto companies in the field of wireless communications are helping to create an entirely new, significant field in Finland which aims right from the word go at international expansion. A further important field is growing up around innovations and accessories satisfying the needs of an ageing population.

"We want to be in at the beginning on such projects. Our task is, nonetheless, to ensure at the same time that the company becomes sufficiently large and strong before it goes international. Company managers know the technology of their field best. We can provide support for them in other respects."

You must know when to quit

Sitra's portfolio comprises about a hundred companies. In 1999 Sitra decided to invest in 21 new enterprises. The portfolio increased by about a third over the preceding year. How does Sitra assess a company's prospects?

"On the same principles as private investors," answers Nokso-Koivisto. "Decisive factors are the commitment and strength of management, the market potential of the company's products, the uniqueness of the technology and whether it can be protected, and the company's likelihood of growth and its competitiveness. Financial advice is available at the project stage before the company is actually set up."

Sitra's investment usually is in the order of 0.1-2.5 million euro. For continuing investment private investors are sought. Yield expectations are based primarily on the likelihood of the company growing in value. Sitra withdraws its support usually after a period of 3-7 years. Ways of doing this are to find new owners for the company, a listing on the stock exchange or the sale of

Sitra's shares to the owners of the company.

"In 1999 we withdrew from 17 enterprises. In autumn, for example, Aldata Solution Oy was listed on the Helsinki Stock Exchange. It was a busy year in this respect, too."

Finland interests foreign investors

According to Nokso-Koivisto Finland has become an interesting country in which to invest with the success of Nokia and the field of wireless services. Our know-how is famous all over the world. The large

information technology companies are setting up units in Finland.

"Many technology companies have succeeded in attracting capital from international investors. Also public markets and the investment atmosphere have evolved favourably from the viewpoint of technology companies. This encourages top Finnish experts to establish new companies and investors to stake their money on Finnish technology companies. Entrepreneurship has progressed considerably in Finland in recent years."

CONTENT PRODUCTS ON THE NET

■ The growth prospects for retail commerce over the net are extremely good. **Meteori Books Oy's** Internet arm, **meteeori.com**, is based on the idea that Internet service must be based on traditional commercial concepts.

"A broad range of products, price and efficient logistics are fundamental to e-commerce. With more and more Internet companies offering the same products differentiation can be achieved by concentrating on the contents, information and different forms of value-added services. And we must not overlook the importance of brand name, style, serviceability and comfort," says **Tapio Mäkelä**, managing director of **Meteori Books Oy**.

Meteori.com was opened on 11 January 2000. Its opening was preceded by long-term research together its subsidiary **Translocal Oy**. **Translocal** has developed an e-commerce application based on the Linux operative system containing payment arrangements and

logistics interfaces. The application has been praised as the fastest on the market.

"At the moment we have about three million products in our database. The whole configuration is designed especially for content products. From now on new interfaces and product lines are just a matter of fine tuning," says **Mäkelä**.

Shareholders in the company include not only **Mäkelä** himself but also **Image Match Oy's** managing director **Raoul Grünstein**, **Anu Kalliala**, who works for **Meteori**, and **Sitra**.

Meteori.com is engaged in the National Technology Agency's (**Tekes**) project **Digital Media Production**.

As well as being able to find out about **Meteori** at the address **www.meteori.com** it is possible to make acquaintance with it at the **Glass Palace** media centre in Helsinki. There you will find the **Meteori café** and a **meteeori.com** service point where the customer can learn about e-commerce.



Life Sciences the field of the future



"Private investors are ready to put money into medical and biotechnology companies only when the probability of success has become evident. This is where Sitra comes in: we help companies in the early stage of their existence and are prepared to wait for a good return," says Hannu Hanhijärvi.

■ Of Sitra's hundred companies forty or so operate within biotechnology and pharmaceuticals. Their range covers the development of medicines, diagnostics, biomaterials, basic chemistry in the service of pharmacy, polymer chemistry and to some extent environmental technology.

"Our aim is to extend our life sciences portfolio considerably," says **Hannu Hanhijärvi**, who is responsible for investment by the bioteam.

Most new entrepreneurs today have a solid background in a university or the pharmaceutical industry. The step from idea to finished product in the biosciences is long, difficult and expensive. The field is characterised by the restrictions imposed by strict legislation, the need for systematic documentation and research evidence.

Marketing culture is still thin on the ground but the bio-field needs expert marketing.

To develop new pharmaceutical products requires time. In the best cases, the work leads to licensing of the product, possible development of the invention to the patient stage and to manufacture of the medicine.

Hanhijärvi knows that loss-making years in the early stages are a sore trial for investors' patience.

"In Finland biotechnology companies can from the very beginning promote their innovations using Tekes' and Sitra's public money more successfully than companies in the same field in the USA, for example. Sitra acts as a window on product development for further rounds of financing by Tekes. In general, even on the second round the investors are Finnish. We try to

A NEW GENERATION OF MEDICINES FOR INCREASING NATIONAL ILLNESSES

■ **Juvantia Pharma Oy Ltd**, which operates at BioCity in Turku, is a company engaged in research and product development in the bio-field. In addition, to its own products it also offers its technological services to help develop new medicines. The company, which was founded in 1997, focuses its product development on three groups of disease: Parkinson's disease, depression and blood vessel diseases.

"We are looking for a new generation of cures for illnesses where the world demand for care is expected to grow dramatically in the coming years. Our new medicine for Parkinson's disease is now being tested on healthy volunteers. If subsequent clinical tests progress satisfactorily, the medicine will be on the market by 2006 perhaps," says the managing director, **Juha-Matti Savola**. Our markets are Europe, North America and Japan."

Two products are in the process of being developed for blood vessel

diseases. One is for treating coronary artery disease and hypertension, the other for treating and preventing the arteries becoming blocked anew

- even the prevention of transplant rejection reactions. The latter is based on an invention made by research teams at the University of Helsinki and McGill University.

How is the Juvantia Pharma story progressing? Savola reminds us that the field of medicine is an endurance test; the results of work done today are not seen for several years. Juvantia's rapid advance promises well for investors. "By 2004 our company will have made itself attractive to investors. We have important agreements with international pharmaceutical companies and some of our projects are already producing returns. A listing on the stock exchange will then be a further step," predicts Savola.



Rami Kalkonen

"You don't start a company in the bio-field like this with just money. Sitra has been involved right from the beginning both as an investor and as

a consultant. The people from Sitra have helped us to profile our operations and they have given of their considerable expertise in the bio-field to support our operations. It is exactly this kind of cooperation that an entrepreneur in a risk field wants," says Savola.

Juvantia Pharma employs 17 experts. "Most of us have a pharmaceutical background. We also understand pathology and we know what a test-tube result means for the care of a human being. This is one of our strengths. At BioCity we have top academic researchers all around us. We profit from our joint resources every day."

attract foreign capital so that the companies in question can go international.”

Self-care an important business

“We are strengthening our cooperation with Tekes in order to be able to achieve together greater capacity for the projects we help to finance. For example, Sitra now has a representative in all Tekes’ technology programmes in the biosciences. One such project is the New Foodstuffs project with its more than 20 sub-divisions.”

The cost of health care is expected to increase dramatically. At the same time people’s concern about their own health and the importance of a healthy diet are increasing. Developments may lead to a situation where the doctor’s role will decline

and the patient’s own decisions become more important. New medicines and new appliances will enable the patient to take care of himself and monitor his own health. The new situation will benefit both the patient and society. Many Finnish firms with their innovations are preparing for just such a change.

“Networking is on the increase, especially in the field of out-patient care. The need to keep our ageing population fit creates distinctive conditions for the international exploitation of Finnish expertise,” Hanhijärvi reminds us.

“Finland has an excellent education system and excellent health care. Together these provide a strong springboard for Finnish firms.”

“Regional funds attract good companies”

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■ Sitra’s regional funds invest not only in technology companies but also in more traditional industrial enterprises without restriction.

“The funds also suit new companies,” says **Vesa Lehtomäki**, director of regional funds. “The closer the investor is, the easier it is to build up successful cooperation to develop the company. Regional funds do not usually expect as swift returns as national or international investors. The good results achieved in 1999 indicate that regional capital investment can be profitable.”

The different areas for the management companies of the regional funds were changed in spring 1999 in accordance with approved strategy. Sitra owns, either wholly or in part, the management companies of six regional funds:

- Aboa Venture Management Oy; Turku, Pori
- Indekon Management Oy; Lappeenranta, Lahti, Helsinki
- Sentio Invest Oy; Tampere
- * Teknia Invest Oy; Kuopio, Joensuu, Mikkeli
- Teknoventure Management Oy; Oulu

- Nordia Management Oy; Helsinki, Jyväskylä

The network is complemented by a fund specialised in providing capital for new companies - Midinvest Oy in Jyväskylä.

According to Lehtomäki the personnel of the management companies are experiencing a time of major changes. In appointing new experts stress is laid on the experience of management in different fields. The personnel have increased and their skills become more diverse. The changes are also reflected in the improvement in quality of the companies invested in.

“The regional financing situation is good: we can help all those firms that meet the requirements set by the investing fund,” says Lehtomäki.

“We set up joint guidelines with the management companies in 1999. We organised a number of joint funding packages and we put more money than before into management skills. The managed funds have a total capital of 106 million euro. During the year we approved about 50 investment decisions in accordance with our goal; this is clearly more than the year before.”



“Sitra’s network of regional management companies covers almost the whole of Finland and brings value-added to the operations of companies invested in,” says Vesa Lehtomäki.

In accordance with Sitra's strategy privatisation of the management companies will begin in the year 2000.

Business angels - do they exist?

The main barrier to widespread capital investment by private individuals in Finland is bringing together investors and suitable projects for investment. As a solution to this problem Sitra and the Finnish Venture Capital Association set up a matching service in 1996. It endeavours to increase the opportunities for private investors, or business angels, to put their money into innovative unlisted small and medium-sized businesses and to offer good possibilities of joint investment. The matching service is impartial, does not aim to make a profit and completely confidential.

Business angels are wealthy individuals who invest capital in entrepreneurial companies that have the potential to grow. In general they have themselves worked as entrepreneurs and, in addition to financing,

they also place their business expertise and network of contacts at the disposal of the companies invested in.

"Investment by business angels forms an important part of financing of start-up and young companies. Its significance is also on the increase. In the United States business angels account for about 70 per cent of equity investment in small growth companies," says Lehtomäki.

The matching service has in its register 155 private investors with more than 17 million euro to invest. The average investment is 67,000 euro.

In 1999 Sitra set up a matching network covering almost the whole country in conjunction with technology centres. Seminars were organised in towns covered by the network, giving investors and companies an opportunity to meet. The two-part Clever Money for Software Companies seminar arranged for business angels and software companies was held at Espoo in November.

"Commercialisation brings value-added to research"

■ The whole foundation of companies based on know-how lies generally in the universities and research institutes. More efficient use of investment in research also formed a part of the programme of the Finnish government that came to power in 1999. Sitra encourages the achievement of this aim by its financing and other operations.

"Knowledge and expertise built on research constitute an increasingly important form of capital in most fields nowadays. In particular, the interaction between globalisation and information technology have raised many companies' intangible assets to make them their most important, in some cases even, their only resource," says Kari Kankaala, director (technology transfer).

"The efforts being put into research and product development by the Finnish economy are of top world class; the same

is true of cooperation between universities and companies. The commercial and social exploitation of the results attained must be of the same level."

Kankaala takes the view that many different innovations are seeing the light of day in Finland. There is consequently potential for their use by society. Sitra pursues cooperation with ministries, investors, universities, research institutes and technology centres. The challenging aim that faces Sitra is the enhancement of Finnish well-being.

Six technology-transfer companies founded in the 1990's form a commercial cooperative circle. These six companies are typically owned by universities, their foundations, local organisations and Sitra together.

"We invest a great deal in these companies so that they can make available to the universities the service they need to



"In Finland a professional corps in the field of technology transfer is only just emerging. There is now a clear need for its development," stresses Kari Kankaala.

recognise, evaluate, protect and bring to market commercially promising enterprises. The process of commercialisation must

always be based on strong regional know-how where possible."

GREEN ROCK CLEANS WASTE-WATER FOR REUSE

■ "We want to become the world's leading manufacturer of small-scale waste-water plants," says **Juha Huhta**. The managing director of Green Rock Oy at Ii explains his company's idea for all to see. And the company is indeed growing fast: Green Rock already operates in 23 countries and the company's logo is registered in more than a hundred countries. "We are making Green Rock an international brand," Huhta justifies his company's world conquest.

Through a management buy-out Huhta bought Partek Paroc's environmental operations in 1997 and set up Green Rock Oy to continue those operations. Sitra's regional fund, Teknoventure Management Oy, and two investors from Oulu also joined the venture.

"We clean the environment with the aid of stone mined from the bedrock using environmentally friendly methods. Our key product is a filter made of rockwool. Partek Paroc is the only company in the world to manufacture it and for us only. The product was awarded a prize in the World Wildlife Foundation's Blue Ball competition in 1995 to find environment-friendly inventions."

Green Rock's range includes products for cleaning waste-water for many different customers. The smallest are designed for country cottages or lakeside saunas, the largest for industry and large public buildings. The range of prices is also broad - from a few tens to a few thousands of euros. The company's main business is to be found according to Huhta in sparsely populated areas. All the products are made in Finland.

"Our aim is closed-circuit production without waste. The cleaned waste-water can be reused. A golf course in the Caribbean uses 1,500 cubic metres of irrigation water a day. One cubic metre of water from the

pipied water scheme costs about 8 euro. Now the company takes the town's waste-water and cleans it using Green Rock equipment. The cost is only a fraction of what it used to be," Huhta provides a clear illustration of his sales argument.

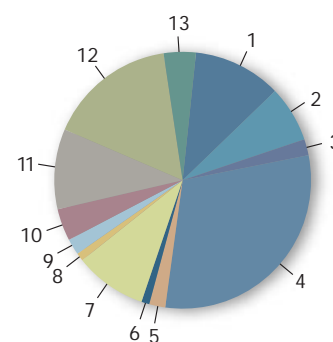
One of the company's products comprises a hygiene unit with ten showers, basins and toilets built into a container. The unit cleans the waste-water and uses it for flushing the toilets. Containers like this are in use in catastrophe areas on work sites in hot countries where water is in short supply and hygiene standards are poor.

Green Rock has sold its water-cleaning plants in different parts of the world, e.g. Sweden, the Netherlands, the Caribbean, the United States and Israel.

"In 1999 we developed together with the local importer a recycling method where the waste-water from service stations is collected and cleaned using a Green Pack small-scale unit. The cleaned water is used to water the trees in a nearby green belt. In an area where it rains only twice a year on average such reuse of water is more than welcome. The Texaco chain of service stations has now ordered 40 new packs from us," says Huhta.

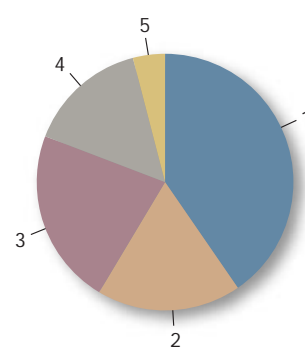
"The University of Oulu has been an excellent partner to cooperate with. There is a wealth of know-how there, know-how that we are continually putting to good use. The university researchers do development work for us, try out new ideas and test equipment. The students study at our factory and in this way we complement the knowledge they gain at the university. This is one of the success factors for our company."

Investment portfolio by branch 31.12.1999



	no. of companies	€ millions
1. Biotechnology	11	4.3
2. Chemicals and new materials	7	2.1
3. Consumer products	2	0.9
4. Pharmaceuticals	30	29.6
5. Agriculture and forestry	2	0.6
6. Tourism	1	0.9
7. Other electronics	9	2.4
8. Other production	1	1.5
9. Construction	2	0.9
10. Control and supervision of industrial processes	4	0.6
11. Industrial production and services	10	8.0
12. Information technology	16	12.2
13. Communications	4	6.8
Total	99	70.8

Investment portfolio by stage of development 31.12.1999



	no. of companies	€ millions
1. Seed	40	25.0
2. Start-up	18	9.3
3. Early growth	22	10.7
4. Rapid growth	15	12.2
5. Transfer	4	13.6
Total	99	70.8

Sitra's publications 1999

(The Sitra publications are in Finnish unless otherwise indicated)

Books

Timo Kivi-Koskinen
Teollisoikeudet pienen ja keskisuuren yrityksen kilpailukeinona (Industrial Rights as a Competitive Tool for Small and Medium-sized Enterprises)
 Pub. National Technology Agency (Sitra 200)

Aarne Nurmio
The New Northern Europe – A Strategic Opportunity
 Pub. Sitra (Sitra 204)

Matti Palo and Jussi Uusivuori (eds.)
World Forests, Society and Environment, Volume I
 Pub. Kluwer Academic Publishers (Sitra 205)

Johanna Korhonen ja Hannu Sokala (eds.)
Tietoyhteiskunnan arki – Tiedon ja taidon tie (Everyday Life in the Information Society – the Road to Knowledge and Skills)
 Pub. Atena Kustannus Oy (Sitra 207)

Gerd Schienstock and Osmo Kuusi (eds.)
Transformation Towards a Learning Economy – The Challenge for the Finnish Innovation System
 Pub. Sitra (Sitra 213)

Hannele Koivunen ja Tanja Kotro (eds.)
Kulttuuriteollisuus (Cultural Industry)
 Pub. Oy Edita Ab (Sitra 214)

William Cardwell, Manu Mäkelä, Juha Jokinen and Mikko Kumpulainen
Attracting Foreign Investment into Early-Stage Finnish Technology Companies and Comparing High-Tech Investing Environments in Israel and Finland
 Pub. LTT-Research Ltd (Sitra 215)

Jaana Hallamaa (ed.), Simo Knuuttila, Matti Kotiranta ja Antti Raunio
Rahan teologia ja Euroopan kirkot – Lopun ajan sosiaalietiikka (The Theology of Money and European Churches – the Social Ethics of the End of Time)
 Pub. Atena Kustannus Oy (Sitra 216)

Markku Heikkilä (ed.)
Uskonto ja nykyaika – Yksilö ja eurooppalaisen yhteiskunnan murros (Religion and the Present Day – the Individual and the Breakdown of European Society)
 Pub. Atena Kustannus Oy (Sitra 217)

Kullervo Kuusela
Metsän leiviskät – Metsäsuunnittelu ja saavutukset 1947–1996 (Forest Virtues – Forest Planning and Achievements 1947–1996)
 Pub. Atena Kustannus Oy (Sitra 218)

Kari A. Hintikka
Puheenvuorojen kirjasto 2 – Keskustelua tietoyhteiskuntastrategiasta (Points of View Library 2 – Discussions on Strategy for the Information Society)
 Pub. Sitra (Sitra 219)

Qualité de vie, savoir-faire et compétitivité – Prémises et objectifs du développement stratégique de la société d'information (Quality of Life, Knowledge and Competitiveness – Premises and Objectives for Strategic Development of the Finnish Information Society)
 Pub. Sitra (Sitra 220)

Antti Kasvio ja Ari Nieminen
Kilpailu työstä – Tutkimus globalisaatiosta, maailmanlaajuisesta työpaikkakilpailusta ja Suomen mahdollisuuksista (The Competition for Labour – Research into Globalisation, the Worldwide Competition for Labour and Finland's Possibilities)
 Pub. Tampere University Press (Sitra 221)

Raimo Väyrynen
Globalisaatio ja Suomen poliittinen järjestelmä (Globalisation and the Finnish Political System)
 Pub. Taloustieto Oy (Sitra 222)

Raimo Väyrynen
Suomi avoimessa maailmassa – Globalisaatio ja sen vaikutukset (Finland in an Open World – Globalisation and Its Effects)
 Pub. Taloustieto Oy (Sitra 223)

Pertti Alasutari ja Petri Ruuska
Post-Patria? Globalisaation kulttuuri Suomessa (Post-Patria? The Culture of Globalisation in Finland)
 Pub. Osuuskunta Vastapaino (Sitra 224)

Lebensqualität, Wissen und Wettbewerbsfähigkeit – Ausgangspunkte und Ziele für die strategische Entwicklung der Informationsgesellschaft (Quality of Life, Knowledge and Competitiveness – Premises and Objectives for Strategic Development of the Finnish Information Society)
 Pub. Sitra (Sitra 225)



Reijo Miettinen, Janne Lehenkari,
Mervi Hasu ja Jukka Hyvönen
**Osaaminen ja uuden luominen innovaatioverkoissa –
Tutkimus kuudesta suomalaisesta innovaatiosta**
(Know-How and the Creation of New –
Research into Six Finnish Innovations)
Pub. Taloustieto Oy (Sitra 226)

Matti Sinko and Erno Lehtinen
The Challenges of ICT in Finnish Education
Pub. Atena Kustannus Oy (Sitra 227)

Peter Ekholm ja Aarne Nurmio
**Suunnaton EU? Kysymyksiä Euroopan
tulevaisuudesta** (A EU without Direction?)
Questions about the Future of Europe)
Pub. Atena Kustannus Oy (Sitra 228)

Tuomas M.S. Lehtonen (ed.)
**Suomi – Outo pohjoinen maa? Näkökulmia
Euroopan äären historiaan ja kulttuuriin**
(Finland – a Strange Northern Country? A Look at
the History and Culture of the Margin of Europe)
Pub. PS-kustannus (Sitra 229)

Tuomas M.S. Lehtonen (ed.)
**Europe's Northern Frontier – Perspectives on
Finland's Western Identity**
Pub. PS-kustannus (Sitra 230)

Peter Ekholm and Aarne Nurmio
Europe at a Crossroads – The Future of the EU?
Pub. Sitra (Sitra 231)

**Livskvalitet, kompetens och konkurrenskraft –
Premisser och mål i utvecklingen av en ny strategi
för informationssamhället** (Quality of Life,
Knowledge and Competitiveness – Premises and
Objectives for Strategic Development of the Finnish
Information Society)
Pub. Sitra (Sitra 232)

Leif Sonkin, Tuula Petäkoski-Hult,
Kimmo Rönkä ja Hans Södergård
**Seniori 2000 – Ikääntyvä Suomi uudelle
vuosituhannelle** (Senior Citizen 2000 – an Ageing
Finland into the New Century)
Pub. Taloustieto Oy (Sitra 233)

Juhana Vartiainen, Pertti Haaparanta,
Kustaa Hulkko, Jari Melgin ja Esko Rantanen
Rahaliitto ja Eurooppa
(Monetary Union and Europe)
Pub. PS-kustannus (Sitra 234)

Internet publications

(www.sitra.fi, www.sitra.fi/tietoyhteiskunta)

Risto Nevalainen
Suomi tietoyhteiskunnaksi – Eespäin tiedon poluilla ja valtateillä
(Finland as an Information Society – Forwards on the Paths and
Highways of Knowledge)

Juha Lavikainen
Kärkihankkeet ja EU/IST-ohjelma
(Spearhead Projects and the EU-IST-Programme)

Reijo Lilius
**Suomalaiset tietoyhteiskuntaprojektit – Kärkihankkekohtainen
tilannearvio** (Finnish Information Society Projects –
an Assessment of the Spearhead Project Situation)

Raimo Väyrynen
Globalisaatio ja yhteiskuntapolitiikka Suomessa
(Globalisation and Societal Policy in Finland)

Raimo Väyrynen
Globalisation and Societal Policy in Finland

Timo Soukola
Monikulttuurisen yhteiskunnan ehdot ja haasteet
(The Conditions and Challenges of a Multicultural Society)

Johanna Korhonen ja Hannu Sokala (eds.)
Tietoyhteiskunnan arki – Tiedon ja taidon tie (Everyday Life in the
Information Society – the Road to Knowledge and Skills) (Sitra 207)

Kari A. Hintikka
**Puheenvuorojen kirjasto 2 – Keskustelua tietoyhteiskunta-
strategiasta** (Points of View Library 2 – Discussions on Strategy
for the Information Society) (Sitra 219)

**Qualité de vie, savoir-faire et compétitivité – Prémisses et objectifs
du développement stratégique de la société d'information** (Quality of
Life, Knowledge and Competitiveness – Premises and Objectives for
Strategic Development of the Finnish Information Society) (Sitra 220)

**Lebensqualität, Wissen und Wettbewerbsfähigkeit –
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Informationsgesellschaft** (Quality of Life, Knowledge and
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utvecklingen av en ny strategi för informationssamhället** (Quality of
Life, Knowledge and Competitiveness – Premises and Objectives for
Strategic Development of the Finnish Information Society) (Sitra 232)

Sitra's events 1999

Politics & Internet Congress
6.1.-8.1.1999 Helsinki, Espoo

Briefing, European Union's CRAFT project
2.3.1999

**Laying the foundation stone of
the Itämerentori office block**
25.3.1999

Final seminar, Globalisation project
13.4.1999

Economic panel
Expert Ignazio Visco, Chief Economist, OECD
21.5.1999
Organised by Sitra and the Finnish Economic Association

Russia programme for economic journalists
25.5.-27.5.1999 Helsinki, Moscow

Russian Studies Seminar for European journalists
24.9.-29.9.1999 Helsinki, Novgorod, Moscow

Economic Policy 2000+ (course no. 1)
4.10.-8.10.1999 Helsinki, Sannäs

**Effects of globalisation on the Finnish
political system - discussions**
18.10.1999 and 19.11.1999

Barrier-Free World project - seminar
21.10.1999

Economic forum
**Coordinating financial policy in the EMU zone
- need and opportunity**
23.11.1999
Organised by Sitra and the Finnish Economic Association

**The universities' intangible assets
and their exploitation - seminar**
30.11.1999



Lehtikova Oy / MAU

Expert on the Economic Panel was Ignazio Visco, chief economist from the OECD (centre above). Listening to him are Kari Tolvanen from Sitra and Antti Suvanto, chairman of the Finnish Economic Association

Sitra's Matching Service held venture-capital meetings and corporate presentations in Oulu, Jyväskylä, Lappeenranta, Salo, Turku, Lahti, Tampere, Vaasa and Espoo.

A total of 34 seminars and press conferences was held in conjunction with projects starting or finishing and the publishing of books.

Three training courses on the European Union were organised for journalists in cooperation with the Jean Monnet unit at the University of Turku.

Meetings, seminars and workshops were held within the framework of the Innovation System.

The following events were organised at the Lasipalatsi (Glass Palace in Helsinki) film and media centre:

- Looking for the Present** 20.1.-28.2.1999
- Learning - Life for Everyone** 4.5.-28.5.1999
- Design Fiction** 4.6. - 22.6.1999
- Land of the Midnight Sun**
- **travel in the information society** 20.7.-28.8.1999
- DigiDays** 1.9.-2.9.1999
- EnergySTOP** 11.10.-16.10.1999
- Information technology at your service in everyday life**
27.10.- 29.10.1999
- Netdays '99** 13.11.-21.11.1999
- Full of life - technology in support of health**
17.11.-9.12.1999
- IST '99** 22.11.-24.11.1999
- Flash! Film yesterday - today - tomorrow**
14.12.-30.12.1999

Sitra's Supervisory Board and Board of Directors

Supervisory Board

Ilkka Kanerva, MP
Chairman

Johannes Koskinen, MP
Vice-chairman until 23.4.1999

Virpa Puisto, MP
Vice-chairman from 23.4.1999

Members of parliament

Olavi Ala-Nissilä
Tuulikki Hämäläinen until 23.4.1999
Anneli Jäätteenmäki
Antero Kekkonen from 23.4.1999
Martti Korhonen until 23.4.1999
Mauri Pekkarinen
Kimmo Sasi until 26.1.1999
Martti Tiuri from 23.4.1999
Kari Uotila from 23.4.1999
Ben Zyskowitz from 26.1.1999

Secretary

Anton Mäkelä, LL.B.

Board of Directors

Raimo Sailas, Secretary of State
Ministry of Finance
Chairman

Erkki Virtanen, Secretary General
Ministry of Trade and Industry
Vice-chairman

Markku Linna, Director General
Ministry of Education

Esko Ollila, Deputy Governor
Bank of Finland

Hannele Pohjola, Head of Department
Confederation of Finnish
Industry and Employers

Aatto Prihti, President
Sitra

Secretary

Kirsti Uotila, Executive Assistant

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Sitra at your service

Aatto Prihti, President

Olli Lindblad, Vice President
(Corporate Funding)

Kirsti Uotila, Executive Assistant

Magnus Sjöblom, Financial Director

Kari Tolvanen, Director
(Research, Innovative Projects
and Training)

Tapio Anttila, Director (Training)

Hannu Hanhijärvi, Director
(Biotechnology and Pharmaceuticals)

Antti Hautamäki, Director (Research)

Marja-Leena Hilke, Communications Manager

Timo Hämäläinen, Development Manager
(Innovative Projects)

Kari Kankaala, Director
(Commercialisation of Technology)

Vesa Lehtomäki, Director
(Regional Funds)

Anu Nokso-Koivisto, Director
(Technology Companies and
International Funds)

Board of Director's Report for 1999



The year 1999 was the thirty-second year of operations for the Finnish National Fund for Research and Development (Sitra). The year was characterised by continuing diversification and expansion.

The economic environment during the year under review was a favourable one, whether seen from a Finnish or an international perspective. The economic turmoil appearing in different parts of the world the previous year proved to be largely of a temporary nature. Furthermore, political conflicts, of which the Serbian and Kosovo crisis was the worst, did not, in the final analysis, markedly affect the favourable trend in the world's economy.

In the USA the buoyant economic trend characterising the whole decade continued. The strong growth still did not result in any notable acceleration in inflation. Economists sought to explain this trend by means of the so-called new economics, according to which the development of technology - especially information technology - improves the economy to such a degree that continuing growth of the economy does not necessarily lead to accelerating inflation. The economies of the Far East, including Japan, also began to recover from their economic difficulties. This recovery was reflected above all in the rise of share prices. The European economy, on the other hand, did not improve so encouragingly. A revival of the euro-zone's principal economy, Germany, continued to be awaited. The first signs of this recovery were discernable only in the latter half of the year. The introduction of the euro proceeded without problems and even its weakening against the US dollar and the Japanese yen did not result in any

immediate negative effects.

The globalisation of the world's capital markets continued as expected. The leading and guiding role of the US continued to be even more significant. During the year the interest rate in Finland and elsewhere rose by about one and a half per cent. At the same time share prices continued to rise. Of note, here, was that the rise was concentrated both in Finland and on the international scene to technological companies that operate in the telecommunications and Internet fields. The valuation of these shares was exceptionally high and based on future profits.

The Finnish economy continued to be a success, in respect of both corporate profits and the state balance. This encouraging trend has continued throughout the latter half of the 1990's. Finland's business structure has become more diverse. Electronics and telecommunications have proved to be especially important fields in addition to the traditional forest and metal industries. The increasing economic activity underlines the importance of the tasks entrusted to Sitra by law.

Sitra's ordinary activities followed the pattern of earlier years, on the one hand in the field of corporate funding and on the other in the field of research, innovative projects and training programmes. The projects already completed and those at present under way are aimed at furthering Finland's economy and its social development and the country's international competitiveness. When it comes to corporate funding Sitra's task is to ensure that the considerable research and product development efforts made by society are properly exploited by enterprises. The needs are greatest in financing new enterprises. In its research work, innovative projects and training Sitra has invested in projects that



*Sitra's Board of Directors.
Its members are Raimo Sailas,
Secretary of State (Chairman)
(top above), Erkki Virtanen,
Secretary General (Vice-chairman),
Markku Linna, Director General,
Hannele Pohjola, Head of
Department, Esko Ollila, Deputy
Governor, Aatto Prihti, President of
Sitra and Kirsti Uotila, Executive
Assistant (Secretary).*

are at the same time both topical and important from the point of view of Finland's long-term development. Further details of important events in the different fields are given elsewhere in this report.

In spring the strategy for Sitra's operations for the years 2000-2002 was reviewed and overhauled. This strategy is brought up to date each year and renewed when necessary, at least at 3-4-year intervals.

The financial decisions made by the Board of Directors and the President during the year under review amounted to € 47 million (1998: € 37 million). This represents an increase of 26 per cent. Payments made on the basis of decisions made during the financial year and in earlier years amounted

to € 39 million (1998: € 24 million), an increase of 43 per cent. Plans already approved indicate that growth will continue to be strong in the year 2000, too.

Sitra's economy was further strengthened during 1999. The growth in the value of its capital investments was considerable and in addition repayments of capital and profits from corporate funding were the highest in Sitra's history. Sitra's endowment capital establishes the foundation for financing its operations in the future. Special attention will continue to be directed to managing investment risks by further spreading them over a larger number of projects.

Corporate funding

Structure and organisation of corporate funding

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Sitra's corporate funding operations comprise venture capital, which is divided between seed funding and growth funding, fund investment and the commercialisation of trading technology.

In practice, corporate funding is done by three teams: the technology team, the bio-team and the regional team. The staff engaged in these teams also handle fund investment. The commercialisation of technology is the responsibility of the head of the regional team.

In the past ten years Sitra has played a significant role in developing venture capital operations in Finland. As a part of this trend Sitra's own venture capital has been consistently directed towards funding fields of enterprise in which the market does not at present operate sufficiently effectively. At the same time market-based funding concentrating on growth companies has been organised through separate funds and their management companies.

It is intended to transfer Sitra's holdings in the companies administering venture-capital funds entirely to Sitra Management Oy. After sales of shares in 1999 Sitra

remains a minority owner of the management companies for the field funds: they are Bio Fund Management Oy, Eqvitec Partners Oy and Fenno Management Oy. The majority owners in these companies are their managers.

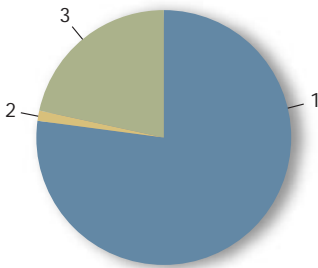
During the year under review Sitra sold to Sitra Management Oy its holdings in a number of other management companies and further transfers will take place in the year 2000. The aim of these measures is a clearer role for Sitra on the one hand as an investor and on the other as the owner of management companies for the different funds.

Venture-capital activities

The venture capital that Sitra invests in seed companies is allocated on a branch basis and is administered by the bio-technology and pharmaceuticals team on the one hand and the technology team on the other. In addition, the regional team works in close cooperation with the regional funds. The activities of the regional team are described in connection with fund investment.

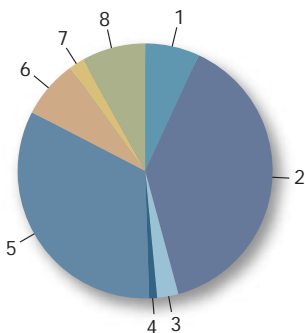
The corporate funding teams handle companies in their own fields. They begin

Sources of Sitra funds 1999



	€ m	%
1. Net profit from investments	96.2	77.1
2. Government subsidies	1.7	1.3
3. Profit from funding	26.9	21.6
Total	124.8	100.0

Breakdown of Sitra funding 1999



	€ m	%
1. Growth companies	3.2	6.9
2. Seed investments	18.2	38.9
3. Commercialisation of technology	1.3	2.7
4. Other funding	0.5	1.0
5. Fund investment (Finnish 20,3 % Foreign 12,8 %)	15.4	33.1
6. Research	3.4	7.4
7. Training	0.9	1.9
8. Innovative operations	3.8	8.1
Total	46.7	100.0

by looking for and analysing suitable companies in which to invest and then continue by developing the companies until, finally, they reach the point where they pull out of their involvement. The teams are backed up in the legal field and in monitoring the companies by Sitra's lawyers and controllers.

During the year investment decisions amounting to € 21 million in 54 different companies were approved. All new projects (covering 30 companies and amounting to € 14 million) involved companies at the seed stage or in the growth stage. Decisions on continuing investment amounted to € 8 million in 24 companies altogether. Of the investment made in new companies € 8 million was put into eight enterprises in the field of biotechnology and pharmaceuticals and € 6 million into other technological companies (22 enterprises). The other technology enterprises operate primarily in the information technology and Internet fields.

By the end of the year Sitra had capital commitments of € 71 million in 99 different enterprises. Of these 58 were in the seed or start-up stage (€ 34 million) and 41 at the growth stage (€ 36 million). The value of the venture capital invested is shown in the Balance Sheet in accordance with standard accounting principles used in the venture-capital branch.

During the year Sitra withdrew its involvement from 17 companies.

In its corporate funding activities Sitra concentrated on cooperating with other institutions operating in the same field, especially with Tekes (National Technology Agency) and Finpro. In addition, plans were drawn up for the organisation of funding start-up enterprises in Finland with Suomen Teollisuussijoitus Oy (Finnish Industry Investment Ltd.). Putting these plans into practice has been postponed until 2000.

Investment in venture-capital funds

The main focus in Sitra's investment in venture-capital funds was on developing the Finnish regional funding network. In 1999

the regional network was organised into five management companies. Sitra owns these companies either in their entirety or in part. The aim is to create sufficiently strong administrative units that will have the resources to handle and maintain sufficient know-how and resources for professional capital investment. Privatisation of the companies will begin in the year 2000. Sitra's regional team coordinates the cooperation with the regional funds and also establishes funding syndicates together with them.

During the year Sitra acquired from Finnvera Oyj two thirds of the stock of Matkailunkehitys Nordia Oy as a step in the reorganisation of the Finnish state's special funding operations. Nordia was also reorganised at year-end so that the management of the fund was hived off from the actual fund from the beginning of 2000. This will make for more flexible operations and the collection of new funds.

A second important field for fund investment is international investment funds. Here Sitra invests through the medium of funds which can support Sitra's own corporate funding operations or which accord with Sitra's own aims in other respects (especially funds in neighbouring countries).

Cooperation with the sector-related funds - Biorahasto, Teknologiarahasto and the Fenno-programme - that have grown from Sitra's initiative was close and on an economic basis.

During the year it was decided to invest € 15 million in a total of eight capital funds. At year-end Sitra's investment commitments amounted to € 76 million in 38 different funds. Of these about € 34 million had not been actually invested by the end of the year.

During the year under review repayments from investment funds amounting to € 6 million and, in addition, profits of € 18 million accrued to Sitra.

Commercialisation of technology

In its commercialisation of technology operations Sitra's aim is in part to ensure that

Finland has a functioning system that makes possible the commercial exploitation of research-based innovations even without such exploitation necessarily taking place through the medium of a commercial enterprise. During the year cooperation with commercial technology companies operating in university towns and with universities was strengthened. At the same time decisions were made on investing a total of one million euros to increase the efficiency of Sitra's associated companies. These decisions are to be put into practice in the years 1999-2000.

During the year Sitra acquired a minority interest in Finn-Medi Tutkimus Oy, which operates in Tampere. It is intended to widen further the network of associated companies at least to Kuopio and Joensuu.

Sitra endeavours to promote the collection, protection and commercialisation of research-based innovations to

make the process as efficient as possible. This presupposes the coordination of the activities of small units in the collection of research discoveries and the collation of resources in patenting and licensing agreements in order to achieve an adequate volume and the investment of resources in actual commercial operations. Projects designed to bring this about are farthest advanced in the Greater Helsinki region.

Sitra does not aim at accumulating a patent portfolio in its commercialisation of technology. On the contrary, during the year under review Sitra continued to reduce its portfolio with the intention of divesting itself entirely of patents during the year 2000.

Cooperation with the Foundation for Finnish Inventions continued to be close during 1999.

The total number of investment decisions in technology transfer amounted to one million euros.

Research, innovative projects and training

Research

Sitra's research is applied, multidisciplinary and predictive. By means of this research Sitra aims to supply decision-makers with knowledge that will facilitate societal decision-making. In 1999 Sitra's strategy was, as in earlier years, to focus on a few important research projects where the need for research or its impact is great. Investment in research projects in 1998-99 was exceptionally large.

The task of the Research Council appointed by Sitra's board of directors is crucial in the identification of research ideas. On the basis of this and the brainstorming done by Sitra's board and its cooperative networks the Sitra research team draws up detailed research plans, recruits experts and sees that the projects are brought to fruition.

During the financial year the Globalisation, Welfare and Employment programme covering 12 reports was brought to a conclusion. The project addresses the

effects of globalisation on the economy, culture and regional development.

In 1999 the seven spearhead projects mentioned in the Revision of the National Information Society Strategy at the end of the previous year were set in motion. These spearhead projects will be completed by the end of 2000 as far as Sitra is concerned.

During the year under review a decision was made to develop further the Finnish innovation project, which aims to be the largest in Sitra's history. On the basis of preliminary research ten sub-projects covering different areas were started. The intention is to bring the sub-projects and the entire project to a conclusion by the end of 2001.

In addition to the major projects already mentioned a number of smaller studies were completed as was, too, the Puheenvuoroja (Points of View) series of books, in which a total of nine books have been published over a period of three years.

The amount of money involved in investment decisions concerning research was € 6 million.

Innovative projects

The purpose of innovative projects is to evolve new business and new models of social action. The main focus is on projects that will not get under way just through the efforts of the individual actors. The projects are identified in conjunction with both research projects and Sitra's cooperation network.

In 1998 work was started on the Learning Ylä-Karjala project, the aim of which is to improve the accessibility of the information society's services and so to help an area suffering from migration losses and high unemployment to encourage new business activities and the creation of jobs. The project will be completed in the year 2000. In the year under review the Barrier-Free World project continued. It is intended that this project should be completed by the end of the year 2000.

At the end of 1999 two pilot projects forming part of the Skills Technology project were got under way. Of these the first concentrates on the leather and handbag industry and the second on the manufacture of musical instruments. It is hoped that it will be possible to apply the latest technology to traditional handicraft skills, i.e. those based on manual skills. Sitra is

trying to create a framework within which these handicrafts can develop into internationally competitive industries. The plans are for these pilot projects to continue until the year 2002.

Decisions on innovative projects accounted for a total of € 4 million.

Training

Sitra's training programmes aim to school social decision-makers by offering them a forum, information and tools to support the decision-making process.

In 1999 the focus was on new training programmes. The management programme in business which was started 1977 was renewed and renamed Economic Policy 2000+ and the first course was arranged during the year under review. At the same time the finishing touches were put to the Finland 2015 programme, which is intended for top management and will be run for the first time in the spring of 2000.

During the year a programme was also organised for foreign correspondents and journalists focussing on the social situation and developments in Russia. A training programme for the managers in the field of venture capital was also realised together with the Finnish Venture Capital Association.

Training programmes accounted for one million euros.

Administration

Sitra's Supervisory Board is made up of the Parliamentary Trustees of the Bank of Finland appointed by the Finnish Parliament. At the beginning of 1999 the Council comprised the following Members of Parliament: Ilkka Kanerva (chairman), Johannes Koskinen (vice -chairman), Olavi Ala-Nissilä, Tuulikki Hämäläinen, Anneli Jäätteenmäki, Martti Korhonen, Mauri Pekkarinen, Virpa Puisto and Kimmo Sasi. On 26 January 1999 Ben Zyskowitz was appointed to Sitra's board instead of Sasi.

After the parliamentary elections a new Council was appointed and consequently Sitra also acquired a new Supervisory Board. The only change compared with the earlier composition was that Martti Tiuri was appointed instead of Tuulikki Hämäläinen. When Paavo Lipponen's second government came to power Sitra's Supervisory Board changed once more as from 23 April, 1999. Since this date Sitra's Supervisory Board has consisted of the following:

Ilkka Kanerva (chairman), Virpa Puisto

(vice-chairman), Olavi Ala-Nissilä, Anneli Jäätteenmäki, Antero Kekkonen, Mauri Pekkarinen, Martti Tiuri, Kari Uotila and Ben Zyskowitz. Anton Mäkelä, LL.B. acts as secretary. During the year the Supervisory Board held four meetings.

Sitra's Board of Directors in 1999 comprised Raimo Sailas (chairman), Erkki Virtanen (vice-chairman) and Markku Linna, Esko Ollila, Hannele Pohjola and Aatto Prihti as ordinary members. Secretary to the Board was Kirsti Uotila. The board held 10 meetings during the year.

Auditors appointed by the Finnish Parliament were the members of Parliament Johannes Leppänen (deputy Paula Lehtomäki), Matti Saarinen (Ulla Juurola) and Ville Itälä (Juha Karpio) together with Iivo Polvi, CPFA, AA, (Arto Kuusiola, APA)

and Prof. Reino Majala, APA (Kari Manner, APA). The auditors' secretary was Prof. Kalervo Virtanen, APA.

Juha Wahlroos, APA of the auditing company SVH Pricewaterhouse Coopers Oy was appointed by Sitra's Supervisory Board to be responsible for internal audit and the audit of investment projects.

Sitra's long-term vice president Matts Andersson was appointed CEO of Sitra Management Oy and Olli Lindblad, who had previously been Sitra's financial director, was appointed in his stead on 1 April, 1999.

Sitra's offices are situated in Helsinki at the address Uudenmaankatu 16. At the end of 2000 the office will move to new premises now under construction at Itämerentori 2, Helsinki.

Endowment capital

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The nominal sum of Sitra's endowment capital is € 134.6 million. The market value in euros of the endowment capital investments at year-end was more than one billion euros. The Fund's capital is invested primarily in Finnish and foreign shares and in interest-bearing bonds. A small proportion is also invested in real estate.

In accordance with its investment policy responsibility for Sitra's investment portfolio has been entrusted mainly to outside asset

management companies. During the year Leonia Omaisuudenhoito Oy, Alfred Berg Omaisuudenhoito Oy together with the Swiss investment bank Lombard Odier & Cie. and the American-British Investment Morgan Stanley & Co. managed Sitra's assets.

As a result of favourable market trends the value of the Fund's endowment capital increased very considerably.

Disposal of profit

The Board of Directors proposes that of net profit for the year amounting to € 100,117,185.07, € 33,637,585.29 be

transferred to Sitra's capital and the remainder, € 66,479,599.78, be carried forward.

PROFIT AND LOSS ACCOUNT

(in € 1,000)

		1.1.-31.12.1999	1.1.-31.12.1998
		€	€
ACTUAL OPERATIONS			
Corporate Funding			
Income			
Profit from sales		6,047	1,315
Return on investment		18,097	5,633
Other income		2,787	1,084
	1)	26,932	8,031
Expenses			
Investment expenses	2)	-15,988	-11,985
Other expenses	3)	-394	-247
Share of general expenses		-1,998	-1,099
		-18,380	-13,330
		8,552	-5,299
Research, innovative projects and training			
Income			
Return on investment	4)	22	17
Government subsidy		1,682	1,682
		1,703	1,699
Expenses			
Investment expenses	5)	-3,546	-4,774
Other expenses	6)	-65	-38
Share of general expenses		-441	-299
		-4,052	-5,111
		-2,349	-3,412
Administration			
Expenses			
Personnel expenses	7)	-3,715	-2,722
Depreciation	8)	-317	-261
Other expenses		-678	-698
Transfer to operations		2,439	1,398
		-2,271	-2,285
Profit/Loss		3,933	-10,996
INVESTMENT OPERATIONS			
Income	9)	107,871	51,743
Expenses	10)	-11,687	-17,360
		96,184	34,384
NET PROFIT FOR THE YEAR		100,117	23,388

BALANCE SHEET

(in € 1,000)

		31.12.1999	31.12.1998
		€	€
ASSETS			
Fixed assets			
Tangible assets			
		445	430
		2,752	2,019
		263	284
	11)	3,460	2,732
Funding operations			
		110,417	89,115
		10,537	7,991
		8,869	4,703
		49	0
	12)	129,873	101,809
Endowment capital investments			
		108,175	108,596
		186,097	124,784
		13,214	0
		20,328	22,184
		32,938	24,490
	13)	360,751	280,053
		494,084	384,595
Current assets			
Accrued income			
	14)	5,234	3,481
		7,301	1,964
		12,535	5,444
TOTAL ASSETS		506,619	390,039
LIABILITIES			
Equity			
		134,550	134,550
		204,603	181,215
		100,117	23,388
		439,270	339,153
Transfers			
		24,067	15,677
Liabilities			
Short-term			
		76	29
		10,033	4,056
	15)	33,172	31,124
		43,281	35,209
TOTAL LIABILITIES		506,619	390,039

NOTES TO THE FINANCIAL STATEMENTS

ACCOUNTING PRINCIPLES

The Balance Sheet value of venture-capital investments is recorded at their historical acquisition value or a lesser sum determined by internal valuation. The internal valuation procedure is performed twice a year and any necessary value adjustments (revaluation or devaluation) made on the basis of the valuation at year-end included in the financial statements. The value of investments in venture-capital funds is calculated using the same principles where applicable. The basis of their value is the same as that given by the funds for their portfolios.

Sitra's accounts follow the same principles as laid down in the Accounting Act with the following exceptions:

- in the case of corporate funding early-stage investments (seed finance) a risk reserve is made in accordance with the principle of prudence.
- expenses incurred in the commercialisation of technology, innovative projects and training are recorded as expenses and the same applies to debts on which repayment is conditional.
- repayments related to funding decisions (income) are recorded only after payment has been received.

NOTES TO THE PROFIT AND LOSS ACCOUNT (in € 1,000)

Further details are given here of the different items in the Profit and Loss Account. The number refers to the corresponding entry in the Profit and Loss Account.

CORPORATE FUNDING

1 Income from corporate funding	1999	1998
seed finance	124	350
growth companies	8,382	2,327
investment in venture-capital funds	18,403	5,318
commercialisation of technology	23	37
	26,932	8,031
Seed finance		
capital refunds	46	60
interest payments	24	175
profit from sales	50	82
dividends	4	10
other income	0	22
	124	350
Growth companies		
capital refunds	30	204
interest payments	267	848
profit from sales	5,868	1,232
dividends	2,204	41
other income	12	1
	8,382	2,327
Investment in venture-capital funds		
shares in profits	18,097	5,633
capital refunds	143	0
profit from sales	130	0
dividends	34	0
other income	0	-315
	18,403	5,318

Commercialisation of technology

capital refunds	5	12
interest payments	8	18
dividends	1	1
other income	8	5
	23	37

2 Expenses from corporate funding	1999	1998
seed finance	12,983	8,713
growth companies	2,394	2,120
investment in venture-capital funds	46	967
commercialisation of technology	565	185
	15,988	11,985

Seed finance

expenses	636	260
value adjustment	3,958	2,905
change in risk reserve	8,390	5,548
	12,983	8,713

Growth companies

expenses	333	269
value adjustment	2,061	1,852
	2,394	2,120

Investment in venture-capital funds

expenses	121	310
value adjustment	-75	657
	46	967

Commercialisation of technology

expenses	488	185
value adjustment	76	0
	565	185

3 Other expenses

= operational expenses		
seed finance	17	43
growth companies	264	176
investment in venture-capital funds	62	18
commercialisation of technology	52	10
	394	247

RESEARCH, INNOVATIVE PROJECTS AND TRAINING

4 Return on investment	1999	1998
research	22	17
innovative projects	0	0
	22	17

5 Investment expenses

research	1,681	2,829
innovative projects	1,106	1,316
training	759	629
	3,546	4,774

6 Other expenses

research	65	38
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A total of 30 innovative projects and research projects received funding during the year under review. As examples mention may be made of the following:

Globalisation and European projects	
Globalisation, welfare and employment	
Growth triangle in the Gulf of Finland	
Monetary union and Europe	
Questions concerning the future of Europe	
Multiculturalism from a business perspective	
Information-society projects	
Renewing information society strategies	
Preparing spearhead projects for the information society	
Influences of technology on teaching and learning	
Information technology and economic development	
Learning Ylä-Karjala	
Innovations	
Research programme for innovative systems	
Skills technology	
Know-how and the creation of new in networks	
Cultural industry	
Points of view series	
The theology of money and European churches	
Religion and the present-day	
Europe's Northern Frontier – Perspectives on Finland's Western Identity	
Ageing	
Barrier-Free World	
Senior 2000	
Training projects	
Economy 2000+ programme	
Economic policy - forum and panel	
Russia course for EU journalists	
EU training for journalists	
Venture-capital investment training	

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ADMINISTRATION

7 Personnel expenses	1999	1998
Personnel expenses		
wages and salaries	2,458	1,858
pension expenses	498	361
other payroll expenses	277	211
	3,233	2,430
other personnel expenses	482	293
	3,715	2,722

Of the administrative staff one was on maternity leave and one on sick leave and of the corporate funding staff one was on leave of absence and another on rotation leave.

The total number of project personnel employed by Sitra was 21 (1998 15). Of these wages and salaries and other payroll expenses € 1.1 million was attributable to expenses in investment projects.

Personnel at year-end		
corporate funding	22	17
research	6	4
administration	24	26
	52	47

8 Depreciation	1999	1998
Depreciation according to plan		
machinery and equipment	206	165
other capitalised expenditure	49	35
renovation of office premises	62	61
	317	261

Depreciation according to plan on fixed assets is calculated in equal instalments of the original acquisition value for the useful life of the asset.

Useful life as used in depreciation according to plan	
other capitalised expenditure	5 years
renovation of office premises	10 years
machinery and equipment	5 years
computer equipment acquired after 1.1.1999	3 years

Depreciation of € 0.1 million on invested assets is calculated correspondingly and included in corporate funding expenses.

INVESTMENT OPERATIONS

9 Income from investment operations	1999	1998
interest income	7,382	8,245
debenture-price gains	1,245	4,811
exchange-rate gains	964	805
profits from sales	91,437	31,292
profits from sale of real estate	0	886
dividend income	6,156	4,734
rental income	687	970
	107,871	51,743

10 Expenses from investment operations		
value adjustments	9,323	9,501
repaid value adjustments	-4,374	-408
losses on sales	1,983	5,152
exchange-rate losses	148	407
debenture-price losses	1,707	570
management fees	1,543	846
real-estate expenses	205	276
value adjustment of real-estate shares	1,105	891
other expenses	48	126
	11,687	17,360

Value adjustments are calculated on the basis of acquisition. For Finnish shares the latest trading price is used. In valuing bonds and debentures and foreign shares the trading price given by the assets-managing company is used.

NOTES TO THE BALANCE SHEET (in € 1,000)

Further details regarding the contents of the Balance Sheet are given here. The number refers to the corresponding entry in the Balance Sheet.

11 Tangible assets

During the year under review fixed assets to a value of € 0.3 million were acquired (1998 € 0.3 million).

	Acquisition cost	Depreciation according to plan	Book value
	Dec. 31, 1999	Dec. 31, 1999	Dec. 31, 1999
machinery and equipment	979	568	411
other capitalised expenditure	260	132	128
renovation of office premises	617	482	135
other fixed assets	34	0	34
	1,889	1,181	708

shares and participations	1999		1998
shares in office premises	2,743		1,991
other shares	9		28
	2,752		2,019

12 Fund investments	1999	change	1998
seed finance	24,067	8,390	15,677
growth companies	26,216	-670	26,886
investment in venture-capital funds	76,120	20,463	55,657
commercialisation of technology	3,260	592	2,668
other investments	160	-760	920
other short-term investments	49	49	0
	129,873	28,064	101,809

Seed finance, 58 companies

Abmin Technologies Oy	Lamicon Oy Ltd
Aislo Oy	Lifechart.com
Artscan Oy	Mapvision Oy
Audibit Oy	Mechanical Assembly and
Bevesys Oy	Consulting Mac Oy
Bio-Nobile Oy	Medikro Oy
BioTie Therapies Oy Ltd	Meteori Books Oy
Cellomeda Oy	Mevire Oy
Clids Oy	Moduleo Oy
Contral Pharma Ltd Oy	Nanobac Oy
Diabor Oy	Nanoway Oy
EMF Acoustics Oy	Newtest Oy
Finland Travel Marketing Oy	Novasso Oy
Finnish Immunotechnology Oy	Optatech Oy
Fluilogic Systems Oy	Optonex Oy
Fruit Wash Oy	Osfix International Oy
Galilaeus Oy	Panphonics Oy
GWM-Systems Oy Ltd	Payway Oy
Haico Oy	Polymer Corex Kuopio Oy
Heptagon Oy	Primco Oy
Hi-Col Oy	Remedy-Consulting Oy
High Speed Tech Oy Ltd	Reuser Oy
HMM Software Oy	Smilehouse Oy
Hormos Medical Oy Ltd	Toolmakers Lahti Oy
Innomedica Oy	TR-Tech Int. Oy
IST International Security	Unicraft Oy
Technology Oy	Unicrop Oy
Juvantia Pharma Oy Ltd	Uniqmed Oy
Kibron Oy	Voxlab Oy
Kultaturve Oy	Winrock Technology Oy Ltd

Venture-capital investments	Dec. 31,1999	change	Dec. 31,1998
shares and participations	20,253	7,333	12,919
capital loans	11,215	1,851	9,363
other loans	2,245	-822	3,067
value adjustments	-9,645	27	-9,672
	24,067	8,390	15,677

A total of 20 new seed companies came about during the year. Altogether € 10.3 million was invested in these. During the year Sitra withdrew from 22 seed companies. Of these five were sold, three went bankrupt (original sum invested € 0.5 million), five companies were removed from the active portfolio and nine were transferred to the group of growth companies.

Growth companies, 41 companies

Alcap Oy	DBC Holding Oy
Aplac Solutions Oy	DBC International Ltd
Aplicom Oy	DeskArtes Oy
ContraI Clinics Oy	DIARC-Technology Oy

Diomed Inc.	Porin Teollisuusautomaatio Oy
FibroGen Inc.	Quality Production &
Fimet Oy	Research Oy Ltd
Finnsonic Oy	Rados Technology Oy
Fluid-Bag Oy Ab	Rauma Materials Technology Oy
FoodFiles Oy Ltd	RollTest Oy
Hidex Oy	Setec Oy
Ion Blast Oy	Shanghai Fimet Medical
Kielikone Oy	Instruments Company Ltd
Labmaster Oy	Syncon Tech Oy
Mail Systems Oy	Sysline Oy
MAP Medical Technologies Oy	Tapvei Oy
Mega Elektroniikka Oy	Tassu-Taimisuoja Oy
Megatrex Oy	Tecnomen System Solutions Oy
Mytek Oy	TV-Tampere/Skycom Oy
Neorem Magnets Oy	Vista Communication
Okmetic Oy	Instruments Oy
Pharming Health Care	VLSI Solution Oy
Products B.V.	

Investments	Dec. 31,1999	change	Dec. 31,1998
shares and participations	28,899	-1,179	30,078
capital loans	4,864	1,167	3,697
other loans	3,518	-616	4,135
value adjustments	-11,066	-42	-11,024
	26,216	-670	26,886

During the year under review one new growth company was added to Sitra's portfolio. In addition, nine companies were transferred from the seed stage to the growth stage. Eleven growth companies were dropped from the portfolio during the year. Of these five were sold, one went bankrupt (initial investment € 0.8 million) and five were dropped from the active portfolio.

Investment in	Dec. 31,1999	change	Dec. 31,1998
venture-capital funds			
international funds and asset-	27,972	4,130	23,841
management companies			
regional funds and	12,715	5,922	6,793
management companies			
other Finnish funds and	35,434	10,411	25,023
management companies			
	76,120	20,463	55,657

International funds and asset-management companies

Funds
Advanced European Technologies N.V.
Associated Venture Investors III L.P.
Atlas Venture Fund III L.P.
Baltic Investment Fund I L.P.
Baltic Investment Fund II L.P.
Baring Capricorn Ventures L.P.
Boston Millenia Partners L.P.
Crescendo III L.P.
EBRD North-West Russia Regional Venture Fund B.A.
Edison Venture Fund IV L.P.
European Renaissance Capital L.P.
Euroventures Nordica II B.V.
Global Private Equity II L.P.
Hambros Advanced Technology Trust II L.P.
Hambros Advanced Technology Trust III L.P.
InnKap II Partners Kb
Proventure Managed European Fund Investments UK L.P.
The Russian Technology Fund L.P.
Strategic European Technologies N.V.
Technologieholding Central and Eastern European Fund N.V.

Management companies
 Baltcap Management Oy
 Baltic Investment Fund Management Ltd
 Baltic Venture Advisers Oy Ab
 Dolphin Associates Ltd
 EQM Proventure Oy
 European Fund Investments Carried Interest Trust
 Oy Nordic Russian Management Company Ltd *)
 Nordic Venture Partners Ltd
 Norum (Cyprus) Limited
 RTF Management Ltd

*) through Sitra Management Oy

Sitra has invested in these twenty funds and nine management companies

	Dec. 31,1999	change	Dec. 31,1998
shares and participations	27,174	2,738	24,437
capital loans	0	0	0
other loans	1,409	1,317	92
value adjustments	- 612	75	-687
	27,972	4,130	23,841

Regional funds and management companies

Funds	Management companies
Aboa Venture Ky I	Aboa Venture Management Oy
Ganal Venture Ky	Indekon Management Oy
Indekon Oy	Nordia Management Oy
Innoventure Oy	Sentio Invest Oy
Karinvest Oy	Teknia Invest Oy
Matkailunkehitys Nordia Oy	Tekno Advisors Oy
Midinvest Oy	
Pikespo Invest Oy	
Savon Teknia Oy	
Spinno-seed Oy	
Teknoventure Oy	
Vakka-Suomen Pääomarahasto Ky	

In these twelve regional funds and six management companies Sitra has invested

	Dec. 31,1999	change	Dec. 31,1998
shares and participations	12,715	6,023	6,692
capital loans	0	0	0
other loans	0	-101	101
value adjustments	0	0	0
	12,715	5,922	6,793

Other Finnish funds and management companies

Funds	Management companies
Bio Fund Ventures I Ky	Sitra Management Oy
Bio Fund Ventures II Ky	Bio Fund Management Oy *)
Eqvitec Teknologiarahasto I Ky	Eqvitec Partners Oy *)
Finnventure Rahasto II Ky	Sitra Fenno Management Oy *)
Finnventure Rahasto III Ky	
MB Equity Fund Ky	

*) through Sitra Management Oy

In these six funds and one management company Sitra has invested

	Dec. 31,1999	change	Dec. 31,1998
shares and participations	32,064	7,041	25,023
capital loans	0	0	0
other loans	3,370	3,370	0
value adjustments	0	0	0
	35,434	10,411	25,023

Commercialisation of technology

Aboatech Oy Ab
 Culminatium Oy
 Finn-Medi Tutkimus Oy
 Finntech Finnish Technology Ltd
 Helsingin Tiedepuisto Oy
 Helsingin Yliopiston Holding Oy
 Innopoli Oy
 Intellect Partners L.P.
 Oulutech Oy
 Sitrans Oy Ltd
 Tuotekehitys Oy Tamlink

In these eleven companies Sitra has invested

	Dec. 31,1999	change	Dec. 31,1998
shares and participations	2,135	312	1,823
capital loans	845	757	88
other loans	357	-400	757
value adjustments	-76	-76	0
	3,260	592	2,668

Other investments

EASDAQ European Association SA

Sixteen companies were removed from the active portfolio.

In these seventeen companies Sitra has invested

	Dec. 31,1999	change	Dec. 31,1998
shares and participations	3,727	1,512	2,215
capital loans	1,408	1,378	30
other loans	1,207	-330	1,537
value adjustments	-6,182	-3,320	-2,862
	160	-760	920

13 Endowment capital investments 1999 1998

Long-term investments		
bonds and debentures	99,564	99,160
Finnish shares	124,105	87,082
foreign shares	61,992	37,702
fund participations	13,214	0
real-estate investments	20,328	22,184
Short-term investments		
bonds and debentures	8,610	9,436
investment certificates	28,530	23,380
asset management accounts	3,967	957
other short-term investments	441	152
	360,751	280,053

Difference between the acquisition cost of shares and participations forming part of investment property and market value

market value	908,536	355,205
corresponding book value	186,097	124,784
difference	722,439	230,421

14 Accruals

Interest payments for the year under review on income from investment operations were € 3.4 million.

15 Liabilities from founding operations

Debts arising out of investment operations are made up of funding agreements on which agreement has already been reached and Sitra's liability exists.

**LOANS ENTERED AS EXPENSES
WHERE REPAYMENT WAS DUE
BY DECEMBER 31, 1999**

Loans which were due for repayment by the end of the financial year entered as expenses amounted to € 4.2 million (1998 € 4.7 million). Of these loans € 0.1 (0.1) million were ones that had already been repaid and where repayment is made according to a fixed timetable and € 2.6 (1.2) million the repayment of which is made on the basis of royalties instead of a fixed timetable. Loans which had not been repaid or where agreement has not yet been reached on the terms of repayment amounted to € 1.5 (3.3) million.

**OFF-BALANCE SHEET LIABILITIES
– DECEMBER 31, 1999**

Where funding has been agreed but no agreement yet signed	1999	1998
seed funding	2,964	2,182
growth company funding	1,516	142
fund investments	2,971	8,011
commercialisation of technology	227	0
research	1,436	31
innovative projects	4,444	420
other funding	114	0
	<u>13,672</u>	<u>10,786</u>

GUARANTEES

Guarantees for others total € 0.1 million (1998 € 0.4 million).

Helsinki, February 3, 2000



Raimo Sailas



Erkki Virtanen



Markku Linna



Esko Ollila



Hannele Pohjola



Aatto Prihti

AUDITORS' REPORT

Having been appointed by the Finnish Parliament as auditors we have examined the financial statements, the bookkeeping and administration of the Finnish National Fund for Research and Development (Sitra) for the financial period 1999 to the extent required by good auditing practice.

SVH Pricewaterhouse Coopers Oy have performed the internal audit and audit of funded projects. We have familiarised ourselves with their reports of these audits.

The financial statements, which show a surplus of € 100,117,185.07,

have been drawn up in accordance with current legislation. The financial statements present a correct and adequate description of the Fund's activities and its financial position.

We recommend that the Profit and Loss Account and the Balance Sheet be adopted and that members of the Board of Directors and the president be discharged of responsibility for the financial period covered by our audit. We recommend that the proposal for disposal of the profits made by the Board of Directors be approved.

Helsinki, February 9, 2000



Johannes Leppänen



Ville Itälä



Reino Majala

Authorised Public Accountant



Iivo Polvi

Chartered Public Finance Auditor
Approved Accountant



Matti Saarinen



J. Kalervo Virtanen

Authorised Public Accountant

New offices in Ruoholahti in the year 2000

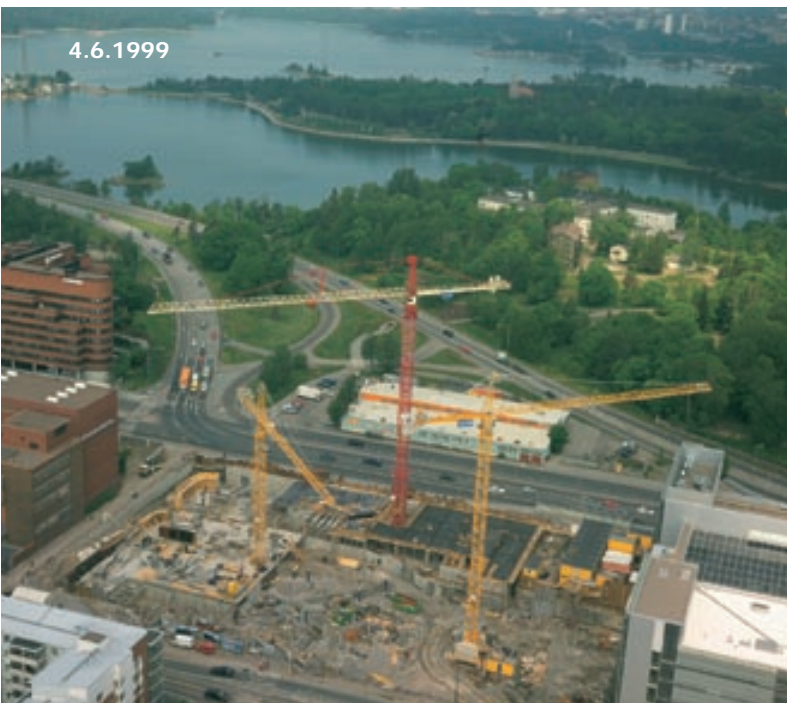
■ Sitra is involved in the Kiinteistö Oy Itämerentori building project both as an investor and as a leaser of office space. The sixteen-storey tower block designed by Pekka Helin and being built by YIT Corporation is situated in Ruoholahti in Helsinki and will be completed in November 2000.

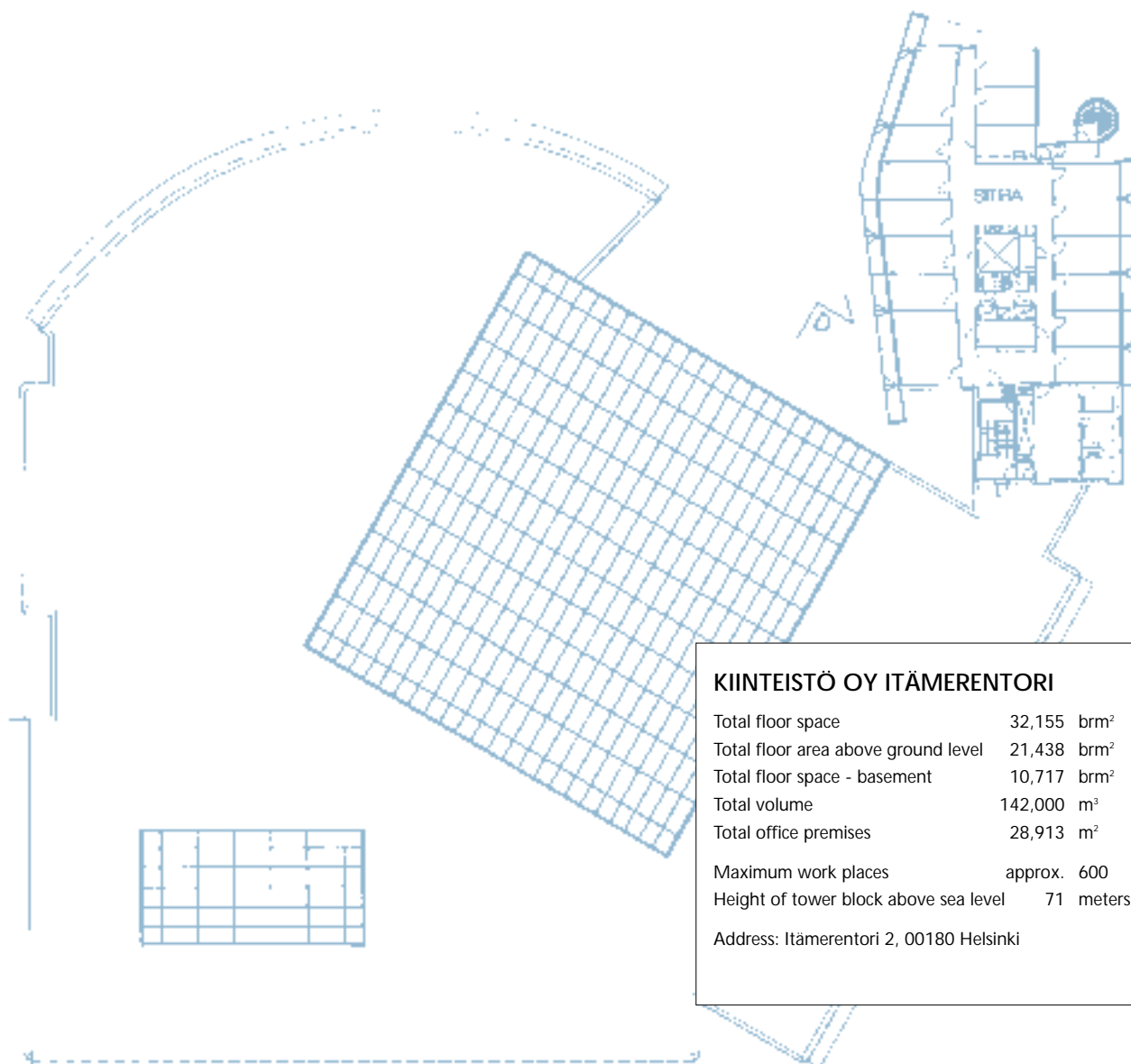
“Sitra’s present premises are not enough to serve our purposes adequately. A few years ago we began to consider a new project to invest in that would also benefit Sitra directly. An opportunity arose to join the Itämerentori office project. The tower block will stand on a central site in a modern high-tech environment. It will offer us a chance to build sufficient conference rooms equipped with the technical solutions we require,” says **Olli Lindblad**.

The facades of the tower block are being constructed mainly of steel and glass. The arcade areas with their pillars are faced with

natural stone. In the technical solutions and choice of materials efforts have been made, bearing in mind the entire life-cycle costs and the environment. The Itämerentori real-estate company is a pilot project for the Helsinki Energia district air-conditioning project, in which cool air will be taken from outside to cool the building.

Sitra owns about a third of the shares in the real-estate company. The total floor area of the building will be about 20,000 m², of which Sitra will have 6,600 m² at its disposal. Ten floors of the tower block will be available for Sitra’s use and the remainder will be let.







SITRA

Finnish National Fund for Research and Development
Uudenmaankatu 16 B, P.O.Box 329, FIN-00121 Helsinki, Finland
Phone +358 9 618 991, Fax +358 9 645 072
E-mail: sitra@sitra.fi
Internet: www.sitra.fi