BIOHIT

ANNUAL REPORT 2000

The Humming Bird

The qualities of the humming bird symbolize Biohit's product groups of liquid handling, diagnostics, instruments, service as well as the complete analyzing systems composed of these product groups.

Biohit's products are characterized by excellence in the selected areas of specialization and performance: versatility, flexibility, power, speed, light weight, design, ergonomy, accuracy and precision as well as safety in delicate operations.

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OVERVIEW ON BIOHIT

Biohit, operating in the areas of biotechnology and high technology, was founded in 1988. The founders and owners have invested, in addition to innovations, experience and know-how, a significant amount of capital in the company. As a result, Biohit has been able to develop simultaneously and successfully its products, production technologies, and its global co-operation and customer service network. Biohit co-operates on the international level with such multinational companies as Beckman Coulter, Becton Dickinson, bioMérieux, Johnson & Johnson and 3M. Exports account for approx. 96% of the Group net sales, and the degree of domestic production is approx. 95%.

Biohit's first vision to develop into one of the world's leading manufacturers of liquid handling products in the 1990s has been realized. Today, Biohit's global market share of electronic liquid handling devices is 70%, and the range of liquid handling products is the widest in the world. During the 1990s Biohit has successfully developed further its holistic vision on innovative diagnostic products, which together with the liquid handling devices, instruments, related software and maintenance form complete analyzing systems.

Biohit's diagnostic tests, which are based on biotechnology, have served as a guideline for the development of liquid handling products, instruments and software into synergistic analyzing systems. These systems and most of their components are expected to become dominant designs and industrial standards on the global markets.

In order to benefit more effectively from the possibilities offered by the overall, approx. USD 7.0 billion global market potential for liquid handling products, diagnostic tests and instruments, Biohit listed as the first biotechnology company on the New Market -list of the Helsinki Exchanges in June 1999. In connection with the listing Biohit carried out a directed share issue producing MEUR 9.0 in new capital. All funds received will be used for the further development of the company. Biohit's entire personnel both in Finland and abroad are shareholders in the company.

The listing price for Biohit's share was EUR 4.5. In January 2000 the share price rose to EUR 13.5. During the latter half of 2000 the price varied between the levels of EUR 6-7. In 2000 the number of Biohit's shareholders increased by approx. 50% to over 4,000.

Biohit's production plants are located in Kajaani and Helsinki. The sales and marketing subsidiaries abroad are located in France, Germany, Italy, Japan, Russia, the U.K. and the U.S. Biohit's 60 main distributors, which together with their local distributors form a network of 450 members, cover 70 countries. In 2000 international business continued to account for approx. 96 % of the Group net sales (MFIM 144.2). 53 % of the net sales were generated from European countries, 19 % in the Americas and the remaining 28 % primarily in Asia. Liquid handling products constituted the main part of the net sales.

Highlights in 2000

- Completion of the new production plant in Kajaani
- Accreditation of the calibration laboratory for liquid handling products
- Continuation of aggressive patenting policy
- Test panel for diagnosing *Helicobacter pylori*[1] -infection and atrophic gastritis[2], as well as for screening the risk of gastric cancer and peptic ulcer successful in clinical evaluations. Tests for diagnosing lactose intolerance[3] and SLE[4] successful in clinical evaluations. Test panel for diagnosing celiac disease[5] complemented with a new test and became ready for sales.
- Preparations to commence the global marketing and sales of diagnostic tests and analyzing systems
- Commencement of the sales of instruments
- Reinforcement of the international collaboration and customer service organization through acquisitions in the U.S. and Russia

Biohit's Vision until 2005

As a result of the realization of the Biohit's first challenging vision, which extended to the end of the 1990s, a new vision has been set until 2005.

- Strong broadening of Biohit's business portfolio with new product solutions and analyzing systems, which are expected to replace older solutions and products on the markets
- Promoting Biohit's new product areas, which represent considerably larger business volumes than the existing ones, towards global market leadership
- Notable increase in the level of Biohit's net sales and profitability

[1] *Helicobacter pylori* causes atrophic gastritis and is nearly always connected with the development of gastric cancer and peptic ulcer.
[2] Atrophic gastritis refers to a loss of normal mucosal glands of the stomach, which is caused by prolonged *H. pylori* -infection.
[3] Lactose intolerance is caused by the lack of the lactase enzyme, which breaks down milk sugar (lactose), in the mucous membrane of the small intestine.
[4] Systemic Lupus Erythematosus (SLE) is an autoimmune disease resembling rheumatic diseases.
[5] The celiac patient is not able to consume most grain products.

Group's Key Financial Indicators

(FIM 1000 unless stated otherwise)	1996	1997	1998	1999	2000
Net sales	75 144	86 101	100 369	122 191	144 167
Operating profit/loss	2 358	2 459	8 246	7 921	-2 868
% of net sales	3.1	2.9	8.2	6.5	-2.0
Profit/loss before extraordinary items, voluntary provisions and income taxes	-1 316	1 044	2 679	4 906	-3 450
% of net sales	-1.8	1.2	2.7	4.0	-2.4
Profit/loss before voluntary provisions and taxes	-1 330	939	6 786	6 906	-2 030
% of net sales	-1.8	1.1	6.8	5.7	-1.4
Return on equity, %	*)[6]	*)	12.1	3.8	-4.6
Return on investment, %	7.5	10.8	12.2	8.5	-0.8
Equity ratio, %	-9.5	-5.1	38.8	66.0	66.9
Investments in fixed assets	4 646	5 154	8 276	7 555	36 911
% of net sales	6.2	6.0	8.2	6.2	25.6
Research and development	3 700	3 700	4 400	6 367	10 094
% of net sales	4.9	4.3	4.4	5.2	7.0
Total assets	74 853	73 814	109 611	146 851	146 417
Personnel, average	146	154	164	184	222

Share Capital, Shares and Key Ratios

	1996	1997	1998	1999	2000
Share capital, end of fiscal year					
Number of shares, end of fiscal year	5 753 537	6 253 537	10 264 537	12 264 537	12 643 377
Key Ratios					
Earning per share (EPS), FIM (group)	-0.25	0.18	0.38	0.24	-0.37
Shareholders´ equity per share, FIM	-1.33	-0.66	4.11	7.88	7.73

Turnovers and Prices of Shares in 2000

Turnover EUR	Turnover Shares	Average Price EUR	Lowest Price EUR	Highest Price EUR	Closing Price EUR	Market Capitalization EUR[7]
27 106 757. 46	3 646 849.00	7.43	4.2	13.5	6.2	78 388 937.40

Publication of Biohit's Interim Reports in 2001

Biohit will publish the interim reports for 2001 as follows:

- 1-3/2001: May 9
- 1-6/2001: August 8 and
- 1-9/2001: November 7.

[6] *) Shareholders´equity negative in 1996 and 1997
[7] Market price for capital stock assuming that market price of A-share is the same as that of B-share.

LETTER FROM THE PRESIDENT

Osmo Suovaniemi, President & CEO

During the past decade Biohit has developed into a versatile, globally operating biotechnology company. The needs of high quality research and modern health care require the employment of new equipment, diagnostic tests and complete analyzing systems composed of them. These needs serve as a guideline for our innovations and pioneering work. Our diagnostic tests, the development and production of which are based on the use of biotechnology, guide the development of instruments and related software. In 2000 we have concentrated our efforts on such synergistic niche-areas[8] in which we possess a solid research base, product innovations, production technologies, know-how, collaboration with the academic community, and a global cooperation and customer service network.

Biohit is exceptional in many ways. In particular, our management and key personnel are not newcomers in the areas of biotechnology but many of us have acted since the 1970s as internationally renowned pioneers in the business areas of biotechnology and related technologies. We have created standards for research, laboratory work and diagnostics[9,10], which have served as examples and bases of success for numerous companies. These standards have promoted research and the develoment of laboratory work and diagnostics all over the world. Similarily, the majority of Biohit's current personnel have contributed to our development from the very beginning. We have not grown in the shade of other companies but have independently created a strong and stable basis for our success.

Biohit is exceptional, compared with many other companies, also in that we listed on the New Market -list of the Helsinki Exchanges in June as a company that already operated on the global level. All funds received in connection with the directed share issue will be used for the further development of Biohit. During listing the subscription price of Biohit's share was EUR 4.5. In January 2000 the share price reached EUR 13.5. During the second half of 2000 the price varied between EUR 6-7. During 2000 the number of shareholders increased by approx. 50% to over 4,000.

Challenges Posed by the Changing World

The development trends in research and medicine, and Biohit's preparedness to respond to these challenges affect our vision and the realization of the related goals. Biohit has focused its business on those areas for which we can offer products and services that are based on our innovations and know-how. Our products and technologies are used in different types of laboratories, which carry out research and develop new methods, e.g., for the diagnosis of infectious and cancer diseases. Biohit's current and new products benefit research on microbial and human genomes, and the related diagnostics as well as medical research.

[8] Synergistic niche areas refer to narrow and specialized market areas which are closely related with and support each other.

[9] Osmo Suovaniemi's inventions: The adjustable mechanical pipette (Finnpipette) and vertical measurement principle and its numerous applications (e.g. Multiskan). Finnpipette and Multiskan are registered trademarks of Labsystems Oy. For example, companies such as Becton Dickinson, bioMérieux, Eppendorf, Johnson & Johnson and 3M use applications of Biohit's electronic liquid handling innovations.

[10] Suovaniemi, O. (1994). *Automated Instrumentation for Clinical and Research Laboratories - Innovations and Development of Vertical Light Beam Photometers and Electronic Pipettors*, Ph.D. Thesis, University of Helsinki.

The Human Genome Project is expected to be completed within a couple of years. However, the research work undertaken on the functioning of the max. 40,000 human genes (Postgenomic Era) is only at its early stage. It may well be that the work will not be finished even within decades. For this reason the future poses many challenges and much work for basic research and medicine, which utilize, e.g., instruments and products needed for PCR-[11] and HTS-[12] methods. The same applies for companies manufacturing this equipment. This area of work can be expected to expand when, in addition to human genes, also the genes of animals and plant microbes are studied.

In the area of medical diagnostics the trend is strongly towards solutions from which the doctor and, especially the patient, benefit. At present POC[13] diagnostics is taking a foothold on the markets. Likewise, a shift is taking place from centralized to decentralized laboratory services. The ultimate goal is the highly specific treatment of illnesses, so-called Evidence-Based Medicine. A prerequisite for the success of this highly specific treatment is a correct diagnosis made before commencing the treatment and the availability of highly sensitive drugs.

Biohit Responds to the Challenges

Biohit currently offers products for the different applications described above. Our goal is to reinforce and speed up the described development trend for examination and treatment, which is currently only at its early phase. For example, Biohit's gastric test panel, together with the related software (GP-package)[14] is especially well suited for the use of general practitioners. The diagnoses, which can be made quickly and easily with the GP-package from a blood sample, complement, and in many cases may replace, the inconvenient and expensive gastroscopy[15] as the primary method when seeking a diagnosis for the stomach disorders of a patient. The correct diagnosis and treatment of a patient suffering from acute or chronic stomach disorders and pains is most successful if the doctor can rely on comprehensive and quick laboratory services. This requires the availability of basic laboratory services at doctors' offices and medical centers, and, thus, renders unnecessary the utilization of outside services. Biohit's new research methods, which are targeted to the diagnosis of gastrointestinal diseases, represent a new alternative for certain areas of medicine, namely gastroenterology, in which the selection of laboratory tests has traditionally been very narrow and gastroscopy has nearly always been the only diagnostic choice.

[11] The Polymerase Chain Reaction (PCR) -technique is used for the amplification of small amounts of DNA.

[12] High Through-Put Screening (HTS) refers to the study of large amounts of samples.

[13] Point-of-care (POC) refers to a quick test which is performed close to the patient.

[14] The Gastric Program (GP) -package includes three tests made from a blood sample: Determination of the Pepsinogen I- and Gastrin-17 concentrations and *H. pylori* -antibodies. On the basis of the test results the computer program (GastroSoft®) makes a diagnosis of atrophic gastritis and the *H. pylori* -infection. The program also indicates the patient's risk to suffer from gastric cancer or peptic ulcer. Moreover, the program makes recommendations for the treatment of the *H.pylori* -infection and further examinations (gastroscopy and the determination of the concentrations of vitamin B12 and homocysteine from a blood sample).

[15] Gastroscopy is used for the examination and assessment of the mucous membrane of the stomach and small intestine. Biopsies are taken from the mucous membrane for laboratory studies in connection with gastroscopy.

Biohit's GP-package, the other diagnostic test kits, as well as analyzing systems composed of diagnostics, liquid handling products, instruments and related software are well-suited for decentralized laboratory diagnostics. The decentralized laboratory diagnostics is a core prerequisite for the beginning of the theranostic era[16].

Biohit's GP-package combined with certain drugs of selected medical companies is a suitable concept for theranostics and highly specific medication. This opens up possibilities for co-operation between Biohit and medical companies. It has been estimated that within five years the theranostic tests will form a significant part of the markets for IVD-tests[17]. Currently, the total size of the IVD markets has been estimated to be approx. USD 20 billion.

Correctly Selected and Sound Strategies

Our understanding of the changes taking place in our business environment enhances the realization of our vision and the objectives derived from it. In order for us to respond to these changes, the rapidly growing needs related with the development trends and to find solutions to these needs, the operating strategies of the different parts of our business idea need to be correctly selected and sound.

So far Biohit has been able to develop simultaneously and successfully its products, production technologies and its global co-operation and customer service network. Biohit co-operates on the international level with such multinational companies as Beckman Coulter, Becton Dickinson, bioMérieux, Johnson & Johnson, and 3M. Exports account for approx. 96% of the Group net sales, and the degree of domestic production is approx. 95%.

In research and development we pay special attention to sound basic research and innovations which underlie our products. We co-operate successfully with scientists who represent various fields of research. Our aggressive patenting strategy ensures, e.g., that our intellectual property remains within the company and the quality of R & D continues to be high. The patented methods and technologies protect us from competition and promote co-operation with multinational companies.

One of Biohit's additional strengths is that our production is not outsourced. However, Biohit uses to a certain extent subcontractors which have been tried and found suitable. As a result, we control the most important production technologies and related costs. Our R & D work and pilot production are smoothly linked into our mass production. The capacity of our new, partially automated production plant finished in Kajaani in 2000 enables us to quadruple the current volume of production. A new clean room, which will replace the pilot production of diagnostics, will be completed in Helsinki in March 2001.

[16] The term *theranostics* describes an evolving group of products that link diagnostics with medical treatment. They are also known by some companies as *predictive medicine*. Theranostics may identify which patients would be most suited to a particular drug therapy or could be used to provide feedback on how well a drug is working in order to tailor the optimum treatment regimen. Many theranostic products need to be POC tests. In many cases, the results of the tests need to be available quickly and at the patient's side, in order to influence therapy.

[17] In Vitro Diagnostic (IVD) -test refers to a test made from a patient sample (e.g. blood sample).

Biohit has also a globally established sales and marketing network. Biohit's seven subsidiaries and 60 main distributors with their own customer service networks contribute to reinforcing the Biohit brand name and Biohit's image on the international markets. Our co-operation with multinational companies promotes our products on those market segments to which our innovations would not otherwise have access.

Our current products as well as those finished in 2000 are in the position of entering markets, the overall potential of which has been estimated to be approx. FIM 40 billion. This potential is comprised of the approx. FIM 10 billion current market value for liquid handling products, instruments employing the vertical measurement principle and their accessories, as well as the over FIM 30 billion market potential for diagnostic tests[18]. We face a challenging future with regard to benefiting from and increasing the value of these markets and their potential.

Results of Our Co-Operation in 2000

In 2000 the net sales of the Biohit Group totalled to MFIM 144.2. Despite an exceptional gross investment of MFIM 42.0 the operating loss of the Group totalled to only MFIM 2.8. The cash flow provided by operating activities was MFIM 7.2 positive. When taking into consideration the MFIM 10.1 investments in research and development, Biohit's investments in the future totalled to MFIM 52.1 in 2000. In 1999 the average number of personnel totalled to 184 and to 222 in 2000. The current number of personnel totals to 265 of which 90 work in the subsidiaries, 85 at the Kajaani plant and 90 at the headquarters in Helsinki. The net sales were primarily generated by the sales of liquid handling products. The commencement of the sales of diagnostic tests, instruments and complete analyzing systems are expected to have a positive impact on the growth and profitability of the company. This applies also to the liquid handling products, which are targeted to new market segments and were finished in 2000.

During 2000 Biohit's significant investments in products, production and marketing and the increase of the number of personnel has paved the way for strong and profitable future growth. For example, the fact that we are able to offer solutions and products which are based on our numerous innovations, know-how and modern technologies, for the needs and development of basic and industrial research and modern medice, serve as a basis for our vision.

I express my sincere gratitude to Biohit's old and new personnel in Finland and abroad, to our over 4,000 shareholders and other interest groups for the trust you have demonstrated towards Biohit. In a changing world we are engaged in valuable and successful co-operation which benefits research and human welfare.

Helsinki, February 1, 2001

Yours sincerely,

Osmo Suovaniemi, M.D., Ph.D.
President and CEO

[18] MeritaNordbanken Research 6.3.2000.

BIOHIT GROUP

Biohit's Competence and Business Idea

The experience, skills and accumulated intellectual assets of Biohit's personnel are our most crucial resources. Biohit's current management and certain key persons developed and commercialized successfully two inventions made by Dr. Osmo Suovaniemi in the 1970s. These inventions have served as examples for numerous smaller and large companies all over the world. The inventions were the single- and multichannel, adjustable, mechanical pipettes (Finnpipettes[19]) and vertical light path photometry together with its instrument applications (Multiskan[20]). These inventions have been utilized so extensively that they can justifiably be called global industrial standards.

The liquid handling instruments, systems and their accessories have served as the bases for Labsystems and joint venture Eflab, the companies founded by Dr. Suovaniemi in the 1970s, and subsequently for the global businesses of numerous companies. The value of the global market for products based on the above innovations and accessories exceeds today USD 1.5 billion annually. For instance, by using these innovations, their microplate application and accessories as examples and later by automating vertical measurement and liquid handling processes, the net sales of the Swiss Tecan Group reached rapidly a USD billion level. A few years ago the company became publicly listed. The current market value of Tecan is USD 1.14 billion, which is 6.9 times greater than its net sales in 2000.

The aforementioned annual business totalling to USD 1.5 billion consists of different types of products used in research and, e.g., immunodiagnostics. Especially fast, even at an annual rate of 25-30%, are growing the markets for microplate instruments and their disposables used in PCR-[21] and HTS[22]-applications. The Nobel prize winning production method of monoclonal antibodies[23] and the PCR-technique[24] utilize applications related with multichannel liquid handling devices and vertical measurement principle together with their accessories.

Likewise, the rapidly developing DNA-chip technology for the screening and studying of genes, has been developed by using multichannel liquid handling products and their accessories. These applications have been automated recently by developing liquid handling and measurement robots, and related software for the interpretation of results. The automation of the PCR-technique and DNA-chip technology enables the simultaneous studying of even tens of thousands of genes. The purpose of this mass screening is, e.g., to develop highly specific drugs and study the functioning of genes in connection with different illnesses.

Although the Human Genome Project is expected to be completed within a couple of years the research work on the functioning of the max. 40,000 human genes (Postgenomic Era) is only at its early stage in the world. It may well be that the work will not be finished even within decades. For this reason the future poses many challenges and much work for basic research and medicine, which utilize, e.g., instruments and products needed for the PCR- and HTS-methods. The same applies for companies manufacturing this equipment. This area of work can be expected to expand when, in addition to human genes, also the genes of animals and plant microbes will be studied.

Vertical measurement, multichannel liquid handling products, their applications and accessories have, since the 1970s, enhanced the development of enzyme immunoassay methods for research and, in specific, for the diagnosis of cancer and infectious diseases. The size of the market for these products totals to currently approx. USD 10 billion annually. It has been estimated that the value of the sales of immunoassay-related services by clinical laboratories in the U.S., Japan and Europe exceed USD 40 billion annually.

Biohit has finished diagnostic tests for the immunoassay markets for the determination of Pepsinogen I, Pepsinogen II and Gastrin-17 concentrations, the *H.pylori* -infection as well as the SLE and celiac diseases. It has been estimated that the overall market potential for these tests, the test for diagnosing lactose intolerance and monoclonal antibodies totals to USD 5.0 billion[25]. Biohit's liquid handling products, diagnostic tests, instruments and related software form complete analyzing systems. Components of these systems, e.g., instruments based on vertical measurement (e.g. spectrophotometer and fluorometer), liquid handling products, microplates and other products based on Biohit's technologies and inventions are used in connection with PCR-methods and DNA -chip technologies. Biohit's aim is to gain a significant market position also in these rapidly growing areas.

Since its foundation in 1988 Biohit has established itself on the global markets with its innovative, high technology liquid handling devices. During the past decade Biohit has invested in R & D, launched new products on the global markets, invested in production technologies, automation and quality control and established an extensive international sales and marketing network. The capacity of the personnel has been strengthened and

The long-term experience, skills and specialization of personnel are Biohit's most important resource.

[19, 20] Finnpipette and Multiskan are trademarks of Labsystems.
[21] The Polymerase Chain Reaction (PCR) technique is used for the amplification of small amounts of DNA.
[22] High Through-Put Screening (HTS) refers to the study of large amounts of samples.
[23] Milstein and Köhler received the Nobel prize for inventing monoclonal antibodies in 1984.
[24] The PCR-technique was invented in 1983 by Kary Mullis, who received the Nobel prize for the invention in 1993.
[25] MeritaNordbanken Research 6.3.2000

diversified through collaboration with leading researchers at universities and research institutions. The commitment and entrepreneurship of the personnel, members of the board and scientific advisors have been strengthened through ownership of shares and the option program targeted to the entire personnel.

Biohit has developed into one of the world´s leading manufacturers of liquid handling products in the 1990s. The global market share of Biohit's electronic liquid handling devices is 70%.

In the early 1990s Biohit decided to focus its operations on liquid handling products, and in addition, to continue R & D work to create primarily tests for the diagnosis of cancer and laboratory instruments for new business areas. As of 1999 Biohit's business idea has been to focus on the research and development, production and international marketing of liquid handling products, diagnostic tests and laboratory instruments as well as on analyzing systems formed on the basis of these synergistic three product lines.

Biohit's first vision to develop into one of the leading manufacturers of liquid handling products in the world in the 1990s has been realized. Biohit's share of the global market for electronic liquid handling products is approx. 70%, and the liquid handling product range is currently the widest in the world. Biohit is also the leading manufacturers of electronic OEM -liquid handling devices.

Throughout the 1990s Biohit has successfully developed its holistic vision on diagnostics, which, together with liquid handling products, instruments, related software and services form complete analyzing systems. The diagnostic tests which are based on biotechnology and include, e.g., tests for the determination of the *H. pylori* -infection, atrophic gastritis and the risk for gastric cancer and peptic ulcer from blood samples have guided the development of the liquid handling products, instruments and related software into synergistic analyzing systems. These systems as well as their components are expected to develop into dominant designs and industrial standards on the global markets.

As a result of the realization of Biohit's first challenging vision, which extended to the end of the 1990s a new, ambitious vision has been set until 2005. Its central idea is to actively broaden Biohit's business portfolio with the help of the liquid handling products, which have developed into industrial standards and global market leaders, to new synergistic product areas. Biohit's objective is to transfer these new areas of analyzing systems from the R&D phase to the global business phase via its strong network of specialists, co-operation partners and customer service organization. These new solutions are, as killer innovations and dominant designs, expected to replace older products and services on the markets.

Intellectual Assets

Biohit focuses solely on those business areas in which it possesses a reliable multidisciplinary scientific base, technological expertise and inventions protected by patents.

The management and key personnel of Biohit have numerous patents and a 10 - 25 years' experience in the R & D, manufacture and international marketing of liquid handling and diagnostic products, instruments and analyzing systems based on these product groups. The experience of Biohit's President and CEO, Dr. Osmo Suovaniemi, is illustrated, e.g., by the fact that he has been awarded most patents in Finland[26] and a few hundred abroad in the fields of medical diagnostics, optics and mechanics. Biohit's numerous scientific collaborators are experts in the fields of medicine, molecular biology, physics and chemistry.

Biohit's business idea is to develop, manufacture and market liquid handling products, diagnostics, instruments as well as analyzing systems composed of these product groups.

[26] *Tekniikka ja Talous* 8.2.2001, p. 11.

Biohit's key personnel together with scientific advisors representing different academic communities apply in the innovation work, the basic and applied research and R & D, e.g., knowledge of disciplines such as biology, chemistry, physics, medicine and different areas of high technology. This multidisciplinary approach has produced valuable results for the advancement of research and health care all over the world.

The comprehensive patent protection in Finland and abroad, which has resulted from Biohit's aggressive patenting policy, as well as different agreements, have formed a solid and reliable basis for Biohit's growth and co-operation with other companies on the global level. Biohit's patents, the high quality of products and accurate deliveries have resulted in the continuation of long-term co-operation with multinational companies such as Beckman Coulter, Becton Dickinson, bioMérieux, Johnson & Johnson and 3M. Also for this reason, the seven sales and marketing subsidiaries of Biohit abroad have continued their growth and favorable development. Likewise, the distributor network comprised of approx. 60 main distributors worldwide has increasingly invested in the sales and marketing of Biohit's products. Biohit will continue to pay special attention to the development and protection of its multidisciplinary immaterial assets also in the future.

At the end of 2000 Biohit possessed altogether 34 patents of which 20 were Finnish, 10 U.S. and 4 European patents. In 2000 Biohit was awarded the following Finnish patents in the business area of liquid handling: FI 104885, FI 105782 and FI 105783. In the business area of diagnostics Biohit was awarded the following Finnish patents: FI 104737 and FI 106212. In accordance with its aggressive patenting policy Biohit filed numerous patent applications in 2000 in Finland, most European countries, Japan, Russia and the U.S.

Research and Development

Biohit´s R & D combines expertise in various fields into integrated know-how. Our employees are experts in the fields of biotechnology, electronics, medicine, chemistry, optics, mechanics and precision injection molding technology. Another strength in Biohit's multidisciplinary R & D is the ability to react quickly to new customer needs and product ideas. The research and development of Biohit's liquid handling and diagnostics products are carried out in Helsinki. In 2000 Biohit's R & D investments totalled to MFIM 10.3.

In the area of liquid handling Biohit continued to invest in the development of new pipettor generations. This development work is based on the strategy in which new market segments have been identified. These segments differ from each other in terms of the area of application, performance and price.

Biohit's research and development combine the expertise of various fields into integrated know-how. The picture displays the development of Biohit's Midi Plus -pipetting aid.

Biohit's new production plant was taken into use in Kajaani in fall 2000. The new premises enable at least to quadruple the current production volume of liquid handling products and accessories.

In the area of diagnostics the development of the test panel for screening the risk of gastric cancer and peptic ulcer proceeded according to plans. In fall 2000 Biohit's test panel passed successfully the clinical evaluation carried out at the Jorvi Hospital in Finland. In January 2001 Biohit filed a patent application for a computer product related with the gastric test panel. The program (GastroSoft®) related with the panel prints for the doctor a diagnosis of the *H. pylori* -infection and the possibly related atrophic gastritis and provides information on the patient's risk for gastric cancer or peptic ulcer compared with normal population. The program gives also a recommendation for possible further treatment, i.e., gastroscopy or the determination of the vitamin B12 and homocysteine concentrations from a blood sample. In 2000 Biohit's tests for the diagnosis of lactose intolerance and SLE were also successful in clinical evaluations. Finally, also the test panel for diagnosing celiac disease was complemented with a new test and became ready for sales.

Production

Biohit is currently one of the leading manufacturers of liquid handling devices in the world. The degree of domestic production is approximately 95%, and approx. 96% of sales is generated outside of Finland.

The liquid handling products and the disposable pipettor tips are manufactured according to the ISO 9001 quality system standards in the Kajaani and Helsinki plants. The main production plant is located in Kajaani whereas the Helsinki production unit serves as a pilot plant. The diagnostic tests are also produced in Helsinki.

Biohit's new facilities for the assembly of liquid handling products and injection molding of plastics were taken into use in Kajaani in fall 2000. The injection molding department produces precision molded plastic components, pipettor parts and disposable pipettor tips. Investments were made especially in the automation of injection molding, materials handling and production. The new premises enable at least to quadruple the current production volume of liquid handling products and plastics. As to the production of diagnostics a new clean room unit, which will replace the current pilot production, will be completed in Helsinki in March 2001

Assembly of Biohit's electronic liquid handling products.

International Sales and Marketing

The customer base of Biohit consists of leading laboratories of research institutes, universities, those of medical and biotechnology companies and hospitals in the world. Also, the food industry and environmental control laboratories are important customers for Biohit. In addition, Biohit has numerous OEM-customers for which Biohit manufactures on the basis of its technologies tailor-made products. Multinational companies such as Beckman Coulter, Becton Dickinson, bioMérieux, Johnson & Johnson and 3M complement their own product ranges and diagnostic systems with Biohit's OEM-products. Also, Biohit's German competitor Eppendorf has from the very beginning been an important customer for Biohit's liquid handling products. Eppendorf's new generation of mechanical pipettors employs one of Biohit's patents.

The international co-operation and customer service network for Biohit's liquid handling products, diagnostics, instruments and systems consists of:

- Subsidiary companies of Biohit Plc. in France, Germany, Italy, Japan, Russia, the U.K. and the U.S. The companies are located on Biohit's most important market areas and they act as sales and marketing units for Biohit's products as well as offer maintenance, calibration and training services locally. In addition to Biohit products, the units engage in the sales of OEM- and private label -products.
- Biohit's 60 main distributors, which together with their local distributors form a network of 450 members covering 70 countries.
- The global distribution networks of Biohit's most important OEM- and private label -customers.

In 2000 international business accounted for approx. 96% of the overall Group net sales (MFIM 144.2). The share of subsidiaries of Group net sales was 80%. 53% of the net sales were generated in Europe, 19% in the Americas and the remaining 28 % primarily in Asia. The net sales consisted primarily of the sales of liquid handling products.

During 2000 Biohit invested especially in the reinforcement of its marketing network in the U.S. and Russia. Moreover, Biohit entered into negotiations with several significant co-operation partners in order to commence the international launch of the diagnostic and instrument product ranges as well as complete analyzing systems. In 2000 Biohit began to offer more extensive maintenance services in its foreign subsidiaries for Biohit-labelled pipettors and also for those manufactured by other companies. In connection with this, Biohit continued to develop and harmonize the international maintenance network for its liquid handling products.

Changes in Corporate Structure in 2000

Biohit Systems, Inc., the U.S. subsidiary of Biohit Plc., acquired on April 25, 2000 the entire share capital of the U.S. company Vangard International, Inc., which has acted as a distributor of Biohit's products. As a result of the acquisition Biohit Plc. received all business activities of Vangard International, Inc. including the sales and marketing of Biohit products in the U.S. Through the acquisition Biohit clarified and reinforced the sales and marketing as well as the maintenance and calibration services for its products in the U.S.

Biohit participated in the Pittcon exhibition in March 2000. This special event on laboratory analytics is in its field the most important in the U.S.

It was decided on December 14, 2000 that Locus genex Oy, the subsidiary company of Biohit Plc. specializing in the development of diagnostics, will be integrated more closely with the Biohit Group. The extraordinary general meeting of Locus genex Oy decided on Dec. 14, 2000 to place the company in voluntary liquidation after which the company will be dissolved and all business operations transferred to Biohit Plc. The purpose of the reorganization is to transfer the business areas of liquid handling, instruments and diagnostics under one company and brand name and in this way gain more efficiency in the marketing and distribution of the said products. The reorganization will also eliminate overlapping activities and cut administrative expenses. The aim is to complete the reorganization by the end of 2001.

Biohit Plc. acquired on Dec. 29, 2000 44% of the Russian company Finnbio Ltd., which acts primarily as the distributor of Biohit products in Russia and other CIS-countries. As a result of the acquisition Biohit's ownership of the shares and votes increased to 100%. Prior to the acquisition Biohit's shares and votes totalled to 56%, which resulted from Biohit acquiring 100% of the Finnish company Oy Finio Ab on May 15, 2000.

Biohit Plc. sold on Dec. 29, 2000 its majority share, i.e., 51% of the U.K. company Wolf Laboratories, Ltd. The majority share was acquired by the minority shareholders at the time. Wolf Laboratories Ltd. has acted in the U.K., e.g., as the distributor of Biohit products as well as the laboratory products of other manufacturers. The purpose of the transaction was to clarify the Biohit Group structure so that the Group companies will concentrate on the manufacture and sales of Biohit products. Wolf Laboratories Ltd. will continue after the transaction, together with Biohit's U.K. subsidiary Biohit Ltd., as the local distributor for Biohit products in the U.K.

LIQUID HANDLING

The liquid handling product range designed, developed and manufactured by Biohit is the widest in the world today. The range encompasses electronic and mechanical pipettors, disposable pipettor tips, decontamination products and accessories. Moreover, Biohit offers maintenance, calibration and training services through its subsidiary and distribution network. Biohit's liquid handling products comply with international standards of quality and have been awarded the GS[27]- and CE[28]-certificates.

Since the early 1990s Biohit has developed the electonic single- and multichannel liquid handling product family and, subsequently, in the early 1990s the mechanical single- and multichannel pipettor family and their disposable tips. Currently, Biohit's electronic pipettors hold an approx. 70% of the global markets. Biohit is also the leading manufacturer of electronic OEM-pipettors in the world. Biohit's OEM-customers include companies such as Becton Dickinson, bioMérieux, Johnson & Johnson and 3M. In the area of mechanical liquid handling products Biohit possesses an approx. 8% share of the world markets and in the area of disposables an estimated slighty under 2% share.

During the past couple of years the maintenance of liquid handling products has become a new, profitable business area. The calibration laboratory for Biohit's liquid handling products has been accredited by FINAS[29]. Due to tightening quality control regulations customers are increasingly using accredited calibration laboratories. So far the annual 10-20% growth of Biohit's net sales has primarily resulted of liquid handling products and related services.

Since its establishment in 1988 Biohit's management and key personnel have employed the aggressive innovation and patenting policy developed and applied by CEO Osmo Suovaniemi already in the 1970s and 1980s. At that time the policy served as a model even for a number of large Finnish companies. Biohit's current patents and patent applications feature numerous innovations, which together with the technologies developed and employed by Biohit and tested by various multinational companies, enable to offer many new products for different market segments. The current and new market segments vary in terms of the area of application and performance of the products, as well as price.

The current sales of Biohit's liquid handling products are targeted to different areas of use, the value of the market of which, together with disposable tips, totals to USD 500 million annually. This value is comprised of the sales of over 1 million mechanical and approx. 50,000 electronic pipettors as well as over 5 billion disposable tips each year. It can be expected that the increasing number of electronic liquid handling applications to be integrated into automated laboratory instruments and analyzing systems, and the tightening safety, quality control and efficiency requirements will considerably reinforce the demand for electronic liquid handling devices in the future.

[27] Geprüft Sicherheit (GS): A German product safety standard.
[28] Les Communautés Européennes (CE) -marking is a guarantee for authorities, importers and sellers that the prooduct fulfils the requirements set by the European Union.
[29] The Finnish Accreditation Service (FINAS), a part of the Center for Metrology and Accreditation, is a body operating under the Ministry of Trade and Industry. FINAS is a member of the European Co-operation for Accreditation (EA).

The range of liquid handling products developed and manufactured by Biohit is the widest in the world. The range encompasses electronic and mechanical devices and disposable tips.

Currently Biohit's electronic and mechanical liquid handling products continue to have a significant market potential. By maintaining the level of its existing products Biohit should be able to hold its annual growth level of 20% and even increase its shares on these traditional markets. When taking into consideration all Biohit's possible existing and new market segments during 2001 and 2002, it has been estimated that the market potential for Biohit's liquid handling products totals to slightly over USD 1.0 billion. Between 2002-2004 Biohit's objective is to capture such new market segments for liquid handling products, which Biohit can serve with its existing innovations, technologies and know-how. In this case it is estimated that the market potential for current and new market segments will reach USD 1.5 billion.

Electronic Liquid Handling Products

Biohit's electronic liquid handling products combine electronics, optics, fine mechanics and material technology so as to simplify and render liquid handling more efficient and ergonomic. The microprocessor-controlled electronic pipettors contribute to minimizing human error when pipetting and improve the accuracy and precision of the overall liquid handling performance.

The Biohit Proline® -electronic pipettors are available in single- and multichannel configurations and cover the volume ranges for 0.2 µl[30] to 25 ml. They have opened up new dimensions in liquid handling technology in terms of precision, ergonomy and functionality. The ergonomic design and light weight of the electronic pipettors take much of the strain out of pipetting and, thus, help to prevent fatigue and the development of work-related upper limb disorders (WRULDs). For example, the effort required for one pipetting action with a mechanical pipettor may even be the equivalent of moving a load of several kilograms with the thumb, whereas using an electronic pipettor requires only a fiftieth of this effort.[31,32,33,34,35,36] According to Hoskins et al. the Occupational Safety and Health Administration (OSHA) in the U.S. has determined that Repetitive Strain Injuries (RSIs) are the largest single category of injury in the workplace[37].

Biohit has paid special attention to safety and ergonomic aspects in its development of liquid handling products. The design and light weight of Biohit's electronic pipettors contribute to reducing the risk of work-related upper limb disorders.

[30] 1 µl = one millionth part of a liter.
[31] Suovaniemi, O. (1994). *Automated Instrumentation for Clinical and Research Laboratories - Innovations and Development of Vertical Light Beam Photometers and Electronic Pipettors*, Ph.D. Thesis, University of Helsinki.
[32] Björkstén, M.G., Almby, B. and Jansson, E.S. (1994). Hand and Shoulder Ailments among Laboratory Technicians Using Modern Plunger-Operated Pipettes. *Applied Ergonomics* 25: 88-94
[33] Fredriksson, K. (1995). Laboratory Work with Automatic Pipettes: A Study on How Pipetting Affects the Thumb, *Ergonomics* 38 (5): 1067-1073.
[34] McGlothlin, J.D. and Hales, T.R. (1995). NIOSH (National Institute of Occupational Safety and Health) Health Hazard *Evaluation Report*.
[35] Hodgson, E. (1996). Work Related Upper Limb Disorders and the Laboratory. *World Directory of Environmental Testing, Monitoring and Treatment*.
[36] David, G. and Buckle, P. (1997). A Questionnaire Survey of the Ergonomic Problems Associated with Pipettes and Their Usage with Specific Refernce to Work-Related Upper Limb Disorders. *Applied Ergonomics*, Vol. 28, No. 4: 257-262.
[37] Hoskins, D.B. and Erickson, J. (1998). Laboratory Ergonomics, the Wake-Up Call: A Case Study on How One Company Relieved Stress and Strain on Its Employees, *Chemical Health and Safety*, January/February.

The eLINE® is a new generation of electronic pipettors, which offers the latest technology in the field of hand-held liquid handling devices. In February 2001 the eLINE® received an honorary mention in the Pro Finnish Design 2001 competition arranged by Design Forum Finland.

In order to improve further the safety of pipetting, most of Biohit's electronic pipettors are equipped with filters which protect the internal components of the pipettor from contamination and, as a result, the sample from carryover, e.g., in genetic studies[38,39]. In addition to providing enhanced ergonomy and safety, the electronic pipettor is, as a result of the microprocessor controls, an extremely versatile tool for numerous tasks: one tool can perform pipetting, multiple dispensing and diluting, and the electronic pipettor can also be used for mixing liquid samples.

Mechanical Liquid Handling Products

Today, mechanical liquid handling products continue to be some of the most commonly used tools in laboratories. The factors contributing to the popularity of the mechanical pipettors are not only that laboratory personnel are used to them but also their lower price compared with the electronic devices.

Biohit meets its customers' needs for non-electronic products with the range of Biohit Proline® mechanical pipettors. The mechanicals cover the fixed and adjustable single- and multichannel models within the 0.1 µl - 5 ml volume range. In its development of mechanical pipettors Biohit has again paid special attention to ergonomic aspects. The light weight and smooth plunger action of the pipettors facilitate the handling of liquids. Moreover, as is the case with electronic pipettors, most of Biohit's mechanical pipettors are equipped with filters[40,41]. Today, Biohit's share of the global market for mechanical pipettors is approx. 8%.

Disposable Tips

The pipettors and injection molded plastic disposable tips manufactured by Biohit form together a reliable system[42,43]. Biohit guarantees the precision and accuracy of its pipettors when customers use tips developed and manufactured by Biohit. Further development of pipettor tips is always an integral part of the R & D work on the pipetting system. To support the safety aspects in pipetting Biohit's range of disposables includes, e.g., filter tips. Biohit holds a nearly 2.0% of the global market for disposable tips.

Maintenance and Training Services

As part of its product and marketing strategies Biohit provides maintenance, calibration and training services through its subsidiary and distributor network. With these services we are acquiring new long-term customers, increasing customer satisfaction and loyalty, and improving its image and result.

Liquid Handling in 2000

In the area of liquid handling Biohit continued to invest in the development of new pipettor generations. This development work is based on Biohit's liquid handling product strategy in which new market segments have been identified. These segments differ from each other in terms of the area of application, performance and price.

In its development of liquid handling products Biohit has paid special attention to the safety and ergonomic aspects of pipettors, which contribute, e.g., to reducing the risk of work-related upper limb disorders[44,45].

In 2000 Biohit finished and launched the entire ePET® - pipettor range, which is especially targeted, in terms of price, performance and software, for the needs of research laboratories.

[38] Kolari, M., Mannonen, S., Takala, T., Saris, P., Suovaniemi, O. and Salkinoja-Salonen, M.S. (1999). The Effect of Filters on Aseptic Pipetting Lifetime of Mechanical and Electronic Pipettors and Carryover during Pipetting. *Letters in Applied Microbiology* 29: 123-129.

[39] Suovaniemi, O. (2000). Finnish patent 104885: *Filter.*

[40] Kolari, M., Mannonen, S., Takala, T., Saris, P., Suovaniemi, O and Salkinoja-Salonen, M.S. (1999). The Effect of Filters on Aseptic Pipetting Lifetime of Mechanical and Electronic Pipettors and Carryover during Pipetting. *Letters in Applied Microbiology* 29: 123-129.

[41] Suovaniemi, O. (2000). Finnish patent 104885: *Filter.*

[42] Suovaniemi, O. (1994). *Automated Instrumentation for Clinical and Research Laboratories - Innovations and Development of Vertical Light Beam Photometers and Electronic Pipettors*, Ph.D. Thesis, University of Helsinki.

[43] Mannonen, S., Tiusanen, T. and Suovaniemi, O. (2000). Major Sources of Error of Air Displacement Pipettors. *International Labmate*, April.

[44] Mannonen, S. and Syrjä, K. (2000). Safety in Pipetting. *International Labmate*, February.

[45] Vaughton, R (1999). Taking the Strain Out of Pipetting. *International Biotechnology Laboratory*, September.

The accreditation of the calibration laboratory for liquid handling products reinforces Biohit's position as one of the leading manufacturers of liquid handling devices in the world.

In 2000 Biohit finished the development of the new eLINE®-, ePET®- and ViscoPet -pipettor ranges. The development work followed Biohit's product strategy to segment the pipettor market according to the different needs of customers and cost sensitivity.

The eLINE® is a new generation of electronic pipettors, which offers the latest technology in the field of hand-held liquid handling devices. The range was designed to meet the most demanding pipetting applications offering, thus, e.g., eleven liquid handling protocols for the various needs of today's laboratories. The microprocessor-controlled system and the novel construction of the eLINE®-pipettors enable maximum liquid handling performance with high levels of accuracy and precision. The ergonomic design of the eLINE® together with the unique electronic tip ejection are examples of Biohit's continuous efforts to improve further the ergonomy and competitiveness of pipetting.

The eLINE® received an honorary mention on Feb. 1, 2001 in the Pro Finnish Design 2001 competition arranged by Design Forum Finland, and the product was subsequently displayed at the Pro Finnish Design 2001 Exhibition. The first models of the eLINE® were launched in February 2001.

In 2000 Biohit finished and launched the entire ePET® -pipettor range, which is a cost effective alternative to electronic pipetting. The range is especially targeted, in terms of price, performance and software, for the needs of research laboratories. The ePET® can perform all the basic pipetting functions, e.g. dispensing and diluting, and it is intended as a more ergonomic alternative to the high-priced end of mechanical pipettors.

Biohit also finished and launched the electronic ViscoPet pipettor, which has been specifically designed to meet the requirements of those laboratories in which it is necessary to pipette viscous liquids with high levels of accuracy. The use of special long-reach Viscotip capillaries makes the ViscoPet particularly suitable for the needs of laboratories processing food and dairy products.

In the area of electronic liquid handling Biohit continued the development of OEM-products, which complement the product ranges and diagnostic systems of other companies. For example, Biohit developed for Beckman Coulter an electronic HbA1c pipettor. Moreover, the Remote Control (RC) -unit developed by Biohit, which is a front-end for different automated liquid handling instrumentation and robots, serves the development work of automatic instruments of other companies and that of Biohit. Biohit continued also to develop further the disposable pipettor tips and their production with new and efficient injection molding tools and robots.

The calibration laboratory for liquid handling devices of Biohit Plc. was accredited on March 20, 2000 as a result of the evaluation made by the Finnish Accreditation Service (FINAS), a member of the European Co-operation for Accreditation (EA). The accreditation of the calibration for liquid handling products performed in the production plants in Helsinki and Kajaani reinforces Biohit's market position as one of the leading manufacturers of liquid handling devices in the world. There exist only two accredited calibration laboratories in the world of companies manufacturing liquid handling devices of which Biohit's laboratory is the most accurate within the following scope of accreditation.

The Measurement Range and Measurement Capability of the Calibration Laboratory of Biohit Plc.

Quantity	Measurement Range	Measurement Capability (+/-)
Volume	0.1-5.0 µl	0.015 µl
	10 µl	0.025 µl
	50 µl	0.080 µl
	100 µl	0.100 µl
	200 µl	0.100 µl
	500 µl	0.520 µl
	1000 µl	0.520 µl
	5000 µl	3.600 µl

As a result of the accreditation Biohit is able to offer to its customers world-wide calibration certificates for liquid handling devices, which are based on national and international, traceable measurement standards. The traceable calibration certificates form already now an important part of the reliable analysis services provided by laboratories.[46] As a result of the accreditation, Biohit is able to fulfil the international traceability requirements set for liquid handling devices. The number of Biohit's accredited calibration laboratory is K041.

[46] Mannonen, S. and Riikonen, S. (2000). Accredited Calibration and Future Demands for Pipettors. *International Biotechnology Laboratory*, April.

DIAGNOSTICS

In the business area of diagnostics Biohit develops, manufactures and markets enzyme immunoassay (EIA) -based test kits and monoclonal antibodies (MAbs) for the screening and detection of different types of disease. Cancer diagnostics, and particularly tests for screening and detecting the risk of gastric cancer and peptic ulcer together with related software (the Gastro Program -package), represent a core diagnostic product area for Biohit. Moreover, Biohit offers a test panel for the detection of celiac disease. Biohit's tests for the determination of lactose intolerance and systemic lupus erythematosus (SLE) have been successful in clinical evaluations.

Gastric Test Panel

Gastric cancer is one of the most frequent and lethal malignancies in the world today. However, early detection of this type of cancer is difficult, and in many countries the five-year survival rate is less than 20%[47]. The occurrence of gastric cancer is especially high in certain parts of the world, e.g., in Japan and Asia in general. At present the only way to successfully treat gastric cancer is through early detection, in which case the survival rate is 90%. If the disease is diagnosed at a latter stage, the survival rate is as low as 10-15%.

The unique test panel for screening the risk of gastric cancer of the entire stomach and peptic ulcer[48] from blood and tissue samples has been researched and developed by Biohit and its scientific collaborators for more than 10 years[49,50]. The development of the test panel is based on studies[51,52,53], in which the prevalence of premalignant and malignant lesions in the stomach of ca. 22,000 males in Finland has been investigated[54,55,56].

Through the blood sample analyses of the test panel the *Helicobacter pylori (H. pylori)* -antibodies, the Pepsinogen I- and II -concentrations and the Gastrin-17 -concentration can be determined. The biopsy sample analyses cover the determination of the cyclooxygenase-2 -protein (COX-2).

[47] Wanebo H.J., Kennedy B.J., Chmiel J., Steele G.J., Winchester D. and Osteen R. (1993). Cancer of the Stomach. A Patient Care Study by the American College of Surgeons. *Ann. Surg.* 218:583-592.

[48] Peptic ulcer refers to both gastric ulcer and duodenal ulcer.

[49] Härkönen M., Sande N., Sipponen P., Laxén F., Suovaniemi O. and Wadström T. Screening of Early Gastric Cancer. Laboratory Medicine 98. XXVI Nordic Conference on Clinical Chemistry, Turku, 6.-10.6. 1998.

[50] Sipponen P., Kekki M., Haapakoski J., Ihamäki T. and Siurala M. (1985). Gastric Cancer Risk in Chronic Atrophic Gastritis: Statistical Calculations of Cross-Sectional Data. *Int. J. Cancer* 35: 173-177.

[51] Tamm A., Villako K., Härkönen M. and Karonen S.L. (1984). Serum Pepsinogen I and the State of Gastric Mucosa in an Estonian Population Sample. *Scand. J. Gastroenterol 19:*1091-1094.

[52] Kekki M., Samloff I.M., Varis K. and Ihamäki T. (1991). Serum Pepsinogen I and Serum Gastrin in the Screening of Severe Atrophic Corpus Gastritis. *Scand. J. Gastroenterol*. Suppl. 186:109-116.

[53] Varis K., Kekki M., Härkönen M., Sipponen P. and Samloff I.M. (1991) Serum Pepsinogen I and Serum Gastrin in the Screening of Atrophic Pangastritis with High Risk of Gastric Cancer. *Scand. J. Gastroenterol Suppl.* 186:117-123.

[54] Varis K., Taylor P.R., Sipponen P., Samloff I.M., Heinonen O.P., Albanes D., Härkönen M., Huttunen J.K., Laxén F. and Virtamo J. (1998). Helsinki Gastritis Study Group. Gastric Cancer and Premalignant Lesions in Atrophic Gastritis: A Controlled Trial on Effect of Supplementation with Alpha Tocopherol and Beta-Carotene. *Scand. J. Gastroenterol.* 33: 294-300.

[55] Varis K., Sipponen P., Laxén F., Samloff I.M., Huttunen J.K., Taylor P.R., Heinonen O.P., Albanes, D., Sande N., Virtamo J. and Härkönen M. (2000). Implications of Serum Pepsinogen I in Early Endoscopic Diagnosis of Gastric Cancer and Dysplasia. *Scand. J. Gastroenterol*. 9:951-956.

[56] Sipponen, P. and Marshall, B.J. (2000). Gastritis and Gastric Cancer - Western Countries. *Gastroenterol. Clin. North. Am*. 29:579-592.

Test panel developed by Biohit for screening the risk of gastric cancer and peptic ulcer from blood samples.

The *Helicobacter pylor*i -infection causes a chronic infection in the stomach (gastritis), which leads in approx. half of the patients to the development of atrophic gastritis. In addition, *H.pylori* strains that express cytotoxin associated protein A (CagA) seem to be associated with the development of atrophic gastritis[57] and gastric cancer[58].

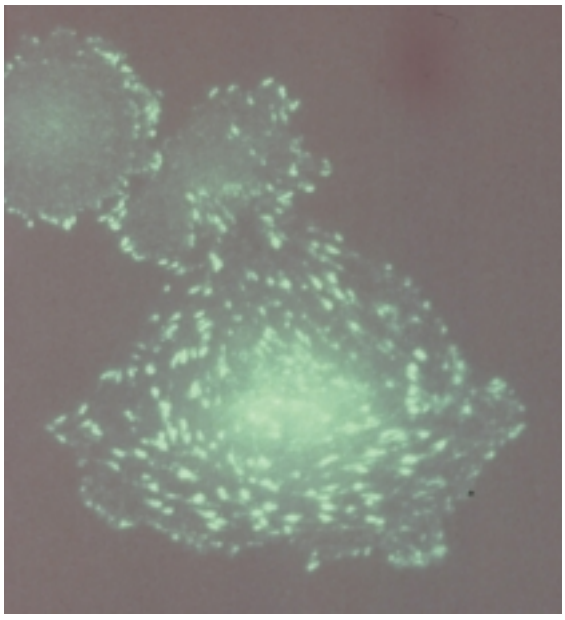
Gastritis and atrophic gastritis appear in different patients in three different topographical types depending on whether the changes appear in the lower part of the stomach, i.e., the antrum (antrum gastritis), the upper part, i.e., the corpus (corpus gastritis) or both (pangastritis). The risk for gastric cancer and peptic ulcer is very low when the stomach is normal. The risk for gastric cancer is high when the atrophic gastritis is severe, and the atrophy changes appear both in the antrum and the corpus. The risk for peptic ulcer is highest when the gastritis, and especially the atrophic gastritis, is in the antrum but not in the corpus, i.e., when the corpus is normal and secretes much acid and pepsinogen.

Approx. half of the Finnish population suffers from the *H. pylori* -infection. At least 10-20% of the population with the *H. pylori* -infection will suffer from peptic ulcer during their lifetime. Of those infected approx. 2% will suffer from gastric cancer. At least 10% of those who have a severe atrophic gastritis will suffer from gastric cancer during their lifetime.[59] An estimated 20 million people in the United States either have or are expected to develop peptic ulcer[60]. The cyclooxygenase-2 protein determined from tissue samples is found only when cells become neoplastic and malignant[61].

The Pepsinogen I-, Pepsinogen II - and Gastrin-17 -tests can be used to screen those patients who belong to the risk group of gastric cancer and peptic ulcer. The blood tests screen the parts of the stomach in which the gastritis and atrophy changes are located and the degree of the changes. When using the Pepsinogen- and Gastrin-17 -tests together (combined with the *H. pylori* -test) the severity of the atrophy changes of all topographic types of gastritis can be predicted without gastroscopy and biopsy samples.

Severe atrophic gastritis in the corpus area of the stomach leads to metabolic disturbances, anemia, neurological damages and an increased risk for dementia. This is due to the fact that atrophic gastritis hinders the absorption of vitamin B12 and leads to a deficiency of the said vitamin. The deficiency of vitamin B12 leads to disturbances of cell metabolism and, as a result, the homocysteine concentration of the serum increases. The increased serum homocysteine concentration has shown to be an independent risk factor for blood vessel diseases, stroke and thromboembolic disease.

By combining the determination of B12 and homocysteine with the Pepsinogen- and Gastrin-17 -tests those patients suffering from atrophic gastritis who have metabolic disturbances, disturbances of cell metabolism, or those, who are at high risk for such disturbances, can be identified. Approx. 10% of those suffering from the *H. pylori* -infection belong to this risk group, who have such metabolic disturbances during their lifetime, primarily the elderly.



Biohit's monoclonal antibodies can be used in cancer research to detect, for example, tumor invasion and metastasis. The microscope image shows an immunofluorescence staining of transformed CHO-cells, stained with Biohit's alfa IIb -integrin antibody.

[57] Sande, N., Nikulin, M., Nilsson, I., Wadström, T., Laxén, F., Härkönen, M., Suovaniemi, O. and Sipponen, P. (submitted in 2000). Increased Risk of Developing Atrophic Gastritis in Patients Infected with CagA-Positive *Helicobacter Pylori. Scand. J. Gastroenterol*.

[58] Parsonnet, J., Friedman, G.D., Orentreich, V. and Vogelman H. (1997). Risk for Gastric Cancer in People with CagA Positive or CagA Negative *Helicobacter pylori* infection. *Gut* 40: 297-301.

[59] Duodecim (1999). *Gastroenterology*.

[60] Lim, D. (1996). *Microbiology*, 2nd ed.: 522.

[61] Ristimäki A., Honkanen N., Jänkälä H., Sipponen P. and Härkönen M. (1997). Expression of Cyclooxygenase-2 in Human Gastric Carcinoma. *Cancer Res.* 57: 1276-1280.

Monoclonal Antibodies

The different test kits of the test panel for screening the risk of gastric cancer and peptic ulcer are based on immunodiagnostics and there on the use of Biohit's monoclonal antibodies (MAbs)[62] and microplates[63], which can be used in vertical measurement applications[64]. In addition to the Pepsinogen I, Pepsinogen II and Gastrin-17 antibodies related with the test panel, Biohit currently manufactures and markets 25 different Mabs, which are suited for immunohistochemistry and used in basic research as well as for classifying different types of cancer from tissue samples[65,66,67,68]. These MAbs have been developed specifically for human extracellular matrix components, human integrins, human cytoskeletal polypeptides, human neurotransmitter substances, human spectrins and human endothelial cell surface markers.

Diagnosis of Lactose Intolerance

Over 17% of the adult population in Finland suffer from lactose intolerance. In Asian and African countries there may be as many as 90% of the population suffering from the disease. Lactose intolerance is caused by the deficiency or a very low level of the lactase enzyme, which breaks down milk sugar (lactose), in the surface epithel of the mucous membrane of the small intestine. The deficiency causes disorders of the stomach; diarrhea and swelling when eating milk products.

Patients seeking medical treatment due to undefined stomach disorders are often ordered to a gastroscopy. However, lactose intolerance cannot be diagnosed on the basis of gastroscopy or the microscopical evaluation of biopsy samples. This is due to the fact that the lack of the enzyme does not show on the biopsies and, as a result, the structure of the mucous membrane seems normal. The lack of the lactase enzyme must be determined biochemically from a biopsy in the laboratory or on the basis of lactose load or breath tests. All these tests are time-consuming, strenuous for the patient and expensive.

Biohit's quick test for determining lactose intolerance (hypolactasia of the small intestine) is based on the fact that, in connection with gastroscopy, a biopsy taken from the mucous membrane of the upper part of the small intestine is examined immediately. After 15 minutes the change in the color of the test liquid informs whether the lactase enzyme is present in the biopsy sample. Normally the color changes as the lactase enzyme of the sample breaks the lactose, i.e., the milk sugar, in the reagent. If the color remains unchanged or changes slightly, the patient suffers from lactose intolerance (hypolactasia of the small intestine). Biohit's unique POC-test[69,70] enables, when performing gastroscopy, to find quickly those patients who suffer from lactose intolerance. For this reason the quick test should be used in connection with gastroscopy for determining possible lactose intolerance.

Biohit's POC -quick test for the determination of lactose intolerance from tissue samples.

Diagnosis of Celiac Disease

Approx. 0.3% of all people suffer from celiac disease[71]. This is a severe disease, in which the glutein (and gliadin) present in nutrition destroy the villuses of the small intestine, referred to as the atrophy of the villuses. This atrophy leads to absorption disorders in the small intestine, deficiencies of vitamins and an increased risk for different illnesses since certain parts of the nutrition are not absorbed to blood circulation. Celiac patients are also at a higher risk of cancer in general. As to children, the disease renders development and growth slower. As to adults and elderly people, undiagnosed celiac disease may lead, e.g., to the weakening of bones, anemia, lack of iron and osteoporosis.

It is possible to diagnose celiac disease from biopsies taken from the duodenum of the small intestine in connection with gastroscopy. The lack of villuses can be depicted by the analysis of the biopsy samples. Another possibility for diagnosing celiac disease is the determination of specific antibodies from blood. Biohit's antibody tests for determining celiac disease from a blood sample comprise the anti-gliadin IgG, anti-gliadin IgA, anti-transglutaminase and anti-endomysium IgA -tests. The increase of the concentrations of these substances in blood is an indicator of celiac disease. These tests have proven to be reliable and sensitive in the diagnosis of celiac disease.

The biochemical basis for celiac disease may possibly be that the transglutaminase enzyme appears on the surface of a cell in connection with the toxic damage caused by glutein. In this event antibodies are produced against the complex of glutein and the enzyme. For this reason the antibodies produced against transglutaminase may be a specific and most important marker of celiac disease.

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[62] Milstein and Köhler invented monoclonal antibodies and received the Nobel Prize for this invention in 1984.

[63] Vauramo, K (1994). U.S. -patent 5,308,584: *Cuvette Matrix Tray*.

[64] Suovaniemi, O. (1994). *Automated Instrumentation for Clinical and Research Laboratories - Innovations and Development of Vertical Light Beam Photometers and Electronic Pipettors*, Ph.D. Thesis, University of Helsinki.

[65] Linnala, A. (1998). *Tenascin, Fibronectin, Laminin and Their Integrin Receptors in Human Cell Cultures*, Ph.D. Thesis, University of Helsinki.

[66] Jahkola, T., Toivonen, T., Nordling S., von Smitten, K., Blomqvist, C. and Virtanen, I. (1996). Expression of Tenascin in Invasion Border of Early Breast Cancer Correlates with Higher Risk of Distant Metastasis. *Int. J. Cancer (Pred. Oncol.)* 69: 445-447.

[67] Jahkola, T., Toivonen, T., Nordling S., von Smitten, K. and Virtanen, I. (1998). Expression of Tenascin-C in Intraductal Carcinoma of Human Breast: Relationship to Invasion. *European Journal of Cancer*, Vol. 34, No. 11: 1687-1692.

[68] Ylätupa, S. (1996). *The Development of a Method for Quantification of Cellular Fibronectin EDAcFN and Its Clinical Applications*, Ph.D. Thesis, University of Helsinki.

[69] Point-of-Care (POC) -test is performed quickly close to the patient.

[70] Sipponen, P., Suovaniemi, O. and Tamminen J. (2000) Finnish patent 106212: *Method for the Determination of Disaccharidases and Kit Therefor.*

[71] McMillan, S.A., Haughton, D.J., Biggart, J.D., Edgar, J.D., Porter, K.G. and McNeil, T.A.. (1991). Predictive Value for Coeliac Disease of Antibodies to Gliadin, Endomysium and Jejunum Patients for Attending for Jejunal Biopsy. *BMJ* 303: 1163-5.

Hypolactasia develops always in connection with the atrophy of the villuses and, thus, celiac patients cannot, as hypolactase patients, use milk products. The lack of lactase identified with Biohit's quick test for diagnosing lactose intolerance, used in connection with gastroscopy, may also be an indication of celiac disease.

Diagnosis of Systemic Lupus Erythematosus

Biohit has developed a completely novel method for diagnosing systemic lupus erythematosus (SLE). SLE is a prototype of autoimmune diseases, which with its various symptoms resembles rheumatic diseases. The development and technology of the test are based on an international patent acquired exclusively by Biohit[72].

The presence of DNA antibodies in the blood of the patient is typical of SLE. Unlike in the conventional DNA antibody tests, which use purified calf thymus DNA as capture antigens for autoantibodies, the newly developed Biohit anti-telomere antibody assay is based on the use of the double-stranded telomeric DNA as the capture antigen for the binding of SLE antibodies.

Biohit's telomere antibody test measures in a sensitive and specific enzyme immunoassay procedure (EIA) telomere antibodies in the serum of the SLE patient. On the basis of the titers of these antibodies it is possible to distinguish the SLE, e.g., from rheumatoid arthritis.[73,74] The observation that telomerase activity is detected in 85% of all cancers has made the telomerase enzyme a new cancer marker and added a special interest on the telomere research itself[75].

The performance of the blood test for determining SLE has proven to be superior to the few competing tests in clinical evaluations. Recently the renowned researcher on rheumatic diseases and SLE, professor D.J. Wallace, together with his research team published positive results on the SLE-test[76].

Phytoestrogens and the Prevention of Cancer

Biohit's policy is to continue to develop unique diagnostic tests in the fields of cancer detection and prevention. For this purpose Biohit develops, in collaboration with Professor Herman Adlercreutz, tests for urine and serum phytoestrogens. These tests, which are performed using enzyme immunoassay techniques and monoclonal antibodies, are based on over 20 years of basic research.

Low concentrations of phytoestrogens may signal a risk for certain forms of cancer (large bowel, breast and prostate)[77,78,79,80] as well as for ischemic heart disease[81]. In such cases the prevention of the diseases involves changes in diet to include more whole-grain bread, berries, certain vegetables and soybean products[82,83]. People are more and more interested in nutrition and health. For this reason research work on phytoestrogens is undertaken very intensively world-wide.

Diagnostics in 2000

In the business area of diagnostics the development of the test panel for screening the risk of gastric cancer and peptic ulcer proceeded according to plans. In 2000 the Pepsinogen I and II, the Gastrin-17 and the *Helicobacter pylori (H.pylori)* -tests were finished.

In fall 2000 Biohit's test panel passed successfully the clinical evaluation carried out at the Jorvi Hospital in Finland. During the evaluation 100 patients underwent gastroscopy and the microscopic examination of the biopsies taken from the mucous membrane of the stomach. Various types of gastric diseases were diagnosed in approx. 40% of the patients selected to participate in the

Biohit's test panel for screening the risk of gastric cancer and peptic ulcer from blood samples replaces gastroscopy (in the picture) as the first method when examining patients suffering from stomach pains. In fall 2000 Biohit's test panel passed successfully the clinical evaluation carried out at the Jorvi Hospital in Finland. In the front Ilpo Kääriäinen, M.D., Ph.D. and research nurse Sari Karesvuori. In the backround Prof. Pentti Sipponen, the Head of the Department of Pathology at Jorvi Hospital in Finland and Biohit's scientific advisor for diagnostics.

[72] Salonen, E-M. (1997). U.S. patent 5,700,641: *Diagnostic Method, Test Kit, Drug and Therapeutic Treatment for Autoimmune Disease.*

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[78] Adlercreutz H. (1990). Western Diet and Western Diseases: Some Hormonal and Biochemical Mechanisms and Associations. *Scand. J. Clin. Lab. Invest.* 50, Suppl. 201: 3-23.

[79] Adlercreutz H. and Mazur W. (1997). Phyto-Oestrogens and Western Diseases. *Ann. Med*. 29: 95-120.

[80] Adlercreutz H., Mazur W., Kinzel J., van Reijsen M., Bertels P., Elomaa V.-V., Watanabe S., Wähälä K., Mäkelä T., Hase T., Landström M., Bergh A., Damber J.-E., Åman P., Zhang J.-X. and Hallmans G. (1997). Phytoestrogens and Prostate Disease. In *Fundamentals of Cancer Prevention* (Ed. Conney A.H., Ito N., Sugimura T., Terada M., Wakabayashi K. and Weinstein I.B.). Princess Takamatsu Cancer Research Fund, Tokyo, pp. 22-24.

[81] Adlercreutz H. and Mazur W. (1997). Phyto-Oestrogens and Western Diseases. *Ann. Med*. 29: 95-120.

[82] Adlercreutz H. and Mazur W. (1997). Phyto-Oestrogens and Western Diseases. *Ann. Med*. 29: 95-120.

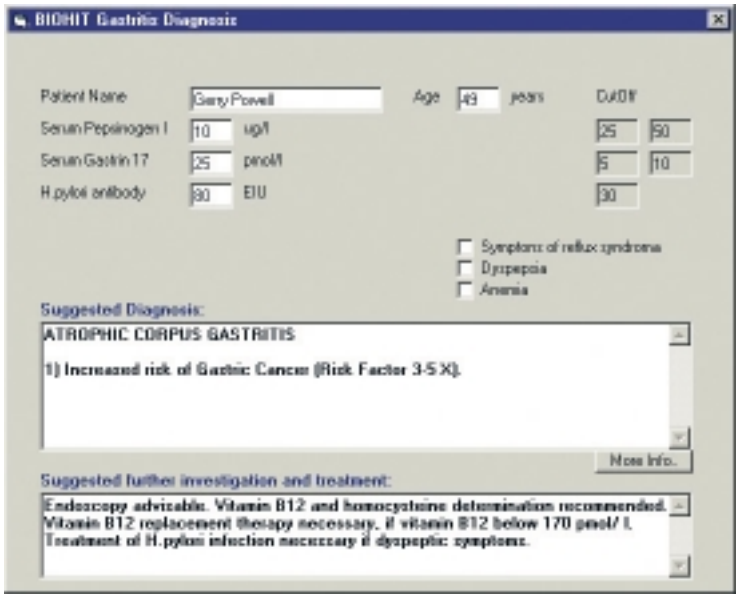
[83] Griffiths K., Adlercreutz H., Boyle P., Denis L., Nicholson R.I. and Morton M.S. (1996). *Nutrition and Cancer.* ISIS Medical Media, Oxford, pp. 1-173.

study. The serum Pepsinogen I and Gastrin 17 -concentrations and the *H. pylori* -antibodies were determined from the blood samples of the patients by using Biohit's test panel. When the results produced by Biohit's test panel were compared with the diagnoses made on the basis of the gastroscopy and biopsies, it was found that the sensitivity of the test panel was over 90%. This means that the test panel is able to find nearly all those patients who have been diagnosed ill on the basis of the results of the gastroscopy and analysis of the biopsy samples. Furthermore, the test panel was able to classify correctly, with a specificity of 90%, those patients who did not suffer from a gastric disease or the disease was mild.

Biohit's monoclonal antibody tests (Pepsinogen I and II, Gastrin-17) for screening the risk of gastric cancer and peptic ulcer proved to be highly specific also in immunohistochemistry. This expands the area of use of Biohit's monoclonal antibodies, e.g., to pathological laboratories. Prior to this Biohit has had for sale 25 monoclonal antibodies applicable to immunohistochemistry. In the area of phytoestrogens Biohit continued to develop monoclonal antibodies for Enterolactone and Genistein.

In 2000 the clinical evaluations continued for Biohit's quick test for determining lactose intolerance and the telomere antibody test for detecting systemic lupus erythematosus (SLE). During the reporting period the range of tests for diagnosing celiac disease was complemented with an endomysium IgA -test.

In 2000 Biohit commenced the processes of obtaining official approvals in Europe (CE marking), in the U.S. (approval by Food and Drug Administration) and Japan. After receiving the approvals Biohit's diagnostic products can be sold for clinical use. In 2000 Biohit made preparations to commence the marketing of its diagnostic tests through its seven subsidiaries, the network of distributors and co-operation partners.



On the basis of the results produced by Biohit's gastric test panel the computer program draws up a diagnosis of atrophic gastritis and determines risk factors for gastric cancer and peptic ulcer. Moreover, the program provides an instruction for treatment for possible H. pylori -infection and recommendations for further treatment.

Gastro Program (GP) -Package

Biohit's non-invasive method to diagnose the risk of gastric cancer and peptic ulcer from blood samples (the Gastric Test Panel) and its related software (GastroSoft®) for the interpretation of the test results are new and unique inventions in the world. The only alternative method for the GP-package is the inconvenient and expensive gastroscopy and the examination of biopsies. In the light of current knowledge invasive gastroscopy is used as the primary method for studying dyspepsia, the continuous or occasional pain in the upper part of the stomach.

When studying the underlying causes of dyspepsia it is possible to determine the *H. pylori* -infection, the atrophic gastritis of the mucous membrane of the stomach and the risk for gastric cancer and peptic ulcer with the help of the GP package. The *H. pylori* -antibodies and the Pepsinogen I and Gastrin-17 -concentrations are measured from a blood sample. The *H. pylori* -infection can be determined also by measuring *H. pylori* -antibodies from saliva, by determining its antigens with a breath test, and by detecting antigens from feces or from biopsy samples, depending on the phase of the illness. On the basis of these results the program draws up a diagnosis of atrophic gastritis and determines risk factors for gastric cancer and peptic ulcer. Moreover, the program produces an instruction for treatment for possible *H. pylor*i -infection and recommendations for possible gastroscopy and the determination of the concentrations of vitamin B12 and homocysteine from a blood sample. Interpretation of the test results gained is normative; ultimately the doctor is responsible for additional examinations and the overall treatment of the patient.

The GP-package enables to avoid in most cases gastroscopy as the primary examination method. On an overall level gastroscopy is disliked by patients, and the majority of the doctors does not perform it in their offices. In fact, a risk and possibility of mistakes is always related with the invasive gastroscopy, and its results are highly dependent on the skills of the doctor. Skilled gastroscopists are rare, and, e.g., in Finland a large number of patients are currently waiting for the operation. If the waiting time is prolonged, the potential early gastric cancer may develop into a stage in which it is no longer possible to save the patient. If gastric or peptic ulcer remains undiagnosed for a long time and the hemorrhage becomes massive, the patient faces the risk of death.

Due to the fact that the causes of dyspepsia are seldom found by gastroscopy during the patient's first visit to the doctor, reaching a correct diagnosis may be prolonged. On the contrary, without an accurate diagnosis often a selected treatment will be tried out for a couple of weeks. If the tried treatments are not effective it is possible that such patients who suffer from functional stomach disorders are without cause sent to gastroscopy.

Differential diagnostics related with stomach disorders assesses whether the patient suffers from functional disorders or from more severe organic diseases. Differential diagnostics is, however, made complex by the fact that chronic or acute stomach disorders and pain may be caused by the upper or lower parts of the intestine or other organs. The cause of dyspepsia is functional in approx. half of the patients seeking medical treatment.

The reflux disease[84], the incidence of which, e.g., in Finland increases as the cases of gastric cancer and peptic ulcer decrease, underlies often peptic ulcer and gastric cancer, which are related with the *H. pylori* -infection and atrophic gastritis, as well as dyspepsia. Relatively often dyspepsia is caused by lactose intolerance and more seldom by celiac disease, which also leads, e.g., to lactose intolerance. The use of anti-inflammatory analgesics and the autoimmune disease causing atrophy of the mucous membrane of the stomach may also underlie dyspepsia. Approx. 25% of the Finnish population suffer from the symptoms of reflux disease. The shares for lactose intolerance and celiac disease are approx. 17% and 0.3 - 1.0%, respectively. Approx. half of Finns suffer from the *H. pylori* -infection. At least 10-20% of those infected by *H. pylori* will suffer from gastric cancer or peptic ulcer. Approx. 2.0% of the infected and at least 10% of the patients with severe atrophic gastritis will suffer from gastric cancer during their lifetime. Approx. 3% of the patients over 45 who seek treatment for dyspepsia are malignant. This is very seldom the case with younger patients. However, the younger suffer more often of dyspeptic symptoms than the elderly.

The atrophic gastritis of the corpus area of the stomach leads at the early stage to the deficiency of vitamin B12. At this stage there exist no signs of pernicious anemia. The lack of vitamin B12 causes severe psychic disorders, e.g., depression, dementia and neurological damages, such as sensory disorders. A low level of vitamin B12 leads to the increase in the concentration of homocysteine in the body. This, on its part, may increase the risk of atherosclerosis, blood vessel diseases, and brain and myocardial infarcts.

Due to limited examination capacity, gastroscopy cannot be performed on all patients suffering from stomach disorders. Thus, by using simple blood tests, either alone or in combination with normally used tests, it is possible to screen and identify more effectively the patients who are at risk of gastric cancer or peptic ulcer. By focusing the examinations on the risk group the rationale and efficiency of gastroscopies increase. Patients suffering from chronic atrophic gastritis constitute a major risk group.

Biohit's quick, simple and efficient method for screening the risk of gastric cancer and peptic ulcer from a blood sample (Gastric Test Panel) and related software (GastroSoft®) are suited for the routine use of general practitioners when examining patients suffering from stomach disorders or those belonging to the risk groups. Similarly, the results of the GP-package provide useful information for the gastroscopists. Anamnesis on the location of the gastritis, its severity and an increased risk of gastric cancer or peptic ulcer is helpful for the treating doctor.

Approx. 15-30% of the patients seeking medical treatment suffer from stomach disorders. The use of the GP-package is justified in all of the cases since the determination of the causes of the disorders on the basis of anamnesis or status is relatively unreliable. Trial treatments are not recommended unless an exact diagnosis has been made. Biohit's GP-package enables to replace gastroscopy as the primary examination method. As to laboratory tests, the lactose load test, which is inconvenient and unreliable, is currently the most important when seeking the causes of dyspepsia.

It is now possible to replace the lactose load test with Biohit's easy and quick POC-test, which is performed on biopsies taken in connection with gastroscopy. The panel for diagnosing celiac disease from a blood sample complements these tests.

The correct diagnosis and treatment of a patient suffering from acute or chronic stomach disorders and pains is most successful if the doctor can rely on comprehensive and quick laboratory services. This requires that the basic laboratory services are available at doctors' offices and medical centers, and, thus, it is unnecessary to rely on outside services.

Biohit's GP-package, other diagnostic test kits and analyzing systems composed of diagnostics, liquid handling products, instruments and related software are well suited for decentralized laboratory diagnostics. The decentralized laboratory diagnostics is a core prerequisite for the beginning of the theranostics era (Evidence-Based Medicine)[85].

Since October 2000 Biohit has been engaged in co-operation related with theranostics in Russia. Biohit's subsidiary in St. Petersburg sells together with Hoffmann-La Roche the Hercep test of the Danish company Dako for the diagnosis of a specific type of breast cancer. Hoffmann-La Roche, on its part, engages in the sales of Herceptin, a highly specific drug developed by the U.S. company Genentech, for breast cancer. In this way Biohit and Hoffmann-La Roche support each other in the marketing of the products they represent for the benefit of both the doctor and the patient. The Hercep test and the Herceptin drug form the first combination of a diagnostic test and drug, which has been approved by the FDA[86]. The approval grants the right to treat the patient with Herceptin only if the results of the Hercep test have indicated that the patient is apt to be treated with the said drug.

This first FDA approval can be considered as a first step towards the theranostics era. It seems that in the future most, if not all, medication will be prescribed using a diagnostic patient profile, which will require a link between medical and diagnostic companies. It has been estimated that within five years the theranostic tests will form a significant part of the markets for IVD-tests[87]. Currently, the total size of the IVD markets has been estimated to be approx. USD 20 billion.

Biohit's GP-package combined with certain drugs of selected medical companies could be a suitable concept for theranostics and highly specific medication. This opens up possibilities for co-operation between Biohit and medical companies, which would benefit, in addition to the patients, both our co-operation partners and ourselves. Medical companies possess extensive international customer service networks, which could contribute to disseminating information and enhance the adoption of Biohit's GP-package among general practitioners.

[84] The disease causes the backward flow of the contents of the stomach to the esophagus.

[85] The term *theranostics* describes an evolving group of products that link diagnostics with medical treatment. They are also known by some companies as *predictive medicine*. Theranostics might identify which patients would be most suited to a particular drug therapy or could be used to provide feedback on how well a drug is working in order to tailor the optimum treatment regimen. Many theranostic products need to be point-of-care (POC) tests. In many cases, the results of the tests need to be available quickly and at the patient's side, in order to influence therapy.

[86] Food and Drug Administration (FDA) is a U.S. authority, which decides, e.g., on the clinical use of drugs and diagnostic tests.

[87] In Vitro Diagnostic (IVD) -test refers to a test made from a patient sample (e.g. blood sample).

Market Potential and Marketing of the Test Kits

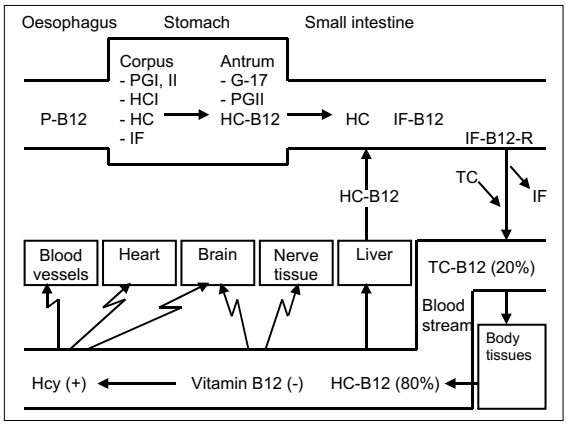
From Biohit's point of view the market potential for the test kits is nearly limitless, over USD 5.0 billion[88]. Since Biohit's test kits have been awarded patents and Biohit has actively filed new applications, the company's possibility to benefit from the potential through its subsidiaries, distributors and project exports seems very promising.

However, when striving to benefit from this potential, Biohit and its co-operation parties face the challenge of rapidly increasing the awareness of doctors and patients about these products. As to the GP-package the following means will be used:

- Congresses, exhibitions, testing and promotion by specialists. Biohit's global data base on gastroenterologists and researchers currently cover 5,000 members in 50 different countries.
- The GP-package as a replacement method for gastroscopy is the primary method for thousands of general practitioners. In addition to test results, the package provides recommendations for diagnosis, treatment and further examinations.
- Articles by researchers and popularized information disseminated by mass media to increase the awareness of patients to be correctly tested by a non-invasive method before treatment.
- The joint marketing of diagnostic tests (Theranostics) and corresponding highly specific drugs, i.e., Evidence-Based Medicine.
- Approval by authorities (e.g. in the U.S. and Japan) before clinical use.
- Biohit's seven subsidiaries with their customer service networks.
- Distributors and their customer service organizations.
- Biohit's multinational co-operation partners; possibly with Beckman Coulter, Becton Dickinson, bioMérieux, Hoffmann-La Roche and Johnson & Johnson.
- New co-operation partners.
- Project exports (Asia, Near East, South America).

This existing specialist, co-operation and customer service network has provided Biohit the unique advantage to commence the global testing, adoption and marketing of the new products on the largest and most important markets, the lead markets. Biohit's seven subsidiaries with skillful and experienced personnel are also currently prepared to begin the marketing and sales of diagnostics and instruments. Morover, most of Biohit's 60 main distributors for liquid handling products have a customer service network also for the sales of diagnostics, instruments and analyzing systems.

[88] MeritaNordbanken Research 25.08.1999.



Metabolism of Vitamin B12 and Consequences of Its Distortions

The absorption of vitamin B12 from nutrition is distorted when the mucous membrane of the corpus area of the stomach is atrophic. This results from the fact that the atrophic mucous membrane of the corpus does not secrete the intrinsic factor (IF) and haptocorrin (HC). In nearly 90% of the cases the atrophy of the mucous membrane of the stomach is caused by Helicobacter pylori -infection and in less than 10 % of the cases by autoimmune disease. If the atrophy of the mucous membrane becomes chronic, the risk of gastric cancer and peptic ulcer increases. This risk can be determined by measuring from blood sample the concentration of Pepsinogen I secreted by the mucous membrane of the corpus and the concentration of Gastrin-17 secreted by the mucous membrane of the antrum.

The protease enzyme secreted by the gastric juice releases vitamin B12 from the proteins of food. The haptocorrin (HC) of the gastric juice binds the vitamin B12. The protease enzyme secreted by the pancreas breaks down the produced HC-B12 complex, and the released B12 vitamin is bound by the intrinsic factor. The IF-B12 complex is absorbed by the epithelial cells of the small intestine by the receptors of the cell membranes. The B12 vitamin, released from the IF-B12 complex, binds with transcobalamin (TC). This results in the TC-B12 complex (holo-transcobalamin). The TC-B12 complex is released into the blood stream and is subsequently recognized and taken up by specific receptors present on all cell types. This complex, which is physiologically active, includes approx. 20% of the total amount of vitamin B12 present in blood. Its concentration decreases rapidly if the absorption of vitamin B12 is distorted. The half-life of the TC-B12 complex in the body is only 0.75 day and that of the HC-B12 complex approx. 9 days. The HC-B12 complex is stored in the liver and kidneys.[89]

Vitamin B12 is solely produced by micro-organisms. Thus, vitamin B12 must be received from nutrition, and if the corpus area of the stomach is atrophic, by injections of vitamin B12. The lack of vitamin B12 in the body is an increasingly growing health problem worldwide and it concerns especially the elderly. Approx. 5-20% of the elderly suffer from diseases caused by the lack of vitamin B12.

The lack of vitamin B12 leads in less than a year to distortions of the activity of the neural tissues, depression and dementia. These illnesses begin to develop already before the development of noticeable pernicious type of anemia, and they can become irreversible if the diagnosis and treatment are delayed.[90] *Moreover, in connection with the lack of vitamin B12 the concentration of homocysteine (Hcy) in tissues and blood increases, which increases the risk of atherosclerosis and thromboembolic diseases.*

[89] Holo-transcobalamin: The Physiologically Active Vitamin B12 Metabolite. *Clinical Laboratory International*, Vol. 24, No.8 (2000): 8.

[90] http://www.b12.com/page1i.htm

INSTRUMENTS

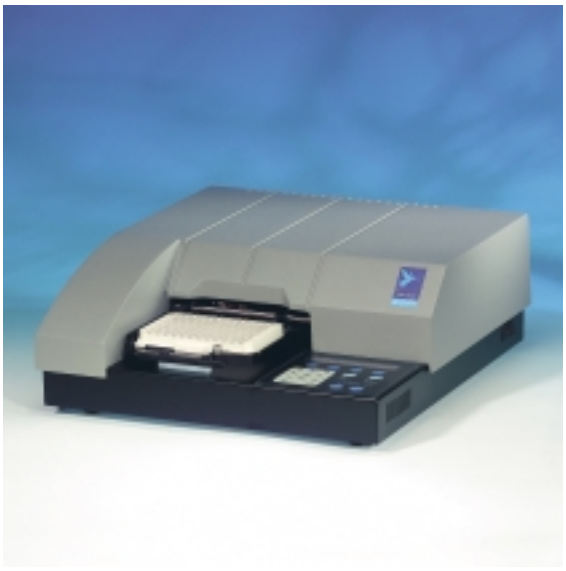
The business idea of Biohit is to offer its customer base also complete analyzing systems, which are comprised of liquid handling products, diagnostic tests, instruments used in the analysis of the results, software as well as maintenance and training services. In the business area of instruments Biohit's objective is to supply products for the following three market segments: instruments used in research, instruments used in clinical applications, and instruments used in industrial applications for the analysis of samples.

Biohit's GP-package and other test kits as well as the analyzing systems are extremely well suited for decentralized laboratory diagnostics performed close to the patient and the doctor. Decentralized laboratory diagnostics is a prerequisite for the close interlinkage between the examination and treatment of the patient.

Research and Development of Instruments and Market Potential

As early as the 1970s the current management of Biohit and key personnel developed and commercialized two inventions made by Dr. Osmo Suovaniemi at the end of 1960s: the single- and multichannel adjustable mechanical liquid handling devices (Finnpipettes[91]) as well as vertical photometry and its instrument applications (e.g. Multiskan[92]). Biohit has researched and developed further vertical measurement principles since the end of the 1980s[93,94]. It has been estimated that the current annual sales volume of microplate readers, multichannel pipettors, microstrips as well as other products developed on the basis of the vertical measurement principle together with their accessories already exceeds USD 1.0 billion annually[95,96].

The instruments based on vertical photometry have made possible the extensive research and fast development of enzyme immunoassay (EIA)-technology and its associated applications such as analyzing and screening of cancers and infectious diseases. During the past ten years, the EIA-technology has been followed by the rapid development of molecular biology techniques, such as the Polymerase Chain Reaction (PCR) -technique, which is used for the amplification of DNA. Vertical measurement applications have been widely used in recent years in connection with the PCR-technique and similar applications.



In 2000 Biohit began the sales and marketing of state-of-the-art microplate readers and washers. The picture displays Biohit's BP800 reader, which enables the performace of numerous measurement, calculation and data validation functions for ELISA applications.

In order to serve its customer base also with complete analyzing systems, Biohit began the purchases of private label liquid handling and microplate instruments from the U.S. Bio-Tek Instruments, Inc. in accordance with the contract concluded in August 2000. In fact, the vertical measurement principle and its applications invented by Osmo Suovaniemi at the end of the 1960s have served as examples for Bio-Tek's instruments. The investments in equipment by companies specializing in automated molecular biology methods and the development of biologically active molecules are growing very rapidly and, thus, becoming an important market area. It has been estimated that these markets grow at an annual rate of 25 - 30%.

Instruments in 2000

In 2000 Biohit began the sales and marketing of state-of-the-art microplate readers and washers. The instruments with integrated keyboard, LCD-display, interface and extensive menu-driven software can serve as stand-alone instruments or as part of a larger laboratory information management system (LIMS) when connected to a host device, such as a PC.

Although Biohit's readers and washers are intended for a wide range of assays they are delivered with pre-programmed protocols for Biohit's ELISA assays, e.g., for Pepsinogen-I, Gastrin-17 and *Helicobacter pylori*. This ensures ease-of-use, optimal operation and verified test reporting and results.

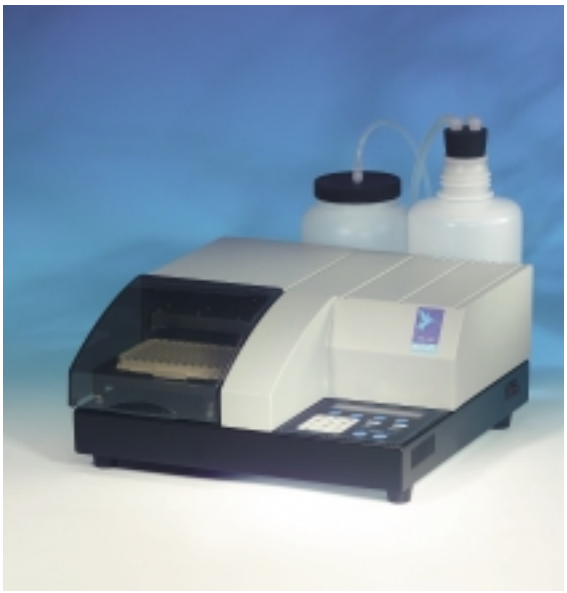
[91] Finnpipette is a registered trademark of Labsystems Oy.
[92] Multiskan is a registered trademark of Labsystems Oy.
[93] Suovaniemi, O. (1994). *Automated Instrumentation for Clinical and Research Laboratories - Innovations and Development of Vertical Light Beam Photometers and Electronic Pipettors*, Ph.D. Thesis, University of Helsinki.
[94] Tiusanen, T. (1992). *Inner-Filter Correction with a Fluorometer-Based Multifunctional Instrument*, Ph.D. Thesis, University of Helsinki.
[95] McGrath & Associates, Inc. 1999.
[96] Suovaniemi, O. (1994). *Automated Instrumentation for Clinical and Research Laboratories - Innovations and Development of Vertical Light Beam Photometers and Electronic Pipettors*, Ph.D. Thesis, University of Helsinki, p.46.

• *BP800 microplate reader*
The BP800 microplate reader has all the features of a modern microplate photometer with dual wavelength measurement, UV-optics and versatile microplate format support. The instrument is delivered with preprogrammed assay protocols for Biohit's diagnostic tests. With the help of the intuitive user interface new test protocols can be made fast and easily. Extensive on-board data analysis includes several curve-fitting options, transformations and control validation. In addition to the printer interface, the instrument has a serial interface to be controlled with a PC for the further processing and distribution of data. The reader is supported by Biohit e-Lisa XL measurement and data distribution software.

• *BP808 microplate reader*
The BP808 microplate reader is a top performance 8-channel microplate photometer with four-zone incubation and plate shaking functionality. Due to the fast reading capability the unit is suitable not only for end-point but also for kinetic applications. With the help of the intuitive user interface new test protocols can be made fast and easily. Extensive on-board data analysis includes several curve-fitting options, transformations and control validation. Automatic report printing is carried out with the help of an external printer. The instrument has a serial interface to be controlled with a PC for the further processing and distribution of data, e.g., with Biohit's software (GastroSoft®). The product is delivered with preprogrammed assay protocols for Biohit's diagnostic tests.

• *E-Lisa XL*
The e-Lisa XL is a most easy-to-use software utility for supporting the BP800/808 Biohit readers with end point type assays such as Biohit Pepsinogen I, Gastrin-17 and *Helicobacter pylori* ELISA tests. It has been designed to be used together with Microsoft Excel™, providing a huge amount of possibilities for data processing. The e-Lisa XL is delivered with ready made Excel templates for several Biohit assays. These serve as immediate use of Biohit test results or as examples to design your own templates for your assays.

• *BW50 microplate washer*
The BW50 microplate washer is a self-contained and programmable microplate washer suitable for different ELISA, FIA, RIA and DNA probe and cellular assays. It allows for full control of precise fluidic delivery from the gentle dripping of a simple squeeze bottle to the full force of pressure delivery systems. The instrument is delivered preprogrammed for Biohit diagnostics.



Biohit's microplate readers and washers are delivered preprogrammed for Biohit diagnostics. The picture displays the BW50 microplate washer.

The know-how, innovations and experience of Biohit's key personnel have formed a solid basis for the development of the instrument business. The development of instruments as well as that of liquid handling products is guided by the diagnostic tests and related software for the calculation and interpretation of the test results. Biohit's software related with the GP-package, which is most helpful for the doctor when the results produced by Biohit's gastric test panel are knowm, serves as an example of the interlinkages in the development work.

The liquid handling instruments for the automated handling of samples and reagents as well as the instruments used for the reading and interpretation of the analyses intended for research, PCR- and HTS-applications as well as POC-diagnostics offer Biohit an additional, strong base for growth. In this area the markets for the said instruments and larger systems composed of them is estimated to demonstrate a growth of 25-30% annually. Moreover, the markets for different types of plastic disposables, which are used in PCR-, HTS- and POC-applications, are estimated to grow over 30% each year.

BOARD OF DIRECTORS´ REPORT

Biohit manufactures liquid handling products and accessories and diagnostic systems for use in research, health care and industrial laboratories. Biohit's product range encompasses also instruments, which together with the liquid handling products and diagnostic tests, enable to offer complete analyzing systems for customers.

In the business area of liquid handling Biohit's main products are electronic and mechanical liquid handling devices and disposable tips. In the business area of diagnostics the product range consists of tests for screening the risk of gastric cancer and peptic ulcer, as well as for the diagnosis of lactose intolerance, celiac disease and systemic lupus erythematosus. The product range of instruments include microplate readers and washers.

Net Sales

The net sales of the Biohit Group increased by 18% compared with the previous year, i.e., from FIM 122.2 million to FIM 144.2 million. The net sales was generated primarily by the sales of liquid handling products and their disposables. Similarily to prior years exports accounted for approximately 96% of the net sales. 53 % of net sales consisted of sales to European countries, 19% to the Americas and the remainder 28% mainly to Asia.

Profit/Loss

The operating loss for the reporting period totalled to MFIM 2.8 (MFIM 7.9 profit in 1999). The operating profit before goodwill amortization totalled to MFIM 2.8 (MFIM 13.2) and loss per share FIM 0.37 (FIM 0.24 profit).

The cash flow provided by operating activities before financial items and income taxes was MFIM 7.2 positive in 2000.

Compared with the previous year the result was burdened by an increase in fixed costs, which was primarily due to additional investments in the international marketing organization and the research and development of diagnostics. In 2000 Biohit began the marketing of the diagnostic products and made preparations for large-scale manufacturing.

The net financial expenses totalled to MFIM 0.6 (MFIM 3.0). The decrease of MFIM 2.4 compared with 1999 was primarily due to the MFIM 1.6 interests accrued on the capital loans of Biohit Plc. by 31.12.1999, and which were recorded in 1999.

The loss before extraordinary items totalled to MFIM 3.4 (MFIM 4.9) and loss before taxes MFIM 2.0.
The extraordinary income consisted primarily of the MFIM 1.4 profit received from the sales of the shares of Wolf Laboratories Ltd.

Liquidity

The liquidity of the Biohit Group is good. Despite the decrease in the result the cash flow provided by operating activities before financial items and income taxes was MFIM 7.2 positive. The decrease in liquid assets from MFIM 42.9 to 17.9 was due to acquisitions in the U.S. and Russia (MFIM 10.3), investments in the production premises in Kajaani (MFIM 21.6) and the MFIM 3.6 repayment of capital loans and their interest. The financial position was improved by the MFIM 4.5 interest-free loan and MFIM 2.0 compensation for damages received from the City of Kajaani.

The gearing ratio changed from 66.0% at year-end 1999 to 66.9%.

Investments

The gross investments of the period totalled to MFIM 42.0 (MFIM 7.6), for which a MFIM 5.0 investment grant has been received from the Ministry of Trade and Industry. In 2000 the new production plant was finished in Kajaani. The total expenditure of MFIM 21.6 were comprised of MFIM 17.8 investments in the building and MFIM 3.8 in machinery and equipment. Other investments in machinery and equipment totalled to MFIM 8.2. Investments in intangible assets were MFIM 1.9 and MFIM 10.3 in acquisitions.

Research and Development

In the business area of liquid handling the main event was the finalization of the new electronic pipettor generation. Additionally, the calibration laboratory for liquid handling devices of Biohit Plc. was accredited on March 20, 2000 as a result of the evaluation made by the Finnish Accreditation Service (FINAS).

In the business area of diagnostics the test panel developed by Biohit passed successfully the clinical evaluation in Finland, and preparations for large-scale manufacturing were begun.

The research and development expenses of the Biohit Group totalled to MFIM 10.1 (MFIM 7.5), i.e., 7.0% (6.2%) of the net sales.

Changes in the Corporate Structure in 2000

The acquisitions made in 2000 reinforced Biohit's position on international markets. Biohit Systems, Inc., the U.S. subsidiary of Biohit Plc., acquired on April 25, 2000 the entire share capital of the U.S. company Vangard International, Inc., which has acted as a distributor of Biohit's products. Biohit reinforced marketing also in Russia and other CIS-countries by acquiring the entire share capital of the Finnish company Oy Finio Ab on May 15, 2000. At the same time Biohit received 51% of the shares of the Russian company Finnbio Ltd, in which Biohit's earlier ownership was 5%. Biohit acquired 100% of the votes in Finnbio Ltd by acquiring the minority of 44% on December 29, 2000.

Biohit Ltd. sold on Dec. 29, 2000 its majority share, i.e., 51% of the U.K. company Wolf Laboratories, Ltd., which has acted in the U.K. as the distributor of Biohit products. Wolf Laboratories Ltd. will continue after the transaction, together with Biohit's U.K. subsidiary Biohit Ltd., as the local distributor for Biohit products in the U.K.

In 2000 a decision was made to transfer all diagnostic business operations of Locus genex Oy to its parent company Biohit Plc. to gain more efficiency in all activities. For that purpose the extraordinary general meeting of Locus genex Oy decided on Dec. 14, 2000 to place the company in voluntary liquidation.

Increases in Share Capital

On the basis of the first subscription period by the personnel options 1.1.-1.4.2000 the personnel of Biohit subscribed altogether 378,840 B-shares of the total of 400,000. The subscription price was FIM 12.50 per share. As a result of the subscriptions the total number of shares rose to 12,643,377 pieces. The share capital increased by EUR 64,402.86 to EUR 2,149,374.09. The premium fund increased by EUR 732,051,11.

Administration and Personnel

During the reporting period the following persons were members of the Board of Directors of Biohit Plc.: Professor Reijo Luostarinen as the Chairman and Osmo Suovaniemi, M.D., Ph.D. and Professor Mårten Wikström as members. Pekka Salonoja, the Chairman of the Board of Erja-Kiinteistöt Oy acted as a member until April 6, 2000. Osmo Suovaniemi has acted as the President & CEO.

SVH Pricewaterhouse Coopers Oy have acted as the auditors and Hannele Selesvuo as the responsible Authorized Public Accountant.

Future Prospects

The considerable investments made in 2000 and earlier in research and development, production and the global co-operation and customer service network are expected to have a positive impact on profitability as of 2001.

The net sales of Biohit Group for 2001 is anticipated to demonstrate a growth of at least 20%. The major part of the net sales is forecast to be generated by the sales of liquid handling products. Furthermore, it is forecast that diagnostics, instruments and systems composed of liquid handling products, diagnostics and instruments will produce a significant increase in the net sales and profitability for 2001.

BIOHIT

INCOME AND CASH FLOW STATEMENTS

INCOME STATEMENT JANUARY 1- DECEMBER 31			Group		Parent company
FIM 1 000	Note	2000	1999	2000	1999
NET SALES	2.1.	144 167	122 191	80 234	82 645
Change in inventories of finished goods and work in progress		4 036	-899	1 524	-733
Other operating income		1 084	499	966	395
Materials and services	2.2.	-45 551	-31 422	-15 224	-14 196
Personnel expenses	2.3.	-47 654	-37 816	-28 755	-26 505
Depreciation and value adjustments	3.1.	-14 241	-12 538	-7 268	-7 319
Other operating expenses		-44 709	-32 094	-25 522	-20 343
OPERATING PROFIT/LOSS		-2 868	7 921	5 955	13 944
Financial income and expenses	2.4.	-582	-3 015	-60	-2 604
PROFIT/LOSS BEFORE EXTRAORDINARY ITEMS		-3 450	4 906	5 895	11 340
Extraordinary items	2.5.	1 420	2 000	-3 881	-790
PROFIT/LOSS BEFORE INCOME TAXES		-2 030	6 906	2 014	10 550
Untaxed reserves	2.6.	0		-2 134	
Income taxes	2.7.	-1 470	-2 850	-39	-3 013
Minority interest		-162	92	0	0
NET PROFIT/LOSS		-3 662	4 148	-159	7 537

CASH FLOW STATEMENT JANUARY 1 – DECEMBER 31		Group		Parent company	
FIM 1 000	2000	1999	2000	1999
CASH FLOWS FROM OPERATING ACTIVITIES				
Profit/loss before extraordinary items	-3 450	4 906	5 895	11 340
Adjustments:				
Depreciations	14 241	12 538	7 268	7 318
Provisions	0	-2 657	0	-2 603
Financial income and expenses	582	3 015	60	2 604
Other adjustments	-4	-395	-4	-395
Cash flow before change in net working capital	11 369	17 407	13 219	18 264
CHANGE IN NET WORKING CAPITAL				
Increase (-)/decrease (+) in non-interest bearing receivables	7 044	-3 681	-3 562	-513
Increase (-)/decrease (+) in inventories	-4 505	524	-2 240	315
Increase (+)/decrease (-) in non-interest bearing liabilities	-6 682	1 813	902	-1 586
Funds generated before financial items and income taxes	7 226	16 063	8 318	16 480
Interests and other financial items paid	-4 031	-3 171	-3 463	-2 878
Interests received	1 764	1 419	1 699	1 781
Income taxes paid	-1 617	-3 303	-796	-3 043
Cash flow before extraordinary items	3 343	11 008	5 757	12 340
Extraordinary items paid	2 000	0	-1 881	-2 790
Net cash flow from operating activities (A)	5 343	11 008	3 876	9 550
NET CASH FLOW FROM INVESTING ACTIVITIES				
Investments in tangible and intangible assets	-28 631	-7 507	- 25 683	-6 385
Proceeds from disposition of tangible and intangible assets	0	0	14	0
Loans given	0	0	0	0
Investments in subsidiaries	-6 650	0	-10 789	-400
Disposition of subsidiary shares	-451	0	0	0
Refund of advance payment	2 404		2 404	0
Repayments of loan receivables	0	30	330	996
Proceeds from disposition of other shares and holdings	338	504	338	504
Dividends received from investments	36	40	36	39
Net cash flow from investing activities (B)	-32 954	-6 933	-33 349	-5 246
NET CASH FLOW FROM FINANCING ACTIVITIES				
Proceeds from share issue	4 783	49 992	4 783	49 992
Repayments of short-term loans	0	-1 438	0	-1 438
Increase in capital loan	131	330	131	0
Increase in long-term loans	4 900	0	4 900	0
Repayments of long-term loans	-7 185	-16 741	-6 700	-16 671
Net cash flow from financing activities (C)	2 629	32 143	3 114	31 883
Net increase (+)/decrease (-) in cash and cash equivalents (A+B+C)	-24 982	36 218	-26 359	36 187
Cash and cash equivalents at January 1	42 915	6 697	40 330	4 143
Cash and cash equivalents at December 31	17 933	42 915	13 971	40 330

BALANCE SHEET DECEMBER 31

ASSETS FIM 1 000	Note	Group 2000	 1999	Parent company 2000	 1999
FIXED ASSETS AND OTHER LONG-TERM INVESTMENTS					
Intangible assets	3.1.1.	5 345	7 954	4 583	7 023
Goodwill	3.1.1.	27 478	30 354	0	0
Tangible assets	3.1.2.	33 569	12 940	29 542	11 151
Shares and holdings	3.2.	1 219	1 249	48 202	38 249
Total fixed assets and other long-term investments		67 611	52 498	82 327	56 423
CURRENT ASSETS					
Inventories	3.3.	22 505	14 120	10 047	7 806
Deferred tax receivables	3.7.	1 595	749	0	0
Long-term receivables	3.4.	0	0	1 023	1 554
Short-term receivables	3.4.	36 773	36 568	37 173	34 031
Cash at bank and in hand		17 933	42 915	13 971	40 330
Total current assets		78 806	94 353	62 214	83 721
TOTAL ASSETS		146 417	146 851	144 541	140 144

SHAREHOLDERS' EQUITY AND LIABILITIES FIM 1 000	Note	Group 2000	 1999	Parent company 2000	 1999
SHAREHOLDERS' EQUITY					
Share capital	3.5.1.	12 780	12 397	12 780	12 397
Share premium fund	3.5.1.	88 630	84 230	88 630	84 229
Accumulated profit/loss from prior years	3.5.1.	-16	-4 121	7 536	0
Net profit/loss	3.5.1.	-3 662	4 148	-159	7 537
Capital loans	3.5.4.	6 732	8 601	2 739	4 608
Total shareholders' equity		104 464	105 255	111 526	108 771
MINORITY INTEREST		291	273	0	0
PROVISIONS		0	84	0	0
APPROPRIATIONS	3.6.	0	0	2 134	0
LIABILITIES					
Deferred tax liability	3.7.	649	104	0	0
Long-term liabilities	3.8.1.	16 586	17 016	16 232	16 504
Short-term liabilities	3.8.2.	24 427	24 118	14 649	14 869
Total liabilities		41 662	41 238	30 881	31 373
TOTAL SHAREHOLDERS' EQUITY AND LIABILITIES		146 417	146 851	144 541	140 144

NOTES TO THE FINANCIAL STATEMENTS

1. ACCOUNTING PRINCIPLES

The financial statements have been prepared in accordance with Finnish Accounting Act.

Preparation of the financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the amounts and figures in the financial statements. Actual results could differ from those estimates.
Amounts are presented in Finnish Markka (FIM) and are based on the original value of transactions.

PRINCIPLES FOR VALUATION AND RECOGNITION OF REVENUES AND COSTS

Valuation of Fixed Assets

Fixed assets are recorded in the balance sheet at historical cost net of grants received and depreciation. Depreciation is calculated on straight-line basis over the useful life of the assets.

The useful life times are:

Intangibles	5 – 10 years
Goodwill	3 – 7 years
Buildings	20 years
Other capitalized costs	5 – 10 years
Machinery and equipment	3 – 10 years

On January 1, 1999 the remaining value of before 1998 capitalized R&D costs were FIM 6,8 million in the Group and FIM 6,0 million in the parent company. From these 50% was amortized in 1999 and the remaining 50% was amortized during the financial year 2000.

The goodwill relating to Locus genex Oy will be amortized over 7 years. An exception has been made from the five year amortisation period because the investment is by nature long-term.

Valuation of Inventories

Inventories are stated at the lower of cost, on a first-in-first-out (FIFO) basis, or net realizable value. The value of finished goods include an appropriate proportion of production overheads in addition to the direct costs.

R & D expenses

From 1998 on R & D costs are recorded as expense when occurred.

Revenue Recognition

Net sales are calculated as gross sales less indirect sales taxes and discounts. Revenues from products and services are recognized upon delivery.

Maintenance and Repairs

Costs for maintenance and repairs are recorded as expenses when occurred. The costs of renovating rented premises have been capitalized under other capitalized expenses and will be depreciated on a straight-line basis over the remaining rental period.

Pensions

The pension schemes and any additional pension benefits required by Finnish law are arranged through pension insurance companies. Pension costs are charged to the income statement for the period when earned.

Foreign Currency Translation

Receivables and liabilities in foreign currencies are translated into Finnish Markka at the exchange rate quoted by the Bank of Finland on the balance sheet date. The acquisition costs of fixed assets have been adjusted with exchange rate differences relating to the purchase of fixed assets.

ACCOUNTING PRINCIPLES OF CONSOLIDATION

Scope of Consolidated Financial Statements

The consolidated financial statements include Biohit Plc and all companies in which the Group holds more than 50% of the voting rights. Subsidiary companies are included in the consolidated financial statements from the date of acquisition.

Intragroup Shareholdings

The consolidated financial statements have been prepared using the purchase method. The difference between the acquisition cost and the shareholders' equity corresponding to the acquired holding is presented as goodwill.

Intragroup Transactions and Margins

Intragroup transactions, unrealized internal profits, receivables and debts as well as intragroup distribution of profits are eliminated in the consolidated financial statements.

Translation Differences

The income statements of foreign group companies are translated into Finnish Markka at the average exchange rate for the year and the balance sheets at the exchange rate on the balance sheet date. Differences arising from the translation as well as those from translating shareholders' equity are recorded in the consolidated financial statements under "Accumulated profit/loss from prior years".

Deferred Taxes

Deferred income tax liabilities and receivables have been accounted for on timing differences based on tax rates enacted at the balance sheet date.

2. NOTES TO THE INCOME STATEMENT

2.1. Net sales by Geographical Area	Group		Parent company	
FIM 1 000	2000	1999	2000	1999
Finland	3 845	4 986	5 037	4 986
Scandinavia	4 080	4 325	3 523	3 787
Rest of Europe	69 140	78 249	39 392	45 829
America	27 470	16 717	17 895	16 469
Other countries	39 633	17 914	14 387	11 574
Total	144 167	122 191	80 234	82 645

2.2. Materials and Services	Group		Parent company	
FIM 1 000	2000	1999	2000	1999
Materials				
Purchases during the year	44 373	30 379	15 940	14 612
Change in inventories	- 835	-373	-716	-418
Total materials	43 538	30 006	15 224	14 194
External services	2 013	1 416	0	2
Total materials and services	45 551	31 422	15 224	14 196

2.3. Personnel Expenses and Number of Personnel	Group		Parent company	
Personnel expenses, FIM 1 000	2000	1999	2000	1999
Salaries and wages	38 058	29 135	22 382	20 593
Pension expenses	5 317	4 429	3 699	3 590
Other personnel expenses	4 279	4 252	2 674	2 322
Total	47 654	37 816	28 755	26 505

Salaries and fees of the management

The salaries of the Group's Presidents totalled FIM 3.9 million (FIM 2.9 million in 1999). The fees to the members of the Board of Directors were FIM 0.2 (0.3) million in the parent company and Group. No pension arrangements other than those laid down by law have been made with the Presidents of Group companies.

Average Number of Personnel	Group		Parent company	
	2000	1999	2000	1999
Office personnel	138	92	60	49
Factory personnel	84	92	84	92
Total	222	184	144	141

2.4. Financial Income and Expenses	Group		Parent company	
FIM 1 000	2000	1999	2000	1999
Dividend income from outside the Group	36	40	36	40
Interest income from long-term investments:				
From companies within the Group	0	0	519	249
From others	0	0	0	0
Total interest income from long-term investments	0	0	519	249
Other interest and financial income:				
From companies within the Group	0	0	380	0
From others	1 808	1 508	1 294	1 378
Total	1 808	1 508	2 193	1 627
Value adjustments of shares and holdings	0	0	-486	0
Interest expense and other financial expenses:				
For companies within the Group	0	0	-6	0
For others	-2 426	-4 563	-1 797	-4 270
Total financial income and expenses	-582	-3,015	-60	-2 604
Net foreign exchange gains/losses included in "Financial income and expenses"	120	346	264	285

2.5. Extraordinary Items FIM 1 000	Group 2000	 1999	Parent company 2000	 1999
Extraordinary income	1 452	2 000	0	2 000
Extraordinary expenses	-32	0	-3881	-2 790
Total	1 420	2 000	-3881	-790

The extraordinary income in 2000 consisted primarily of the MFIM 1.4 profit received from the sales of the shares of Wolf Laboratories Ltd. In 1999 the extraordinary income derives from the compensation of FIM 2.0 million from the city of Kajaani. Extraordinary expenses in 2000 and 1999 in the parent company come from the Group contribution to the subsidiary.

2.6. Untaxed reserves FIM 1 000	Group 2000	 1999	Parent company 2000	 1999
Accelerated depreciation	0	0	-2 134	0

2.7. Income Taxes FIM 1 000	Group 2000	 1999	Parent company 2000	 1999
Current income taxes on extraordinary items	-478	-560	1 125	221
Current income taxes on ordinary operations	-862	-2 936	-1 164	-3 234
Change in deferred income tax liability/receivable	-130	646	0	0
Total	-1 470	-2 850	-39	-3 013

3. NOTES TO THE BALANCE SHEET

3.1. Tangible and intangible assets

3.1.1. Intangible assets FIM 1 000	Group Development expenses	Intangibles	Goodwill	Other capitalized expenses	Total
Acquistion cost at beginning of year	5 813	3 863	35 739	3 340	48 755
Additions	0	994	2 836	852	4 682
Disposals	0	0	0	-120	-120
Acquisition cost at end of year	5 813	4 857	38 575	4 072	53 317
Accumulated depreciation and value adjustments at beginning of year	-2 413	-1 083	-5 385	-1 566	-10 447
Accumulated depreciation on disposed assets				120	120
Depreciation for the year	-3 400	- 548	-5 712	-506	-10 166
Accumulated depreciation and value adjustments at end of the year	-5 813	-1 631	-11 097	-1 952	-20 493
Net book value at end of year	0	3 226	27 478	2 120	32 824

3.1.1. Intangible assets FIM 1 000	Parent company Development expenses	Intangibles	Other capitalized expenses	Total
Acquisition cost at beginning of year	4 994	3 320	2 210	10 524
Additions	0	616	845	1 461
Disposals	0	0	0	0
Acquisition cost at end of year	4 994	3 936	3 055	11 985
Accumulated depreciation and value adjustments at beginning of year	-2 003	-915	-583	-3 501
Accumulated depreciation on disposed assets	0	0	0	0
Depreciation for the year	-2 991	-418	-492	-3 901
Accumulated depreciation and value adjustments at end of the year	-4 994	-1 333	-1 075	-7 402
Net book value at end of year	0	2 603	1 980	4 583

3.1.2. Tangible Assets **Group**

FIM 1 000	Buildings	Machinery and equipment	Total
Acquisition cost at beginning of year	78	25 525	25 603
Additions	13 569	11 368	24 937
Disposals	0	-2 534	-2 534
Acquisition cost at end of year	13 647	34 359	48 006
Accumulated depreciation and value adjustments at beginning of year	0	-12 663	-12 663
Accumulated depreciation on disposed assets	0	2 534	2 534
Depreciation during the year	-169	-4 139	-4 308
Accumulated depreciation and value adjustments at end of the year	-169	-14 268	-14 437
Net book value at end of year	13 478	20 091	33 569

3.1.2. Tangible Assets **Parent company**

FIM 1 000	Buildings	Machinery and equipment	Total
Acquisition cost at beginning of year	78	22 839	22 917
Additions	13 569	8 189	21 758
Disposals	0	- 2 534	-2 534
Acquisition cost at end of year	13 647	28 494	42 141
Accumulated depreciation and value adjustments at beginning of year	0	-11 767	-11 767
Accumulated depreciation on disposed assets	0	2 534	2 534
Depreciation during the year	-169	-3 197	-3 366
Accumulated depreciation and value adjustments at end of the year	-169	-12 430	-12 599
Net book value at end of year	13 478	16 064	29 542

Disposals consist mainly of fully depreciated assets which are no more used in the business operations. The book value of production machinery and equipment is FIM 12.3 million.

3.2. Shares and Holdings

Group

FIM 1 000	Shares
Book value at beginning of year	1 249
Additions	323
Disposals	-353
Book value at end of year	1 219

Parent company
FIM 1 000

	Shares Group companies	Shares other	Capital loans	Loans receivable from companies within the Group	Total
Book value at beginning of year	34 165	1 232	2 853	0	38 250
Additions	1 766	0	0	8 539	10 305
Disposals	0	-353	0	0	-353
Value adjustments	0	0	0	0	0
Book value at end of year	35 931	879	2 853	8 539	48 202

The capital loan of FIM 2,9 million given by the parent company to Locus genex Oy meets the conditions laid down in section 5, paragraph 1 of the Finnish Companies Act. Other shares mainly consist of shares in Nordea, having a book value of FIM 0.8 million on 31 December 2000.

Group Companies	Group holding	Parent company shareholding
Biohit Ltd., Great Britain	100 %	100 %
Pipette Doctor Ltd., Great Britain	50 %	0 %
Biohit S.A., France	91 %	91 %
Biohit s.r.l., Italy	90 %	90 %
Biohit Deutschland GmbH, Germany	100 %	100 %
Biohit Japan Co., Ltd., Japan	100 %	100 %
Biohit Systems, Inc., USA	95 %	95 %
Vangard International Inc., Yhdysvallat	95 %	0 %
Finnbio Ltd., Russia	100 %	49 %
Biohit OOO, Russia	100 %	100%
Oy Finio Ab	100 %	100 %
Locus genex Oy, Finland	100 %	100 %
Vantaan Hienomekano Oy, Finland	100 %	100 %

Vantaan Hienomekano Oy did not have business operations in 1999 and 2000.

3.3. Inventories

FIM 1 000	Group 2000	Group 1999	Parent company 2000	Parent company 1999
Materials	5 698	4 787	5 461	4 745
Work in progress	307	480	146	113
Finished products/goods	16 500	8 853	4 440	2 948
Total inventories	22 505	14 120	10 047	7 806

3.4. Receivables

FIM 1 000	Group 2000	Group 1999	Parent company 2000	Parent company 1999
LONG-TERM RECEIVABLES				
Receivables from Group companies				
Loans receivable	0	0	1 023	1 554
SHORT-TERM RECEIVABLES				
Receivables from companies within the Group				
Accounts receivable	0	0	21 795	14 180
Loans receivable	0	0	1 069	868
Other receivables	0	0	1 168	25
Receivables from other companies				
Accounts receivable	26 335	28 484	7 270	12 064
Loans receivable	243	50	50	50
Other receivables	4 371	6 643	1 376	6 117
Prepayments and accrued income	5 824	1 391	4 445	726
Total short-term receivables	36 773	36 568	37 173	34 031

Prepayment and accrued income include an investment grant receivable of MFIM 2.5.

3.5.Shareholders' Equity

Shareholders' Equity FIM 1 000	Group 2000	Group 1999	Parent company 2000	Parent company 1999
Share capital at beginning of year	12 397	10 265	12 397	10 265
Share issue	383	2 021	383	2 021
Bonus issue	0	111	0	111
Share capital at end of year	12 780	12 397	12 780	12 397
Share premium fund at beginning of year	84 230	61 196	84 229	61 196
Premium from share issue	4 352	47 972	4 352	47 971
Bonus issue	0	-111	0	-111
Adjustment to 1999 share issue expenses	48	0	48	0
Transfer to cover accumulated losses	0	-24 827	0	-24 827
Share premium fund at end of year	88 630	84 230	88 630	84 229
Profit/loss from prior years at beginning of year	27	-29 275	7 537	-24 827
Transfer from share premium fund		24 827	0	24 827
Translation difference	-43	327	0	0
Profit/loss from prior years at end of year	-16	-4 121	7 537	0
Profit/loss for year	-3 662	4 148	-159	7 537
Capital loans at beginning of year	8 601	8 271	4 608	4 608
Increase	131	330	131	0
Decrease	-2 000	0	-2 000	0
Capital loans at end of year	6 732	8 601	2 739	4 608
Total shareholders' equity	104 464	105 255	111 527	108 771

3.5.2. Distributable equity at 31 December	Group		Parent company	
FIM 1 000	2000	1999	2000	1999
Profit/loss from prior years	27	-4 120	7 537	0
Profit/loss for the year	-3 662	4 148	-159	7 537
Unrecorded interest on capital loans	-2 140	-1 663	-230	0
Accelerated depreciation recorded in shareholders´equity	-1 515	0	0	0
Total	-7 290	-1 635	7 148	7 537

3.5.3. Share capital of the parent company	2000		2000	2000		1999
	No. of shares	FIM	% of shares	% of votes	No. of shares	FIM
A-shares (20 votes per share)	3 875 500	3 917 255	30.65	89.84	3 875 500	3 917 255
B-shares (1 vote per share)	8 767 877	8 862 343	69.35	10.16	8 389 037	8 479 421
Total	12 643 377	12 779 598	100.00	100.00	12 264 537	12 396 676

The shares of Biohit Plc comprise of A and B shares. At meetings of shareholders shares of series A entitle to 20 votes each and shares of series B to one vote each. In distribution of dividends, the dividend payable on shares of series B shall be higher by two per cent (2%) of the nominal value compared with the dividend payable on shares of series A.

3.5.4. Capital Loans

On December 31, 2000, the parent company held FIM 2.7 million in capital loans and the Group held FIM 6.7 million. The terms for the capital loans conform to section 5, paragraph 1 of the Finnish Companies Act. FIM 2.3 million of the parent company's capital loans and FIM 4.9 million of those of the Group are from the company's main shareholders.

3.6. Appropriations	Parent company	
FIM 1 000	2000	1999
Untaxed reserves	2 134	0

The appropriations derive from the accelerated depreciation.

3.7. Deferred income tax liabilities and receivables		Group
FIM 1 000	2000	1999
Deferred income tax receivables:		
From consolidation entries	1 595	749
Deferred income tax liabilities:		
From timing differences	649	104
Net	946	645

3.8. Liabilities

3.8.1. Long-term Liabilities	Group		Parent company	
FIM 1 000	2000	1999	2000	1999
Loans from financial institutions	11 830	16 951	11 733	16 504
Other long-term debt	4 756	65	4 500	0
Total long-term liabilities	16 586	17 016	16 233	16 504
Debts falling due in more than five years				
Loans from financial institutions	200	1 000	200	1 000
Other long-term debt	2 812		2 812	

3.8.2. Short-term Liabilities	Group		Parent company	
FIM 1 000	2000	1999	2000	1999
Loans from financial institutions	5 250	4 700	5 171	4 700
Advances received	1 692	37	3	3
Accounts payable	5 771	7 654	2 934	2 410
Other liabilities	5 401	5 413	1 286	2 871
Accrued liabilities	6 313	6 314	5 193	4 782
Liabilities from Group companies				
Accounts payable	0	0	62	103
Total short-term liabilities	24 427	24 118	14 649	14 869

Aaccrued liabilities consist mainly of interest on long-term loans (in the parent company FIM 0.3 million) and holiday pay and related social security accruals (in the parent company FIM 4.4 million).

4. OTHER NOTES

4.1. Pledges given, Commitments and Contingencies

	Group		Parent company	
	2000	1999	2000	1999
Loans for which mortgages and pledges have been given				
Loans from financial institutions	16 504	20 923	16 504	20 923
Corporate mortgages	20 150	20 150	20 150	20 150
Pledged shares, book value	0	353	0	353
Other long-term liabilities	4 500	0	4 500	0
Mortgages on real estate	4 500	0	4 500	0
Other short-term liabilities	158	0	0	0
Corporate mortgages	572	0	0	0
Other commitments				
Pledged shares, book value	0	819	0	819
Pledged securities	0	437	0	437

The parent company has given pledges of FIM 1.0 million on behalf of Group companies.

	Group		Parent company	
Leasing commitments	**2000**	**1999**	**2000**	**1999**
Due for payment in the following year	5 723	5 260	2 746	3 600
Due for payment at a later date	19 492	16 507	11 888	12 491
Total	25 215	21 767	14 634	16 091

Leasing commitments include mainly fixed-term leasing and rental agreements which are effective more than one year.

Other commitments

On December 31, 2000, the social security payment commitments related with the unused personnel options of the parent company totalled to approximately FIM 0.3 million.

Interest on capital loans

On December 31, 2000, accumulated, unrecorded interest on capital loans was FIM 0.2 (0.0) million for the parent company and FIM 2.1 (1.7) million for the Group.

Derivative contracts

The group has no off-balance sheet financial instruments.

4.2. Ratios

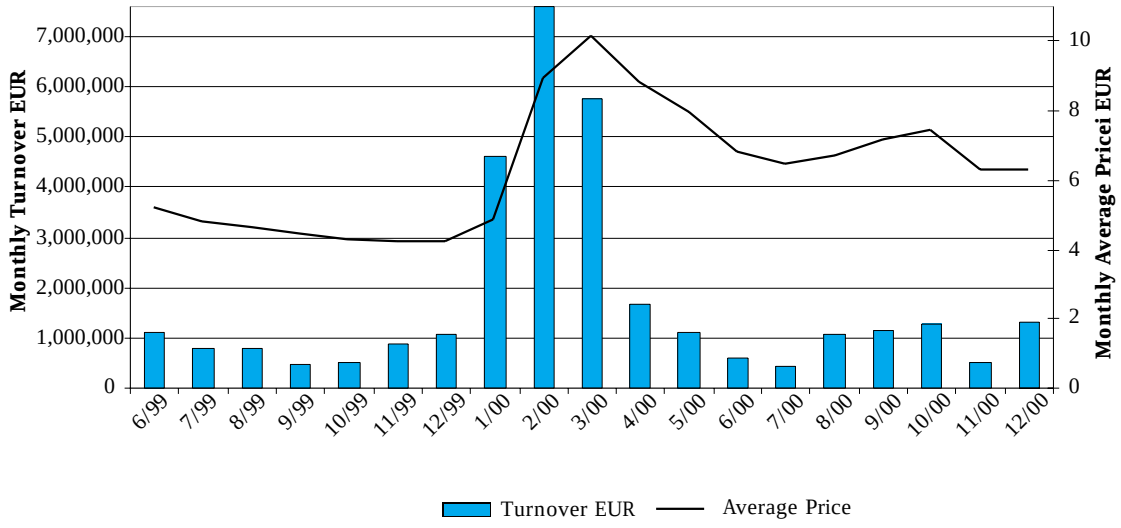
Financial ratios	**1996**	**1997**	**1998**	**1999**	**2000**
Net sales	75 144	86 101	100 369	122 191	144 167
Operating profit/loss	2 358	2 459	8 246	7 921	-2 868
% of net sales	3.1	2.9	8.2	6.5	-2.0
Profit/loss before extraordinary items and income taxes	-1 316	1.044	2 679	4 906	-3 450
% of net sales	-1.8	1.2	2.7	4.0	-2.4
Profit/loss before voluntary provisions and taxes	-1 330	939	6 786	6 906	-2 030
% of net sales	-1.8	1.1	6.8	5.7	-1.4
Return on equity, %	*)	*)	12.1	3.8	-4.6
Return on investment, %	7.5	10.8	12.2	8.5	-0.8
Equity ratio, %	-9.5	-5.1	38.8	66.0	66.9
Investments in fixed assets	4 646	5 154	8 276	7 555	36 911
% of net sales	6.2	6.0	8.2	6.2	25.6
Research and development	3 700	3 700	4 400	7 552	10 094
% of net sales	4.9	4.3	4.4	6.2	7.0
Total assets	74 854	73 814	109 611	146 851	146 417
Personnel, average	146	154	164	184	222

*) Shareholders' equity negative in 1996 and 1997.

Ratios per share	1996	1997	1998	1999	2000
Earnings per share, FIM	-0.25	0.18	0.38	0.24	-0.37
- earnings per share, adjusted for dilution of options	-	-	-	0.22	-0.35
Equity per share, FIM	-1.33	-0.66	4.11	7.88	7.73
Price/earnings (P/E)	-	-	-	102	-101
Dividend per share, FIM	0	0	0	0	0
Dividend per earnings, %	0	0	0	0	0
Effective yield of shares, %	0	0	0	0	0
Price development of B-share, FIM					
- average price	-	-	-	26.99	44.18
- lowest price	-	-	-	22.30	24.97
- highest price	-	-	-	35.67	80.27
- price on December 31, 2000	-	-	-	24.56	36.86
Market price for B-shares				206 000	323 215
Market price for the entire capital stock FIM 1 000 (assuming that market price of A-share is the same as B-share´s)	-	-	-	301 169	466 079
Development of exchange of B-shares, pcs 1000	-	-	-	1 240	3 647
- % of total amount of shares	-	-	-	16.58	41.93
Average number of shares, adjusted for share issues	5 753 537	6 215 181	6 264 526	11 354 957	12 573 123
- adjusted for dilution of options	-	-	-	12 066 730	13 275 579
Number of shares at the balance sheet date, adjusted for share issues	5 753 537	6 253 537	10 264 537	12 264 537	12 643 377
- adjusted for dilution of options	-	-	-	12 976 310	13 345 833

Turnover and Average Price of Shares

18.6.1999 - 29.12.2000



4.3. Shares and shareholders

Shares and voting rights

The shares of Biohit Oy comprise of A and B shares. At meetings of shareholders shares of series A entitle to 20 votes each and shares of series B to one vote each. In distribution of dividends, the dividend payable on shares of series B shall be higher by two per cent (2%) of the nominal value compared with the dividend payable on shares of series A.

Share capital of the parent company		**2000**		**2000**		**1999**
	No. of shares	FIM	% of shares	% of votes	No. of shares	FIM
A-shares (20 votes per share)	3 875 500	3 917 255	30.65	89.84	3 875 500	3 917 255
B-shares (1 vote per share)	8 767 877	8 862 343	69.35	10.16	8 389 037	8 479 421
Total	12 643 377	12 779 598	100.00	100.00	12 264 537	12 396 676

During the first subscription period of the personnel options, i.e., on 1.1.-1.4.2000 the personnel of Biohit subscribed altogether 378,840 B-shares of the issued total of 400,000. Correspondingly, share capital increased, on the basis of the decision by the Board of Directors, by EUR 64,402.80. The subscription price was FIM 12.50 per share. As a result of the subscriptions the total number of shares rose to 12,643,377 pieces. The share capital increased to EUR 2,149,374.09.

According to the Articles of Association, the Company´s minimum share capital is 1.063.101,29 euros and the maximum share capital is 4.252.405,16 euros within which limits the share capital can be raised or lowered without amending the Articles of Association.

The Company does not possess own shares. The Board of Directors does not have outstanding authorization to issue shares, convertible bonds or option loans or acquire shares in the Company.

Ownership of shares by sector on January 19, 2001

	Number of shareholders		Number of shares	
	pieces	%	pieces	%
1. Companies	211	5.01	2 866 370	22.67
2. Financing and insurance institutions	7	0.17	131 598	1.04
3. Public organizations	2	0.05	519 600	4.11
4. Non-profit organizations	21	0.50	75 490	0,60
5. Households	3 939	93.51	8 625 457	68,22
6. Foreign	32	0.76	419 270	3.32
Shares which are not entered into the book-entry system			5 592	0,04
Total	4 212	100.00	12 643 377	100.00
Nominee-registered shares (in total 4)			94 065	0.74

Ownership according to the number of shares owned on January 19, 2001

	Number of shareholders		Number of shares	
	pieces	%	pieces	%
1-1 000	3 752	88.98	1 251 963	9.90
1 001-5 000	367	8.70	777 429	6.15
5 001-10 000	44	1.04	346 570	2.74
10 001-50 000	29	0.69	550 509	4.36
Over 50 000	25	0.59	9 711 314	76.81
Total	4 217	100.00	12 637 785	99.96
Shares which are not entered into the book-entry system			5 592	0,04
Total			12 643 377	100.00

Major shareholders on January 19, 2001

10 major shareholders according to number of shares	A-shares	B-shares	Total	%
Suovaniemi, Osmo	2 285 340	977 207	3 262 547	25.80
Biocosmos Oy		734 869	734,869	5.81
Interlab Oy		610 996	610 996	4.83
Suovaniemi, Ville	208 280	371 300	579 580	4.58
Suovaniemi, Joel	208 280	345 300	553 580	4.38
Härkönen, Matti	57 200	459 300	516 500	4.09
Suovaniemi, Oili	121 600	340 630	462 230	3.66
Erja-Yhtymä Oy	400 000		400 000	3.16
Suovaniemi Vesa	74 800	305 417	380 217	3.01
LEL Työeläkekassa		361 600	361 600	2.86

10 major shareholders according to number of votes	A-shares	B-shares	Total	%
Suovaniemi, Osmo	45 706 800	977 207	46 684 007	54.10
Erja-Yhtymä Oy	8 000 000		8 000 000	9.27
Merikortteli Oy	6 000 000		6 000 000	6.95
Suovaniemi, Ville	4 165 600	371 300	4 536 900	5.26
Suovaniemi, Joel	4 165 600	345 300	4 510 900	5.23
Erja-Kiinteistöt Oy	4 000 000		4,000,000	4.64
Suovaniemi, Oili	2 432 000	340 630	2 772 630	3.21
Suovaniemi, Vesa	1 496 000	305 417	1 801 417	2.09
Härkönen, Matti	1 144 000	459 300	1 603 300	1.86
Biocosmos Oy		734 869	734 869	0.85

Notices according to the section 2, paragraph 9 of the Finnish Securities Market Act

Erja-kiinteistöt Oy announced on January 10, 2000 that its ownership of the share capital and number of votes of Biohit Plc. has decreased so that its ownership after the change was the following:

	Of share capital	Of votes
Erja-kiinteistöt Oy		
A-shares	1.63%	4.66%
B-shares	3.21%	0.46%
Total	4.84%	5.12%

The change was caused by a normal transaction related with the sales of shares. The effective date of the change was January 7, 2000.

Erja-kiinteistöt Oy announced on January 25, 2000 that its ownership of the share capital and number of votes of Biohit Plc. has decreased so that its ownership after the change was the following:

	Of share capital	Of votes
Erja-kiinteistöt Oy		
A-shares	1.63%	4.66%
B-shares	0.00%	0.00%
Total	1.63%	4.66%

The change was caused by a normal transaction related with the sales of shares. The effective date of the change was January 24, 2000.

Ownership by management on January 19, 2001
The members of the Board and the President of the Company owned a total of 2 285 340 A-shares and 2 388 072 B-shares on January 19, 2001.This in total stands for 36.96% of the shares and 55.74% of the votes in the Company. Additionally, their option rights unsubscribed stand for 8.75% of the issued option rights for personnel, which is 0.27% of the share capital and 0.04% of the votes

Personnel and other option rights

During the first subscription period of the personnel options, i.e., on 1.1.-1.4.2000 the personnel of Biohit subscribed altogether 378 840 B-shares of the issued total of 400 000. Correspondingly, share capital increased, on the basis of the decision by the Board of Directors, by EUR 64 402.80. The subscription price was FIM 12.50 per share. As a result of the subscriptions the total number of shares rose to 12 643 377 pieces. The share capital increased to EUR 2 149 374.09. The new shares give the right for dividends as of the fiscal year, which commenced on January 1, 2000.

The personnel options of the second stage entitle to subscribe altogether 400 000 pieces of Biohit's B-shares between January 1 2002 – April 1, 2002 for a price of FIM 20.

The 625 000 rights of option subscribed by Martin John Anthony Williams and Robert Erwin Williams, the owners of Jencons Scientific Ltd. Acting as the distributor for Biohit's products, entitle to subscribe 625 000 b-Shares of Biohit for a price of FIM 10 between April 26, 1999 – September 30, 2002.

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Formulas used in calculating key ratios

Return on equity, %	Profit before extraordinary items – income taxes for the period x 100 Shareholders´equity – capital loans + minority interest (average over the year)
Return on capital employed, %	Profit before extraordinary items + interest and other financial expenses x 100 Total assets – non-interest-bearing liabilities (average over the year)
Equity ratio, %	Shareholders´equity – capital loans + minority interest x 100 Total assets – advance payments received
Earnings per share, FIM	Profit before extraordinary items – income taxes for the period – minority interest Average number of shares, adjusted for share issue
Equity per share, FIM	Shareholders´equity – capital loans Number of shares at the balance sheet date, adjusted for share issues
Dividend per share, FIM	Dividend for the period x 100 Number of shares at the balance sheet date, adjusted for share issues
Dividend per earnings, %	Dividend/share x 100 Earnings per share
Effective dividend yield, %	Dividend, adjusted for share issue/share x 100 Stock exchange price on December 31, adjusted for share issues
Price/earnings, (P/E)	Stock exchange price on December 31, adjusted for share issues Earnings per share

PROPOSAL OF THE BOARD OF DIRECTORS AND AUDITORS´ REPORT

Proposal for the Distribution of Profit

The distributable earnings of the Parent Company are FIM 7 148 320.81 The Group does not have distributable earnings.

The Board of Directors proposes that no dividends be paid and that the loss for the period of FIM 159 003.98 be transferred to the retained profit/loss account from previous years.

Helsinki, February 14, 2001

Reijo Luostarinen Chairman of the Board of Directors	Osmo Suovaniemi Member of the Board of Directors President	Mårten Wikström Member of the Board of Directors

Auditor's Report to the Shareholders of Biohit Plc.

We have audited the accounting records, the financial statements and the corporate governance of Biohit Oy for the financial year 1.1. – 31.12.2000. The financial statements, which include the report of the Board of Directors, the income statement, balance sheet and notes to the financial statements of the Group and parent company, have been prepared by the Board of Directors and the Managing Director. Based on our audit we express an opinion on these financial statements and the corporate governance.

We have conducted our audit in accordance with the Finnish Standards on Auditing. Those standards require that we perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used as well as evaluating the overall financial statement presentation. The purpose of our audit of corporate governance is to examine that the members of the Board of Directors and the Managing Director have legally complied with the rules of the Companies' Act.

In our opinion the financial statements have been prepared in accordance with the Accounting Act and other rules and regulations governing the preparation of financial statements. The financial statements give a true and fair view, as defined in the Accounting Act, of the result of operations as well as the financial position of the Group and parent company. The financial statements including the consolidated financial statements can be adopted and the members of the Board of Directors and the Managing Director of the parent company can be discharged from liability for the financial year audited by us. The proposal by the Board of Directors regarding the handling of the distributable earnings is in compliance with the Companies´ Act.

Helsinki, February 20, 2001

SVH Pricewaterhouse Coopers Oy
Authorized Public Accountants

Hannele Selesvuo
Authorized Public Accountant

ADMINISTRATION AND SCIENTIFIC ADVISORS

Board of Directors

Reijo Luostarinen, D.Sc.(Econ.). Current Chairman of the Board of Biohit and member of the Board since 1993. Professor of International Business at the Helsinki School of Economics and Business Administration (HSEBA). Head of the faculty and Director of the International Business (IB) Program and Director of the Center for IB-Research. Chairman or member of the board of many other educational units at HSEBA. Vice-Rector of HSEBA 1990-1995. Docent at the Helsinki University of Technology and at the University of Vaasa. Visiting professor or guest lecturer in 23 different countries. Asla Fulbright scholar at the University of Michigan. President of the European International Business Academy and Regional Chairman of the Academy of International Business (USA) in Europe. Board member of some scientific foundations. Chairman of four international academic conferences. Senior advisor of international business for different U.N.-organizations, some governments and ministries. Owner of 2 consulting firms, chairman and stockholder of 3 companies and board member of altogether 10 companies in 1980-1997. Author of 15 books, chapters in 5 books, editor of 2 books and author of 70 articles, working papers and research papers. Editorial board member of 5 international scientific journals. International operations and global business strategy expert in companies located in different countries.

Osmo Suovaniemi, M.D., Ph.D. Founder, President and CEO and member of the Board of Biohit Plc. His background as the founder, main shareholder, Chairman and CEO of Labsystems Oy and Eflab Oy, and as a major innovator of the products of those companies, demonstrates his experience and skills in this field of business. He received the M.D. in 1972 and the Ph.D. in 1994, both from the University of Helsinki, Finland. He has also completed a study program (JOKO) at the Helsinki School of Economics and Business Administration 1976-1977 and at the Finnish Institute of Management (LIFIM) in 1982. In 1976 he was awarded a prize by the Finnish Foundation of Inventors for the single- and multichannel Finnpipette invention. He has served as board member, Vice-Chairman and Chairman of the General Industry Group in Finland between 1978 - 1986 and as board member of the Confederation of Finnish Industry in 1986. In 1984 the Finnish economic reporters awarded him an honorary prize for his economic achievements in 1983. Dr. Suovaniemi is the inventor who has been awarded most patents in Finland (58 pcs) and a few hundred worldwide, mainly in the fields of medical diagnostics, optics and mechanics.

Mårten Wikström, M.D., Ph.D. Member of the Board of Biohit since 1997. Professor in Medical Chemistry at the University of Helsinki. Academy professor since 1996. He is actively engaged in basic scientific research (biochemistry, biophysics, molecular biology) at the University of Helsinki where he directs an international research team (Helsinki Bioenergetics Group). Prof. Wikström has over 160 original publications on basic research in internationally renowned journals and he has received several scientific awards, e.g., the Anders Jahre Medical Prize for young researchers (1984), the A. I. Virtanen Prize (1989), the Matti Äyräpää Prize (1993), and the main Anders Jahre Medical Prize (1996). He is member of Societas Scientarum Fennica and foreign member of the Royal Swedish Academy of Sciences. In the 1985 - 1989 period he served as Director of Research and as Operative Director at Eflab Oy and Labsystems Oy.

Management Team

Osmo Suovaniemi, President & CEO

Pertti Ekholm. Product Design. With Biohit since 1988. Mr. Ekholm has worked, e.g., for ITT, Nokia Electronics, Outokumpu and Kone Instruments. In 1973 he joined Labsystems as Chief Instrument Designer, where he was responsible for the design of key instrumentation such as the vertical light path analyzers and mechanical Finnpipettors. He has been the inventor in numerous patents both in Finland and abroad.

Jussi Heiniö. Legal Affairs. LL.M. With Biohit since 1997. Mr. Heiniö graduated from the Faculty of Law at the University of Helsinki in 1988. Between 1988-1992 he acted first as an assistant lawyer and from 1992 as an Attorney-at-Law at Law Office Matti Oksala Ky. Between 1989-1990 he worked as a junior lawyer undergoing court training and later on as a judge in the District Court of Vantaa, Finland.

Helena Hentola. Information Management and Communications. M.Sc. (Econ., International Business). With Biohit since 1995. Mrs. Hentola received the M.Sc. from the Helsinki School of Economics and Business Administration (HSEBA) in 1992 after which she continued her studies at HSEBA and the University of Helsinki. In 1992 she studied at the Monterey Institute of International Studies in the U.S. She has acted as Project Coordinator of the Finland's International Business Operations (FIBO) -Research Program at HSEBA in 1995, as Research Associate and additional lecturer at the Dept. of International Business at HSEBA between 1994 - 1995 and as Researcher of the FIBO-Program between 1993 - 1994 and 1990 - 1991.

Ritva Kara. Domestic Sales and Marketing. B.Sc. (Engineering, Measurement and Adjustment). With Biohit since 1988. In addition to having received a B.Sc. from the Helsinki Institute of Technology in 1979, Mrs. Kara is a qualified laboratory technician. She has also completed a study program at the Institute of Marketing, Helsinki, in 1990. Before joining Biohit, she worked as Service Engineer and Product Specialist at Labsystems Oy in 1980 - 1988, as medical laboratory technician at the Central Hospital of Vaasa between 1979 - 1980 and 1969 - 1976 and between 1965-1969 as laboratory technician at Rikkihappo Oy, which today belongs to the multinational Kemira Group.

Jukka Kilpiö. International Sales and Marketing. M.Sc. (Analytical Chemistry). With Biohit since 1988. In addition to specializing in chemistry, Mr. Kilpiö has completed a study program (JOKO) at the Helsinki School of Economics and Business Administration in 1984. He has acted as Marketing Director for Nordion Instruments Oy between 1985 - 1988, as Marketing Manager of Labsystems Oy, as Product Manager for analyzing systems at Labsystems Oy between 1980-1985, as an occupational health chemist between 1975-1980 and as a laboratorian at the Department of Public Health at the University of Helsinki between 1971-1975.

Sari Mannonen (née Ylätupa). International Sales and Marketing. Ph.D., (Biochemistry). With Biohit since 1995. Mrs. Mannonen received her M.Sc. in 1990 and Ph.D. in 1996 from the University of Helsinki. She has also taken a course in Good Laboratory Practise (GLP) in the Netherlands in 1990. She has acted as biochemist and Product and Marketing Manager at Locus genex Oy between 1989-1995, in duties related to the development of diagnostic tests at Labsystems Oy between 1987-1988 and as an assistant and teacher at the Dept. of Biology at the University of Helsinki between 1987-1988.

Terttu Ollikainen. Accounting and Finance. M.Sc. (Econ.). With Biohit since 1996. Ms. Ollikainen received the M.Sc. from the Turku School of Economics, Finland in 1985. She has acted as the Financial Controller of the Finnish subsidiary of the U.S. - based company Fluke between 1993-1996, worked at Felix Schoeller Jr. In Germany at staff administration in 1992, as Financial Manager and Vice-President of Nelko Oy between 1986-1991 and as teacher of accounting at the Turku School of Economics between 1985-1986.

Seppo Riikonen. Quality Systems. Measurement and Adjustment Technician. With Biohit since 1989. In addition to having completed the Helsinki Institute of Technology in 1982, Mr. Riikonen has received the Diploma in Marketing from the Institute of Marketing, Helsinki in 1992. He has acted as the Service Manager at Nordion Instruments Oy Ltd between 1985-1989, as Service Technician at Oriola Oy between 1984-1985 and as Project Technician at Orion Analytica Oy between 1982-1984.

Oili Suovaniemi. General Management. With Biohit since 1988. Mrs. Suovaniemi has completed a study program (JOKO) at the Helsinki School of Economics and Business Administration in 1977 - 1978. In 1969 she graduated as a registered nurse. Between 1970 - 1986 she worked for Labsystems Oy and Eflab Oy in duties related to general and financial administration.

Erkki Vesanen. R & D and Production. M.Sc. (Engineering, Electronics). With Biohit since 1989. Mr. Vesanen has acted as Managing Director of Innomedia between 1986-1989 and between 1976 - 1986 at Labsystems Oy in several duties related to product development, production, marketing and international operations.

Managing Directors of Subsidiaries

Berthold F. Borowski. Managing Director of Biohit Deutschland GmbH since 1999. Technical education and employment at Chemische Werke Hols AG 1952-1957. Member of the German Air Force 1957-1990 with the following education/training: Electronics, military security, personnel management, accounting, and logistics. Military cross of honour in gold. Head of the technical resource management, Hausring GmbH Cologne 1991-1993. Logistics Manager for Anthos Microsystems GmbH, Cologne 1993-1995. Responsible for service, technology and logistics for Biohit Deutschland GmbH 1995- 1997.

Régis Carnis. Managing Director of Biohit France S.A. since its establishment in 1991. M.Sc. (Biochemistry). Mr. Carnis received his M.Sc. from the University of Paris in 1976. During his studies he worked as a laboratory technician at the Department of Medical Chemistry in the laboratories of haematology and bacteriology. In 1976 - 1983 he received experience in the diagnostic field when working as a Sales Engineer, Product Manager, and later as Sales Director in the French company Sebia S.r.l. specializing in electrophoresis and biochemistry analyzers. He acted as Sales Director for Ames, an American dry chemistry company, before setting up the subsidiary of Labsystems in France in 1984.

Erik Forsblom. Managing Director of Locus genex Oy since 1996. M.Sc. (Biochemistry). Mr. Forsblom has an over 20 years' experience within the field of clinical chemistry. Between 1973-1981 Mr. Forsblom worked as laboratory technician and chemist (assistant chemist and departmental chemist) at the Clinical Laboratory Center and at the United Clinical Laboratories in Helsinki. In 1981 he joined Labsystems Oy as research chemist. Between 1984 and 1988 he acted as Production Manager of the Diagnostics Division and between 1988-1990 as Assistant Director of the Diagnostics Division of Labsystems Oy. In 1990 Mr. Forsblom joined Biohit Plc. where he acted as Marketing Manager/Regional Export Manager until 1996.

Robert P. Gearty. Managing Director of Biohit Inc. since April 2000. Mr. Gearty earned a B.A. in Biology from St. Michael's College in Winooski, Vermont in 1977. After graduation, Mr. Gearty was employed by Rossignol Ski Company, Williston, Vermont. In 1979, he joined Vangard International, Inc., a U.S. distributor of laboratory products, including the line of liquid handling products manufactured by Labsystems Oy, Helsinki, Finland. The association with Dr. Suovaniemi's products continued into the 1990's with Vangard's U.S. introduction and subsequent distribution of the Biohit line of liquid handling products. At Vangard Mr. Gearty most recently served as Sales Manager. In April 2000 Mr. Gearty was appointed Managing Director of Biohit Inc. upon Biohit's acquisition of Vangard International.

Hannele Laine. Acting General Manager of Finnbio Ltd. M.Sc.(Econ.) (Swedish School of Economics, Helsinki, 1991: Business Management and Administration), B.A. (University of Helsinki, 1977: Russian, education and pedagogy, English). With Biohit since 2000. Course on operations in the Baltic area, Tallinn, 1997-1998, Russian studies at the University of Moscow 1973-1974. Areas of specialization: Russia, the Baltic countries and Poland. Mrs. Laine has acted, e.g., as the Project Manager responsible for the start-up of the Polish and Russian subsidiaries of Teknoware Oy 1999-2000, as the Managing Director and head of the Russian operations of Ob-Server Oy 1994-1997, as the secretary of management with specialization in the Russian market of Oy AGA Ab 1992-1993, as assistant for the construction projects exported by Thomesto Oy to Russia 1987-1988, and as the assistant for Russian exports and contact person of the Vienna unit of Labsystems Oy 1983-1987.

Enrico Marzi. Managing Director of Biohit s.r.l., Italy since its establishment in 1992. Mr. Marzi graduated in 1968 with a Diploma of Industrial Chemical Technology from Fabriano High School and further in 1974 with a Degree in Chemistry from Camerino University MC, Italy. Up to 1980 Mr. Marzi acted as Professor of Organic Chemistry and at the same time studied at the Postgraduate School Mario Negri Institute specializing in drug metabolism. He spent the year 1980 at the Pharmacological Department of the University of Manchester for a specialization in Pharmacokinetics. In 1981 he acted as Product Specialist for the EKTACHEM line at KODAK, Italy. In 1982 he joined Farmitalia Carlo Erba Diagnostic Division as Product Manager for Clinical Chemistry Instruments. In 1985 he began to cooperate with Labsystems Oy as consultant in order to study the Italian diagnostic market. In 1986 - 1991 he acted as General Manager of Labsystems Italy. In 1991 he joined Menari as the Italian General Manager for the Diagnostic Division.

Takao Saito. Managing Director of Biohit Japan Co., Ltd. since 1998. Mr. Saito graduated from Waseda University in 1969 with a bachelor of commerce degree. Upon graduation he was employed by a trading company for electronic equipment and parts and engaged in the export business. In 1975 he joined Nichiryo Co., Ltd., a manufacturer of liquid handling instruments. He started the export business and developed distributor contacts in over 30 countries. Export sales totalled eventually to 40% of the company's total sales. In 1989 he joined Lasertech Co., Ltd, a manufacturer of semiconductor inspection systems and laser scanning microscopes. He stayed in California, U.S. as the executive vice president of Lasertech's U.S. corporation and engaged in sales of these products to major U.S. companies for 3 years. Mr. Saito joined Biohit in 1994.

Richard Vaughton. Managing Director of Biohit Ltd. since its establishment in 1992. Qualified as a medical microbiologist, he worked in the UK for two major general hospitals, subsequently working as a microbiologist at the Riyadh Al Kharj Programme in Saudi Arabia for the Ministry of Defence. In 1985 he relocated to Scotland working for Flow Laboratories in Product Management and export sales and a year later moved to Lugano Switzerland to work as an International Product Manager for Flow International S.A., later relocating with the Swiss office to Milano, Italy. Subsequent to the takeover of Flow by ICN Biomedicals, he was appointed Marketing Manager, Microplate Technology in ICN International, High Wycombe, Bucks. ICN relocated these offices a year later to California, and Mr. Vaughton left to become a Director of BioConsult Ltd., working for an Italian company on a Biosensor project and for a number of other laboratory-focused companies, including Biohit. He also jointly founded and successfully sourced U.K. and U.S. funding for a new company manufacturing laboratory equipment in Scotland.

Scientific Advisors

• *Herman Adlercreutz*, M.D., Ph.D., Professor (emer.) of Clinical Chemistry at the University of Helsinki. Director of Folkhälsan Research Center and Head of the Institute for Preventive Medicine, Nutrition and Cancer. At Biohit advisor for diagnostics and laboratory instrumentation. Current focus on the development of test kits for phytoestrogens.

• *Hannu Harjunmaa*, Ph.D., Principal Scientist, VivaScan Corporation, Massachusetts, U.S. At Biohit advisor for liquid handling and laboratory instruments. Current focus on the research and development of new techniques for liquid handling.

• *Matti Härkönen*, M.D., Ph.D., Professor (emer.) of Clinical Chemistry at the University of Helsinki. Chairman of the Board of Locus genex Oy. At Biohit advisor for diagnostics and laboratory instrumentation including liquid handling. Current focus on the gastric cancer test panel.

• *Frank Laxén*, M.D., Ph.D., Consultant Gastroenterologist, Department of Medicine, Turku University, has actively studied the screening for and endoscopic detection of gastric precanceroses and early gastric cancer since 1978. At Biohit advisor for diagnostics.

• *Aavo Mikelsaar*, M.D., Ph.D., Professor at the University of Tartu, Estonia in the field of human biology and genetics. Director of the Institute of General and Molecular Pathology, Medical Faculty. At Biohit advisor for cancer diagnostics.

• *Arto Orpana*, Ph.D., Docent in biochemistry at the University of Helsinki. A clinical biochemist with a background of over 10 years of basic scientific research. At Biohit advisor for diagnostics and instruments (PCR- and liquid handling equipment) and development of PCR- and other applications.

• *Aarno Palotie*, M.D., Ph.D., Professor, University of California Los Angeles, Dept. of Pathology and Laboratory Medicine. Serves at Biohit as an expert in genetic laboratory diagnostics.

• *Ari Ristimäki*, M.D., Ph.D., Docent of Cell Biology, is actively engaged in basic science research (molecular cell biology) at the University of Helsinki and the Helsinki University Central Hospital. At Biohit advisor for diagnostics. Current focus on cyclooxygenase-2, basic research and general applications.

• *Eeva-Marjatta Salonen*, Ph.D., Helsinki University Central Hospital HD Laboratories, Division of Virology. At Biohit advisor for diagnostics. Current focus on telomere research.

• *Nils-Erik Saris*, Ph.D. 1964, M.D. h.c. 1990, Professor (emer.), Helsinki University, is actively engaged in basic scientific research (biochemistry, biophysics, clinical chemistry). At Biohit advisor for laboratory instruments including liquid handling.

• *Seppo Sarna*, Ph.D., Professor of Biometrics at the Department of Public Health University of Helsinki, Finland. At Biohit provides biostatistical and epidemiological expertise.

• *Pentti Sipponen*, M.D., Ph.D., Professor, is currently the Head of the Department of Pathology, Jorvi Hospital, Espoo, Finland which is a laboratory engaged in large histopathological routine and research. At Biohit advisor for diagnostics and diagnostic devices. Current focus on the gastric cancer test panel and lactose intolerance test.

• *Torkel Wadström*, M.D., Ph.D., Professor of Medical Microbiology, Lund University, at Biohit advisor for diagnostics and laboratory instruments and development of applications for *Helicobacter pylori* diagnosis.

Auditors

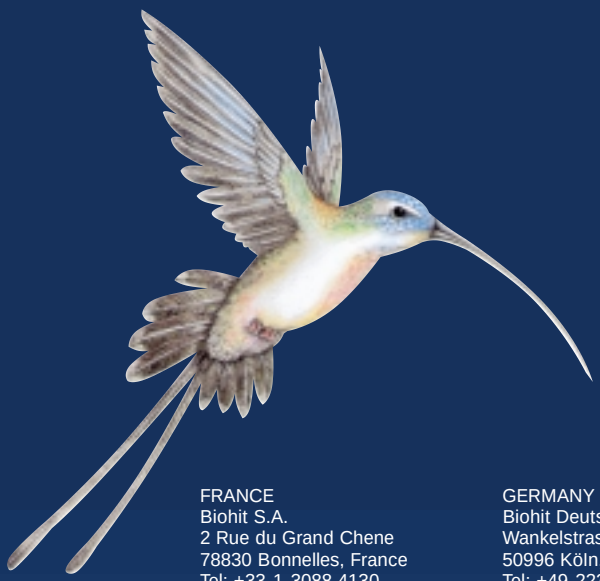
The auditors of Biohit Plc. are Authorized Public Accountants SVH Pricewaterhouse Coopers Oy, Hannele Selesvuo, APA.

MAJOR EVENTS IN BIOHIT'S HISTORY

Year	Events	Net sales FIM 1 000
1988	- Establishment of Biohit Oy - Basic research and market surveys - Electonic pipettor development - Establishment of Locus genex Oy	
1989	- TEKES[97] funding for the development of the electronic and mechanical pipettors, pipettor tips as well as microplates	745
1990	- World-wide introduction of the electronic pipettor - Assembling of pipettors and injection moulding begins in Kajaani - Introduction of the first monoclonal antibodies	2 918
1991	- TEKES funding for the development of mechanical pipettors - First deliveries of electronic pipettors - Establishment of the first subsidiary in France - Introduction of new monoclonal antibodies	12 740
1992	- Launch of the mechanical pipettor - Launch of the multichannel electronic pipettor - Establishment of subsidiaries in Italy and the U.K. - Ph.D. Thesis of Tapani Tiusanen: An application invention of vertical measurement; the self-correcting, multiparameter measuring instrument	25 234
1993	- Launch of the multichannel mechanical pipettor - Co-operation with Eppendorf and bioMérieux begins	38 166
1994	- Development of the renewed electronic pipettor - Co-operation with Ortho Diagnostic Systems of Johnson & Johnson begins - Establishment of joint venture in Japan - Ph.D. Thesis of Osmo Suovaniemi: The vertical measurement invention, its applications and the invention of electronic liquid handling devices	50 094
1995	- Launch of several new liquid handling products - Establishment of subsidiary in Germany - Co-operation with Eastman Kodak Co. Clinical Diagnostic Systems, later acquired by Johnson & Johnson begins	62 728
1996	- Reinforcement of international sales and marketing - Improvement of the cost structure and quality of products - The gastric cancer test kit panel program begins - Patent application filed in the field of diagnostics for a method for screening the risk of gastric cancer - Ph.D. Thesis of Sari Ylätupa: An application invention of vertical measurement and immunoassays; the determination of cFn from blood samples and its importance in cancer diagnostics	75 144
1997	- Moving into new facilities in Helsinki - ISO 9001 -quality system certification - Co-operation with Becton Dickinson and 3M begins - Receiving EUREKA[98] status on the basis of which TEKES funding received for the gastric cancer test panel program	86 101
1998	- Production and injection moulding in Helsinki - Locus genex Oy and Biohit Systems, Inc. become Biohit Group companies - External evaluation of the first test kit (Pepsinogen I) in the gastric cancer test kit program - Patent applications filed in the area of diagnostics for the following inventions: Method for detection of toxins and kit therefor, and diagnosis of early gastric cancer - Ph.D. Thesis of Auli Linnala: Basic research on Biohit's monoclonal antibodies (cFn and tenascin), which are related with cancer diagnostics	100 369
1999	- Listing on the New Market -list of the Helsinki Exchanges - U.S. patent 5,895,838 granted and numerous patent applications filed in the area of liquid handling - Patent applications filed in the area of diagnostics for the following inventions: Method for the determination of disaccharidases and kit therefor, method to assess the risk for irreversible neurodamages, method for assessing the risk of peptic ulcer, and method for identifying an individual at risk for vascular and cancer disease	122 191
2000	- Completion of new production premises in Kajaani - Accreditation of the calibration laboratory for liquid handling products - Continuation of aggressive patenting policy - Test panel for diagnosing *Helicobacter pylori* -infection and atrophic gastritis, as well as for screening the risk of gastric cancer and peptic ulcer successful in clinical evaluations. Tests for diagnosing lactose intolerance and SLE successful in clinical evaluations. Test panel for diagnosing celiac disease complemented with a new test and became ready for sales - Preparation to commence the global marketing and sales of diagnostic tests and analyzing systems - Commencement of the sales of instruments - Reinforcement of international collaboration and customer service organization through acquisitions in the U.S. and Russia	144 167

[97] TEKES = The National Technology Agency of Finland.

[98] EUREKA = Europe-Wide Network for Industrial R & D. A framework through which industry and research institutes from 26 European countries and the European Union develop and exploit the technologies crucial to global competitiveness and a better quality of life.



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