NOKIA

ENGLISH **1998**

It is companies with vision that shape the applications and environments of the future.

Table of Contents

This document is Nokia's Business Review 1998. Together with Nokia's Financial Review containing the financial statements, it forms Nokia's Annual Report 1998. If not accompanied by this document, the Financial Review can be ordered through the Internet (www.nokia.com/publications) or from Nokia Corporate Communications, tel. +358 9 1807 491.

Please see the information regarding certain forward looking statements on page 56 of this review.

Strategic Intent

Our strategic intent is to strive for leadership in the most attractive global communications segments through speed in anticipating and fulfilling evolving customer needs, quality in products and processes, as well as openness with people and to new ideas and solutions. Based on its resources including technological know-how, market position and continuous building of competencies, Nokia is well positioned to achieve its future goals.

Nokia is the world's largest mobile phone manufacturer and one of the leading suppliers of digital mobile and fixed telecom networks globally. The company also supplies solutions and products for fixed and wireless datacom and multimedia as well as PC and workstation monitors.

1998 Highlights

- Our net sales grew by 51%, operating profit by 75% and share price by over 220%.
- We became the world's largest manufacturer of mobile phones and sold 40.8 million handsets.
- We introduced several new technology applications and solutions, including those within GSM, wireless data, third generation and broadband.
- Our market capitalization grew to FIM 356 billion compared with FIM 110 billion in 1997.
- We continued to pay increased dividends to our shareholders. Over the last five years, our dividends have grown by 360%.

Key Data

The key data is based on financial statements according to International Accounting Standards, IAS. Quarterly proforma reports in euros for 1995–1998 on the Internet at www.nokia.com

	1998 MFIM	1997 MFIM	Change %	1998 MEUR
Net sales	**79 231**	52 612	50.6	13 326
Operating profit	**14 799**	8 454	75.1	2 489
Profit before taxes	**14 603**	8 371	74.4	2 456
Profit from continuing operations	**9 992**	5 998	66.6	1 681
Research and development	**6 838**	4 560	50.0	1 150
Capital expenditure	**4 527**	2 402	88.5	761
Market capitalization	**355 530**	110 014	223.2	59 796

	1998 %	1997 %
Return on capital employed	**50.2**	38.3
Net debt to equity (gearing)	**-36**	-35

	1998 FIM	1997 FIM	Change %	1998 EUR
Earnings per share from continuing operations, basic, split adjusted	**17.56**	10.59	65.8	2.95
Dividend per share, split adjusted	***5.75**	3.75	53.3	*0.97

Average number of shares (1 000 shares), split adjusted	**569 170**	566 564

* Board's proposal.

Business Groups	1998 MFIM	1997 MFIM	Change %	1998 MEUR
Nokia Telecommunications				
Net sales	**26 103**	18 826	38.7	4 390
Operating profit	**5 706**	4 053	40.8	960
Research and development	**3 353**	2 556	31.2	564
Nokia Mobile Phones				
Net sales	**47 984**	27 643	73.6	8 070
Operating profit	**9 158**	3 837	138.7	1 540
Research and development	**3 103**	1 714	81.0	522
Other Operations				
Net sales	**6 029**	7 239	-16.7	1 014
Operating loss/profit	**-65**	564	-	-11
Research and development	**382**	290	31.7	64

Personnel, Dec. 31	1998	1997	Change, %
Nokia Telecommunications	**20 638**	17 168	20.2
Nokia Mobile Phones	**18 627**	13 371	39.3
Other Operations	**5 278**	6 108	-13.6
Nokia Group	**44 543**	36 647	21.5

10 Major Markets, Net Sales	1998 MFIM	1997 MFIM	1998 MEUR
USA	**11 867**	6 628	1 996
China	**10 421**	6 290	1 753
UK	**7 170**	6 296	1 205
Germany	**6 749**	4 308	1 135
France	**4 615**	2 157	776
Italy	**4 470**	2 340	752
Finland	**2 763**	2 557	465
Austria	**2 164**	443	364
Sweden	**1 748**	1 623	294
Australia	**1 740**	1 541	293

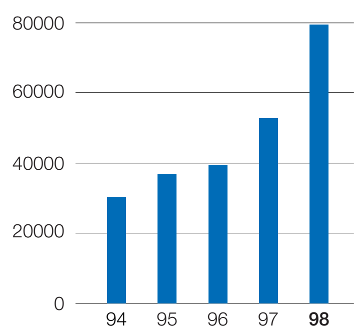
Main currencies at year-end

1 FIM	1998	1997
USD	0.198	0.187
GBP	0.118	0.112
SEK	1.594	1.443
DEM	0.329	0.331
FRF	1.103	1.108
ITL	325.733	324.675
JPY	22.815	24.056

1 EUR = 5.94573 FIM

Nokia in Brief

Nokia Group
Net sales, MFIM

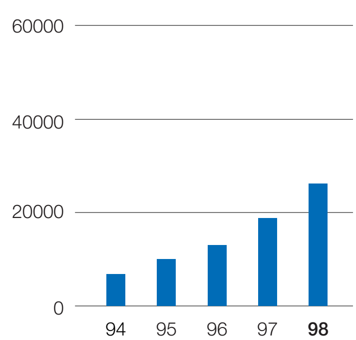


President and CEO Jorma Ollila: "Nokia is at the very forefront of the communications development. Being one of the companies shaping the information society, we feel we are well placed to benefit from the growing market opportunities."

Nokia comprises three business groups: Nokia Telecommunications, Nokia Mobile Phones and Nokia Communications Products. In addition, Nokia includes a separate Nokia Ventures Organization and the corporate research unit, Nokia Research Center.

At the end of 1998, Nokia had 26 production facilities, including joint ventures, in 11 countries. In addition, Nokia had 44 R&D centers in 12 countries, and a global network of distribution, sales, customer services and other operational units. Nokia employed a total of 44,543 people at year-end 1998.

Nokia Telecommunications
Net sales, MFIM

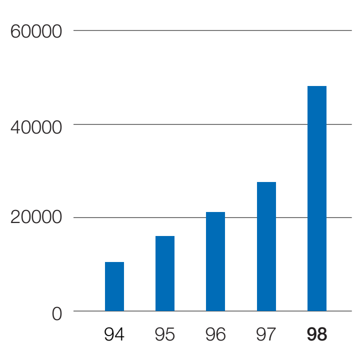


Nokia Telecommunications

President Sari Baldauf: "Service and content are two important factors in the communications environment of the future. We will continue to offer solutions for service providers to meet the demand for capacity, coverage and services."

Nokia Telecommunications develops and manufactures a broad range of advanced infrastructure solutions to meet the needs of a variety of customers, including fixed operators, mobile operators and Internet service providers. In addition, Nokia provides related service creation and network management solutions, customer services and system integration. It is a world-leading supplier in GSM infrastructure, including wireless data solutions. A key player in focussed areas of fixed and datacom networks, Nokia Telecommunications is also a significant supplier of broadband and IP network solutions.

Nokia Mobile Phones
Net sales, MFIM

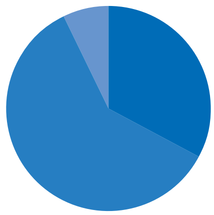


Nokia Mobile Phones

President Matti Alahuhta: "We are rapidly proceeding towards the era of a wireless information society. It all begins with technology based on human needs, solutions functioning seamlessly together and people being able to be connected whenever and wherever."

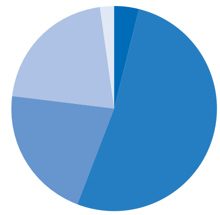
Nokia Mobile Phones is the world's largest mobile phone manufacturer with sales in over 130 countries world-wide. With a comprehensive product portfolio, covering all major standards and consumer segments, Nokia is in a strong position to lead the development toward third generation of mobile communications. Building on its know-how in core infrastructure as well as the design of software and user interface, the company is leading the development of new wireless data applications.

Net sales by business groups



- Nokia Telecommunications 33% (35% in 1997)
- Nokia Mobile Phones 60% (51%)
- Other Operations 7% (14%)

Net sales by market area



- Finland 4% (5% in 1997)
- Other European countries 52% (51%)
- Americas 21% (18%)
- Asia-Pacific 21% (23%)
- Other countries 2% (3%)

Nokia Communications Products

President Pekka Ala-Pietilä: "Digitalization and the Internet are driving the growth of voice, data and multimedia communications. In the future, users will benefit from access to different networks and interactivity that can be obtained using terminals with open interface and connectivity."

Nokia Multimedia Terminals is a pioneer in digital terminals for interactive multimedia applications and digital broadcasting via satellite, cable and terrestrial networks. Product development focuses on terminals for the reception of broadband transmission of digital audio, video and data services. Nokia Industrial Electronics is one of Europe's leading manufactures of advanced PC and workstation monitors, including applications for professional desktop communication and new technologies. It is also one of the leading suppliers of mobile phone battery chargers.

Nokia Ventures Organization

Nokia Ventures Organization explores new business areas facilitating future growth and boosting Nokia's product and long term business development. To date, Nokia Ventures Organization includes two units: Wireless Business Communications focusing on the development of new wireless solutions for corporate customers, and Wireless Software Solutions focusing on the development of software products based on the Wireless Application Protocol (WAP) standard. The Silicon Valley based Nokia Ventures Fund focuses on start-up businesses and technologies globally.

President Pekka Ala-Pietilä

Nokia Research Center

Nokia Research Center interacts closely with all Nokia business units to enhance the company's technological competitiveness. The center covers the full range of activities from exploration of new technologies and product/system concepts to their exploitation in actual product development undertaken in the business units.

Senior Vice President Juhani Kuusi

To our shareholders

Last year in this review I highlighted the emergence of new trends impacting our industry. These include the Internet, the role of mobility and the importance of third generation in wireless access. 1998 did indeed prove that we have a strategy in place and can benefit from our foresight.

In 1998 we substantially increased our net sales, operating profit and earnings per share. Our operating margin was clearly above industry averages at 18.7%. Our market value increased by 223% and the Board has proposed the highest dividend so far. We strengthened our market position in many areas in the fast growing communications industry.

New opportunities

Telecommunications continues to be one of the most fascinating industries. Fundamental changes are taking place at the same time in technology, markets and human behavior. These changes are reshaping the way we live and work. They also open new opportunities.

Many of the new opportunities are being driven by the convergence of the digital industries. The vast amount of content on the networks, combined with numerous new services, is bringing us all closer to the sources of information. Mobility is freeing us from being bound to locations. Choice, speed and flexibility are the watch words of the future.

Nokia will continue to benefit from the opportunities resulting from this development. We not only participate in the change; we also shape it and influence its direction with our ideas, strategies and expertise.

Mobility and the Internet

Mobility and the Internet are cornerstones in building the wireless information society. They will shape the development of telecommunications and bring many new aspects to our work and leisure time. 1998 saw Nokia make significant advances in both arenas, and today we are among the leaders in many areas of wireless communications.

Continuing to invest in Internet technologies is essential for future success. The Internet Protocol will become part of nearly all communications. It will soon make the amount of data traffic more significant than that of voice. Use of the Internet will expand to reach larger audiences and extend to new types of services. Almost everything, which requires the search for or exchange of information, will change. For instance, e-commerce will fundamentally contribute to the way business is conducted.

Voice traffic is already less dependent on specific location and fixed networks. The same thing will happen to data, creating an important new discontinuity. I firmly believe that Nokia is ideally placed to bring the benefits of the convergence of Internet and mobility to the markets.

Combining foresight with excellence in execution

We are approaching the wireless information society at quite some pace. An increasing part of all communications – be it voice, data, images or video – is wireless. New subscribers are purchasing mobile phones as their primary communication devices and existing users are upgrading to newer models more frequently than ever before. Operators need to invest in coverage and capacity to offer new services.

In this changing environment our goal is to establish a balance between foresight and excellence in execution, and then to maintain it. A good example is our technology investment to combine the features of wireless, fixed and broadband technologies. This work has already resulted in orders to build integrated national networks.

Another example is the segmentation of mobile phone markets. An understanding of market developments combined with high class execution in production increased our production volumes by 92% to 40.8 million phones in 1998, and resulted in a major increase in our global market share.

People are key

Growth is key to our future. It is inspiring and we have already gained some experience managing it. But managing such rates of growth and taking the best advantage of opportunities are only possible in an organization with a strong corporate culture.

Our values – customer satisfaction, respect for the individual, achievement and continuous learning – are not only the core of our culture but also deeply ingrained in every individual within the organization. Our people are our values. Speed, quality and openness as well as integrity, teamwork and modesty are also important parts of the Nokia approach. In a growing organization we also increasingly need empowerment and accountability.

Last year we hired 9819 new employees. Fresh ideas and inspiration inject new energy into the company, but we also need to ensure that it keeps on going in the right direction. Our values and corporate culture are key to achieving this. Only in this way can we maintain our winning foresight and continue to achieve excellence in execution, the key factors in our business success.

We are focusing on the most attractive segments of the global telecommunications industry as we face the convergence of the digital industries. This creates a discontinuity offering new opportunities and growth.

Creating shareholder value

Shareholder value is maintained and increased by foresight, combined with excellence in execution.

We have a lot of expertise, an energetic global organization and many interesting opportunities ahead. We aim high and our objective is strong growth and good profitability leading to increased shareholder value. We greatly respect the confidence our shareholders have placed in us, and aim to live up to it by positioning Nokia as a strong global leader in the most exciting industry of our times.

Board of Directors

The Chairman of our Board of Directors, Casimir Ehrnrooth has decided not to seek re-election in the Annual General Meeting on March 17, 1999. He has served on the Board since 1989 and as Chairman since 1992.

Not only has Mr Ehrnrooth led Nokia through a challenging process of change in the 1990s. He has also offered his invaluable support to management. On behalf of my Board colleagues as well as all Nokia personnel, I would like to extend my warmest thanks to Casimir Ehrnrooth for his services to our company.

Jorma Ollila

Review of Operations

Business overview 1998

Cellular penetration end 1998, %

Finland	58
Norway	48
Sweden	46
Israel	42
Italy	36
Singapore	34
Australia	34
Denmark	32
Japan	31
Austria	27
USA	25
Switzerland	23
UK	22
France	19
New Zealand	18

Source: World Bank, EMC, Nokia estimates

Nokia continued to focus on growth areas when choosing technologies and standards in 1998. By exploiting market and technology discontinuities, such as digitalization and deregulation, we further strengthened our position as one of the leading communications industry players world-wide. Our global operations in both infrastructure and terminal businesses resulted in volume benefits.

Nokia became the world's largest mobile phone manufacturer. We are also one of the leading suppliers of digital mobile and fixed networks globally. In addition, we develop and supply solutions and products for fixed and wireless datacom and multimedia as well as advanced PC and workstation monitors.

In 1998, a total of 58% of Nokia's net sales originated from Europe, 21% from the Americas and 21% from Asia Pacific. Our five biggest markets were the U.S., China, the UK, Germany and France.

Service and content drive the growing telecom market

In the communications industry, services and content together with an expanding mobile phone penetration and shortening product lifecycles drive market growth. As we supply our customers and consumers with the most technologically advanced and cost efficient network and terminal solutions based on open platforms, we remain well positioned to grow faster than the market.

In 1998, an expanding subscriber base, usage growth in advanced GSM markets and the increase of data services resulted in continued network investments around the world. Our infrastructure equipment and systems portfolio, which includes solutions for both wireline and wireless voice and data communications services, satisfies the demand for advanced solutions.

In line with our expectations, wireless continued to substitute wireline in personal voice communications. An estimated 306 million mobile phone subscribers at year-end indicates that mobile telephony is becoming the preferred means of personal communications. The growing number of users and wireless data drive usage growth, merging mobility and the Internet, the two dominant development trends in communications.

In some advanced markets mobile voice communications already generates more revenue for operators than fixed line voice communications. This led to several operators announcing an acceleration of their mobile network build-out plans during 1998. In certain cases, data is creating more revenue than voice also in the fixed market.

The future of communications has no limits as people continuously look for easier, faster and more efficient ways to communicate. Based on our belief that global and open standards help to create markets for volume products, Nokia will continue to introduce solutions and products based on non-proprietary standards and technologies in 1999 and beyond.

Nokia DX 200 is a versatile, scalable and cost efficient switching platform for both fixed and mobile applications. We continued to build on our position in the fixed network market and developed further our equipment and solutions.

Offering operators cost-efficient solutions

Conventional call traffic is shifting to wireless networks. In response to the capacity requirements of mobile operators we launched the Nokia High Capacity solution, taking GSM to a new level. With this revolutionary GSM solution, Nokia can offer its customers more capacity, power and efficiency. Capacity is no longer the limit for service creation or subscriber growth.

The new Nokia DX 200 "i-series" mobile switching products take the industry lead by offering the market's highest GSM switching capacity, but they also bring savings in network operations. Required site sizes can be reduced by up to 60% and power consumption can be cut by up to 70%. Our MSCi (Mobile Switching Center) is capable of handling 400 000 subscribers, which more than doubles current figures for other Nokia mobile switching products.

The Nokia MetroSite base station sub-system, part of the Nokia High Capacity solution enables operators to increase network capacity up to ten times that of conventional networks.

The complete Nokia MetroSite solution is intended for networks in areas of dense call traffic, such as business sectors, train or subway stations and shopping districts. The Nokia MetroSite base station is available for GSM 900, 1800, and 1900 frequencies and can also be equipped with both GSM 900 and GSM 1800 transceivers for dual band networks. The Nokia MetroSite solution supports all current Nokia voice and data features, as well as future software upgrades for General Packet Radio Service (GPRS) technologies, expected to be introduced during 1999.

Creating services based on the GSM platform

Through 1998, our leading role in providing innovative services, solutions and network management systems further expanded the GSM platform.

The Nokia Artus wireless data product family enables the provision of enhanced GSM network capabilities. Using these products, operators can build networks with advanced Internet-based wireless data services and offer their subscribers faster access to those services.

We also took the evolution of the GSM platform further with our IN (Intelligent Network) solutions. These allow operators to bring new services and applications to the market including freephone, premium rate, virtual private network, personal number, calling card and prepaid services.

Internet shaping both content and technologies

The acquisition of Ipsilon Networks Inc. in late 1997, now part of Nokia Telecommunications, allowed us to approach Internet Service Providers (ISPs) and operators with new product offerings. In 1998 we established relationships with major ISPs and sold Internet Protocol (IP) related equipment to customers world-wide, including a growing number of security solutions. These solutions provide access to the Internet and corporate intranets.

In acquiring Vienna Systems in 1998, we further strengthened our growth potential in the global IP telephony market and enhanced our ability to offer new applications to service providers. Based in Canada, Vienna Systems specializes in IP telephony solutions. As part of Nokia Ventures Organization, it will continue to design and manufacture hardware and software products for the distribution of voice, fax and video over IP networks, including intranets and the Internet.

Nokia's access technology is deployed in networks world-wide

Nokia Synfonet is a comprehensive SDH (Synchronous Digital Hierarchy) solution with full network level management features. Nokia Synfonet is already in use in the networks of some 140 customers world-wide. A significant new development to the Synfonet family during 1998 was WDM (Wavelength Division Multiplexing) tech-

High Capacity GSM System

- More capacity, power and efficiency in GSM networks
- Nokia MetroSite enables ten-fold capacity increase
- New Nokia MSCi handles up to 400,000 subscribers
- With Nokia MSCi, site sizes can be reduced by 60%, power consumption by 70%
- Operates on all GSM frequencies

The Nokia MetroSite solution, part of the Nokia High Capacity GSM System, includes a high-capacity base station, a base station controller, a transmission node and two integrated radio options for cellular transmission. The Nokia MetroSite base station, intended for metropolitan areas of dense call traffic, allows operators cost savings throughout the network lifetime.

Since being acquired by Nokia, Ipsilon, a pioneer in IP routing has broadened Nokia's IP technology expertise. The Nokia IP440 Integrated Firewall solution (pictured) provides secure Internet connectivity and offers high-performance IP routing. Nokia has already sold its Nokia IP 400 series security solutions to over 300 customers.

GSM in 1998

- At year-end, Nokia had supplied GSM networks to 78 operators in 37 countries
- Contracts with 12 new GSM customers
- A total of 324 GSM operators in 120 countries (GSM Association members end 1998)
- Some 45% of all mobile phone subscribers used GSM technology

nology which enables the transmission of several optical channels in one single cable. During the year, Nokia also won and delivered the first WDM based transport network projects.

The use of data in wireline networks is increasing and fixed operators are optimizing their access networks for the transmission of data traffic. We have continued to develop solutions for the benefit of our customers as they strive to meet the growing volume of data traffic. We support both IP and ATM (Asynchronous Transfer Mode) based technologies.

Broadband technologies paving the way to high-speed data services

As the demand for data and multimedia services grows, the Nokia Eksos broadband access solution is one way for operators to overcome this capacity challenge. The Nokia Eksos product family allows subscribers to access broadband service connections quickly and flexibly, including a range of IP-based services such as remote working and high-speed Internet access.

In 1998, we further developed and introduced broadband network technologies, and signed a contract for the delivery of the world's first nationwide broadband network in New Zealand. Nokia's technology integrates ADSL (Asynchronous Digital Subscriber Line) broadband access and IP network solutions in the same network. We look forward to continuing to provide our customers with a smooth migration to broadband, high-speed data IP services.

Based on projected growth in the demand for datacom, we anticipate that more operators will begin to use Nokia Eksos and similar access solutions in their networks. We also expect to see a growing number of new operators looking for innovative solutions to provide advanced, fully digital subscriber line services to their business and residential subscribers.

The convergence of mobile and fixed networks will continue

Operators are continuing to build integrated service offerings, based on converged fixed and mobile access. In 1998, we announced a breakthrough deal in Singapore for an integrated network solution for fixed and mobile voice services. The solution uses Nokia's integrated DX 200 switching solution as the common platform together with Nokia's Intelligent Network (IN) capabilities, creating an ideal platform for the introduction of future services and technologies.

Service and system integration gaining in importance

Nokia recognizes that the increasing sophistication of modern telecommunications services demands an even closer integration between operators' telecommunications networks and the service and business management systems that support them. We established the new Service Management and Integration (SMI) business unit in Nokia Telecommunications in 1998. The unit is responsible for service management product portfolio both in telecom and datacom networks and will provide Nokia's mobile, fixed and IP-related services to operators. This offers new, start-up operators one-stop-shopping solutions, while offering existing ones end-to-end solutions for the fast introduction of new, tailored services.

In 1998, we signed a global alliance with Computer Sciences Corporation (CSC) to further strengthen our system integration capabilities. As a result, we can offer our customers end-to-end solutions for the provision of innovative value-added services. We can also deliver service integration projects in which network elements are integrated into operators' service management systems.

In 1999, we will continue helping operators with their network rollouts and provide services to enable them to run their networks more efficiently. We also intend to strengthen our customer service orientation and area organizations in key markets world-wide.

A good example of a new, further-developed communications solution is the fast, reliable and highly secure digital TETRA network for public authorities and the security sector. Belgium's authority mobile radio network ASTRID will be built around Nokia's TETRA radio communication system. Nokia is the leading TETRA supplier in the world.

Durability and security are essential in the professional networks

Our Professional Mobile Radio (PMR) business continued to grow in 1998, with product offerings including complete trunked analog or digital mobile radio networks. The Nokia Actionet analog networks and the Nokia TETRA (Terrestrial Trunked Radio) digital networks serve demanding user groups, such as police and emergency rescue services. These networks are based on open standards for dedicated professional mobile communications, in line with our strong support for open technological platforms.

Nokia is the world's leading supplier of TETRA networks. In 1998 we signed major agreements in Europe, including the world's first nationwide commercial TETRA network to Dolphin in the UK. We also signed agreements in Latin America's analog PMR markets, including those for the supply of Actionet networks in Argentina and Chile.

Paving the way towards third generation

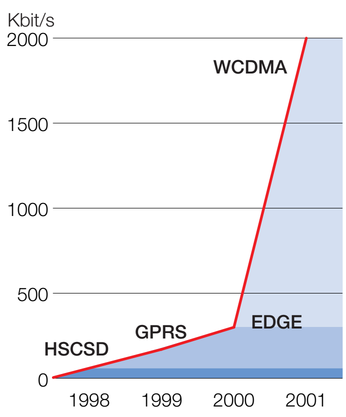
As Nokia is delivering terminals to all global digital second generation systems and is a leading supplier of GSM infrastructure, it is important for our future business that we are actively involved in the creation of different third generation standards. Success requires that we continue with systems research work. This has been organized as a Nokia-wide activity.

Nokia has been one of the leading contributors to WCDMA (Wideband Code Division Multiple Access) standardization and has participated actively in global second and third generation standardization.

We will develop and provide a full system offering with a smooth evolution path to our existing and new GSM customers. Operators can upgrade their networks step by step for personal mobile multimedia services with enhancements like High Speed Circuit Switched Data (HSCSD), General Packet Radio Service (GPRS) and Enhanced Data for GSM Evolution (EDGE). To complete the path, Wideband CDMA will be optimized and commercialized for personal mobile multimedia serv-

In September, Nokia announced that it is the first telecommunications company to have large-scale manufacturing facilities for complete GSM networks in China including mobile switches, base station systems and cellular transmission. Nokia has several manufacturing facilities in China and had, by the end of September, delivered line capacity to more than 10 million subscribers.

Increase in GSM data rates is paving the way towards 3rd generation



HSCSD enables data speeds of up to 57.6 Kbit/s.

GPRS offers data speeds over 100 Kbit/s. EDGE boosts speeds further to 384 Kbit/s.

3rd generation provides capabilities for personal mobile multimedia services.

ices using the new third generation spectrum allocation, further utilizing the advanced and evolving GSM core network.

All these steps represent major R&D and standardization efforts at Nokia. Once the work is completed and commercialized, data bit rates will increase from the present 9.6 Kbit/s up to 2 Mbit/s providing an excellent capability for personal mobile multimedia services.

Experimental WCDMA networks will be built and expanded for field testing in 1999 in China, Finland and Japan, where the system performance will be demonstrated to our existing and new customers.

In 1999, we will continue the development of new wireless technologies in Japan, where our corporate R&D unit will support our participation in the WCDMA project.

Open interfaces creating market opportunities

We continued to contribute to the development of the wireless information society in 1998. We strengthened our market position by co-founding major industry ini-

In the future, different networks will operate in growing synergy to meet the needs of various users to be connected whenever they so choose anywhere in the world. With its resources, including technological know-how, Nokia is well positioned to supply operators with the most advanced solutions.

tiatives such as Symbian and Bluetooth and continued our strong development of Wireless Application Protocol (WAP). As global and open standards help to create markets for volume products we will also in the future introduce solutions and products based on non-proprietary standards and technologies.

WAP is a global license-free and platform-independent protocol for intelligent messaging to wireless terminals. The first WAP specification, introduced in 1998, provides an open standard to bring Internet content and advanced services to digital mobile phones and other mobile communications devices.

Symbian aims at creating an open and common software platform for mobile devices, such as communicators and smart phones. Its advanced operating system EPOC is open to all industry participants developing wireless data terminals and applications.

Bluetooth is a short-range radio technology, expanding wireless connectivity to personal and business mobile devices. It enables users to connect their mobile phones, computers, printers, digital cameras, network access points and other electronic devices to one another without cables. As an example, through Bluetooth, users will be able to automatically receive e-mail on their notebook computers via the digital mobile phones in their pockets.

Nokia sold more mobile phones than any other company in 1998

In early December 1998, we passed the milestone of 100 million mobile phones manufactured. During the year, we sold 40.8 million phones. Based on these figures and the estimated overall market volume of 163 million, Nokia became the world's largest manufacturer of mobile phones. While competition continued to increase, price erosion of our mobile phones was less than expected.

During 1998, we launched 17 new products to the markets. These include the dual band Nokia 6150 phone for GSM 900/1800, the trimode Nokia 5160 for AMPS 800/TDMA 800/1900, the premium life-style model Nokia 8810 for GSM

From left to right: Nokia 5110, Nokia 6110 and Nokia 8810.

Nokia's main phone models

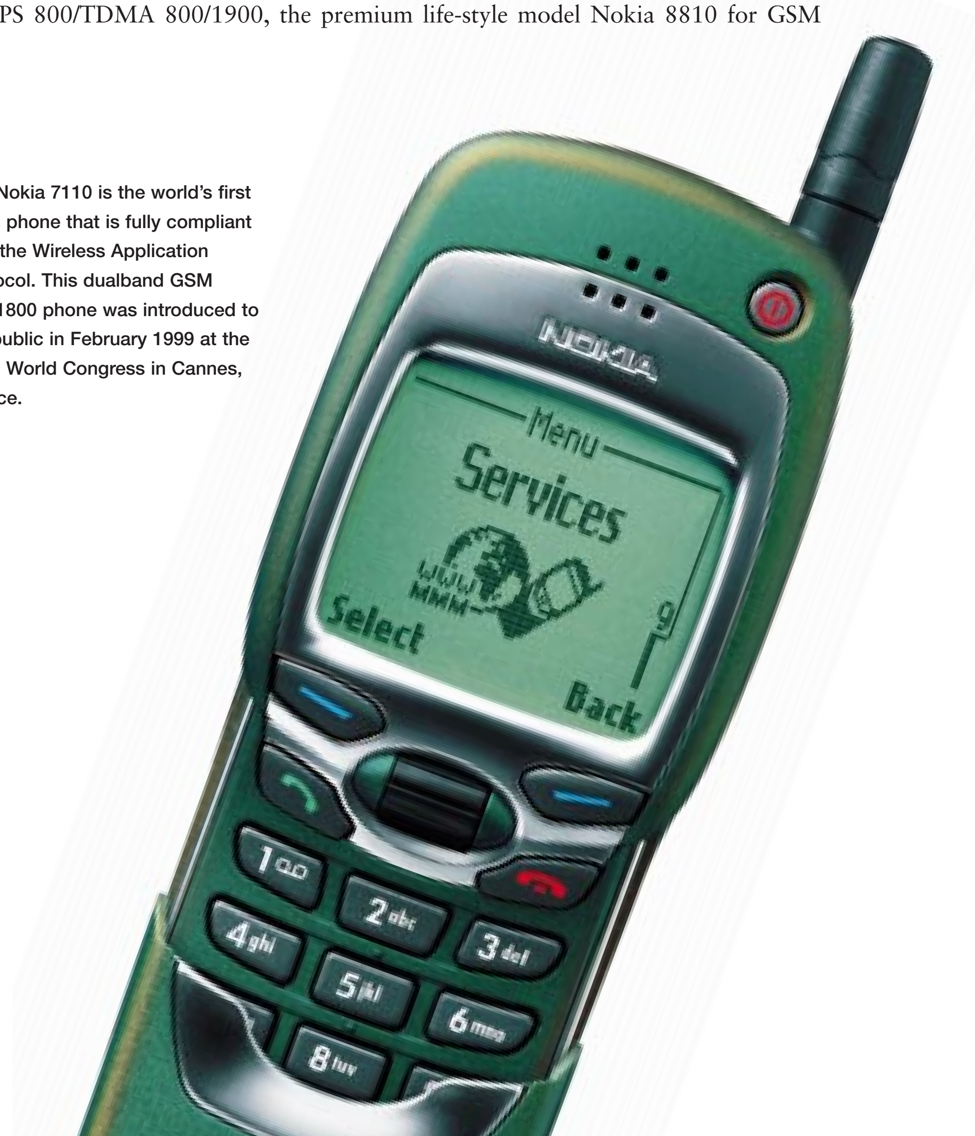
(February 1999)

DIGITAL:
GSM 900: Nokia 5110, 6110, 8810, 9110
GSM 1800: Nokia 5130, 6130, 6138
GSM 900/1800: Nokia 6150, 7110
GSM 1900: Nokia 5190, 6190, 9000il
CDMA 1900: Nokia 2170, 5170
PDC Japan: 3 models

AMPS/TDMA 800: Nokia 5120, 6120
AMPS/CDMA 800: Nokia 2180, 5180

AMPS/TDMA 800/1900: Nokia 5160, 6160
AMPS/CDMA 800/1900: Nokia 6185

ANALOG:
AMPS: Nokia 282, 252, 918
ETACS: Nokia RinGo
NMT 450: Nokia 540, 650
NMT 900: Nokia RinGo



The Nokia 7110 is the world's first GSM phone that is fully compliant with the Wireless Application Protocol. This dualband GSM 900/1800 phone was introduced to the public in February 1999 at the GSM World Congress in Cannes, France.

China, the world's single largest GSM market, is also one of the fastest growing cellular markets. Nokia was one of the first mobile phone manufacturers to introduce a Chinese user interface and Chinese Short Message capabilities in mobile phones. Over 50% of the mobile phones that Nokia sold in China were manufactured domestically.

900, the Nokia 9000il Communicator for GSM 1900 and the second generation Nokia 9110 Communicator for GSM 900. We also introduced phones for various analog standards and for the Japanese digital standard PDC.

Nokia's mobile phone sales grew fast on all continents. Growth was strongest in the Americas, and especially in the U.S. where the transition from analog to digital standards accelerated throughout the year. Overall, more than 80% of the phones we sold world-wide in 1998 were digital.

We aim to solidify our market leadership position in 1999 and beyond by continuing to introduce mobile phones that meet the needs of different user segments.

Segmentation becoming increasingly important

A mobile phone is a true personal communications device. It answers one of the most fundamental human needs – the need to communicate. At the same time, with the segmentation of mobile phone markets, individuals are now purchasing phones that suit their different lifestyles. These two underlying factors have contributed to the fast growth of the mobile subscriber base.

The rapid change of the mobile phone to a global consumer product from a niche device has required a new approach in producing and marketing mobile phones. Understanding segmentation is a prerequisite for success.

Today, everyone is a potential mobile phone customer. As the market has become increasingly segmented, the ability to master various product categories has become crucially important.

In a segmented consumer market with high volumes, critical success factors include comprehensive product portfolio, a strong and appealing brand as well as efficient global logistics. We will continue to focus in these areas with the aim of sustained brand leadership.

The U.S. was Nokia's single largest market for handset sales in 1998. Nokia manufactures and delivers analog and digital mobile phones to the American market, including AMPS, GSM, TDMA and CDMA technologies.

Products, brand and design based on human technology

An essential part of the Nokia brand is our design. It integrates our award-winning interface solutions with a style that combines ergonomics and aesthetics. User-friendliness is becoming increasingly important, as the technology is getting more and more complex and sophisticated owing to the trend of the digital convergence of various key technologies. Our aim is to combine the most sophisticated technology with user-friendly interfaces. In this way users can concentrate on utilizing the devices without needing to focus on the equipment or technologies. We call this approach Human Technology: technology, which is easily understood, accepted and learned.

Mobile phone penetration may exceed 100%

The mobile phone subscriber penetration level in Finland exceeded 55% in 1998, representing the highest level in the world. During the year, another three markets reached 40–50% penetration. We estimate that in the most developed markets, such as the Nordic countries, mobile phone unit penetration may eventually rise above 100%, as mobile phone users want more than just one model to meet their different needs. In December 1998, for the first time anywhere in the world, the number of mobile phone subscriptions exceeded the number of fixed line telephone subscriptions in Finland.

In 1998, Nokia raised its global long-term mobile phone subscriber base forecast to one billion in the year 2005. We also said that we believe that a substantial portion of the phones sold that year will have multimedia capabilities.

Both new subscribers and users buying a new phone are contributing to market growth. More and more new subscribers are purchasing a mobile phone as the primary communications device. At the same time, the technological and lifestyle-related features of mobile phones continue to develop, and users are upgrading their phone models with newer ones more frequently.

The growing subscriber base and upgrade market have already made mobile phone industry the world’s largest consumer electronics industry. In 1998, the upgrade market represented close to 40% of the overall mobile phone market. We expect that after the turn of the millennium, the upgrade market will exceed 50% of total sales.

Worn around the neck, the new Nokia LPS-1 inductive loopset is an easy to use device for smooth interaction between a hearing aid and a mobile phone. It is the first product of its kind in the world and enables a person who is hard of hearing easier use of a digital mobile phone.

In 1998, Nokia launched a total of 17 new mobile phone models. Also in Latin America, the transition from predominantly analog to digital systems accelerated throughout the year.

Nokia's production countries

Infrastructure
- China
- Finland
- Malaysia
- Russia
- UK
- USA

Terminals
- Brazil
- China
- Finland
- Germany
- Hungary
- Mexico
- South Korea
- USA

Media phones combining characteristics of a PC

A continuously growing share of voice communications is becoming wireless. At the same time, Internet usage continues to enjoy explosive growth. Based on these trends, we estimate that in the year 2000, media phones – mobile communication devices that can surf the Internet – will outsell portable computers.

Nokia has continuously promoted the trends of usability and the Internet. We introduced our first media phone – the Nokia 8110i – already in 1997, allowing the use of smart messaging, text based Internet access, fax, e-mail and file transfer services. We believe that in the future mobile Internet will be one of the so called "killer applications" for Universal Mobile Telephone Services (UMTS).

Success through continuous flow of product introductions

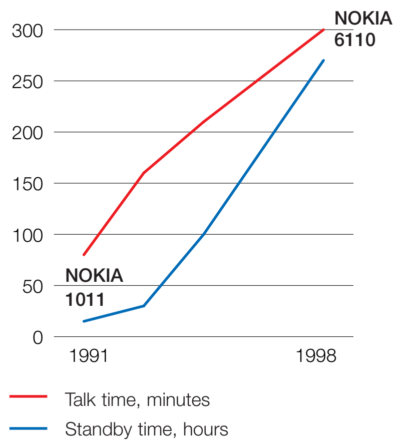
Our strategy is tied to digital convergence that places the mobile phone at the center of all personal communications. Along our way to maintaining our leading role, we recognize that one of the most critical success factors is the speed with which we can identify, develop and deliver products that consumers want. As a continuous flow of new product introductions is the only way to succeed, we aim to maintain our present pace of new product launches or even intensify it in the future.

In the future, our product introductions will include new dual band phones. We estimate that by the end of 1999, dual band GSM phones will be the single largest category within GSM. We also think that by the end of 2000, dual band phones will largely replace single-mode models in the sales of new phones.

To answer the growing demand for our mobile phones world-wide, we announced investments during 1998 totaling close to FIM 1 billion in a new mobile phone manufacturing and distribution center in Hungary and production capacity expansions in Finland. We also announced that we will invest another FIM 1 billion to boost production capacity at our mobile phone manufacturing plant in Germany.

Future telematics solutions for road vehicles offer yet another business potential within telecommunications. Nokia's smart traffic products combine our expertise in mobile phone networks, terminals and wireless data products.

The evolution of talk and standby times in Nokia GSM phones



Nokia was the first manufacturer to present a production ready GSM phone in 1991.

Digitalization and Internet driving future terminal development

It is becoming evident that mobile phone users want to have access to many different services in addition to being reachable and making phone calls. We will continue our research and development, as well as our cooperation with various service-providers. With these efforts we aim to facilitate services like browsing the Internet and intranet, Internet shopping, education and e-mail – all through mobile phones.

Another future solution of mobile communications is telematics in cars. We expect to have our first applications for this market in 1999. The integrated communications system in cars adds to their safety and security. It will offer users access to various value-added services when driving and also guide them along the best possible routes.

Product concepts and software development for multimedia terminals

The digitalization of cable and satellite services in Europe, mainly in Germany, was delayed due to the EU Competition Commission's negative decision regarding the

With the increasing segmentation of the communications devices market, individuals are now purchasing phones that suit their different lifestyles. The growing subscriber base together with people upgrading their mobile phones with newer ones has already made the mobile phone industry the world´s largest consumer electronics industry. In the future, mobile phones will be multifunctional mediaphones.


NOKIA
Videoconference
Bob Barkin mobile
options
exit

Wireless vending is yet another service available for mobile phone users. This application integrates wireless data and vending machines to allow consumers to make purchases by using a mobile phone.

planned joint venture of major German media groups in 1998. Anticipating faster market growth in 1999, we continued to develop digital multimedia terminals for use through satellite, cable, terrestrial and in wireless and fixed telecommunications connections.

Throughout the world operators are currently looking for new value-added services to increase their profitability. We will integrate such services, including Internet access and web browsing, e-mail, home shopping, home banking and pay per view into the Nokia DVB (Digital Video Broadcasting) multimedia terminals. These services will be based on different IP technologies.

To gain flexibility and to move closer to our customers world-wide, we outsourced the manufacture of Nokia's digital multimedia terminals to the world's largest electronics contract manufacturer, SCI Systems Inc. in 1998. This enables us to focus on further developing our existing product portfolio, creating completely new digital product and distribution concepts, as well as developing new value-added software applications. We expect to introduce a new generation of so-called "one-chip" multimedia products in the first half of 1999.

Building on Nokia's know-how in DVB, we also develop gateway terminals that operate through wireless LANs (Local Access Network). The ongoing development will allow the combination of the best technology available and open platforms. Users will have unlimited access to different networks for services using the DVB standard for video, high-speed data, and Internet Protocol for data and voice.

Facing challenges in the display business

The global computer monitor business suffered from the South East Asian crisis in 1998. Approximately 80% of the computer monitors world-wide are manufactured in Asia and Asian manufacturers benefited from the devaluation of their local currencies. Together with the industry's over-capacity, this resulted in price erosion of 30–50%.

Still, sales volumes of Nokia branded monitors continued to grow. Our market share increased and our branded sales accounted for 60% of total sales for 1998. We also continued to expand our product portfolio by introducing new 14", 15" and 18" flat panel display products.

We strengthened our market share especially in the U.S., where we have been successful in targeting the market segment for high-end business-users. Our display customer base in the U.S. now includes leading corporate customers. In addition, we expanded our market share in Europe, especially in Germany, Italy and Sweden.

Searching for efficiencies in display production

In 1998 we started display production in Mexico. We intend to further increase display production in Hungary and Mexico. At the same time, we will reduce production in Finland, thereby further streamlining our operations and bringing production closer to key customers.

Our aim is to increase our market share especially in the 19" and 21" screen size market segments. Having introduced our first flat displays based on liquid crystal technology in 1997, we will continue to strengthen the production capabilities of flat screen displays in 1999.

Nokia's advanced display products with interactive on-line communications capabilities open the door to entirely new ways of working, educating and remote teaching, also within the health-care industry. CATRED (Computer Assisted Telematic Remote Education and Development) in primary health care is a collaboration project in Finland to improve the education opportunities of people working at primary health care centers.

Nokia Ventures Organization

In addition to our extensive ongoing investments in new businesses and technologies within our current business groups, we are expanding our activities into completely new promising areas in order to move closer towards our vision of future communications solutions.

Investigating new business areas

We have been actively investigating and investing in these new areas since 1995 within diverse business groups. To further facilitate these activities at the corporate level as well we established the Nokia Ventures Organization in 1998. It is a separate organization running parallel to our three business groups, Nokia Telecommunications, Nokia Mobile Phones and Nokia Communications Products. Nokia Ventures Organization's target is to foster growth opportunities beyond the current scope of the existing business groups. It seeks and develops areas with growth potential over the next five years.

Seeking to exploit growth opportunities

Nokia Ventures Organization consists of both external and internal business venturing within Nokia. Through our internal venturing, we search for new business concepts making use of our collective know-how in all the key technologies, competencies and capabilities at our disposal. We continuously seek to exploit growth opportunities in the competitive arena emerging from the convergence of telecom, datacom, IT and broadcasting industries.

New business units piloting new applications and solutions

Nokia Ventures Organization focuses primarily on new telecom and datacom solutions, as well as service and software businesses for multiple customer groups including corporations. It currently includes two business units.

Wireless Business Communications develops and offers new wireless solutions for corporate customers and Internet Service Providers. These solutions consist of network systems and terminals incorporating different technological elements including wireless LAN and IP telephony. In 1998 we acquired Vienna Systems, a recognized leader in the global IP telephony market, and incorporated it into Nokia Wireless Business Communications.

Wireless Software Solutions supports and further develops Wireless Application Protocol (WAP) technology for the wireless environment. Utilizing WAP as a basic building block, it develops software solutions for various application areas including banking and e-commerce.

Both business units are currently piloting with customers in various ways, and we expect Nokia Ventures Organization to have its first market entries in 1999.

Nokia Ventures Fund completes the search for future growth sectors

Through external venturing with the means of a venture capital fund we are looking outside Nokia's current scope for new disruptive technologies, skills, competencies or other types of know-how that Nokia sees as a potential building block for future growth. This effort is aided by the Nokia Ventures Fund. Established in 1998, it focuses on new areas that Nokia to date has not yet explored.

Nokia Ventures Fund, with a capital of USD 100 million, is part of Nokia Ventures Organization. Its purpose is to reach well beyond into the future of the time scale and business scope of Nokia's initiatives in order to boost the company's long term business development. Based in Silicon Valley, California, it operates world-wide with special emphasis on innovation centers.

Business units

- Wireless Business Communications
- Wireless Software Solutions
- Nokia Ventures Fund

As we are entering the era of the information society, an increasing amount of voice, image and data is communicated electronically. Nokia is continuously conducting research work in this area. Seeking to exploit growth opportunities, we established Nokia Ventures Organization in 1998.

Research and Development

R&D globally

- More than 13 000 employees within R&D
- 44 R&D centers in 12 countries
  Australia
  Canada
  China
  Denmark
  Finland
  Germany
  Hungary
  Japan
  Malaysia
  Sweden
  UK
  USA

Advanced R&D work and operations during 1998 clearly helped Nokia strengthen its position. As a result, we are better prepared for the challenges and great opportunities that lay ahead as expansion of the information society continues.

In 1998, over 13 000 Nokia employees were active in research and development. Nokia's R&D personnel has grown by some 5 000 employees during the last two years. Today, 30% of Nokia's personnel works in R&D.

Strengthening our long term research and development potential

At Nokia, we feel privileged to be among the developers of the information society. We believe we have extensive know-how and co-operate closely with leading centers of excellence. Research and development work reaching out to the future, is also carried out in collaboration with our business partners.

Nokia's global network of R&D centers and networking with other companies, research institutes and universities are today a central part of an efficient R&D operation. The Nokia global R&D network also expanded during 1998 to include new R&D centers in China, Denmark, Germany, Hungary and Sweden. With the help of our global cooperation network, we are able to influence and ensure quick responses to technological developments.

In 1998, we expanded our global R&D collaboration significantly. We co-founded the Symbian, Bluetooth and WAP consortia and partnerships. We also established Nokia Ventures Organization. We strengthened our competencies by acquiring UID (User Interface Design), a multimedia software company in Sweden, Matra Nortel Communication's GSM Terminals R&D unit to strengthen Nokia's Smart Traffic Products business in Germany, and Vienna Systems in Canada, a leading company in IP telephony.

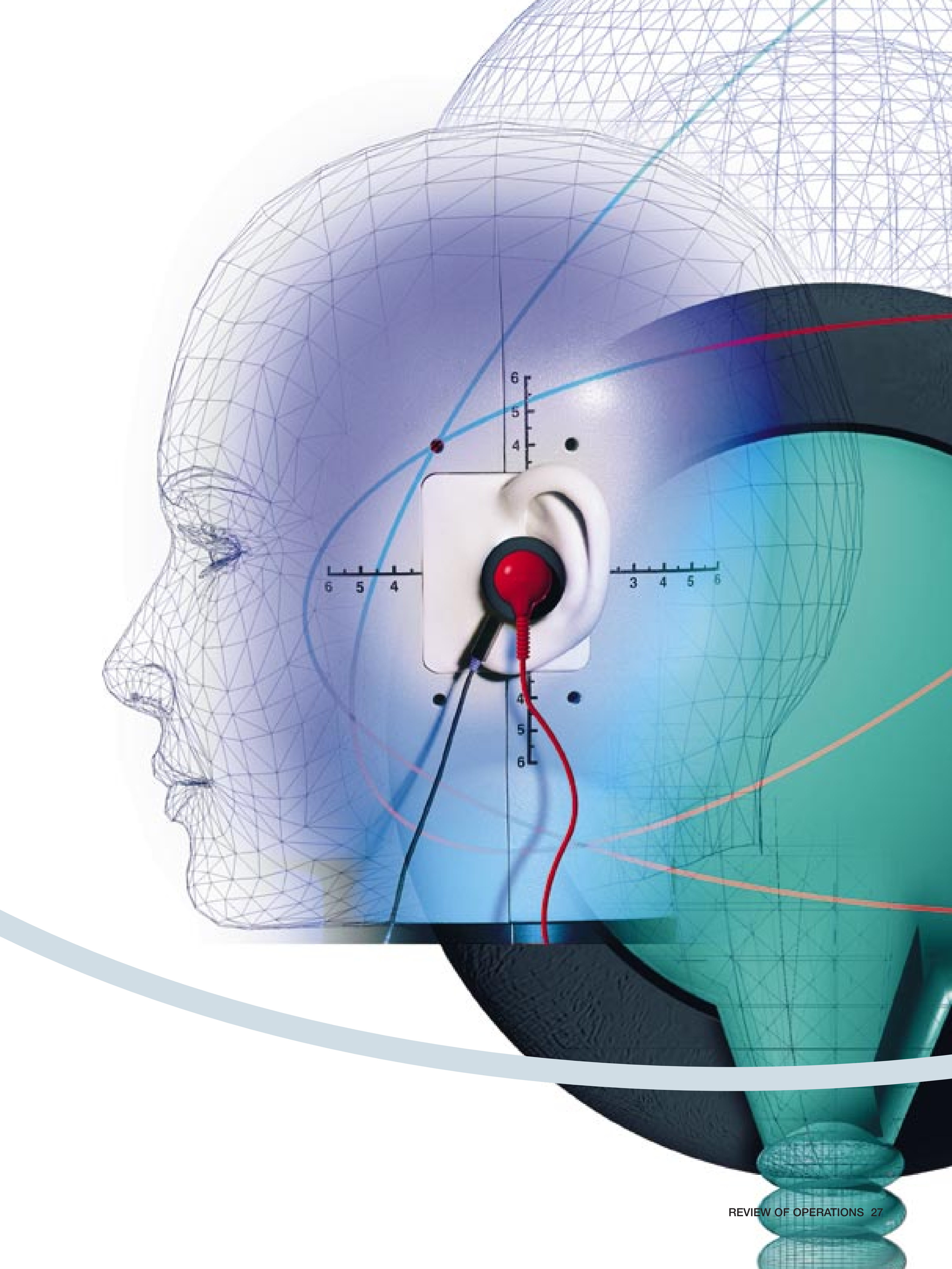
Developing third generation mobile communications

Based on our continued communication systems research we are actively involved in the creation of the three major third generation standards proposals which were submitted to ITU: WCDMA, cdma 2000 and UWC 136 (Universal Wireless Communications). All these new standards follow an evolution path from the second generation cellular standards GSM, cdma One (IS-95) and US TDMA (IS-136). Nokia delivers terminals for all of these standards.

The standardization of the GSM based wideband CDMA progressed well all over the world, with Nokia as one of the leading contributors. During the year, we successfully completed a call with a Nokia-made third generation terminal in Japan.

In 1998, we already delivered mobile stations to the Japanese NTT DoCoMo's WCDMA validation system. In the future, we will also develop and provide full system offerings for third generation telecommunications infrastructure – providing a smooth evolution path to our existing and new customers.

Continuous enhancement of voice quality and acoustic design play an essential role in Nokia's product development. This includes new methods for analyzing and designing acoustic components to meet the challenge of the trend of smaller-sized communications products.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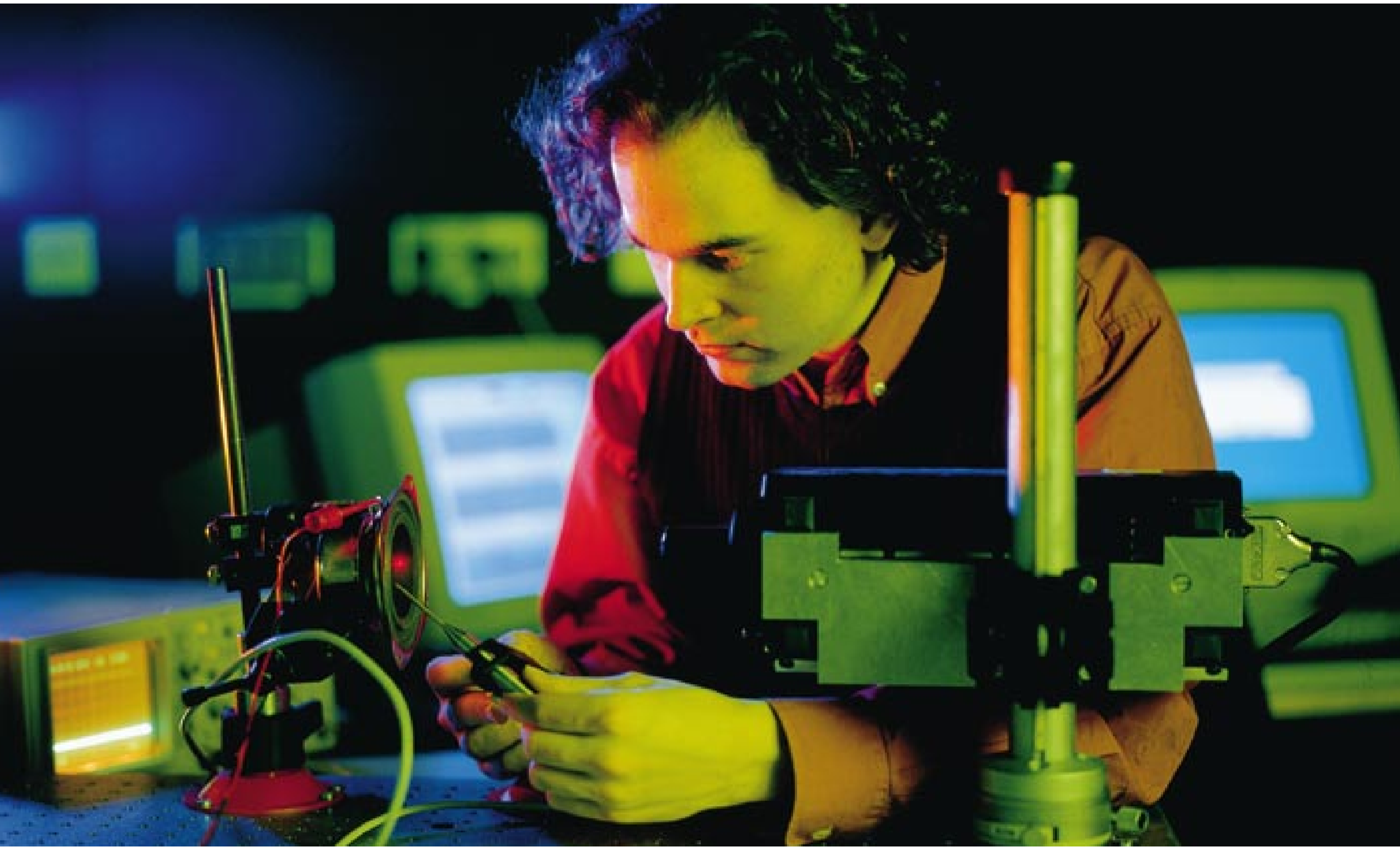


With the help of our global R&D network and research co-operation we aim to strengthen our technological competencies in order to continue to be the preferred choice for customers.

Our corporate research unit, Nokia Research Center, continued to develop new mobile data services for GSM in addition to its R&D and standardization work on third generation systems. Nokia offers operators an opportunity to upgrade their networks step by step for personal mobile multimedia services, starting with second generation GSM enhancements like HSCSD, GPRS and EDGE. WCDMA will use the new third generation spectrum allocation and utilize the advanced and evolving GSM core networks. Along with this development, the data bit rates are growing from the present 9.6 Kbit/s up to 2 Mbit/s, providing smooth personal mobile multimedia services.

In 1998, we developed and integrated a WCDMA experimental system consisting of the mobile phone, base station and switching equipment. In 1999, we will build and expand these experimental networks for field testing in China, Finland and Japan, to further demonstrate the system's capabilities to our existing and new customers.

In developing GSM further, Nokia Research Center concentrated also on location services. In addition, we continued the development of other second and third generation technologies. We also worked on the use of the 58 GHz frequency band for building cellular transmission in high-capacity mobile networks.

Major new partnerships, consortia and cooperation forms

In 1998, we co-founded a joint company called Symbian to boost the evolution of wireless information devices in the rapidly expanding wireless communications market. This industry effort ensures the interoperability of application platforms, content, and services. Symbian provides core software, including the operating system, application frameworks, applications and development tools for all EPOC licensees. EPOC is an advanced real-time, multithreading and scalable operating system designed especially for small handheld communications devices. Symbian will provide solutions that deploy key industrial mobile standards and technologies such as Internet technology suite, Wireless Application Protocol (WAP), Java and Bluetooth.

In 1998 we also co-launched a new consortium for wireless connectivity called Bluetooth. At the end of the year, Bluetooth consisted of more than 250 active members aiming to create an open standard for short-range communications between different electronic devices. It defines the air interface and communication protocols for a low-power radio link operating on the 2.4 GHz ISM (Industry, Scientific and Medical) band. By forming an intuitive wireless networking to connect various devices, Bluetooth effectively replaces traditional cables and interfaces. Being a radio-based link, Bluetooth does not require a line-of-sight connection in order to establish the communication. This enables the creation of completely new applications like personal devices that can synchronize their information without user intervention.

We were one of the founding members of the Wireless Application Protocol in 1997, an open standard that brings Internet based advanced services to mobile phones and other wireless terminals. In 1998, we contributed actively to the first WAP standard. We believe that Nokia is also well prepared for the mobile Internet telephony and will continue to develop our mediaphones enabling direct access to Internet information and services.

Continuing IP and network evolution

During 1998 our data networking R&D focused on IP security, broadband access, wireless data and IP telephony. We further developed IP routing and security, especially within integrated router/firewall platform and products. The key elements of our security solution include the Nokia IPSO routing operating system and the integration of firewall software to Nokia routers, as well as Nokia hardware platforms. We delivered our integrated security solutions to a wide range of corporate customers and Internet service providers.

In data communications research, Nokia Research Center focused on enhancements of the Internet protocols. Our R&D on Internet quality of service, Internet telephony and voice over the Internet contributed to the work of the Internet Engineering Task Force (IETF) and other standardization bodies.

In the broadband access area, we focused on the broadband IP system solution, including our Digital Subscriber Line multiplexer, edge router and remote access node. In the IP telephony area, we engineered platforms for IP telephony gatekeeper and gateway products. In 1998, we introduced the Nokia GSM Intranet Office (GIO), a revolutionary combination of IP telephony and GSM.

Our packet access development focus was on the GPRS products. GPRS development work has strategic importance for us, as related competencies and solutions will be reused in our R&D activities for third generation mobile communications. Within wireless data, we continued our research and development work on messaging and packet access, including WAP products and further enhancements to GSM short messaging offerings.

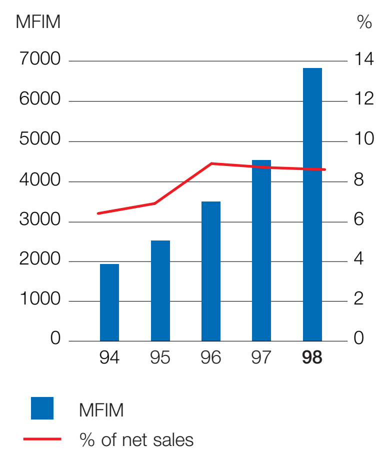
Actively participating in standardization of speech coded

During 1998, Nokia Research Center continued to develop speech, audio and video coding solutions for GSM, UMTS and other cellular systems. We are one of the main developers of the AMR (Adaptive Multi-Rate) speech codec that ETSI (European Telecommunications Standards Institute) has accepted as the next generation speech coding standard for GSM systems. AMR is also the main candidate for the UMTS speech coding standard.

Investments in R&D

- FIM 6 838 million in 1998
- R&D investments increased by 50%
- 8.6% of net sales used within R&D in 1998

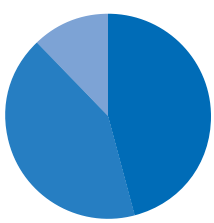
R&D investments



Nokia people

at year-end	1998	1997
Nokia Tele-communications	20 638	17 168
Nokia Mobile Phones	18 627	13 371
Other Operations	5 278	6 108
Nokia Group	44 543	36 647
Finland	21 093	19 779
Other European countries	11 022	8 249
Americas	6 836	4 676
Asia-Pacific	5 562	3 943
Other	30	-
Total	44 543	36 647

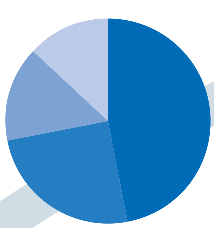
Personnel Dec. 31, 1998



Nokia Telecommunications 46%
(47% in 1997)

Nokia Mobile Phones 42%
(36% in 1997)

Other Operations 12%
(17% in 1997)



Finland 47%
(54% in 1997)

Other European countries 25%
(22% in 1997)

Americas 15%
(12% in 1997)

Asia-Pacific 13%
(11% in 1997)

Human Resources

Operating in the world's fastest growing industry makes working at Nokia exciting. We strive for the leadership position in all of our businesses, meaning that we actively drive current markets and create new ones. Thanks to our pioneering new products and overall interesting business environment, our personnel incresed by nearly 10 000 employees during 1998. At the end of 1998, Nokia employed 44 543 people throughout the world.

Flat organization facilitates efficient networking

The combined competencies of the whole organization, our operational mode and efficient processes serve as the foundation for success and growth. The Nokia Way of operating is characterized as a flat, networked organization facilitating speed and flexibility in decision-making. Approximately 85% of Nokia's total personnel have individual e-mail address. Equal opportunity, openness and respect for individuals and their ideas are key elements when dealing with customers, suppliers or other Nokia employees.

Understanding of work goals helps commitment

At Nokia, leadership and communication in all units are based on mutual openness. Annual development discussions between employees and their superiors as well as our yearly opinion surveys are illustrations of this. A clear understanding of individual work goals and areas of responsibility, as well as knowledge of Nokia's overall business development helps each employee to feel committed and motivated. We are continuously improving our operational performance management and appraisal processes. The Investing in People process is a main means of accomplishing this. It includes development discussions that cover objectives, performance measures, strengths, professional development, training needs and feedback on individual performance.

Our most important challenges include identifying and further developing competencies. Strong networking helps to connect the various individual skills of our employees into Nokia's collective know-how. To further facilitate this we encourage job rotation within the company. The Nokia-wide Intranet system informs employees about open vacancies in the various units. We will also continue to develop career path tools to help employees plan their career development.

Offering opportunities to continuously improve skills

The atmosphere at Nokia encourages the company's employees to try and reach beyond their limits. Everyone at Nokia has the right to take the initiative to develop his skills and abilities in a way that best suits his individual career development within the company. To facilitate this process, we have a wide array of programs and systems in place to support continuous learning. They include management, leadership, technical and product training as well as interpersonal skills development. In addition, some training programs are linked to academic degree studies.

Nokia offered challenging projects for several hundred students to have the opportunity to finish their studies with a thesis connected to the development of telecommunications. Nokia Student Exchange Program offered international work experience to close to 100 university students during 1998.

First Learning Centers established

To make learning as efficient as possible and unify our training processes across the company, in 1998 we established our first four Nokia Learning Centers. They offer an efficient way for transferring know-how throughout the company. Operating in China, Finland, Italy and Singapore, the Learning Centers deliver training activities

Highly skilled and motivated people are one of Nokia's greatest assets. We are continuously investing in the competence development of our personnel. To also offer an efficient way to transfer know-how throughout the company, we established our first four Nokia Learning Centers in 1998. Also in training the Nokia values: Customer Satisfaction, Respect for the Individual, Achievement and Continuous Learning are an underlying factor.

in more than 50 countries. We are already planning how to integrate the U.S. and Latin America under the same umbrella.

Encouraging results from opinion surveys

In 1998 we again carried out an extensive employee opinion survey. This annual exercise gives us valuable feedback on how Nokia employees value the company and the way it operates. The high response rate (72%) showed that employees are very strongly committed to the company. Confidence in one's future with Nokia had continued to grow, and proved to be extremely high. Overall, employees expressed their satisfaction with Nokia as an employer.

According to the survey, employees have a clear understanding of the objectives of their departments and business units, a result of developments in internal communications. This, we believe, is one of the prerequisites for successful team working.

Our employees have also expressed their views on areas in which they look forward to seeing further improvements made. In the 1998 opinion survey, these areas included recognition and reward. Employees affirmed continued development in management's capacity to communicate and recognize good performance. This has encouraged us to continue to build and implement performance-related pay systems within Nokia.

Training

	1998	1997
Total training costs, MFIM	750	550
Average training days/person	11	11

Efficiency in operations

	1998
Net sales per person, FIM*	1 928 180
Operating profit per person, FIM*	360 150
Number of patent applications	over 700
Number of Invention Reports	nearly 2 000

* Calculated with average number of employees.

Mexico had about 2.5 million mobile phone subscribers in the fall of 1998. Nokia has brought its production close to this fast growing telecom market. Nokia's mobile phone factory in Reynosa employs some 900 people. Nokia also started production of displays in Reynosa during the year.

Competitive compensation and benefit programs

We believe that motivation and job satisfaction come from many different sources. Therefore, we try to make all tasks both challenging and rewarding. It is our policy to reward employees for good performance and positive development.

Nokia has a number of global bonus and compensation programs complementing the local programs in place. These include stock option plans, and the Nokia Connecting People Bonus plan under which a total of approximately FIM 400 million will be paid out based on 1998 performance. In various units, there are also other incentive plans where incentives are linked to the performance measures. These include the Individual Incentive Plan, the Programme/Project Incentive Plan and the Team/Production Incentive Plan. There are also incentive plans for production personnel as well as for R&D and other work teams. In addition, a special Achievement Award is given to individuals or teams to recognize outstanding contributions, significant achievements or exceptionally good performance. Based on 1998 performance, approximately FIM 500 million will be paid under these above-mentioned incentive plans.

Induction programs tailored for each new employee

The success stories of our products and solutions together with our overall positive image have helped us in our recruitment efforts. Nearly 10 000 new employees joined us in 1998. A majority of them began their Nokia career within research and development, production and marketing. To have everyone fit into the company in the easiest and most efficient way, we offer new employees modulated and tailor-made induction and orientation. This includes orientation, planning, target setting, training, induction discussions and evaluation with the help of a tutor. In 1999, we will continue to further develop our induction processes for new employees.

On average, employees had been with Nokia for approximately three years in 1998.

Internet becomes a popular method of recruitment

We were one of the first companies to begin using Internet extensively when recruiting. It has proven to be a time and cost efficient method for attracting potential new employees. We have also received positive feedback from applicants on this addition to our recruitment activities.

In 1998, we also continued our cooperation with various educational institutions in the fields of research and development, recruitment, as well as education and training on a global scale. We made good progress, particularly in China, Germany, Hungary, the UK and the U.S. As this cooperation complements the Nokia-wide recruitment processes, we aim to continue it in 1999, when we again look forward to recruiting new employees throughout the world.

Towards a sustainable Information Society

At Nokia, we promote a safe and healthy workplace. We take environmental issues into account in our daily work and continuously develop our working conditions.

We find it important to serve the society in which we operate. We support charitable, educational, human rights, and community activities in the form of both donations and other resources. In addition, our goal is to develop products and services that foster communication and learning between people and societies. It is our aim to pave the way toward a sustainable information society in which people are able to access information and entertainment in the most efficient and material-saving ways.

For more information on Nokia and environmental issues, please visit our Internet pages at **www.nokia.com/environment** and get acquainted with Nokia and the Environment 1998, a separate publication appearing in the second half of 1999.

At Nokia, daily work is often carried out in cross-functional teams. This requires flexibility and an open mind. Social interaction skills and the ability to understand different cultures are among the focus areas in various courses organized throughout Nokia, for instance in Nokia Learning Centers.

Incentive plans

- Nokia Connecting People bonus plan
- Stock option plans
- Individual Incentive Plan
- Programme/Project Incentive Plan
- Team/Production Incentive Plan
- Achievement Award

Year 2000

Preparing for the coming millennium

For us at Nokia, Year 2000 compliance means that neither performance nor functionality of our products and systems is affected by the date, prior to, during or after the year 2000.

The world we live in is heavily automated. Processors are widely used and some contain certain programming languages and conversions using only a two-digit year presentation. This practice has come to be known as the "Year 2000 issue".

The Year 2000 issue may materialize if the computers or systems fail to recognize that the year 1999 is followed by the year 2000, the year 2000 is a leap year, and that figures 99 or 00 do not mean the end of the file.

At Nokia, we have established processes to evaluate and manage the possible risks and costs associated with the turn of the millennium. We have analyzed the Year 2000 issue from the standpoint of the equipment and services provided to customers, and the various information technology systems in use within the company.

A project to minimize the possible Year 2000 risks

The Nokia Year 2000 Project has overall responsibility for all Year 2000 issues within Nokia. The Project includes identifying potential risk areas, increasing risk awareness and introducing action plans and guidelines for managing the risks.

We consider Year 2000 compliance to mean that neither performance nor functionality is affected by the date, prior to, during or after the year 2000, as more specifically defined by a committee of the British Standards Institution BSI (DISC PD2000-1:1998).

Testing the compliance of our products

We have announced that, based on testing and verification Nokia's display products, digital multimedia terminals and mobile phone battery chargers are Year 2000 compliant, and our mobile phone products as well as analog satellite receivers are either compliant, can be made compliant or are products that are not affected by the date code. We have also provided solutions for upgrading those products which to-date are not compliant but can be made Year 2000 compliant.

To address Year 2000 compliance issues for our telecommunications infrastructure products, we have grouped those products into three categories based on the products, Year 2000 compliance status and our decision to provide or not to provide a technical solution for Year 2000 compliance. The three categories are: 1) products that are already Year 2000 compliant, 2) products that will be made Year 2000 compliant, and 3) products that will not be made Year 2000 compliant. We have completed the classification of the products, and will continue to inform our customers accordingly. For products classified to be made Year 2000 compliant, we have decided to have a technical solution for the Year 2000 compliance available during the first quarter of 1999. Our products that will not be made compliant include a limited number of old products for which manufacturing has been terminated or for which newer products have been substituted.

Aiming to continue production over the millennium shift

We aim to continue our production over the year-end 1999. To accomplish this, we have implemented a "production sites by subsystems" approach. This integrates relevant Year 2000 issues arising from the production systems as well as from the facilities, supplier readiness and information systems subprojects. Our plan is to have also our R&D and after sales related systems Year 2000 compliant during the first half of 1999.

We have also completed an inventory of our other information systems and identified them as critical or non-critical. For the critical information systems we plan to achieve Year 2000 compliance during the second half of 1999 at the latest.

The detailed scope of our Facilities Year 2000 subproject includes such matters as building management, security, telephones, heating and air-conditioning systems and general equipment. We expect to have identified relevant Year 2000 issues for such systems and equipment during the first quarter of 1999, and to have completed the necessary upgrading during the second half of 1999 at the latest.

Our Supplier Readiness subproject focuses on materials, parts, products, information software and services that Nokia sources from third parties, and which are then integrated or sold in connection with Nokia products or otherwise used by us. It also includes the readiness of our suppliers for their continued performance into the year 2000. We have categorized our suppliers as critical or non-critical. Our aim is to verify the status of the materials, parts or products from all critical suppliers as well as their continued performance into the year 2000 during the first half of 1999.

Costs, risks and contingency planning

At the end of 1998, we estimated our direct Year 2000 costs to amount to FIM 450 million. In 1998 we used approximately 50% of the estimated total.

The Nokia Year 2000 Project has not resulted in deferral of spending for other systems and equipment as planned. However, our cost estimates may vary in the future. We will continue to update this figure, as well as our other Year 2000 related information in 1999, as we learn more about our and third parties' Year 2000 compliance.

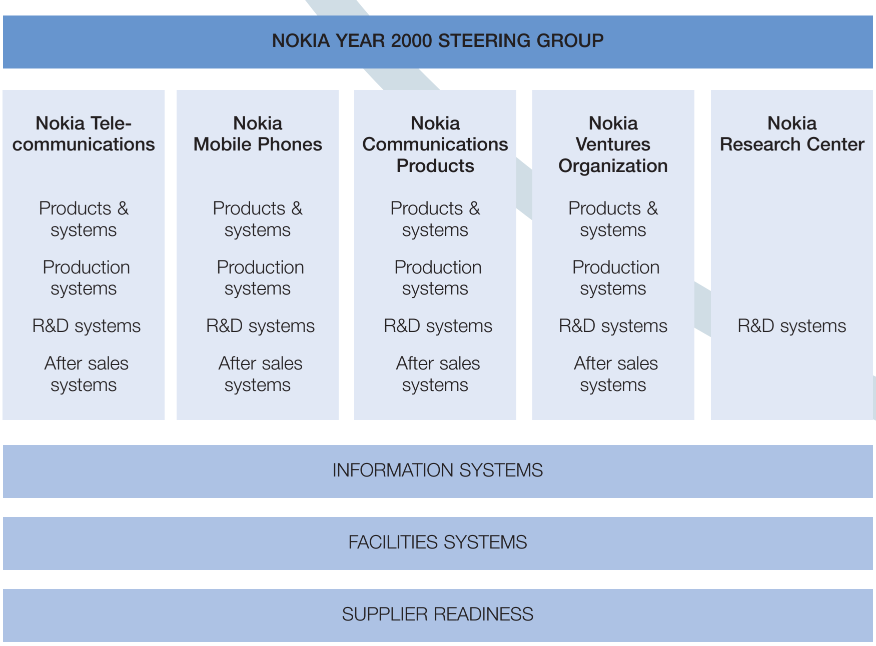
We realize that failing to correct material Year 2000 issues could result in an interruption in or failure of certain normal business activities. Such failures could have a material adverse effect on the company's business, results and financial condition. Like most companies, we are connected to various suppliers, financial institutions, customers and other business partners through computer systems. We know that failure of any of the critical interdependent information systems may also materially and adversely affect Nokia.

The scope of our Year 2000 Project is to identify and address Year 2000 issues within Nokia, and to evaluate Year 2000 readiness of third parties on whom we rely. When learning that critical Year 2000 issues have not been appropriately addressed, we intend to develop contingency plans.

Due to general uncertainties related to the Year 2000 issues, partly resulting from the uncertainties of the Year 2000 readiness of suppliers and other third parties, the actual effects of the Year 2000 issues on Nokia will be unknown until the year 2000. However, we believe that our Year 2000 Project is significantly reducing the level of this uncertainty.

Information

For updated information on the Year 2000 issues, please visit our Internet pages at www.nokia.com/Year 2000. Please see the information regarding certain forward looking statements on page 56 of this review.



The Nokia Year 2000 Project is managed by a Steering Group, consisting of representatives of all Nokia business units and the defined Year 2000 subprojects. The Steering Group is appointed by and reports regularly to the Nokia Group Executive Board. The Project is divided to subprojects addressing the Year 2000 issues in products and systems, production systems, R&D systems and after sales systems within Nokia Telecommunications, Nokia Mobile Phones, Nokia Communications Products, Nokia Ventures Organization and Nokia Research Center. Year 2000 subprojects for information systems, facilities systems and supplier readiness are Nokia-wide. All subprojects are global and report monthly to the Nokia Year 2000 Steering Group and to their respective business units.

Euro and Nokia

Euro conversion rates

The fixed, irrevocable conversion rates between the euro and national EMU currencies are:

1 euro	=
13.7603	Austrian schilling
40.3399	Belgian franc
2.20371	Dutch guilder
5.94573	Finnish markka
6.55957	French franc
1.95583	German mark
0.787564	Irish pound
1936.27	Italian lira
40.3399	Luxembourg franc
200.482	Portuguese escudo
166.386	Spanish peseta

Economic and Monetary Union and the euro

In January 1999, 11 European Union member states, Austria, Belgium, Finland, France, Germany, Ireland, Italy, Luxembourg, Netherlands, Portugal and Spain, formed the Economic and Monetary Union (EMU).

The member states also introduced a new common currency, the euro. The fixed, irrevocable conversion rates between the euro and national EMU currencies were announced on December 31st, 1998.

Nokia has traditionally had a strong foothold in Europe. In 1998, over half of net sales originated from Europe. The 11 EMU member states accounted for one-third of Nokia's net sales. The majority of Nokia's production, R&D and total personnel was based in Europe.

Euro impacts Nokia positively

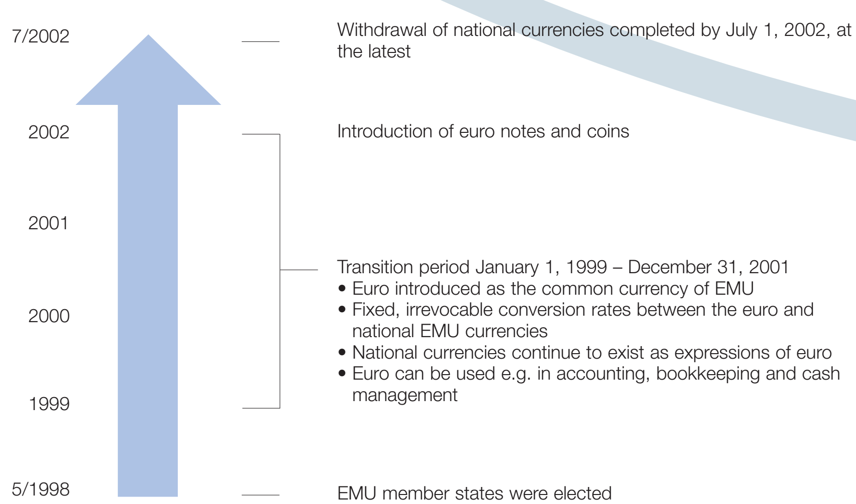
The euro market, formed by the 11 EMU member states, is one of the largest markets in the world, which we believe is leading to a more stable and favorable operating environment. EMU and the euro support further economic growth and impact Nokia's international competitiveness positively.

The introduction of the euro decreases the foreign exchange risk to be managed in Nokia. It also decreases the cost of cash management due to lower transaction costs and more efficient liquidity management. In addition, it eases the management of liquid funds and interest rate risks.

The introduction of the euro is expected to make markets more transparent thereby contributing to increased competition and opening of the markets. Nokia is experienced in operating in competitive markets and we believe that we are well positioned to benefit from these developments.

Nokia supports the wide use of euro

According to our euro strategy, we support the wide use of the euro during the transition period. Internally, we began using the euro for financial reporting as of January 1st, 1999. Beginning with the first quarter of 1999 results report, all financial information will be published in the euro. To facilitate comparisons, historical figures will be restated to euro by using the fixed, irrevocable conversion rate between the euro and Finnish markka.



The EMU timetable

Nokia's share and dividends

The Board of Directors will propose at the Annual General Meeting on March 17, 1999 that the share capital and the nominal value of Nokia shares be converted to euros. The dividends for 1998 will be declared in Finnish markka. From 1999 onwards the dividends will be declared in euros.

Nokia shares have been quoted in euros in Helsinki, Frankfurt, Paris and London Stock Exchanges since January 1999.

Euro in business transactions

In business transactions with our customers, suppliers and sub-contractors operating in the EMU member states, we prefer the euro as a trading currency. However, we respect the "no compulsion – no prohibition" principle in the use of the euro. This means that the use of the euro is always mutually agreed upon with the business partner. In non-EMU countries we are open to consider using the euro in business transactions if our customer so prefers.

Euro changeover costs

We began preparing for the euro in 1996 and have been able to integrate many euro-related changes in our normal process development and system upgrading projects. As a result, direct euro changeover costs have not been significant. We believe that euro related cost savings will offset the euro changeover costs in the short-term.

Euro information available on the Internet

Information on the use of the euro in Nokia is available on our Internet pages: **http://www.nokia.com** under Investor Relations.

On January 1st, 1999, eleven European Union member states formed the European Economic and Monetary Union, and introduced a new common currency, the euro. The euro market is one of the largest markets in the world, leading to a more stable and favorable operating environment, also for Nokia. In the picture, celebration of euro in Brussels.

Board of Directors

January 29, 1999

Chairman
Casimir Ehrnrooth, 67
Doctor of Technology h.c.
– Member since 1989 and Chairman since 1992
Chairman of the Board of Directors of Kymmene Corporation 1991–1996, Chairman and CEO of Kymmene Corporation 1986–1991
Member of the Board of Directors of Merita Plc, MeritaNordbanken Plc, Nordbanken Holding AB (publ.) and UPM-Kymmene Corporation
Member of the Supervisory Board of Continental AG
Member of the European Advisory Committee of the New York Stock Exchange

Vice Chairman
Iiro Viinanen, 54
President and CEO of Pohjola Group Insurance Corporation
– Member and Vice Chairman since 1996
Member of the Finnish Parliament 1983–1996, Finland's Minister of Finance 1991–1996
Vice Chairman of the Board of Directors of UPM-Kymmene Corporation and member of the Board of Directors of Kone Corporation
Chairman of the Board of Federation of Finnish Insurance Companies

Pirkko Alitalo, 49
Senior Executive Vice President of Pohjola Group Insurance Corporation, Investments
– Member since 1992
Member of the Board of Directors of Alma-Media Corporation, Aspo plc, Neptun Maritime Oyj and Skandia Insurance Company Ltd

Dr Edward Andersson, 65
Prof. emer.
– Member since 1973
Chairman of the Board of Directors of Oy Aga Ab, member of the Board of Directors of Pohjola Group Insurance Corporation and Chairman of the Supervisory Board of Merita Bank plc

Paul J. Collins, 63
Vice Chairman of Citigroup Inc. and Director of Citicorp and Citibank N.A.
– Member since 1998
Vice Chairman of Citicorp and Citibank N.A. 1988–1998
Director of Kimberly-Clark Corporation

Jouko K. Leskinen, 55
President and CEO of Sampo Group and member of the Board of Directors of Sampo Insurance Company plc
– Member since 1994
Vice Chairman of the Board of Directors of Neste Oy 1989–1992, member of the Board of Directors of Neste Oy 1987–1989 and Senior Executive Director of Neste Oy 1987–1992
Chairman of the Board of Directors of Cultor Corporation, Vice Chairman of the Board of Directors of UPM-Kymmene Corporation and member of the Board of Directors of Finnlines Plc
Vice Chairman of the Board of Federation of Finnish Insurance Companies and member of the Board of Employers' Confederation of Service Industries

Jorma Ollila, 48
President and CEO, and Chairman of the Group Executive Board of Nokia Corporation
– Member since 1995
President of Nokia Mobile Phones 1990–1992, Senior Vice President, Finance of Nokia 1986–1989
Member of the Board of Directors of ICL plc, Otava Publishing Company Ltd and UPM-Kymmene Corporation
Deputy Chairman of the Board of the Confederation of Finnish Industries and Employers
Member of The European Round Table of Industrialists

Robert F. W. van Oordt, 62
Chairman of the Supervisory Board of NKF Holding N.V.
– Member since 1998
Chairman of the Executive Board of NV Koninklijke KNT BT 1993–1996, Chairman of the Executive Board of Bührmann-Tetterode NV 1990–1993, Executive Vice-President and COO, and member of the Board of Directors of Hunter Douglas Group NV 1979–1989
Member of the Board of Directors of Schering-Plough Inc. and N.V. Union Minière S.A. and member of the Supervisory Board of Greenfield Capital Partners and Rodamco N.V.

Vesa Vainio, 56
Chairman of the Board of Directors of MeritaNordbanken Plc, President and member of the Board of Directors of Merita Plc and Vice Chairman of the Board of Directors of Nordbanken Holding AB (publ)
– Member since 1993
Chairman of the Board of Management and CEO of Merita Bank Ltd and CEO of Merita Ltd 1992–1997, President of Kymmene Corporation 1991–1992
Vice Chairman of the Board of Directors of Metra Corporation and member of the Board of Directors of UPM-Kymmene Corporation
Chairman of the Board of Directors of Finnish Central Chamber of Commerce

Secretary
Ursula Ranin

Corporate Governance

Tasks of the Board of Directors

The Board decides on matters which in relation to the Group's activities are of significant nature. Such matters include confirmation of the strategic guidelines, approval of the annual budgets and action plans and decisions on major investments and divestments.

The President, the Chairman and the members of the Group Executive Board of the company are appointed by the Board. The Board also determines their remuneration.

Election and Term of Members of the Board of Directors

According to the Articles of Association the company has a Board of Directors composed of a minimum of seven and a maximum of ten members.

The members are elected at the Annual General Meeting convening annually in March–April. According to the Articles of Association the term of the Board members is one year at a time.

The Board elects a Chairman and a Vice Chairman from among its members for a term at a time.

Committees of the Board of Directors in 1998

The Personnel Committee monitors the personnel policy of the Group and oversees its implementation and development. The Committee also prepares matters concerning personnel issues, including the salaries and principles for the remuneration of senior executives, prior to their submission to the Board. The Personnel Committee was composed of the following members of the Board: Vesa Vainio, Pirkko Alitalo, Paul J. Collins and Jorma Ollila.

The Audit Committee consists of non-executive directors. Its responsibilities include the consideration of the financial statements and the internal control systems and the internal audit. The Committee meets in the presence of external auditors, the CFO and the Group Controller and, upon invitation, other senior executives. The Audit Committee was composed of the following members of the Board: Dr Edward Andersson, Jouko K. Leskinen and Robert F.W. van Oordt.

The Nomination Committee prepares proposals for the general meeting concerning the composition of the Board and the remunerations and remuneration principles of the members of the Board. The committee was established in 1998 and was composed of the following members of the Board: Iiro Viinanen, Paul J. Collins and Jouko K. Leskinen.

Meetings of the Board of Directors

The Board met ten times in 1998. Two of the meetings were held in a form of conference call.

President and CEO

The Board of Directors appoints the President of the company. Jorma Ollila has been President and CEO since 1992.

Remuneration

In 1998 the remuneration paid to the Chairman of the Board was FIM 449 891, to the Vice Chairman of the Board FIM 353 890 and to the non-executive directors in total FIM 1 542 018. The salary and other remuneration paid to the President and CEO was FIM 5 817 818 including a bonus for 1997 of FIM 1 300 000.

Nokia Group Executive Board.
Sitting from left: Matti Alahuhta, Sari Baldauf, Jorma Ollila and Pekka Ala-Pietilä.
Standing from left: Olli-Pekka Kallasvuo, Veli Sundbäck, Yrjö Neuvo, Anssi Vanjoki and Mikko Heikkonen.

Management

January 29, 1999

Group Executive Board

Chairman Jorma Ollila, 48
President and CEO
– Member since 1986, Chairman since 1992
– Joined Nokia 1985
President of Nokia Mobile Phones 1990–92, Senior Vice President, Finance of Nokia 1986–89
Member of the Board of Directors of ICL plc, Otava Publishing Company Ltd and UPM-Kymmene Corporation
Deputy Chairman of the Board of the Confederation of Finnish Industries and Employers,
Member of the European Round Table of Industrialists

Pekka Ala-Pietilä, 42
Executive Vice President and
Deputy to the CEO,
President, Nokia Communications Products
– Member since 1992
– Joined Nokia 1984
President of Nokia Mobile Phones 1992–98, Vice President, Product Marketing of Nokia Mobile Phones 1991–92, Vice President, Strategic Planning of Nokia Mobile Phones 1990–91
Member of the Board of Alma Media Corporation, Economic Information Bureau and Finnish-Japanese Chamber of Commerce

Dr Matti Alahuhta, 46
President, Nokia Mobile Phones
Responsible for Nokia's operations in Japan
– Member since 1993
– Joined Nokia 1975–82 and 1984
President of Nokia Telecommunications 1992–98, Executive Vice President of Nokia Telecommunications 1992, Senior Vice President, Public Networks of Nokia Telecommunications 1990–92
Chairman of the Board of Federations of Finnish Electrical and Electronics Industry, Vice Chairman of the Board of the Technology Development Centre, Ministry of Trade and Industry
Member of the Board of the Central Chamber of Commerce of Finland and International Institute for Management Development (IMD)

Sari Baldauf, 43
President, Nokia Telecommunications
Responsible for Nokia's operations in China
– Member since 1994
– Joined Nokia 1983
Executive Vice President of Nokia APAC 1997–98, President, Cellular Systems of Nokia Telecommunications 1988–96, Vice President, Business Development of Nokia Telecommunications 1987–88
Member of the Board of Technical Research Centre of Finland and Finland-China Trade Association, Member of the National Committee for the Information Society Issues

Mikko Heikkonen, 49
President, Network Systems, Nokia Telecommunications
– Member since 1998
– Joined Nokia 1975
President, Network and Access Systems of Nokia Telecommunications 1995–96, Senior Vice President, Area Management of Nokia Telecommunications 1993–95, Senior Vice President of Nokia Cellular Systems 1988–92

Olli-Pekka Kallasvuo, 45
Executive Vice President, CFO
Responsible for Nokia's operations in the U.S.
President, Nokia Inc.
– Member since 1990
– Joined Nokia 1980
Executive Vice President Nokia Americas 1997–98
Executive Vice President, CFO of Nokia 1992–96
Senior Vice President, Finance of Nokia 1990–92
Chairman of the Board of Nextrom Holding S.A.
Member of the Board of Finnish Broadcasting Company and Telecommunications Industry Association (USA)

Dr Yrjö Neuvo, 55
Senior Vice President, Product Creation, Nokia Mobile Phones
– Member since 1993
– Joined Nokia 1993
Senior Vice President, Technology of Nokia 1993–94, National Research Professor of the Academy of Finland 1984–92
Vice Chairman of the Board of Vaisala Corporation, Member of the Finnish Academy of Technical Sciences, The Finnish Academy of Science and Letters, Academiae Europae, Foreign member of Royal Swedish Academy of Engineering Sciences, Fellow of the Institute of Electrical and Electronics Engineers

Veli Sundbäck, 52
Executive Vice President, Corporate Relations and Trade Policy
– Member since 1996
– Joined Nokia 1996
Secretary of State at the Ministry for Foreign Affairs 1993–95, Under-Secretary of State for External Economic Relations at the Ministry for Foreign Affairs 1990–93
Member of the Board of Directors of Oy AGA Ab and Nextrom Holding S.A,
Vice Chairman of the Board of the International Chamber of Commerce, Finnish Section, Chairman of the Trade Policy Committee of the Confederation of Finnish Industry and Employers (TT)

Anssi Vanjoki, 42
Senior Vice President, Europe & Africa, Nokia Mobile Phones
– Member since 1998
– Joined Nokia 1991
Vice President, Sales of Nokia Mobile Phones 1991–94,
Sales Director of Suomen 3M Oy 1989–91

Auditors

Eric Haglund, 64
Authorized Public Accountant
(KPMG)
Lars Blomquist, 55
Authorized Public Accountant
(PricewaterhouseCoopers)

Deputies:
KPMG Wideri Oy Ab
Authorized Public Accountant
(Deputy to Eric Haglund)
SVH PricewaterhouseCoopers Oy
Authorized Public Accountant
(Deputy to Lars Blomquist)

Nokia Head Office

Corporate Relations & Trade Policy
Veli Sundbäck

Chief Financial Officer
Olli-Pekka Kallasvuo

Corporate Controller
Maija Torkko

Corporate Treasurer
Timo Korvenpää

Investor Relations
Martin Sandelin

Technology
Kaj Lindén

Research Center
Juhani Kuusi

Strategy and Information Management
Mikko Kosonen

General Counsel
Ursula Ranin

Human Resources
Hallstein Moerk

Communications
Lauri Kivinen

International Trade Affairs
Stefan Widomski

Nokia Country Management

U.S.
Olli-Pekka Kallasvuo
Mobile Phones
Kari-Pekka Wilska
Telecommunications
Jyrki Salo
Display Products
Jim Cookson
Finance, Control and Planning
Tuomo Alamäki (till May 31)
Kirsi Sormunen (as of June 1)
Human Resources
Eliane Hall
Business Development
John Malloy
Legal Affairs
Joe Pitts III
Communications
James Bowman
Industry Relations
William Plummer
Technology Standards
Christopher Wallace

China
Folke Ahlbäck
Country Management
Susan K. Fan
James C. Lin
Mobile Phones
Pertti Simovaara
Telecommunications
Malcolm Arnold
Finance and Control
Maarit Komulainen
Human Resources
Giam KimKhoon
Corporate Planning
Andrew Page
Legal Affairs
Mikko Harju
Communications
David Stoneham

Japan
Olav Stang
Country Management
Yasuharu Sekiguchi
Kimio Hashida
Infrastructure Functions
Jouko Päivinen
Account Management
Tooru Fukui
Finance and Control
Kaj Forsell
Human Resources
Juhani Hokkanen
Legal Affairs
Auli Luukkanen-Lääperi
Marketing and Communications
Fumihiko Fujimoto

Nokia Telecommunications

Sari Baldauf

Network Systems
Mikko Heikkonen
Switching Systems
Lauri Melamies
Mobile Switching
Sauli Salo
Fixed Switching
Aarne Sipilä
IN-Platform
Pertti Heinonen
Switching Platform
Keijo Olkkola
Wireless Data Server Systems
Pekka Salonoja
Network Management Systems
Jorma Häkkinen
Service Management and Integration
Mikael von Hertzen
Professional Mobile Radio
Tapio Heikkilä
System Development
Heikki Hämmäinen
System Marketing and Sales
René Svendsen-Tune

Radio Access Systems
J.T. Bergqvist
Operations and Logistics
Tapio Karjalainen
RAS Research
Tero Ojanperä
Technology Development
Tapio Harila
GSM Programs
Sakari Nikkanen
GPRS Business Program
Petri Pöyhönen
WCDMA BSS Business Program
Eero Vallström
System Development
Pekka Soini
System Marketing and Sales
Olli Oittinen

IP and Access Solutions
Kari Suneli
IP Solutions Group
Mika Vehviläinen
Security Solutions
Brian NeSmith
Fast Internet Solutions
Jussi Ilmarinen
IP Routing
Brian NeSmith
High Speed Access Products
Jerry Parrick
Sales and Marketing
Mark Bole
Narrowband Access Solutions
Markku Hynninen
Access and IP Nodes
Markku Hynninen
Regional Transport
Matti Peltola
Network Terminals
Olli Rissanen
Dedicated Networks
Hans Holmberg
Operations
Hemmi Piirainen
System Development
Rune Udd
System Marketing and Sales
Vesa Tykkyläinen

Customer Services
Pekka Oranen
Area Management – Europe
Pekka Vartiainen
Area Management – Southeast Asia and Pacific
Kari Ahola
Area Management – Greater China
Malcolm Arnold
Area Management – North and South America
Jyrki Salo

Legal Affairs and Intellectual Property Rights
Timo Ruikka (till March 31)
Kirsi Komi (as of April 1)
Finance and Control
Kirsi Sormunen (till May 31)
Riitta-Liisa Hiillos (as of June 1)
Strategy and Business Development
Juhani Sormanen
Quality and Processes
Kurt Engelvuori
Logistics
Tapio Karjalainen
Human Resources
Kirsi-Marja Kuivalainen
Communications
Arja Suominen

Nokia Mobile Phones

Matti Alahuhta

Americas
Kari-Pekka Wilska
Sales and Marketing, USA
Rich Geruson
Latin and South America
Sven Markelin
Canada
Al Gilchrist
Operations
Anssi Räty
Logistics and Quality
John Robinson

Europe and Africa
Anssi Vanjoki
Sales
Bengt-Åke Gyllenberg,
Robert Andersson
Logistics & Operations
Raimo Puntala
Product Marketing
Jyrki Salminen
Marketing Services
Heikki Norta

Asia-Pacific
Nigel Litchfield
Sales
Urpo Karjalainen
Operations, Korea
Jae-Wook Lee
Operations, China
Lauri Rintanen
Logistics
Juha Räisänen
Product Marketing
Nigel Rundström
Japan
Olav Stang
China
Pertti Simovaara

Product Creation
Yrjö Neuvo
Product Programs
Pekka Valjus
Product Line Management
Søren Jenry Petersen
Wireless Data
Mikko Terho
Special Products
Hannu Huttunen
Advanced Development
Jouko Junkkari
Research & Technology
Heikki Huomo
New System Technologies
Heikki Ahava
PC Centre Management
Jouko Häyrynen
Global Operations and Logistics
Pertti Korhonen
Sourcing and Procurement
Jean-François Baril
Global Logistics
Juha Usva
Manufacturing Technology
Jorma Neuvonen
Finance and Control
Anja Korhonen
Human Resources
Juhani Hokkanen
Corporate Planning
Juha Putkiranta
Smart Traffic Products
Kalevi Kaartinen
Quality
Timo Hannukainen
Legal Affairs and Intellectual Property Rights
Urho Ilmonen
Communications
Tapio Hedman

Nokia Communications Products

Pekka Ala-Pietilä

Nokia Multimedia Terminals
Heikki Koskinen
Sales and Marketing
Stefan Majurin
Finance and Control
Steinar Døhlen
New Technology and Operators
Helmut Stein
Business Development
Ari Nieminen
Legal Affairs
Leif Rotkirch
Human Resources
Leena Salminen
Terminal products
Rickard Nelgér
Program and Project Management
Gerhard Wennerström
Strategic Purchasing
Jan Magnusson
Quality
Simo Salminen

Nokia Industrial Electronics
Hannu Suominen
Finance and Control
Asko Avoranta
Business Development
Lindy Yngvesson
Legal Affairs
Karin von Konow
Human Resources
Pekka Heinänen
Display Products
Reijo Lantto
Power Supplies
Kari Vuorialho

Nokia Ventures Organization

Pekka Ala-Pietilä

Wireless Business Communications
Reijo Paajanen,
Pekka Lundmark
IP Telephony
Kent Elliott
Wireless Software Solutions
Pertti Lounamaa
Operations and Business Development
Tuomo Alamäki
Business Development, Internal Venturing
Harry Santamäki
Ventures Fund
John Malloy
Legal Affairs and Intellectual Property Rights
Johan Schmidt

Nokia Research Center

Juhani Kuusi

Human Resources and Administration
Markku Valpas
International Co-operations
Simo Luiro
Communications
Hannu Markus

Press Releases

More on the Internet

Nokia published more than 300 global external press releases in 1998. The list here covers some of the major events.

Nokia press releases can be found on the Internet at www.nokia.com

Nokia's quarterly results in 1998 were published on April 24, on July 24, on October 23, 1998 and on January 25, 1999.

January

2 A turnkey site engineering project with Connect Austria for 1,000 base station sites.

7 Nokia as key supplier for Orange of UK in the accelerated rollout of its GSM network.

8 A new company, Wireless Application Protocol Forum Ltd. (WAP Forum), established.

8 Two new Nokia TDMA handsets introduced at the CES trade show in Las Vegas, USA.

8 A GSM network expansion for New World PCS Limited, Hong Kong SAR.

8 An order of more than 100,000 Nokia 909 ETACS phones from SMART Communications.

14 Business Week magazine: Nokia 9000i Communicator as one of "The Best New Products" of 1997.

14 Two new R&D units established in Budapest, Hungary.

16 Telstra of Australia to trial Nokia's TETRA digital trunked mobile system.

29 Nokia a major sponsor of "China: 5,000 Years" exhibition at the Guggenheim Museum in New York.

February

5 Expansion of ElTele Øst`s trunked mobile radio system, based on the digital TETRA standard.

6 Provision of a mobile Intelligent Network (IN) for the BellSouth GSM network in New Zealand.

11 ISIS Multimedia Net GmbH in Germany selected Nokia for the supply of its SYNFONET Access Node (SAN).

12 Record-breaking annual results for 1997.

17 Extension of Nokia's current agreement with Brightpoint, and the appointment of CellStar, as authorized distributors of Nokia phones and accessories in China.

17 Licensing agreement with Spyglass Inc for up-front web technology to be integrated in Nokia's next generation of digital cable, satellite and terrestrial set-top boxes.

17 Nokia Intelligent Frequency Hopping (IFH) solution introduced, the first of its kind in today's GSM market.

18 A cooperation agreement with Diamond Lane Communications Corporation, USA.

24 A frame agreement with SONOFON, the leading Danish GSM operator.

27 Omnitel of Lithuania to incorporate the new Nokia Mobile Switching Center into commercial traffic.

March

3 Nokia to sell its 50% ownership in Autoliv Nokia AB and other electronics operations in Motala, Sweden to the Swedish Autoliv.

8 Nokia awarded the "most significant UK contract" in its history for digital set-top boxes by British Digital Broadcasting (BDB).

12 Supply of GSM infrastructure equipment to Polkomtel S.A., Poland.

12 Frame agreement with Scottish Telecom covering the supply of all possible access network telecommunications infrastructure hardware and software solutions.

13 Nokia's DX 200 switching platform to launch Core Telecommunications Ltd's services in the UK.

16 Contract for the supply of GSM 1900 network equipment to Western PCS Corp. of USA.

18 17 new products and solutions introduced at CeBIT '98 exhibition in Hannover, Germany.

18 "X-Files - The Movie," to portray Nokia's mobile phones in action.

18 Recommended Painting Scheme for Nokia's mobile phone covers announced.

18 The 20 millionth Nokia GSM phone in Europe sold in Stockholm, Sweden.

24 Dividend of FIM 7.50 per share for 1997 resolved at Nokia's AGM.

31 An addition to manufacturing complex in Reynosa, Mexico, for production of high-end computer monitors.

April

2 Nokia LPS-1 loopset announced, an accessory enabling a person who is hard on hearing to use a digital mobile phone.

6 Nokia was awarded a contract for GSM network expansion by the Henan Post and Telecommunications Administration (PTA), China.

7 Expansion of the UK mobile phone network operator Cellnet's GSM network.

7 Intelligent Network System (IN) and Mobile Switching Centre (MSC) for GLOBE TELECOM's GSM network in the Philippines.

8 Expansion of NingXia PTA's GSM network in China.

8 Global alliance with Computer Sciences Corporation (CSC) of USA to provide advanced, value-added services for Nokia's infrastructure customers.

16 Shipments of CDMA phones to Sprint PCS, USA began.

17 Synfonet SDH solution to Ji'An PTB, China.

20 Full turnkey dual band GSM 900/1800 network for diAx AG, Switzerland.

21 A commercial PCS service in several US states started, using Nokia GSM network equipment.

24 USD 100 million Nokia Ventures Fund announced to fuel future growth and to boost new product and long term business development.

24 Agreements for global contract manufacturing with U.S.-based SCI Systems, Inc.

27 Supply of an Actionet trunked mobile radio and optical fibre transmission system to Morocco.

27 Digital terminals (the Nokia Mediamaster) for Reuters Television Network (RTV).

28 DX 220 digital switching platform for the new Hamburg city network in Germany.

May

6 New Nokia DX 200 switch, taken into commercial traffic by Lietuvos Telekomas, modernizes the telecommunications service for 40,000 subscribers in Lithuania.

7 A nationwide advertising campaign in Japan beginning May 11, in line with the market launch of a new PDC mobile phone terminal.

8 25 Nokia 9000i Communicators to serve as key communications tools for the Massachusetts Institute of Technology (MIT) Sloan Challenge in USA.

11 Agreement between CTIN, Nokia and Optus in Australia for a joint two year research to analyze the deployment of improved data transmission capabilities in mobile communications.

12 Delivery of Nokia's Actionet trunked mobile radio system to STARTEL-CTC, Chile.

15 Provision of fixed network solutions for the Daqing network in China.

18 Highly specified Nokia Mediamaster 9850 T, the company's first digital terrestrial set-top receiver, unveiled at Cable & Satellite '98 in the UK.

18 Free to air digital satellite receivers as a great-value data transfer medium to the UK Independent Radio News (IRN) network of commercial radio stations.

19 Synfonet STM-16 SDH equipment to Norway's Bane Tele.

20 Nokia and other major companies unveiled their vision to revolutionize wireless connectivity for personal and business mobile devices.

25 Online soccer World Cup 1998 results and information service in association with Time Inc. New Media and a number of European GSM operators.

June

1 Launch of the Nokia 6150 GSM 900/1800 dual band mobile phone, the smallest on the market.

2 New Nokia FlexiHopper Microwave Radio family introduced at CommunicAsia 98 in Singapore.

2 Nokia added two new solutions to the Nokia Artus Short Message Service Centre (SMSC).

3 Nokia 9000i Communicator received a 1998 World Class Award for the Best Wireless Communications Product category by PC World.

5 A new GSM customer in Kuwait, Mobile Telecommunications Co. (K.S.C.).

8 Announcement of a Nokia software competence center to be established in 1999 in Linköping, Sweden.

8 Extension of Turk Telekom's NMT 450 mobile telephone network in Turkey.

10 New manufacturing premises in Suzhou Industrial Park, in the Jiangsu province of China, to be established.

11 Fourth GSM network expansion to Zhejiang Mobile Communications Co., China.

12 A framework agreement between Nokia Research Center and Delft University of Technology to increase mutual research cooperation.

22 GSM network equipment to Iowa Wireless Services (IWS), L.P., USA for its PCS digital system.

24 Fifth expansion to Yunnan PTA's GSM network in China.

24 Synfonet SDH equipment to Austrian operator Well.COM Data Highway Burgenland GmbH for its new network.

24 Nokia, Ericsson and Psion to form a new joint venture called Symbian.

25 GSM Terminals Research and Development unit of Matra Nortel Communications bought in Ulm, Germany.

26 KNT Temporary Association – a consortium of Kreutler, Nokia and Telindus – chosen as sole supplier for Belgium's authority mobile radio network.

July

2 Nokia Synfonet SDH solution for German operator TelSA.

2 Equipment for Danish operator Mobilix' fixed network for combined fixed and mobile network services.

6 Product development, licensing and service agreement with UK-based AirCom International.

13 Nokia entered into a partnership with the Indian Institute of Technology (IIT), Delhi.

20 Phase five expansion of Globe Telecom's Handyphone service, the Mobile Telephone System (CMTS), based on GSM.

23 Delivery of HSCSD (High Speed Circuit Switched Data) solution to Sonera, Finland.

23 Complete telecommunications network to Teleos, Germany.

27 Agreement for the fifth expansion of MobileOne's GSM network in Singapore.

27 Mobile phone production to be expanded in Finland and Hungary.

29 Pioneering development of an innovative 58GHz radio link technology to help operators increase capacity in high-traffic mobile telecommunications networks.

31 Nationwide Actionet trunked mobile radio system to Argentina Wireless Telecommunications (AWT).

August

3 Nokia 5190, an affordable GSM 1900 digital PCS handset introduced in the USA.

5 Expansion of North-West GSM's GSM network in St Petersburg, Russia.

20 Swedish software company U&D acquired.

31 Supply of a turnkey GSM network to Corporacion Digitel C.A. in Venezuela.

September

2 Further supply of Nokia's DX 200 switches to expand Redstone's network in the UK.

3 First trial call with a Nokia-made WCDMA terminal on NTT DoCoMo's trial specification successfully completed.

7 Nokia's DX 200 switching platform to enhance existing network of Cable and Wireless Communications in the UK.

8 First Nokia-developed car telematics products will be available in the vehicles of several leading manufacturers during 1999.

10 Nokia's High Speed Circuit Switched Data (HSCSD) technology illustrated with a live demonstration at test network in Helsinki, Finland.

11 Members of Swedish pop music band Ace of Base received new Nokia 8810 mobile phones.

15 Supply of Nokia's Actionet trunked mobile radio system to Transcom Inc., Taiwan.

23 Nokia raises subscriber estimates to about one billion subscribers in the year 2005.

23 New Telecoil (T-coil) hearing aid compatible accessory working with Nokia 5100 or 6100 digital wireless phones introduced at PCS'98.

23 Nokia Traffica, a real-time traffic monitoring tool, introduced at PCS'98 in Florida.

28 Delivered subscriber line capacity on Nokia GSM networks in China broke the 10 million barrier.

29 Nokia, ChongQing TB and ChongQing PTAC form new joint venture in China.

30 Nokia became long term title sponsor for the FIS Snowboard World Cup.

October

1 Supply agreement of complete SDH transport and access networks to the eight largest cities in Brazil.

2 Nokia joins Global Mobile Suppliers Association, world-wide industry organization to promote GSM.

5 One of Nokia's fastest ever network roll-outs completed: 2 000 base stations installed in 10 months for E2 network in Germany.

6 Nokia Internet Firewall solutions chosen by UUNET, Germany.

7 First TETRA mobile radio network in Austria implemented for the operator Well.COM.

16 BPL Mobile launched the first speech quality enhancing GSM network in India, using Nokia EFR technology.

22 New Nokia RinGo for ETACS networks introduced.

26 Nokia Hepingli Industrial Park opened in Beijing, China.

26 Bluetooth mobile wireless communications initiative gains broad industry support with more than 200 companies joining.

28 Digital terrestrial tv launched in Sweden with Teracom and Senda.

29 Nokia to Donate 1000 Phones to Texas high schools.

November

2 The world's smallest NMT 450 phone launched.

3 Nokia to supply the first dual band GSM network in the Philippines.

6 A new mobile phone for the Japanese PDC standard introduced.

6 Fixed and mobile services for StarHub, Singapore, with Nokia's fully integrated solution.

20 Working digital terrestrial box demonstrated to key audience in London.

25 Nokia delivered world's first ETSI standard ADSL and IP network to Telecom New Zealand.

26 Hongkong Telecom launched dual band GSM network, supplied by Nokia including Nokia's Intelligent Frequency Hopping solution.

26 STM-16 technology to ISIS Multimedia Net GmbH, Germany for network expansion.

December

3 Nokia manufactures its 100 millionth mobile phone, the Nokia 9110 Communicator, in Salo, Finland.

3 Nokia meets analysts in London.

4 Complete GSM 1800 cellular network to Telekom Cellular, Malaysia.

7 HSCSD solution to Hongkong Telecom for advanced GSM data services.

14 Nokia to supply SOL Communications, USA with complete GSM network.

15 Nokia's High Speed Data solution and GSM network expansion to New World PCS, Hong Kong.

18 Nokia's expertise in IP telephony strengthened by the acquisition of Vienna Systems Corporation, Canada.

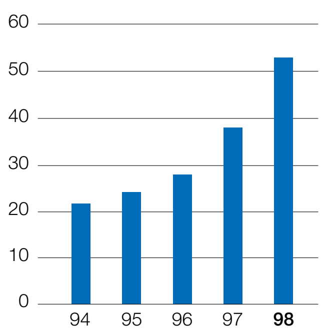
21 Investments in mobile phone production capacity expansions in Bochum, Germany.

21 Nokia signs millennium sponsorship deal with CNN International.

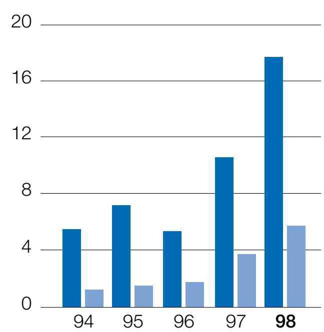
28 Nokia transfers its treasury stock from the Netherlands to Finland.

Nokia Shares

Shareholder's equity per share, FIM

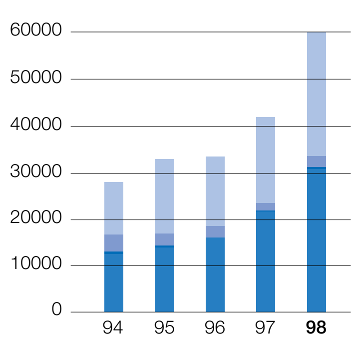


Earnings and dividend per share, FIM



Earnings
Dividend

Shareholders' equity and liabilities, MFIM



Shareholders' equity
Minority interests
Long term liabilities
Current liabilities

Shares and voting rights

Nokia has two classes of shares, A shares and K shares.[1)] At General Meetings, each K share is entitled to ten (10) votes and each A share to one (1) vote. The A shares are entitled to a fixed annual dividend of 10 per cent of the nominal value before the K shares are entitled to receive dividends. Should it be impossible in any year to distribute such dividend, the A shares are entitled to receive the remainder in the following year before any dividend can be distributed on the K shares. Should a dividend higher than 10 per cent of the nominal value be distributed on the K shares, a supplementary dividend is distributed on the A shares so that the dividend will be of equal size for both share classes.

The shareholders of Nokia resolved at the Annual General Meeting held on March 24, 1998 to split the nominal value of each class of Nokia shares on a two-for-one basis. With effect from April 16, 1998 the nominal value was reduced from FIM 5 to FIM 2.50.

The minimum share capital stipulated in the Articles of Association is FIM 957 million and the maximum share capital FIM 3 828 million. The share capital may be increased or reduced within these limits without amending the Articles of Association. On December 31, 1998, the share capital was FIM 1 513 991 410 and the total number of votes 1 748 873 269.

Conversion of K shares into A shares

The Articles of Association contain a provision permitting the holders of K shares or, with regard to shares registered in the name of a nominee, a custodian registered as administrator of such shares in a book-entry register to convert their shares to an equivalent number of A shares, within the limits set for the minimum and maximum numbers of shares in each class of shares.

By December 31, 1998, a total number of 201 755 383 K shares had been converted into A shares and 7 030 745 could still be converted. Thus the total number of shares was 605 596 564 of which 478 565 819 were A shares and 127 030 745 K shares.

Changes to be proposed to Annual General Meeting 1999

The Board of Directors proposes to the Annual General Meeting on March 17, 1999 that the classes of shares be consolidated. After consolidation all shares entitle to one (1) vote and an equal dividend, corresponding to the right of the A shares as described above.

The Board also proposes a conversion of the share capital and the nominal value of shares into euros and a two-for-one split of the nominal value. The new nominal value to be proposed is 24 cents.

Attending and voting at General Meeting

The shares of Nokia are registered in the book-entry securities system. By December 31, 1998, a total number of 99.9 per cent of Nokia shares had been transferred to this system.

If an international depositary receipt has been issued for a book-entry share or is owned by a foreign person or legal entity the custodian commissioned to administer the book-entry shares may be entered as a nominee in the register of shareholders. The custodian may also be e.g. an administrator of book-entry register a foreign organization approved by Finnish Central Securities Depositary Ltd to act as a custodian.

1) At the Annual General Meeting held on March 30, 1995, Nokia's shareholders resolved to rename Nokia shares as A shares, previously preferred shares, and K shares, previously common shares. In connection with that it was resolved to reduce the nominal value of each class of Nokia shares from FIM 20 to FIM 5 through a four-for-one stock split. The split was effected on April 24, 1995.

Share capital and shares, Dec. 31 [1]	1998	1997	1996	1995	1994
Share capital, MFIM					
K (common) [2]	**318**	393	499	547	721
A (preferred) [2]	**1 196**	1 106	999	951	777
Total	**1 514**	1 499	1 498	1 498	1 498
Share capital, MEUR					
K (common)	**54**	66	84	92	121
A (preferred)	**201**	186	168	160	131
Total	**255**	252	252	252	252
Shares					
(1 000, nominal value FIM 2.50)					
K (common)	**127 031**	157 374	199 426	218 754	288 396
A (preferred)	**478 566**	442 330	399 674	380 346	310 704
Total	**605 597**	599 704	599 100	599 100	599 100
Shares owned by the Group at year-end (1 000)	**32 161**	32 161	32 562	30 362	29 962
Number of shares excl. shares owned by the Group at year-end (1 000)	**573 436**	567 543	566 538	568 738	569 138
Average number of shares excl. shares owned by the Group during the year (1 000)	**569 170**	566 564	567 122	569 134	545 858
Number of registered shareholders [3]	**30 339**	28 596	26 160	27 466	24 770

Key Ratios Dec. 31, IAS	1998	1997	1996	1995	1994
Earnings per share from continuing operations, basic					
Earnings per share, FIM	**17.56**	10.59	5.37	7.18	5.49
Earnings per share, EUR	**2.95**	1.78	0.90	1.21	0.92
P/E ratio					
K (common)	**35.3**	18.4	24.8	12.0	15.9
A (preferred)	**35.3**	18.3	24.9	11.9	15.9
(Nominal) dividend per share, FIM	**5.75** [4]	3.75	1.75	1.50	1.25
Total dividends, MFIM	**3 482** [4]	2 249	1 048	899	749
Payout ratio	**0.33**	0.35	0.33	0.21	0.23
(Nominal) dividend per share, EUR	**0.97** [4]	0.63	0.29	0.25	0.21
Total dividends, MEUR	**586** [4]	378	176	151	126
Dividend yield, per cent					
K (common)	**0.9**	1.9	1.3	1.7	1.4
A (preferred)	**0.9**	1.9	1.3	1.8	1.4
Shareholders' equity per share, FIM	**52.98**	37.92	28.12	24.27	21.82
Market capitalization, MFIM [5]	**355 530**	110 014	75 547	48 724	49 657
Shareholders' equity per share, EUR	**8.91**	6.38	4.73	4.08	3.67
Market capitalization, MEUR [5]	**59 796**	18 503	12 706	8 195	8 352

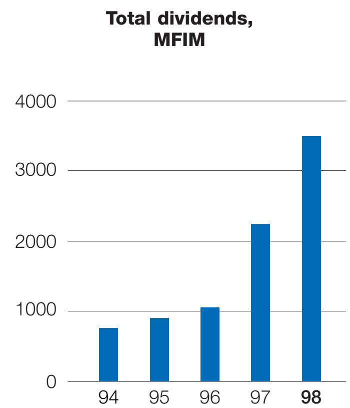
1) All figures are split adjusted.

2) See footnote 1 on page 48.

3) Each nominee register is included in the figure as only one registered shareholder.

4) Proposed by the Board of Directors.

5) Shares owned by the Group are excluded.



On December 31, 1998, Nokia shares registered in the name of a nominee accounted for 76.5 per cent of the total number of shares and for 23.5 per cent of the total number of voting rights.

To attend and vote at a General Meeting, a shareholder must be registered in the register of shareholders. Voting rights may not be exercised by a shareholder if his shares are registered in the name of a nominee (including the depositary of the ADRs). Thus a beneficial owner whose shares are registered in the name of a nominee is not entitled to vote with such shares unless he arranges to have his name entered in the register of shareholders.

Dividend policy

Dividends are paid by Nokia in accordance with the Finnish Companies Act. The amount of dividend is based upon and calculated in relation to the level of Nokia's annual profit. There is, however, no formula according to which the amount of dividend is determined.

The intention of Nokia is that the dividend paid should, over the long term, reflect the development of the Group's earnings per share.

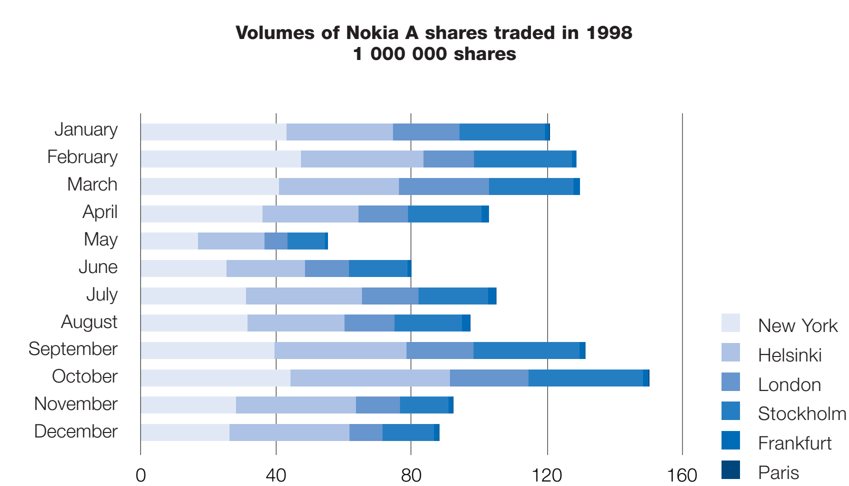
Effect of imputation system

The imputation system (avoir fiscal) will apply to the 1998 dividends payable by Nokia. Any Finnish company, when paying dividends to its shareholders, is required to pay tax amounting to a minimum of 7/18 of the dividend. A resident of Finland, receiving dividends from a Finnish company, is entitled to tax credit amounting to 7/18 of the dividend. As the dividend for 1998 is proposed by the Board of Directors to be FIM 5.75 per share, the tax credit thus amounts to FIM 2.24 thereby increasing the shareholder's profit to FIM 7.99, taxable at 28 per cent.

The credit is granted to non-resident shareholders only when an existing tax treaty between Finland and the shareholders' resident country specifically includes a provision of the credit. According to a tax treaty, a resident of the Republic of Ireland is entitled to a partial tax credit.

Listing and turnover on stock exchanges

Nokia shares have been listed on the Helsinki Exchanges since 1915. The A shares are also listed in Stockholm (since 1983), London (since 1987), Paris (since 1988), Frankfurt am Main (since 1988) and New York (since 1994). Nokia A shares are traded on the New York Stock Exchange (NYSE) in the form of American Depositary Shares (ADSs) and evidenced by American Depositary Receipts (ADRs). The ADRs are issued by Citibank, N.A., acting as the Depositary Bank, upon deposit of A shares or evidence of rights to receive A shares with the Depositary. Each ADS represents one A share.



Share Issues 1994–1998 [1)]

Type of issue	Subscription date	Subscription price	Number of new A shares	Date of payment	Net proceeds MFIM	New share capital MFIM	Share capital after issue MFIM
Global Offering	July 1, 1994 and July 6, 1994	FIM 52.3 and USD 9.8	48 000 000	July 11, 1994	2 490.3	120	1 498
Nokia Stock Option Plan 1994	1998	FIM 46.75	33 504	1998	1.6	0.1	1 499
Nokia Stock Option Plan 1995	1997 1998	FIM 84.00 FIM 84.00	290 800 3 788 000	1997 1998	24.4 318.2	0.7 9.5	1 498 1 509
Nokia Stock Option Plan 1997	1997 1998	FIM 153.50 FIM 153.50	313 552 2 070 748	1997 1998	48.1 317.9	0.8 5.2	1 499 1 514

Share turnover (all stock exchanges) [2)]

1000 shares	**1998**	1997	1996	1995	1994
K share turnover	**63 777**	49 658	135 234	199 742	308 328
Total number of K shares	**127 031**	157 374	199 426	218 754	288 396
Per cent of total number of K shares	**50**	32	68	91	107
A share turnover	**1 282 039**	1 303 052	1 520 758	1 285 426	693 072
Total number of A shares	**478 566**	442 330	399 674	380 346	310 704
Per cent of total number of A shares	**268**	295	380	338	223

Share prices, FIM

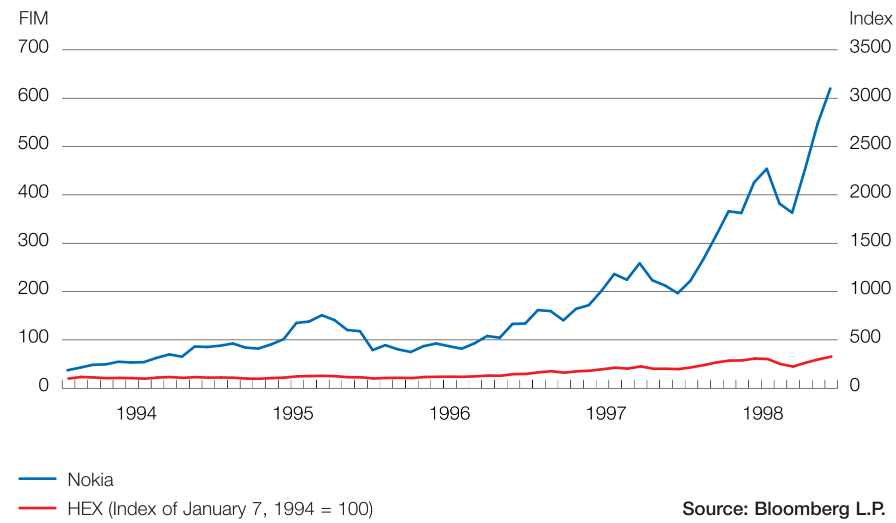
(Helsinki Exchanges)	**1998**	1997	1996	1995	1994
K share					
Low/high	**184/638**	130/273	73/134	69/170	36/89
Average [3)]	**489**	176	94	111	60
Year-end	**620**	195	133	86	87
A share					
Low/high	**185/638**	131/274	73/134	69/170	36/89
Average [3)]	**378**	196	95	110	62
Year-end	**620**	194	134	85	87

Share prices, USD

(New York Stock Exchange)	**1998**	1997	1996	1995	1994
ADS					
Low/high	**34/125**	28/51	16/29	16/38	11/19
Average [3)]	**68**	37	20	24	16
Year-end	**120**	35	29	20	19

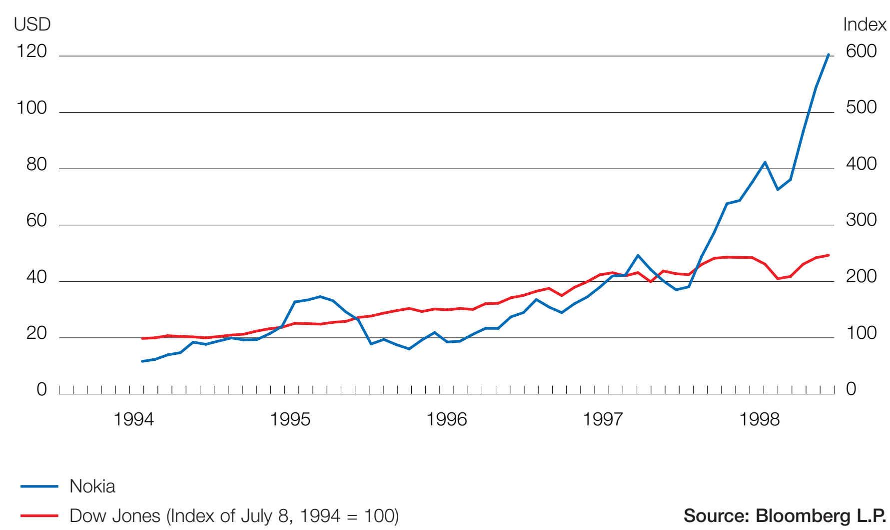
1) Prices and numbers of shares have been recalculated to correspond the nominal value of FIM 2.50 of the shares.
2) Based on the outstanding number of shares on December 31, 1998.
3) Calculated by weighing average price of each day with daily trading volumes.

Nokia A share price in Helsinki and HEX index



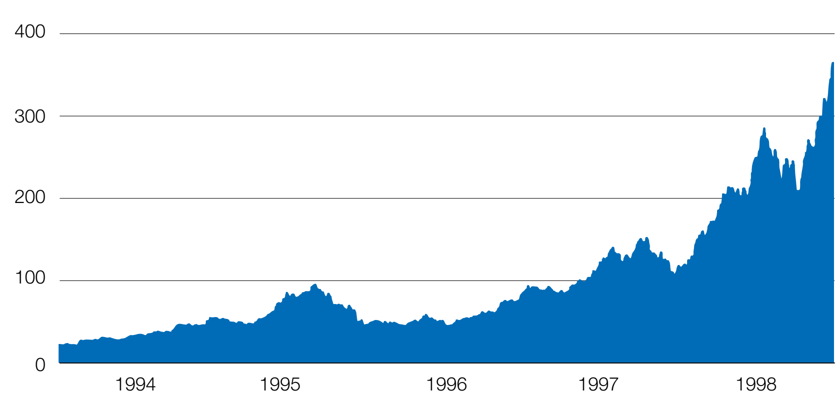
Source: Bloomberg L.P.

Nokia ADS price in New York and Dow Jones index



Source: Bloomberg L.P.

Nokia market capitalization in 1994–1998, FIM billion



Source: Bloomberg L.P.

Volumes of A shares traded in 1998:[1)]	
New York [3)]	410 041 900
Helsinki	394 082 150
Stockholm	264 042 157
London	192 937 597
Frankfurt	19 388 054
Paris	1 547 361
In total	1 345 816 683

Volumes of A shares traded in 1997:[1)2)]	
New York [3)]	515 844 200
Helsinki	342 761 314
Stockholm	193 741 494
London	237 214 864
Frankfurt	11 591 122
Paris	1 898 518
In total	1 303 051 512

1) Source: Bloomberg L.P. 2) Split adjusted. 3) In the form of ADSs.

Nokia Dividend Reinvestment and Direct Purchase Plan

A Dividend Reinvestment and Direct Purchase Plan (the Plan) for ADSs of Nokia was implemented in December, 1997. The Plan is designed to provide owners of ADSs and other interested investors who participate in the Plan a convenient way to accumulate and increase their investments in ADSs and to reinvest all or a portion of their cash dividends or optional cash investments in additional ADSs. The Plan is not available to persons located outside the United States.

The Plan is sponsored and administered by the Depositary Bank, Citibank, N.A. Nokia has consented to the establishment of the Plan by the Depositary Bank, but does not, and should not be deemed to, sponsor or administer the Plan. Nokia assumes no obligation or liability for the operation of the Plan.

Nokia Stock Option Plans

As part of its incentive schemes to the management and key personnel at the end of 1998 Nokia had three stock option plans in the form of bonds with warrants.

In 1994 the Annual General Meeting approved an issue of bonds with warrants to certain members of the Nokia management (Nokia Stock Option Plan 1994). Each warrant attached to the bonds is exercisable at FIM 374 for eight A shares from December 1, 1998 to January 3, 2000. This stock option plan covers approximately 50 persons who are entitled to subscribe for max. 1 600 000 A shares in aggregate.

In 1995 the Annual General Meeting approved an issue of bonds with A and B warrants to certain members of the management of the Nokia Group (Nokia Stock Option Plan 1995). Each warrant attached to the bonds is exercisable at FIM 168 for two A shares during certain periods of time between December 1, 1997 and January 31, 2001. This stock option plan covers approximately 350 persons who are entitled to subscribe for max. 11 600 000 A shares in aggregate.

In 1997 the Annual General Meeting approved an issue of bonds with A, B and C warrants to key personnel of the Nokia Group (Nokia Stock Option Plan 1997). Each warrant attached to the bonds is exercisable at FIM 307 for two A shares during certain periods of time between December 1, 1997 and January 31, 2003. This stock option plan covers approximately 2 000 persons who are entitled to subscribe for max. 19 000 000 A shares in aggregate.

By December 31, 1998 the exercise of 3 235 738 warrants in aggregate under the Stock Option Plans resulted in the issue of 6 496 606 new A shares in aggregate and increase of Nokia share capital with FIM 16 241 515 in aggregate.

Further information

A reference is made to section Nokia shares and shareholders in Nokia's Financial Review on pages 27–31 for further details.

Splits of the nominal value of Nokia shares

	Nominal value of shares before (FIM)	Split ratio	Nominal value of shares after (FIM)	Effective date
1986	100	5:1	20	January 2, 1987
1995	20	4:1	5	April 24, 1995
1998	5	2:1	2.5	April 16, 1998

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More on the Internet

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www.nokia.com/company/addresses/index.html

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Investor Information

Annual General Meeting

Date: Wednesday, March 17, 1999, at 3 p.m. (March 24 in 1998)
Place: Helsinki Fair Centre, Congress Hall C 1, Rautatieläisenkatu 3, Helsinki, Finland.

Dividend

Dividend proposed by the Board of Directors for 1998 is FIM 5.75. The dividend record date is March 22, 1999. Dividends will be paid after March 30, 1999.

Stock Exchanges

The shares of Nokia Corporation are quoted on the following stock exchanges:

	Symbol	Trading currency
Helsingin Arvopaperipörssi (quoted since 1915)	NOKAV	EUR
Stockholms Fondbörs (1983)	NOKI A	SEK
London Stock Exchange (1987)	NY	EUR
Frankfurter Wertpapierbörse (1988)	NOAD	EUR
Bourse de Paris (1988)	5838	EUR
New York Stock Exchange (1994)	NOKA	USD

List of indices

NOKAV

HEX	HEX General Index
HEXTELE	HEX Telecommunications Index
HEX20	HEX 20 Index
BE500	Bloomberg Europe
BETECH	BBG Europe Technology
SX5E	DJ Euro STOCXX 50
SX5P	DJ Europe STOXX
SX__	Various Other DJ Indices

NOKI A

OMX	Stockholm
GENX	Swedish General
GENX04	Swedish Engineer
GENX16	Swedish SX 16 Index

NOKA

NYA	NYSE Composite
NNA	NYSE Utilities
NN	NYSE Utilities
VLA	Phila Value Line
MLO	Merrill Lynch 10

Financial reporting

Nokia's quarterly interim reports in 1999 are due on April 22, July 22 and October 21. The 1999 results will be published in January/February 2000 and the Annual Report for 1999 in March 2000. The reports are published in English, Finnish and Swedish.

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Information via the Internet

Internet World Wide Web users can access Nokia's annual reports and quarterly reports, as well as other Nokia's financial information and press releases through http://www.nokia.com.

The Nokia Business Review 1998 and the Nokia Financial Review 1998, forming the Nokia Annual Report 1998 is available also on CD-ROM.

Abbreviations

ADSL	Asymmetric Digital Subscriber Line
AMPS	Advanced Mobile Phone Service
AMR	Adaptive Multi-Rate
ATM	Asynchronous Transfer Mode
CDMA	Code Division Multiple Access
DSL	Digital Subscriber Line
DVB	Digital Video Broadcasting
EDGE	Enhanced Data Rates for GSM Evolution
ETSI	European Telecommunications Standards Institute
GPRS	General Packet Radio Service
HSCSD	High-Speed Circuit Switched Data
IN	Intelligent Network
IP	Internet Protocol
IPSO	Nokia Routing operating system
ISM	Industry, Scientific and Medical
ISP	Internet Service Provider
ITU	International Telecommunication Union
LAN	Local Access Network
MSC	Mobile Switching Center
PMR	Professional Mobile Radio
SDH	Synchronous Digital Hierarchy
TDMA	Time Division Multiple Access
TETRA	Terrestrial Trunked Radio
UMTS	Universal Mobile Telephone Services
UWS	Universal Wireless Communications
WAP	Wireless Application Protocol
WCDMA	Wideband Code Division Multiple Access
WDM	Wavelength Division Multiplexing

It should be noted that certain statements herein which are not historical facts, including, without limitation those regarding 1) the timing of product deliveries; 2) Nokia's ability to develop new products and technologies; 3) expectation regarding market growth and developments; 4) expectations for growth and profitability; 5) the impact of Year 2000 issues (including the extent and timing of such issues, and the costs of compliance); and 6) statements preceded by "believes", "expects", "anticipates", foresees", or similar expressions, are forward-looking statements. Because such statements involve risks and uncertainties, actual results may differ materially from the results currently expected by the Company. Factors that could cause such differences include, but are not limited to 1) general economic conditions, such as the rate of economic growth in the Company's principal geographic markets or fluctuations in exchange rates; 2) industry conditions, such as the strength of product demand, the intensity of competitions, pricing pressures, the acceptability of new product introductions, the introduction of new products by competitors, changes in technology or the ability of the Company to source components from third parties without interruption and at reasonable prices and the financial condition of the Company's customers; 3) operating factors, such as continued success of manufacturing activities and the achievement of efficiencies therein, continued success of products development or inventory risks due to shifts in market demand; 4) the risks, costs and uncertainties (including lack of available information and difficulties in addressing and identifying Year 2000 issues) associated with Year 2000 issues as well as the failure of third party suppliers to identify, disclose and address Year 2000 issues accurately and on a timely basis; as well as 5) the risk factors specified in the Company's Form 20-F for the year ended December 31, 1997.

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NOKIA

Connecting People

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Nokia's
Financial Statements
1998

NOKIA

Table of Contents

Review by the Board of Directors

Nokia's net sales in 1998 increased by 51% compared to 1997 and totaled FIM 79 231 million (FIM 52 612 million in 1997). Sales in Nokia Telecommunications grew by 39% to FIM 26 103 million (FIM 18 826 million in 1997) and in Nokia Mobile Phones by 74% to FIM 47 984 million (FIM 27 643 million in 1997). Sales decreased in Other Operations by 17% to FIM 6 029 million (FIM 7 239 million in 1997).

Operating profit (IAS, International Accounting Standards) grew by 75% and totaled FIM 14 799 million (FIM 8 454 million 1997). Operating margin improved to 18.7% (16.1% in 1997). Operating profit in Nokia Telecommunications increased to FIM 5 706 million (FIM 4 053 million in 1997) and in Nokia Mobile Phones to FIM 9 158 million (FIM 3 837 million in 1997). Other Operations showed an operating loss of FIM 65 million (profit of FIM 564 million in 1997) primarily due to lower profitability at Nokia Industrial Electronics as well as substantial investments into future business opportunities at Nokia Ventures Organization.

Net financial expenses totaled FIM 234 million (FIM 137 million 1997). Profit before tax and minority interests totaled FIM 14 603 million (FIM 8 371 million in 1997). Taxes amounted to FIM 4 380 million (FIM 2 274 million in 1997). Profit from continuing operations was FIM 9 992 million (FIM 5 998 million in 1997).

Basic earnings per share from continuing operations was FIM 17.56 (adjusted for share split FIM 10.59 in 1997). Net profit was FIM 10 408 million (FIM 6 259 million in 1997). Total capital expenditures in 1998 amounted to FIM 4 527 million (FIM 2 402 million in 1997). Net debt to equity ratio (gearing) was -36% at the end of the year (-35% at the end of 1997).

Enhancing global market position

Nokia continued to enhance its global market position in the growing telecommunications industry. Based on the number of products manufactured, as well as other relevant market information, Nokia believes it became the world's largest mobile phone manufacturer in 1998. Nokia also continued to be the world's largest GSM 1800 infrastructure supplier and one of the two largest GSM 900 suppliers.

In 1998 Europe accounted for 58% of Nokia's net sales (59% in 1997), the Americas 21% (18% in 1997) and Asia Pacific 21% (23% in 1997). The 10 largest markets were the U.S., China, the UK, Germany, France, Italy, Finland, Austria, Sweden and Australia, together representing 68% of total sales.

Strengthening research and development

Nokia announced a number of investment plans to prepare for further growth of the company. The company made major investments in 1998 to strengthen research and development. At the end of 1998, Nokia had 44 R&D centers in 12 countries and a total of more than 13 000 employees working within R&D, approximately 30% of its total personnel. Nokia's investments in research and development increased by 50% (by 30% in 1997) and totaled FIM 6 838 million (FIM 4 560 million in 1997), representing 8.6% of net sales (8.7% of net sales in 1997).

Expanding manufacturing capacity

Other major investments included continued expansion of both infrastructure and terminal manufacturing capacities at Nokia's main manufacturing sites. During the year, Nokia also announced that it will build a new mobile phone factory in Hungary and form a new joint venture to produce and manufacture products for fixed access networks in China and to build a new factory to manufacture GSM base stations in China.

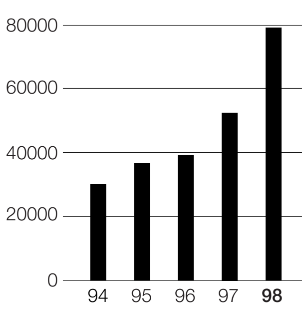
To increase flexibility and to focus on the company's key core areas, Nokia outsourced part of its production, including the manufacture of multimedia terminals in Sweden and the production of certain fixed and radio access products in Finland to the U.S.-based SCI Systems Inc. Nokia also sold LK-Products, a company manufacturing telecommunications components to the UK-based Filtronic plc. In addition, Nokia outsourced production of its professional mobile radio handsets and certain printed circuit boards in Finland to Enviset, and entered into agreements to increase outsourcing of mobile phone accessories and subassembly production.

At the end of 1998, Nokia's global production chain included 12 infrastructure manufacturing facilities in 6 countries and 12 terminal manufacturing facilities in 8 countries.

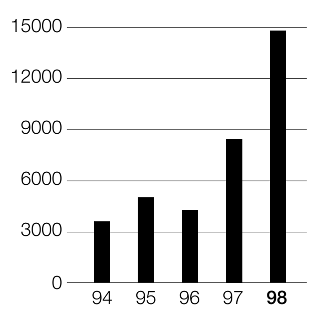
Investing in people

Nokia continued to invest in further building the competencies of its personnel and in recruiting of new personnel worldwide. Dur-

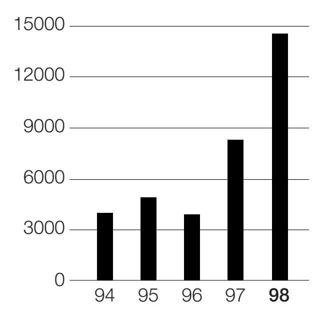
Net sales
MFIM

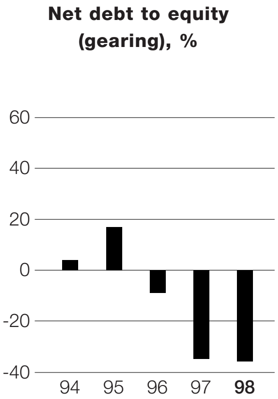


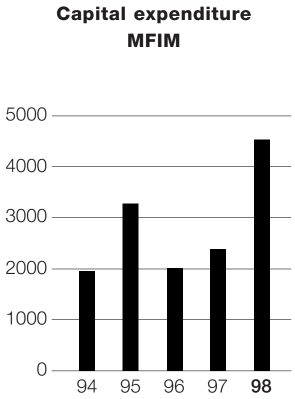
Operating profit, IAS
MFIM



Profit before tax and minority interests, IAS
MFIM







ing 1998, Nokia increased its personnel by a total of 9 819 new employees (6 626 in 1997), excluding the businesses sold in 1998. The average number of personnel for 1998 was 41 091 (35 490 for 1997). At the end of 1998, Nokia employed 44 543 people worldwide (36 647 at year-end 1997).

Nokia continued to offer competitive compensation and benefit programs to its employees. The company has a number of global bonus and compensation programs complementing local programs. For 1998, the 66% increase in earnings per share resulted in the maximum 5% bonus, based on annual base salary, for Nokia's personnel participating in the global Nokia Connecting People Bonus plan.

Increasing know-how

During 1998, Nokia made a number of strategically important acquisitions, signed cooperation agreements and entered strategic partnerships.

Believing that global and open standards help to create markets for high volume products, Nokia is a leading founder of major industry initiatives including Wireless Application Forum (WAP), Symbian and Bluetooth. Nokia will continue to introduce solutions and products based on open standards and technologies in 1999 and beyond. In December Nokia strengthened its position in IP technologies with the acquisition of Canada-based Vienna Systems, specialist in IP telephony.

To enhance its own broadband access-related R&D, Nokia signed a cooperation agreement with Diamond Lane Communications Corporation, one of the first companies commercially offering DSL (Digital Subscriber Line) data access. With the Computer Sciences Corporation, Nokia created a global alliance to enhance its system integration offering to network operators.

In June Nokia acquired the GSM terminal research and development unit of Matra Nortel Communications in Germany to enhance its telematics products related R&D. Nokia expects to introduce the first Nokia-developed car telematics solutions in the vehicles of several leading car manufacturers during 1999. In September Nokia acquired the Swedish software company UID to strengthen its development of multimedia terminals.

Building the way to third generation communications

In 1998 ETSI (European Telecommunications Standards Institute) selected WCDMA (Wideband Code Division Multiple Access) as the air interface solution for Europe's 3rd generation mobile communications. Nokia continued to develop and promote WCDMA air interface to provide wideband wireless multimedia capabilities over evolving GSM core networks.

In early September Nokia announced a successfully completed call with a Nokia-made third generation terminal based on NTT DoCoMo's trial specification. Nokia also continued to develop other major second and third generation technologies and announced plans to test a third generation mobile system in China.

Implementing new structure

Effective July 1, 1998, Nokia is organized into three business groups: Nokia Telecommunications, Nokia Mobile Phones and Nokia Communications Products. In addition to the business groups, Nokia Ventures Organization is responsible for Nokia's new start-up businesses and technologies and Nokia Research Center for corporate R&D. Nokia Communications Products, Nokia Ventures Organization, Nokia Research Center as well as Group general expenses are reported under Other Operations for 1998.

Net sales by business group Jan. 1–Dec. 31	1998 MFIM	%	1997 MFIM	%
Nokia Telecommunications	**26 103**	**33**	18 826	36
Nokia Mobile Phones	**47 984**	**61**	27 643	52
Other Operations	**6 029**	**8**	7 239	14
Inter-business group eliminations	**-885**	**-2**	-1 096	-2
Nokia Group	**79 231**	**100**	52 612	100

Operating profit by business group Jan. 1–Dec. 31	1998 MFIM	% of net sales	1997 MFIM	% of net sales
Nokia Telecommunications	**5 706**	**21.9**	4 053	21.5
Nokia Mobile Phones	**9 158**	**19.1**	3 837	13.9
Other Operations	**-65**	**-1.1**	564	7.8
Nokia Group	**14 799**	**18.7**	8 454	16.1

Introducing euro

Nokia supports the wide use of the euro from the beginning of the transition period commencing January 1, 1999. The euro zone, formed by the 11 EMU (Economic Monetary Union) member states, is one of the largest markets in the world, which Nokia believes is leading to a more stable operating environment supporting further economic growth.

Beginning with its first quarter 1999 results, Nokia will publish its financial information in euros.

Nokia Telecommunications

Net sales of Nokia Telecommunications for 1998 increased by 39% to FIM 26 103 million (FIM 18 826 million in 1997). Sales growth was especially strong in Europe and China. Nokia's infrastructure order inflow was FIM 30 billion (FIM 23 billion in 1997), an increase of 30%. Operating profit increased 41% to FIM 5 706 million (FIM 4 053 million in 1997) and operating margin was 21.9% (21.5% in 1997).

Nokia continued to build on its position as one of the world's leading suppliers of both mobile and fixed networks and strengthened its market-leading position in the provision of mobile datacom infrastructure. The delivery of fixed datacom products and solutions worldwide also increased.

To meet operators' increasing capacity requirements, Nokia launched a High Capacity GSM system including new microwave radio technologies. The new solutions include the Nokia DX200 "i-series" switching products, which can bring significant savings in network operations. The Nokia MSCi (Mobile Switching Center) offers the world's highest GSM switching capacity and is capable of handling 400 000 subscribers. The Nokia MetroSite base station sub-system solution offers an increase in network capacity up to ten times that of conventional networks.

During the year Nokia further strengthened its position in GSM. A total of 12 new GSM customers signed agreements with Nokia, and the number of operators to which Nokia supplies GSM technology increased to 78 operators in 37 countries. Nokia is the world leader in the supply of GSM 1800 networks. In GSM 900 growth was strongest in China and Europe. Nokia signed a breakthrough agreement in the Latin American market, supplying a complete GSM 900 network in Venezuela. In 1998 Nokia introduced a number of new innovative products, including the Nokia High Speed Data solution and the GSM Intranet Office.

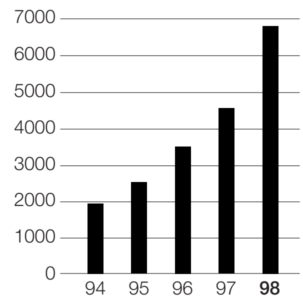
In Professional Mobile Radio (PMR) systems Nokia signed new supply agreements, including the agreements with Astrid in Belgium and Dolphin in the UK, strengthening its leading position in digital Terrestrial Trunked Radio (TETRA) systems.

Nokia continued to build on its position in the fixed network market in which operators continue to develop their broadband strategies as they face increasing demand to offer datacom services, driven by the growth of the Internet. During the year, Nokia further developed its data networking capabilities, targeting the fixed and mobile operators, as well as Internet Service Providers (ISPs). Following the acquisition of Ipsilon at the end of 1997 Nokia has grown its global IP application customer base to over 300, including 30 ISPs at the end of 1998.

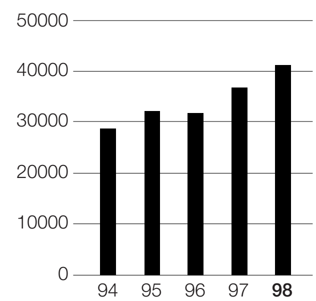
In 1998 operators worldwide continued to expand their transmission networks. Sales of Nokia's SDH transmission system Synfonet increased bringing the number of Nokia's SDH customers to approximately 140 in 30 countries. In 1998, Nokia made another breakthrough in Latin America, supplying transport and access networks to eight of the largest cities in Brazil.

In 1998 Nokia Telecommunications complemented its global production and R&D development chain, announcing that it will build its second base station manufacturing plant in China and a new joint venture to manufacture fixed access network products also in China. In addition, Nokia Telecommunications expanded its production in various other factories, established new R&D centers in Japan and Hungary and increased investments to further develop third generation, GSM and IP technologies.

Research and development, MFIM



Average personnel



Average personnel	1998	1997
Nokia Telecommunications	**19 280**	15 710
Nokia Mobile Phones	**16 064**	12 631
Other Operations	**5 747**	7 149
Nokia Group	**41 091**	35 490
Finland	**20 978**	19 342
Other European countries	**9 381**	8 532
Americas	**5 924**	4 152
Asia-Pacific	**4 791**	3 464
Other countries	**17**	-
Parent Company	**1 112**	810

Research and development, MFIM	1998	1997
Nokia Telecommunications	3 353	2 556
Nokia Mobile Phones	3 103	1 714
Other Operations	382	290
Nokia Group	6 838	4 560

Nokia Mobile Phones

Net sales of Nokia Mobile Phones for 1998 increased by 74% to FIM 47 984 million (FIM 27 643 million in 1997). Operating profit increased by 139% to FIM 9 158 million (FIM 3 837 million in 1997) and operating margin was 19.1% (13.9% in 1997).

In early December Nokia manufactured its 100 millionth phone. More than 60% of these 100 million phones have been sold during the past two years. In 1998 Nokia sold a total of 40.8 million mobile phones, of which more than 80% were digital.

Nokia's largest mobile phone market was the U.S., followed by China.

Nokia strengthened its mobile phone market position worldwide. With high consumer demand for the company's comprehensive product portfolio, Nokia believes it became the world's leading mobile phone manufacturer in 1998.

According to Nokia's estimates, the global mobile phone subscriber base increased by over 100 million new users and totaled over 306 million at the end of 1998. In 1998 the market for mobile phones was approximately 163 million units sold worldwide, of which the upgrade market represented close to 40%.

The growing subscriber base and the expanding upgrade market have made mobile phones the world's largest consumer electronics industry in terms of unit sales, leading into increasingly segmented market situation. To exploit this development, Nokia added several new digital models to its mobile phone product portfolio in 1998.

At the beginning of the year, Nokia started volume deliveries of the Nokia 6110, 6130 and 6190 models for GSM launched late 1997. In February Nokia started the deliveries of the Nokia 2170, a CDMA 1900 handset for the U.S. market. In the second quarter Nokia started deliveries of the dual mode (AMPS 800/TDMA 800) Nokia 6120 and the trimode (AMPS 800/TDMA 800/ TDMA 1900) Nokia 6160 versions in the Americas.

To address the mass consumer market, Nokia introduced the Nokia 5110 and 5130 models for GSM 900 and 1800 respectively, with Xpress-on™ color covers in March 1998. Volume deliveries of these products began in May. Nokia also introduced the second generation Nokia 9110 Communicator, a mobile phone with integrated data communications, and the Nokia 8810 premium lifestyle phone, both for GSM 900. Deliveries of the Nokia 8810 started in August and Nokia will start volume deliveries of the Nokia 9110 Communicator on February 1, 1999.

In April Nokia launched an inductive loopset for the Nokia 6100 and 5100 series phones allowing a person who is hard of hearing easier use of a mobile phone. In May Nokia began deliveries of a new mobile phone model for the Japanese PDC standard, incorporating a voice activation feature.

In August Nokia introduced the Nokia 5190, a GSM 1900 model, and in September the Nokia 5120 dual mode and the Nokia 5160 trimode models for the American market. In September Nokia started deliveries of the Nokia 6150 dual band (GSM 900/1800) model.

Nokia also introduced a number of new analog mobile phones, including the Nokia 650, the world's smallest phone for NMT 450 standard, a new Nokia RinGo model for ETACS networks and the Nokia 282 to the American market.

To meet the anticipated strong demand for the Nokia mobile phones in the rapidly growing handset market, Nokia announced an investment of close to FIM 1 billion in a new mobile phone manufacturing and distribution center in Komárom, Hungary, which is expected to be fully operational in early 2000, and in production capacity expansions at its mobile phone plant in Salo, Finland. Nokia also decided on a production capacity expansion program of approximately FIM 1 billion during 1999 for its mobile phone factory in Bochum, Germany.

Other Operations

Net sales of Other Operations for the year 1998 decreased by 17% to FIM 6 029 million (FIM 7 239 million in 1997). Other Operations showed an operating loss of FIM 65 million (operating profit of FIM 564 million in 1997).

Nokia Multimedia Terminals' sales remained at the same level as a year ago as a result of slow market growth in Germany. Nokia signed several new multimedia terminal delivery agreements during the year, and introduced its second generation products for satellite, cable and terrestrial networks. In April Nokia announced the outsourcing of its multimedia terminals manufacturing to the U.S.-based SCI Systems Inc.

Nokia Industrial Electronics' sales decreased in 1998. Excluding the impact of divested businesses, sales were 10% lower than a year ago. Nokia introduced several new display products during the year and extended its flat panel product range to include 14.1", 15.1" and 18" monitors.

In 1998 Nokia sold LK-Products, a company manufacturing telecommunications components to the UK-based Filtronic plc., and its car electronics business in Motala, Sweden to the Sweden-based Autoliv AB. In October Nokia announced that it will move all Finland-based display manufacturing to its factories in Hungary and Mexico.

Changes in share capital

Nokia's share capital increased in 1998 by FIM 14 730 630 to a total of FIM 1 513 991 410, as a result of the issue of 5 892 252 new A shares upon exercise of warrants issued to key personnel in 1994, 1995 and 1997. The total number of shares outstanding at December 31, 1998 was 605 596 564. As the result of the new share issues, Nokia received a total of FIM 637 618 130 additional shareholders' equity in 1998.

On December 31, 1998 Group companies owned 27 626 768 Nokia K shares and 4 534 232 Nokia A shares. The shares have an aggregate nominal value of FIM 80 402 500, represent 5.3% of the total number of shares and 16.1% of the total voting rights.

Outlook

Nokia's strategic intent is to strive for leadership in the most attractive global communications segments through speed in anticipating and fulfilling evolving customer needs, quality in products and processes and openness with people and to new ideas and solutions. Based on its resources including technological know-how, market position and continuous building of competencies, Nokia is well positioned to achieve its future goals.

Dividend

The Nokia Board of Directors will propose to the Annual General Meeting on March 17, 1999 that a dividend of FIM 5.75 per share (FIM 3.75 per share for 1997, split adjusted) be paid on K and A shares.

Consolidated Financial Statements according to International Accounting Standards (IAS)

Consolidated Profit and Loss Account, IAS

Financial year ended December 31	Notes*	**1998 MFIM**	1997 MFIM	1998 MEUR
Net sales		**79 231**	52 612	13 326
Cost of goods sold		**-49 342**	-33 999	-8 299
Research and development expenses		**-6 838**	-4 560	-1 150
Selling, general and administrative expenses		**-8 252**	-5 599	-1 388
Operating profit	2, 3, 4, 5, 6, 7	**14 799**	8 454	2 489
Share of results of associated companies		**38**	54	6
Financial income and expenses	8	**-234**	-137	-39
Profit before tax and minority interests		**14 603**	8 371	2 456
Tax	9	**-4 380**	-2 274	-737
Minority interests		**-231**	-99	-39
Profit from continuing operations		**9 992**	5 998	1 680
Discontinued operations	10	-	261	-
Profit from ordinary activities before cumulative effect of change in accounting policies		**9 992**	6 259	1 680
Cumulative prior year net effect of change in accounting policies		**416**	-	70
Net profit		**10 408**	6 259	1 750

Earnings per share	Notes*	**1998 FIM**	1997 FIM	1998 EUR
Continuing operations				
Basic		**17.56**	10.59	2.95
Diluted		**17.03**	10.40	2.86
Net Profit				
Basic	23	**18.29**	11.05	3.08
Diluted	23	**17.74**	10.86	2.98

* Notes are shown on pages 10 to 21.

Consolidated Balance Sheet, IAS

December 31	Notes*	**1998 MFIM**	1997 MFIM	1998 MEUR
ASSETS				
Fixed assets and other non-current assets				
Intangible assets	11	**2 880**	2 061	484
Property, plant and equipment	12	**7 912**	6 240	1 331
Investments in associated companies	13	**539**	335	90
Investments in other companies	13	**445**	454	75
Long-term loan receivables		**59**	160	10
Deferred tax assets	20	**1 163**	-	196
Other non-current assets		**202**	195	34
		13 200	9 445	2 220
Current assets				
Inventories	14	**7 684**	7 314	1 292
Receivables	15	**21 588**	12 732	3 631
Short-term investments		**12 874**	9 363	2 165
Bank and cash		**4 314**	2 884	726
		46 460	32 293	7 814
Total assets		**59 660**	41 738	10 034

December 31	Notes*	**1998 MFIM**	1997 MFIM	1998 MEUR
SHAREHOLDERS' EQUITY AND LIABILITIES				
Shareholders' equity	16			
Share capital		**1 514**	1 499	255
Share issue premium		**5 405**	4 776	909
Treasury shares		**-654**	-654	-110
Other reserves		**722**	766	121
Retained earnings		**23 392**	15 137	3 934
		30 379	21 524	5 109
Minority interests		**376**	195	63
Long-term liabilities	17			
Long-term interest-bearing liabilities		**1 530**	1 348	257
Deferred tax liabilities	20	**522**	-	88
Other long-term liabilities		**377**	295	64
		2 429	1 643	409
Current liabilities				
Short-term borrowings	22	**4 157**	3 008	699
Current portion of long-term debt	17	**361**	285	61
Accounts payable and accrued liabilities	21	**21 496**	14 541	3 615
Advance payments		**462**	542	78
		26 476	18 376	4 453
Total shareholders' equity and liabilities		**59 660**	41 738	10 034

* Notes are shown on pages 10 to 21.

Consolidated Cash Flow Statement, IAS

Financial year ended December 31	Notes*	1998 MFIM	1997 MFIM	1998 MEUR
Cash flow from operating activities				
Operating profit		**14 799**	8 454	2 489
Adjustments, total	28	**2 977**	2 552	501
Operating profit before change in net working capital		**17 776**	11 006	2 990
Change in net working capital	28	**-2 680**	877	-451
Cash generated from operations		**15 096**	11 883	2 539
Interest received		**795**	703	134
Interest paid		**-1 246**	-1 031	-210
Other financial income and expenses		**-20**	280	-3
Income taxes paid		**-4 596**	-1 634	-773
Net cash from operating activities		**10 029**	10 201	1 687
Cash flow from investing activities				
Acquisition of Group companies, net of acquired cash		**-450**	-505	-76
Investments in other shares		**-305**	-47	-51
Additions in capitalized R&D costs		**-1 079**	-949	-182
Capital expenditures		**-4 527**	-2 402	-761
Discontinued operations, net of disposed cash		**-**	86	-
Proceeds from disposal of shares in Group companies, net of disposed cash		**506**	5	85
Proceeds from sale of treasury shares		**-**	81	-
Proceeds from sale of other shares		**93**	227	16
Proceeds from sale of fixed assets		**1 085**	506	182
Dividends received		**39**	26	7
Net cash used in investing activities		**-4 638**	-2 972	-780
Cash flow from financing activities				
Share issue		**643**	72	108
Capital investment by minority shareholders		**95**	-	16
Proceeds from (+), payments of (-) long-term liabilities		**391**	-1 027	66
Proceeds from (+), payments of (-) short-term borrowings		**1 638**	-980	275
Proceeds from (+), payments of (-) long-term receivables		**-49**	107	-8
Proceeds from (+), payments of (-) short-term receivables		**-869**	248	-146
Dividends paid		**-2 221**	-1 061	-374
Net cash used in financing activities		**-372**	-2 641	-63
Net increase in cash and cash equivalents		**5 019**	4 588	844
Cash and cash equivalents at beginning of period		**12 169**	7 659	2 047
Cash and cash equivalents at end of period		**17 188**	12 247	2 891

The above figures cannot be directly traced from the balance sheet without additional information as a result of acquisitions and disposals of subsidiaries and net foreign exchange differences arising on consolidation.

The schedule shown below reconciles cash and cash equivalents at the end of the previously reported period to cash and cash equivalents reported for the beginning of the current period.

Reconciliation

	1998 MFIM	1997 MFIM	1998 MEUR
As previously reported for 1997 and 1996, respectively	**12 247**	7 545	2 060
Foreign exchange adjustment	**-78**	114	-13
	12 169	7 659	2 047
Net increase in cash and cash equivalents	**5 019**	4 588	844
As reported for 1998 and 1997	**17 188**	12 247	2 891

* Notes are shown on pages 10 to 21.

Notes to the Consolidated Financial Statements

1. Accounting principles

Basis of presentation
The consolidated financial statements of Nokia Corporation ("Nokia" or "the Group"), a Finnish limited company with domicile in Helsinki, are prepared in accordance with International Accounting Standards (IAS). The notes to the financial statements also conform with Finnish Accounting legislation.

The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the dates of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

Solely for the convenience of the reader, the consolidated financial statements as of and for the year ended December 31, 1998 have been converted into euros (EUR) at the rate of 5.94573 Finnish markka (FIM) per euro, the conversion ratio announced on December 31, 1998.

Accounting convention
The financial statements are presented in Finnish markkas and are prepared under the historical cost convention.

Principles of consolidation
The consolidated financial statements include the accounts of the parent company, Nokia Corporation, and each of those companies in which it owns, directly or indirectly through subsidiaries, over 50% of the voting rights. The accounts of certain companies in which Nokia has management control are also consolidated. Certain real estate and housing companies, as well as small companies which had no operations during the financial year, have, however, been left out of the consolidated financial statements. The effect of these companies on the Group's result and shareholders' equity is immaterial. The companies acquired during the financial period have been consolidated from the date the responsibility for their operations was transferred to the Group. Similarly the result of a Group company divested during an accounting period is included in the Group accounts only to the date of disposal.

All inter-company transactions are eliminated as part of the consolidation process. Minority interests are presented separately in arriving at the profit from continuing operations. They are also shown separately from shareholders' equity and liabilities in the consolidated balance sheet.

Acquisitions of companies are accounted for using the purchase method. Goodwill represents the excess of the purchase cost over the fair value of assets less liabilities of acquired companies. Goodwill is amortized on a straight-line basis over its expected useful life. Useful lives vary between two and five years depending upon the nature of the acquisition, unless a longer period not exceeding 20 years can be justified. Expected useful lives are reviewed at each balance sheet date and where these differ significantly from previous estimates, amortization periods are changed accordingly.

The Group's share of profits and losses of associated companies is included in the consolidated profit and loss account in accordance with the equity method of accounting. The Group's share of post acquisition reserves (retained earnings and other reserves) is added to the cost of associated company investments in the consolidated balance sheet.

Profits realized in connection with the sale of fixed assets between the Group and associated companies are eliminated in proportion to share ownership. Such profits are deducted from the Group's equity and fixed assets and released in the Group accounts over the same period as depreciation is charged.

Investments in other companies (voting rights less than 20%) and also some joint ventures in start-up phase are stated at cost; provision is made when there has been an other than temporary decline in value.

Transactions in foreign currencies
Transactions in foreign currencies are recorded at the rates of exchange prevailing at the dates of the transactions. For practical reasons, a rate that approximates the actual rate at the date of the transaction is often used. At the end of the accounting period the unsettled balances on foreign currency receivables and liabilities are valued at the rates of exchange prevailing at the year-end. Foreign exchange gains and losses related to normal business operations are treated as adjustments to cost of goods sold. Foreign exchange gains and losses associated with financing are entered as a net amount under financial income and expenses.

Foreign Group companies
In the consolidated accounts all items in the profit and loss accounts of foreign subsidiaries are translated into Finnish markka at the average exchange rates for the accounting period. The balance sheets of foreign Group companies are translated into Finnish markka at the rates of exchange ruling at the year-end. Exchange differences arising from the application of the purchase method are treated as an adjustment affecting consolidated shareholders' equity. Differences resulting from the translation of profit and loss account items at the average rate and the balance sheet items at the closing rate are taken to retained earnings. On the disposal of a foreign group company, the cumulative amount of the translation difference is recognized as income or as expense in the same period in which the gain or loss on disposal is recognized.

The Group's policy is to hedge a portion of foreign subsidiaries' shareholders' equity to reduce the effects of exchange rate fluctuations on the Group's net investments in foreign Group companies. Exchange gains and losses resulting from the hedging transactions are offset against the translation differences arising from consolidation and recorded in shareholders' equity.

Derivative financial instruments
The Group enters into derivative financial instruments such as forward foreign exchange and option contracts to hedge its exposure against foreign currency fluctuations on certain assets, liabilities and probable transactions denominated in foreign currencies. In accordance with its Treasury policy, Nokia does not currently hold or issue derivative financial instruments for trading purposes. Any deferred gains and losses arising from hedging transactions are shown as a part of the cost of goods sold when the sale or purchase transactions are recognized. Derivative contracts used for hedging foreign exchange exposure have high correlation with the items being hedged, both at inception and throughout the hedge period; and are designated to the underlying exposure. The majority of derivative financial instruments hedging foreign exchange exposures have a duration of less than a year. Written options are only used as part of combination strategies.

Foreign exchange gains and losses on forward contracts are calculated by valuing the forward contract with the spot exchange rate prevailing on the reporting date and comparing that with the original amount calculated by using the spot rate prevailing at the beginning of the contract. The interest rate differential of the forward contract is accrued over the life of the contract as part of the financial income or expenses.

Premiums paid for purchased foreign exchange options are included in other current receivables and premiums received for written options are included in other current payables in the balance sheet. Option contracts are valued at the balance sheet date by using the Garman & Kohlhagen option valuation model. Foreign exchange gains or losses on the option contracts i.e. the difference between the premium paid or received and the market value of the options at the reporting date is shown as a part of the cost of goods sold when the sale or purchase transaction is recognized.

The Group enters into derivative financial instruments such as interest rate swaps, forwards, futures and options to hedge its exposure to interest rate risk. Interest payable and receivable under interest rate swaps is accrued and recorded as an adjustment to the interest income or expense related to the designated asset or liability. Amounts received or paid on cash settlement, representing the gain or loss, of interest rate forward contracts are deferred and recognized over the life of the underlying financial instrument as an adjustment to interest income or expense. Premiums paid for purchased interest rate options are included in other current receivables and premiums received for written options are included in other current payables in the balance sheet. Premiums are amortized to interest income or expense over the life of the agreements. Amounts receivable and payable under the agreements are recognized as yield adjustments over the life of the contract.

Revenue recognition

Sales are recorded upon shipment of products and customer acceptance, if any, or performance of services, net of sales taxes and discounts. Revenues from large long-term contracts are recognized on the percentage of completion method. Provisions are made to cover anticipated losses on contracts.

Research and development

Research and development costs are expensed in the financial period during which they are incurred, except for certain development costs which are capitalized when it is probable that a development project will be a success, and certain criteria, including commercial and technological feasibility, have been met. Capitalized development costs are amortized on a systematic basis over their expected useful lives. The amortization period is between 2 and 5 years.

Maintenance, repairs and renewals

Maintenance, repairs and renewals are generally charged to expense during the financial period in which they are incurred. However, major renovations are capitalized and depreciated over their expected useful lives.

Pensions and coverage of pension liabilities

The Group companies have various pension schemes in accordance with the local conditions and practices in the countries in which they operate. The schemes are generally funded through payments to insurance companies or to trustee-administered funds as determined by periodic actuarial calculations. Any deficits or benefits requiring additional contributions are funded through payments allocated over a period of years not exceeding the expected remaining working lives of the participating employees.

The Group has met minimum funding requirements for the countries in which it maintains pension schemes.

Property, plant and equipment

Property, plant and equipment are stated at cost less accumulated depreciation.

Depreciation is recorded on a straight-line basis over the expected useful lives of the assets, based on the following useful lives:

Building	20–33 years
Machinery and equipment	3–10 years

Land and water areas are not depreciated.

Gains and losses on the disposal of fixed assets are included in operating profit/loss.

Leasing

Operating lease payments are treated as rentals. Assets acquired under finance leases are treated as fixed assets, and the present value of the related lease payments is recorded as a liability.

Inventories

Inventories are stated at the lower of cost and net realizable value. Cost is determined on a first in first out (FIFO) basis. Net realizable value is the amount that can be realized from the sale of the inventory in the normal course of business after allowing for the costs of realization.

In addition to the cost of materials and direct labor, an appropriate proportion of production overheads is included in the inventory values.

Cash and cash equivalents

Cash and cash equivalents consist of cash on hand and balances with banks and short term investments.

Income taxes

Current taxes are based on the results of the Group companies and are calculated according to local tax rules.

Beginning January 1, 1998, deferred income tax is provided, using the liability method, for all temporary differences arising between the tax basis of assets and liabilities and their carrying values for financial reporting purposes. Currently enacted tax rates are used to determine deferred income tax.

Under this method the Group is required, in relation to an acquisition, to make provision for deferred taxes on the difference between the fair values of the net assets acquired and their tax base.

The principal temporary differences arise from intercompany profit in inventory, depreciation on property, plant and equipment, untaxed reserves and tax losses carried forward. Deferred tax assets relating to the carryforward of unused tax losses are recognized to the extent that it is probable that future taxable profit will be available against which the unused tax losses can be utilized.

Discontinued operations

A discontinued operation results from the sale or abandonment of an operation that represents a separate, major line of business and of which the assets, net profit or losses and activities can be distinguished physically, operationally and for financial reporting purposes. The profit effect of discontinued operations, net of tax, is separately disclosed. The gain or loss on discontinuance represents the estimated proceeds less the net assets of the discontinued operation after allowance has been made for any losses expected to occur prior to disposal.

Dividends

Dividends proposed by the Board of Directors are not recorded in the financial statements until they have been approved by the shareholders at the Annual General Meeting.

Earnings per share

The Group calculates both basic and diluted earnings per share in accordance with the new IAS 33, Earnings per Share. Under

IAS 33 the weighted average number of shares used to calculate basic EPS is the same as that previously reported for the calculation of earnings per share. The weighted average number of shares used to calculate diluted earnings per share is adjusted to take into consideration the dilutive effect of the stock warrants and options outstanding during the year. EPS for 1997 has been restated to conform with the 1998 presentation.

Changes in International Accounting Standards

Beginning January 1, 1999, the Group will adopt all IAS standards required to be adopted including revised IAS 19, Employee Benefits, and recognize liabilities for defined benefit plans using the projected unit credit method.

2. Segment information

	Telecommunications	Mobile Phones	Other Operations	Eliminations	Group total
Net sales					
1998, MFIM	**26 103**	**47 984**	**6 029**	**-885**	**79 231**
1997, MFIM	18 826	27 643	7 239	-1 096	52 612
Operating profit/loss, IAS					
1998, MFIM	**5 706**	**9 158**	**-65**	**-**	**14 799**
1997, MFIM	4 053	3 837	564	-	8 454
Capital expenditure					
1998, MFIM	**1 291**	**2 899**	**337**	**-**	**4 527**
1997, MFIM	1 037	886	479	-	2 402
Identifiable assets, IAS					
1998, MFIM	**17 378**	**22 055**	**39 630**	**-19 403**	**59 660**
1997, MFIM	14 426	12 659	26 608	-11 955	41 738

Net sales by market area	1998 MFIM	1997 MFIM
Finland	**2 763**	2 557
Other European countries	**41 011**	26 914
Americas	**16 740**	9 520
Asia-Pacific	**16 873**	12 105
Other countries	**1 844**	1 516
Total	**79 231**	52 612

3. Percentage of completion method

Profit on large long-term contracts is recognized when sale is recorded on part-delivery of products or part performance of services, provided that the outcome of the contract can be assessed with reasonable certainty. Most of the Group's net sales arise from businesses other than those of a long-term project nature.

Project deliveries occur in Nokia Telecommunications' Network Systems division, where part of its net sales (6.2 billion FIM in 1998 and 6.6 billion FIM in 1997) was of a long-term project nature.

4. Personnel expenses

	1998 MFIM	1997 MFIM
Wages and salaries	**9 557**	6 338
Pension expenses	**825**	656
Other social expenses	**1 258**	836
Personnel expenses as per profit and loss account	**11 640**	7 830
Remuneration of the members of the Boards of Directors, Group Executive Board, President and Chief Executive Officer, and Presidents and Managing Directors*	**67**	64
* Salaries include incentives	**15**	**5**

Pension commitments for the management:

The retirement age of the management of the Group companies is between 60–65 years. For the Chief Executive Officer of the Parent Company the retirement age is 60 years.

The Group maintains pension plans for its operations throughout the world. Most of these programs have defined retirement, disability, death and termination income benefits. The retirement income benefits are generally a function of years of employment and final salary with Nokia and are generally coordinated with local national pensions. The Group's policy for funding these plans is to satisfy local statutory funding requirements for tax deductible contributions. The Group also maintains some fully insured schemes, multiemployer pension arrangements and defined contribution pension arrangements.

5. Selling and marketing expenses, administration expenses and other operating income and expenses

	1998 MFIM	1997 MFIM
Selling and marketing expenses	**-5 381**	-4 148
Administration expenses	**-2 744**	-1 323
Other operating expenses	**-557**	-548
Other operating income	**430**	420
Total	**-8 252**	-5 599

Other operating income for 1998 includes a gain of 177 MFIM arising from the sale of the 100%-owned subsidiary LK-Products to the UK-based Filtronic plc. In 1997 other operating income included a gain of 129 MFIM that arose from the sale of the audioelectronics business.

6. Acquisitions

In December 1998 Nokia acquired Vienna Systems Corporation, an Internet Protocol telephony company based in Canada. The purchase price was 429 MFIM paid in cash. The fair value of net assets acquired was 10 MFIM giving rise to goodwill of 419 MFIM.

In December 1997 Nokia acquired all of the issued share capital, including outstanding share options, of Ipsilon Networks Inc., a telecommunications research and development company based in California at a total purchase cost of 570 MFIM, of which 485 MFIM was satisfied in cash and 85 MFIM in Nokia A shares. The fair value of net assets acquired was 80 MFIM, largely comprising cash and cash equivalents and giving rise to goodwill of 490 MFIM. Net losses for 1997, which have been consolidated in the financial statements from the date of acquisition, mainly comprise goodwill amortization.

7. Depreciation

	1998 MFIM	1997 MFIM
Depreciation by asset category		
Intangible assets		
Capitalized R&D costs	**707**	559
Intangible rights	**148**	100
Goodwill	**118**	346
Other intangible assets	**34**	7
Property, plant and equipment		
Buildings and constructions	**110**	138
Machinery and equipment	**1 799**	1 523
Other tangible assets	**112**	89
Total	**3 028**	2 762
Depreciation by function		
Cost of goods sold	**940**	805
R&D	**1 328**	1 021
Selling, marketing and administration	**474**	359
Other operating expenses	**168**	231
Goodwill	**118**	346
Total	**3 028**	2 762

8. Financial income and expenses

	1998 MFIM	1997 MFIM
Income from long-term investments		
Dividend income	**39**	26
Interest income	**6**	4
Other interest and financial income		
Interest income from short-term investments	**967**	727
Other financial income	**6**	42
Exchange gains and losses	**-40**	106
Interest expenses and other financial expenses		
Interest expenses	**-1 176**	-1 006
Other financial expenses	**-36**	-36
Total	**-234**	-137

9. Income taxes

	1998 MFIM	1997 MFIM
Current tax	**-4 473**	-2 274
Deferred tax	**93**	-
Total	**-4 380**	-2 274
Finland	**-2 974**	-1 846
Other countries	**-1 406**	-428
Total	**-4 380**	-2 274

The differences between income tax expense computed at statutory rates (28% in Finland in 1998) and income tax expense provided on earnings are as follows at December 31:

	1998 MFIM
Income tax expense at statutory rate	**4 195**
Deduction for write-down of investments in subsidiaries	**-73**
Amortization of goodwill	**33**
Provisions without income tax benefit/expense	**287**
Taxes for prior years	**42**
Taxes on foreign subsidiaries' net income in excess of income taxes at statutory rates	**269**
Operating losses with no current tax benefit	**96**
Group adjustments	**91**
Adjustments to opening balance accruals	**-428**
Cumulative adjustments; change in accounting principle	**-116**
Other	**-16**
Income tax expense	**4 380**

Certain of the Group's subsidiaries income tax returns for periods ranging from 1992 through 1997 are under examination by tax authorities. The Group does not believe that any significant additional taxes will arise as a result of the examinations.

10. Discontinued operations

In February 1996, Nokia announced its intention to exit the TV business. In June of that year, Nokia announced the sale of its television production and related technology units in Turku, Finland, to the Semi-Tech (Global) Company. The transaction also included the sale of machinery and equipment of the Nokia Bochum television factory in Germany, where manufacturing was terminated in September, Nokia's international television sales activities in Europe, and the television related R&D center in Germany. The financial impact of the decision to withdraw from the television business was reported in the 1995 accounts as discontinued operations. The results of these operations during the year 1996 did not effect the Group's financial performance in 1996. In 1997 Nokia completed the exit from the TV business, resulting in a 261 MFIM positive release of the excess provision in the 1997 financial statements

11. Intangible assets

	1998 MFIM	1997 MFIM
Capitalized R&D costs		
Acquisition cost Jan. 1	**2 787**	2 534
Additions	**1 080**	929
Disposals	**-3**	-676
Accumulated depreciation Dec. 31	**-2 144**	-1 439
Net carrying amount Dec. 31	**1 720**	1 348
Intangible rights		
Acquisition cost Jan. 1	**640**	476
Additions	**227**	212
Disposals	**-53**	-48
Translation differences	**-1**	-
Accumulated depreciation Dec. 31	**-468**	-375
Net carrying amount Dec. 31	**345**	265
Goodwill		
Acquisition cost Jan. 1	**1 585**	1 093
Additions	**477**	492
Accumulated depreciation Dec. 31	**-1 470**	-1 350
Net carrying amount Dec. 31	**592**	235
Other intangible assets		
Acquisition cost Jan. 1	**327**	218
Additions	**90**	120
Disposals	**-21**	-11
Translation differences	**-2**	-
Accumulated depreciation Dec. 31	**-171**	-114
Net carrying amount Dec. 31	**223**	213

12. Property, plant and equipment

	1998 MFIM	1997 MFIM
Land and water areas		
Acquisition cost Jan. 1	**383**	393
Additions	**70**	33
Disposals	**-44**	-61
Translation differences	**-8**	18
Net carrying amount Dec. 31	**401**	383
Buildings and constructions		
Acquisition cost Jan. 1	**2 517**	2 013
Additions	**390**	515
Disposals	**-155**	-51
Translation differences	**-19**	40
Accumulated depreciation Dec. 31	**-544**	-600
Net carrying amount Dec. 31	**2 189**	1 917
Machinery and equipment		
Acquisition cost Jan. 1	**8 628**	6 960
Additions	**2 472**	1 871
Disposals	**-1 013**	-301
Translation differences	**-68**	98
Accumulated depreciation Dec. 31	**-5 886**	-5 070
Net carrying amount Dec. 31	**4 133**	3 558
Other tangible assets		
Acquisition cost Jan. 1	**438**	501
Additions	**214**	111
Disposals	**-130**	-202
Translation differences	**-9**	28
Accumulated depreciation Dec. 31	**-221**	-212
Net carrying amount Dec. 31	**292**	226
Advance payments and fixed assets under construction		
Acquisition cost Jan. 1	**156**	414
Additions	**971**	359
Disposals	**-43**	-93
Transfers		
Land and water areas	**-**	-2
Buildings and constructions	**-9**	-378
Machinery and equipment	**-173**	-144
Other tangible assets	**-1**	-6
Translation differences	**-4**	6
Net carrying amount Dec. 31	**897**	156

13. Investments

	1998 MFIM	1997 MFIM
Associated companies		
Acquisition cost Jan. 1	**336**	414
Additions	**245**	2
Disposals	**-34**	-102
Share of results	**-7**	21
Translation differences	**-1**	1
Net carrying amount Dec. 31	**539**	336

Shareholdings in associated companies include listed investments of MFIM 133. At the balance sheet date the fair value of these investments, based on quoted market prices, was MFIM 503.

	1998 MFIM	1997 MFIM
Other companies		
Acquisition cost Jan. 1	**453**	487
Additions	**61**	45
Disposals	**-47**	-81
Write-downs	**-24**	-
Translation differences	**2**	2
Net carrying amount Dec. 31	**445**	453

Shareholdings in other companies include listed investments of MFIM 299. At the balance sheet date, the fair value of these investments was MFIM 739.

14. Inventories

	1998 MFIM	1997 MFIM
Raw materials, supplies and other	**2 818**	2 520
Work in progress	**2 677**	2 545
Finished goods	**2 189**	2 249
Total	**7 684**	7 314

15. Receivables

	1998 MFIM	1997 MFIM
Accounts receivable	**16 681**	9 748
Short-term loan receivables	**953**	363
Prepaid expenses and accrued income	**3 954**	2 621
	21 588	12 732

Current receivables falling due after one year amounted to MFIM 475 in 1998 (363 MFIM in 1997).
Prepaid expenses and accrued income mainly consist of VAT receivables and other accruals.

16. Shareholders' equity

	Share capital	Share issue premium	Treasury shares	Other reserves	Retained earnings	Total
Group, MFIM						
Balance at Dec. 31, 1996	1 498	4 624	-657	674	9 786	15 925
Share issue	1	71				72
Dividend					-1 048	-1 048
Profit from sale of treasury shares		81				81
Sale of treasury shares			3		3	6
Translation differences				133	72	205
Other increase/decrease, net				-41	65	24
Net profit					6 259	6 259
Balance at Dec. 31, 1997	**1 499**	**4 776**	**-654**	**766**	**15 137**	**21 524**
Share issue	15	629				644
Dividend					-2 249	-2 249
Translation differences				-42	39	-3
Other increase/decrease, net				-2	57	55
Net profit					10 408	10 408
Balance at Dec. 31, 1998	**1 514**	**5 405**	**-654**	**722**	**23 392**	**30 379**

Exchange differences that arose from loans and financial instruments hedging investments in foreign subsidiaries in 1998 amounted to MFIM 85 (MFIM 11 in 1997) and were offset against the translation differences arising from consolidation. In 1998 the cumulative translation differences on subsidiaries' post acquisition equity amounted to MFIM 111 (MFIM 35 in 1997) and on acquired equity to MFIM 980 (MFIM 975 in 1997).

Beginning in 1998 untaxed reserves (net of deferred taxes) are included as part of retained earnings. Prior to January 1, 1998, untaxed reserves were disclosed as a separate component of shareholders' equity. The 1997 components of shareholders' equity have been restated to conform with the 1998 presentation.

Distributable earnings	**MFIM**
Retained earnings	23 392
- Non-distributable items	-921
Distributable earnings Dec. 31, 1998	**22 471**

Retained earnings under IAS and Finnish Accounting Standards (FAS) are substantially the same.

Distributable earnings are calculated based on the Finnish legislation.

17. Long-term liabilities

	Outstanding Dec. 31, 1998 MFIM	Repayment date beyond 5 years MFIM
Long-term loans are repayable as follows:		
Bonds	**854**	424
Convertible bonds	**4**	-
Loans from financial institutions	**529**	2
Pension loans	**30**	30
Other long-term finance loans	**113**	111
Other long-term liabilities	**899**	899
	2 429	1 466

The long-term liabilities as of December 31, 1998 mature as follows:

	MFIM	
1999	361	12.9%
2000	533	19.2%
2001	280	10.0%
2002	-	-
2003	150	5.4%
Thereafter	1 466	52.5%
	2 790	

The currency mix of the Group long-term liabilities as at December 31, 1998

FIM	GBP	DEM	Others
32.8 %	19.9 %	17.4 %	29.9 %

Long-term loan portfolio includes a fixed-rate loan with a face amount of 50 million British pound sterling that matures in 2004. The loan is callable by the creditor on a three-month notice basis beginning in 1994, although the Group does not anticipate that the creditors will request for repayment prior to the final maturity.

The Group has committed credit facilities totaling USD 900 million and short-term uncommitted facilities.

At December 31, 1998, no Group borrowings were collateralized by mortgages. Assets (principally securities) were pledged with a net book value of MFIM 33.

At December 31, 1998 and 1997 the weighted average interest rate of loans from financial institutions was 5.7% and 6.5%, respectively.

18. Bonds

	Million		Interest	1998 MFIM	1997 MFIM
1989–2004	50.0	GBP	11.375%	**424**	445
1993–2003	150.0	FIM	Floating	**150**	150
1996–1999	100.0	FIM	5.300%	**-**	100
1996–2001	300.0	FIM	7.000%	**280**	300
				854	995

19. Convertible bonds

	Million		Interest	1998 MFIM	1997 MFIM
Bonds issued with warrants					
1994–1999	0.07	FIM	2.000%	**-**	0.1
1995–2000	1.45	FIM	0.000%	**1.5**	1.5
1997–2000	2.38	FIM	0.000%	**2.4**	2.4
				3.9	4.0

20. Deferred taxes

	1998 MFIM
In companies' balance sheet	
Tax losses carried forward	**104**
Temporary differences	**553**
	657
On consolidation	
Intercompany profit in inventory	**409**
Property, plant and equipment	**37**
Other	**15**
	461
Appropriations	
Untaxed reserves	**-477**
	-477
Net deferred tax asset	**641**

of which deferred tax assets MFIM 1 163 and deferred tax liabilities MFIM 522.

Beginning in January 1, 1998 the Group adopted revised IAS 12, Income taxes. The cumulative prior year net effect (MFIM 416) has been included in the cumulative prior year net effect of change in accounting policies in the consolidated profit and loss account for 1998. See note 1. Accounting principles.

Deferred income tax liabilities have not been established for withholding tax and other taxes that would be payable on the unremitted earnings of certain subsidiaries, as such earnings are permanently reinvested.

At December 31, 1998 the Group had loss carryforwards of MFIM 665 for which no deferred tax asset was recognised due to uncertainty of utilisation of these losses. The majority of these losses have no expiry date.

21. Accounts payable and accrued liabilities

	1998 MFIM	1997 MFIM
Accounts payable and accrued liabilities consist of the following at December 31:		
Accounts payable	8 070	4 865
Accrued expenses and prepaid income	13 426	9 676
	21 496	14 541

Accrued expenses and prepaid income mainly consist of VAT liabilities, personnel expenses, discounts and other accruals.

22. Short-term borrowings

Short-term borrowings consist primarily of borrowings from banks. The weighted average interest rate at December 31, 1998 and 1997 is 6.4% and 7.2%, respectively. The weighted average interest rate of short-term borrowings derived from different foreign currency denominated loan amounts.

23. Earnings per share

	1998	1997
Numerator/MFIM		
Basic/Diluted:		
Income available to common shareholders	10 408	6 259
Denominator/1000 shares		
Basic:		
Weighted average shares	569 170	566 564
Effect of dilutive securities: warrants	17 480	10 019
Diluted:		
Adjusted weighted average shares and assumed conversions	586 650	576 583

Under IAS 33 the weighted average number of shares used to calculate basic EPS is the same as that previously reported for the calculation of earnings per share. The weighted average number of shares used to calculate diluted earnings per share has been adjusted to take into consideration the dilutive effect of the warrants outstanding during the period. For comparability, diluted EPS has also been calculated for 1997.

24. Commitments and contingencies

	1998 MFIM	1997 MFIM
Mortgage backed liabilities		
Loans from financial institutions	-	19
Mortgages	-	19
Collateral for own commitments		
Mortgages	34	34
Assets pledged	53	104
Collateral given on behalf of Group companies		
Mortgages	1	1
Assets pledged	-	4
Collateral given on behalf of other companies		
Mortgages	3	3
Pension liabilities not booked as expenses or liabilities	1	2
Contingent liabilities on behalf of Group companies		
Other guarantees	1 683	1 198
Contingent liabilities on behalf of associated companies		
Guarantees for loans	4	6
Contingent liabilities on behalf of other companies		
Guarantees for loans	498	341
Other guarantees	2	-

25. Leasing contracts

The Group leases office, manufacturing and warehouse space under various non-cancellable operating leases. Certain contracts contain renewal options for various periods of time.

The future costs for finance lease contracts exceeding one year and for non-cancellable leasing contracts are as follows:

1998	Finance lease	Operating lease
Leasing payments, MFIM		
1999	10	567
2000	6	480
2001	3	420
2002	-	351
2003	-	282
and thereafter	-	634
Total	19	2 734

Rental expense amounted to MFIM 629 and MFIM 533 in 1998 and 1997, respectively.

26. Loans granted to top management

	1998 MFIM	1997 MFIM
Loans granted to top management	3	3

The loan period is generally between 5 and 10 years. The interest rates vary between 3–8% depending on the level of interest rate in the respective country.

27. Associated companies

	1998 MFIM	1997 MFIM
Share of results of associated companies	38	54
Dividend income	14	16
Share of shareholders' equity of associated companies	540	310
Receivables from associated companies		
Current receivables	1	68
Liabilities to associated companies		
Current liabilities	1	2

28. Notes to cash flow statement

	1998 MFIM	1997 MFIM
Adjustments for:		
Depreciation	3 028	2 762
Other operating income and expenses	-51	-210
Adjustments, total	2 977	2 552
Change in net working capital		
Short-term trade receivables, increase (-), decrease (+)	-9 353	-1 616
Inventories, increase (-), decrease (+)	-614	-718
Interest-free short-term liabilities, increase (+), decrease (-)	7 286	3 211
Change in net working capital	-2 681	877

29. Financial risk management

The continuously evolving financial environment together with a rapidly changing business environment creates a challenging environment for Nokia's Treasury function. The overall objective of Nokia's Treasury is to identify, evaluate and hedge financial risks in close co-operation with the business groups. The international organization of Nokia's Treasury enables the company to provide Group companies with financial services according to local needs and requirements. This process involves utilizing global financial markets. Treasury aims at minimizing the adverse effects caused by fluctuations in the financial markets on the profitability of the underlying businesses and thus on the financial performance of Nokia. Furthermore, the Treasury function aims at minimizing the number of external treasury transactions required at Group level.

Treasury operations are controlled by policies approved by the top management. Treasury Policy provides principles for overall financial risk management in Nokia. Operating Policies cover specific areas such as foreign exchange risk, interest rate risk, use of derivative financial instruments and investing excess liquidity. Business Groups have detailed Standard Operating Procedures covering for example foreign exchange exposure management.

MARKET RISK

Foreign exchange risk

Nokia operates globally and is thus exposed to foreign exchange risk arising from various currency combinations. Foreign currency denominated assets and liabilities together with firm and probable purchase and sale commitments give rise to foreign exchange exposure. Foreign exchange exposures are managed against various local currencies, since Nokia has an increasing amount of production and sales outside Finland. Due to the rapid growth in the Group, currency combinations may also change within the financial year. The principal transaction exposure in 1998 was against Finnish markka, since a significant proportion of production and personnel expenses is incurred in Finland, whilst only approximately 3% of the turnover was denominated in Finnish markka. The most significant sales currencies were USD, DEM and GBP. In general, the appreciation of the base currency of Nokia relative to other currencies has an adverse effect on Nokia's sales and operating profit in the medium to long term, while depreciation of the base currency has a positive effect in the medium to long term.

According to the foreign exchange policy guidelines of the Group, material open foreign exchange exposures are hedged. Exposures are mainly hedged with derivative financial instruments such as forward foreign exchange contracts and foreign exchange options. The majority of financial instruments hedging foreign exchange risk have a duration of less than a year.

Nokia uses Value-at-Risk methodology (VaR) to assess the foreign exchange risk. The VaR figure represents the potential losses for a portfolio from adverse changes in market factors, for a specified time period and confidence level based on historical data. Historical volatilities and correlations are calculated over the preceding year and Monte Carlo simulation is used, which takes into account the non-linear value changes of certain derivative instruments. The VaR based net foreign exchange transaction risk figure after hedging transactions in Nokia Group with a one week horizon and 99 % confidence level was FIM 65.7 million at December 31, 1998 (FIM 31.6 million in 1997). The average VaR figure in 1998 was FIM 47.6 million. The VaR figure fluctuated between FIM 28.5 million and FIM 65.7 million in 1998.

Since Nokia has subsidiaries outside Finland, the Finnish markka denominated value of the equity of Nokia is also exposed to fluctuations in exchange rates. The equity changes caused by movements in foreign exchange rates are shown as a translation difference in the Group consolidation. Nokia uses foreign exchange contracts and foreign currency denominated loans to hedge its equity exposure arising from foreign net investments. Exchange gains and losses resulting from the hedging transactions are offset against the translation differences arising from consolidation and are recorded in shareholders' equity. The Board of Directors provides the framework for hedging decisions. Actual decisions on the currency pairs to be hedged are supported by portfolio theory based quantitative methods. Foreign exchange translation risk is also measured by probability based value at risk methodology. The VaR based risk figure of the total net translation exposure using a one week target horizon and 99% confidence level was FIM 52.3 million as at December 31, 1998 (FIM 51.7 million in 1997). Translation risk was managed applying the same principles as during the previous year.

Interest rate risk

The Group is exposed to interest rate risk either through market value fluctuations of balance sheet items i.e. price risk or changes in the interest expenses or revenues i.e. re-investment risk. Interest rate risk mainly arises through interest-bearing liabilities and assets. Estimated future changes in cash flows and balance sheet structure also expose the Group to interest rate risk. Group companies are responsible for managing their short term interest rate exposure. Long term interest rate exposure of the Group is monitored and managed by Corporate Treasury. Due to the current balance sheet structure of Nokia, emphasis is placed on managing the interest rate risk of investments.

The Group hedges its interest rate exposure by using derivative financial instruments, such as interest rate swaps, forwards and options. The maturities of interest rate swaps are usually less than five years. Interest rate risk is managed by using duration based sensitivity analysis and by constantly monitoring the market value of the financial instruments. Investment portfolios are benchmarked against market rates in order to facilitate internal performance measurement.

The net interest rate sensitivity of the fixed income investments, loan portfolio and interest rate derivatives of Nokia was at the end of 1998 FIM -90 million for a 1% parallel interest rate rise (FIM +7 million in 1997). Corresponding sensitivity for a 1% parallel interest rate decline was FIM +89 million (FIM -10 million in 1997). Risks are actively monitored by the treasury units and the treasury management. The increase in the sensitivity to interest rate changes was mainly due to higher liquidity and to longer internal benchmark of the investment portfolio compared with the previous year.

Equity price risk

Nokia has some investments in publicly traded companies. The market value of the equity investments at December 31, 1998 was FIM 739 million (FIM 438 million in 1997). A 10 % adverse move in equity prices would have decreased the market value of the investments by FIM 74 million (FIM 44 million in 1997). Currently there are no outstanding derivative financial instruments designated as hedges of these equity investments.

CREDIT RISK

Financial instruments contain an element of risk that the counterparties may be unable to meet the terms of the agreements. However, the Group minimizes this risk by limiting its counterparties to major banks and financial institutions.

Direct credit risk represents the risk of loss resulting from counterparty default in relation to on-balance sheet products. The fixed income and money market investments are made based on high credit quality. The outstanding investments are also constantly monitored by treasury management. Treasury management does not expect the counterparties to default given their high credit ratings.

Vendor financing has become increasingly important means of competing in the international trade of telecommunication networks during the past years. Nokia has maintained conservative financing policy in this area and aimed at close cooperation with banks and financial institutions to support clients in their financing of infrastructure investments. The outstanding liabilities on long-term customer financing were December 31, 1998 FIM 1,537 million out of which FIM 1,057 million were receivables and FIM 480 million contingent liabilities. Risks related to long term customer receivables are systematically monitored and no credit losses have occurred.

LIQUIDITY RISK

One of the main objectives of the Treasury function is to guarantee that the liquidity of the company remains sufficient. This objective calls for efficient cash management, liquidity of investments and prudent investment policy. The fixed income and money market investments made by Nokia are liquid.

Due to the dynamic nature of the underlying business Group Treasury aims at maintaining flexibility in funding by keeping committed and uncommitted credit lines available. Nokia's international creditworthiness facilitates the efficient use of international capital and loan markets. Standard and Poor's credit rating agency raised the rating of Nokia to A in 1998. The most significant existing funding programs include:

- Local commercial paper programs in Finland, totalling FIM 1 100 million
- Euro Commercial Paper (ECP) -program, totalling USD 500 million
- US Commercial Paper (USCP) -program, totalling USD 500 million
- Revolving Credit Facility of USD 350 million, matures in 2004
- Revolving Credit Facility of USD 500 million, matures in 2003

None of the above programs has been used to a significant degree in 1998.

Notional amounts of derivative financial instruments [1]

	MFIM 1998	MFIM 1997
Foreign exchange forward contracts [2, 3]	**92 979**	57 228
Currency options bought	**4 405**	7 945
Currency options sold	**5 210**	8 299
Interest rate forward and futures contracts [2]	-	5 695
Interest rate swaps	**400**	575
Interest rate options bought	-	187
Interest rate options sold	-	-

[1] The notional amounts of derivatives summarized here do not represent amounts exchanged by the parties and, thus are not a measure of the exposure of Nokia caused by its use of derivatives.

[2] Notional amounts outstanding include positions, which have been closed off.

[3] As at December 31, 1998 notional amount includes contracts amounting to FIM 7.9 billion used to hedge the shareholders' equity of foreign subsidiaries (December 31, 1997 FIM 5.2 billion).

30. Fair value of financial instruments

The following table presents the carrying amounts and fair values of the Group's financial instruments outstanding at December 31, 1998 and 1997. The carrying amounts in the table are included in the balance sheet under the indicated captions, except for derivatives, which are included in accounts receivable and accounts payable and accrued liabilities. The fair value of a financial instrument is defined as the amount at which the instrument could be exchanged in a current transaction between willing parties, other than in a forced or liquidation sale.

MFIM	**Carrying amount**	**1998 Fair value**	Carrying amount	1997 Fair value
Financial assets				
Cash and cash equivalents	**17 188**	**17 277**	12 247	12 260
Receivables	**17 691**	**17 691**	10 637	10 637
Investments in other shares	**445**	**885**	453	548
Other non-current assets	**202**	**202**	195	195
Financial liabilities				
Accounts payable	**7 831**	**7 831**	5 188	5 188
Short-term borrowings	**4 158**	**4 158**	3 008	3 008
Long-term interest-bearing liabilities	**1 530**	**1 683**	1 348	1 473
Off-balance-sheet instruments				
Currency options purchased [1, 2]	**133**	**133**	41	41
Currency options written [2]	**-95**	**-95**	-45	-45
Forward foreign exchange contracts [1, 2]	**875**	**875**	-152	-152
Interest rate swaps [3]	**7**	**33**	10	30
Interest rate FRA's and futures	**-**	**-**	-	2

[1] The carrying amount and fair value of forward foreign exchange contracts and currency options include unrealized gains and losses relating to hedges of firm and anticipated commitments, which have been deferred.

[2] Forward foreign exchange contracts and currency options used to hedge the shareholders' equity of foreign subsidiaries are not included.

[3] The carrying amount of interest rate swaps includes accrued interest.

Estimation of fair values

Receivables, accounts payable, short-term borrowings

The carrying amounts are a reasonable estimate of the fair values because of the short maturity of such instruments.

Cash and cash equivalents, investments and other non-current assets

The carrying amounts of cash and certain other financial assets approximate fair values. The fair value of publicly traded instruments is based on quoted market values. All other instruments have been valued using discounted cash flow analyses.

Long-term interest-bearing liabilities

The fair value of fixed rate and market-based floating rate long-term debt is estimated using the expected future payments discounted at market interest rates. The carrying amount of non-market based floating rate long-term loans, including pension loans, approximates fair value.

Currency option and forward foreign exchange contracts

The carrying amounts of currency option contracts and forward foreign exchange contracts are based on quoted market rates at year-end balance sheet dates. Therefore, the carrying amounts approximate fair value.

Interest rate and currency swaps

Fair value of swap instruments have been estimated by using discounted cash flow analyses.

Forward rate agreements, interest rate option and futures contracts

Fair value of FRA's, interest rate option and futures contracts have been estimated based on quoted market rates at year-end balance sheet dates.

31. Principal Nokia Group companies on December 31, 1998

		Net sales MFIM	Number of shares	Parent holding %	Group majority %	Total nominal value in 1 000 units		Book value FIM 1 000
Nokia Telecommunications								
FI	Nokia Telecommunications Oy	18 319	226 000	100.0	100.0	226 000	FIM	376 000
GB	Nokia Telecommunications Ltd	4 429	20 000 000		100.0	20 000	GBP	169 700
CN	Beijing Nokia Mobile Telecommunications Ltd	4 033	2		50.0	10 000	USD	44 992
Nokia Mobile Phones								
FI	Nokia Matkapuhelimet Oy	28 560	665	60.2	100.0	33 250	FIM	106 704
US	Nokia Mobile Phones Inc.	15 210	1 300		100.0	1	USD	760 387
DE	Nokia Mobile Phones Produktionsgesellschaft mbH	8 037	2		100.0	90	DEM	274
KR	Nokia TMC Limited	5 449	232 080	100.0	100.0	2 320 800	KRW	164 703
Other Operations								
FI	Nokia Display Products Oy	3 060	30 000	100.0	100.0	30 000	FIM	30 000
SE	Nokia Satellite Systems AB	1 541	1 103		100.0	1 103	SEK	186 233
HU	Nokia Monitor Magyarorzag KFT	1 076			100.0			11 099
FI	Salcomp Oy	832	47 653		100.0	47 653	FIM	49 208
NL	Nokia Finance International B.V.		229	99.6	100.0	229	NLG	1 119 197

Shares in listed companies Group holding more than 5%	Group holding %	Group voting %
Nextrom Holding S.A.	25.0	50.0
Nokian Renkaat Oyj/Nokian Tyres plc	24.2	24.2
Filtronic plc.	7.5	7.5
Geoworks Inc.	6.2	6.2

A complete list of all shareholdings is included in Nokia's Statutory Accounts.

Profit and Loss Account, Parent Company, FAS

Financial year ended December 31	1998 MFIM	1997 MFIM
Net sales	273	211
Cost of goods sold	-	-
Gross margin	273	211
Research and development expenses	-427	-280
Administrative expenses	-157	-75
Other operating expenses	-21	-83
Other operating income	69	141
Operating loss (Notes* 2, 3)	-263	-86
Financial income and expenses		
Income from long-term investments		
Dividend income from Group companies	20 677	220
Dividend income from other companies	44	42
Interest income from Group companies	52	84
Interest income from other companies	3	3
Other interest and financial income		
Interest income from Group companies	253	389
Interest income from other companies	179	271
Other financial income from other companies	-	29
Exchange gains and losses	94	7
Interest expenses and other financial expenses		
Interest expenses to Group companies	-87	-95
Interest expenses to other companies	-220	-475
Other financial expenses	-11	-14
Financial income and expenses, total	20 984	461
Profit before extraordinary items, appropriations and taxes	20 721	375
Extraordinary items (Note 4)		
Extraordinary expenses	-	-43
Group contributions	10 671	6 009
Extraordinary items, total	10 671	5 966
Profit before appropriations and taxes	31 392	6 341
Appropriations		
Difference between actual and planned depreciation, increase (-)/decrease (+)	25	-330
Movements on untaxed reserves, increase (-)/decrease (+)	-	347
Income taxes		
for the year	-3 016	-1 709
from previous years	-15	16
Net profit	28 386	4 665

Cash Flow Statement, Parent Company, FAS

Financial year ended December 31	1998 MFIM	1997 MFIM
Cash flow from operating activities		
Operating loss	-263	-86
Adjustments, total (Note 17)	-8	9
Operating loss before change in net working capital	-271	-77
Change in net working capital (Note 17)	111	-86
Cash generated from operations	-160	-163
Interest received	304	740
Interest paid	-371	-564
Other financial income and expenses	119	108
Income taxes paid	-3 525	-856
Cash flow before extraordinary items	-3 633	-735
Extraordinary income and expenses	6 009	2 224
Net cash from operating activities	2 376	1 489
Cash flow from investing activities		
Investments in shares	-194	-290
Capital expenditures	-95	-138
Proceeds from sale of shares and discontinued operations, net	52	186
Proceeds from sale of fixed assets	4	14
Dividends received	284	251
Net cash from investing activities	51	23
Cash flow from financing activities		
Share issue	644	72
Proceeds from (+), payments of (-) long-term liabilities	-325	-426
Proceeds from (+), payments of (-) short-term borrowings	792	-714
Proceeds from (+), payments of (-) long-term receivables	482	523
Proceeds from (+), payments of (-) short-term receivables	-259	-1 160
Dividends paid	-2 261	-1 061
Net cash used in financing activities	-927	-2 766
Net increase (+)/decrease (-) in cash and cash equivalents	1 500	-1 254
Cash and cash equivalents at beginning of period	2 202	3 456
Cash and cash equivalents at end of period	3 702	2 202

* Notes are shown on pages 24 to 26.

Balance Sheet, Parent Company, FAS

December 31	1998 MFIM	1997 MFIM
ASSETS		
Fixed assets and other non-current assets		
Intangible assets (Note* 5)		
Intangible rights	11	17
Other intangible assets	18	15
	29	32
Tangible assets (Note 6)		
Land and water areas	137	85
Buildings and constructions	429	432
Machinery and equipment	134	153
Other tangible assets	3	3
Advance payments and fixed assets under construction	10	-
	713	673
Investments		
Investments in subsidiaries (Note 7)	4 567	4 581
Investments in associated companies (Note 7)	184	184
Investments in other shares (Note 7)	453	316
Long-term loan receivables from Group companies	223	748
Long-term loan receivables from other companies	17	50
Other non-current assets	163	165
	5 607	6 044
Current assets		
Inventories and work in progress		
Finished goods	8	9
Receivables		
Trade debtors from Group companies	165	337
Trade debtors from other companies	5	4
Short-term loan receivables from Group companies	35 547	10 168
Short-term loan receivables from other companies	35	9
Prepaid expenses and accrued income from Group companies	121	213
Prepaid expenses and accrued income from associated companies	1	1
Prepaid expenses and accrued income from other companies	591	490
	36 465	11 222
Short-term investments	3 457	1 639
Bank and cash	245	563
	46 524	20 182

December 31	1998 MFIM	1997 MFIM
SHAREHOLDERS' EQUITY AND LIABILITIES		
Shareholders' equity (Note 8)		
Share capital	1 514	1 499
Share issue premium	5 323	4 695
Contingency reserve	-	127
Retained earnings (Note 9)	5 318	2 788
Net profit for the year (Note 9)	28 386	4 665
	40 541	13 774
Accumulated appropriations (Note 10)		
Accumulated depreciation in excess of plan	443	467
Liabilities		
Long-term liabilities (Note 11)		
Bonds (Note 12)	854	995
Convertible bonds (Note 13)	4	4
Loans from financial institutions	-	267
	858	1 266
Short-term liabilities		
Current finance liabilities from Group companies	3 163	2 527
Loans from financial institutions	230	-
Current maturities of long-term loans	352	268
Advance payments from other companies	21	23
Trade creditors to Group companies	19	89
Trade creditors to other companies	19	17
Accrued expenses and prepaid income to Group companies	12	109
Accrued expenses and prepaid income to other companies	866	1 642
	4 682	4 675
Total liabilities	5 540	5 941
	46 524	20 182

* Notes are shown on pages 24 to 26.

Notes to the Financial Statements of the Parent Company

1. Accounting principles

The Parent company Financial Statements are prepared according to Finnish Accounting Standards – FAS. See Group note no. 1.

Appropriations

In Finland companies are permitted to reduce or increase taxable income by net charges or by income representing adjustments to untaxed reserve accounts, provided that such amounts are reflected in the Group companies' financial statements.

2. Personnel expenses

	1998 MFIM	1997 MFIM
Wages and salaries	240	172
Pension expenses	38	30
Other social expenses	48	29
Personnel expenses as per profit and loss account	326	231
Remuneration of the members of the Board of Directors and the Chief Executive Officer*	8	6
* Salaries include incentives	1	1

Pension commitments for the management:
For the Chief Executive Officer of the Parent Company the retirement age is 60 years.

Personnel average	1998	1997
R&D	886	620
Administration	226	190
	1 112	810

3. Depreciation

	1998 MFIM	1997 MFIM
Depreciation by asset category		
Intangible assets		
Intangible rights	8	7
Other intangible assets	1	2
Property, plant and equipment		
Buildings and constructions	16	12
Machinery and equipment	46	38
Total	71	59
Depreciation by function		
R&D	23	20
Selling, marketing and administration	48	39
Total	71	59

4. Extraordinary items

Extraordinary expenses include expenses arising from discontinued operations and write-offs of Group company shares. Extraordinary income includes group contributions.

5. Intangible assets

	1998 MFIM	1997 MFIM
Intangible rights		
Acquisition cost Jan. 1	34	23
Additions	4	12
Disposals	-8	-1
Accumulated depreciation Dec. 31	-19	-17
Net carrying amount Dec. 31	11	17
Other intangible assets		
Acquisition cost Jan. 1	21	20
Additions	5	1
Disposals	-2	-
Accumulated depreciation Dec. 31	-6	-6
Net carrying amount Dec. 31	18	15

6. Tangible assets

	1998 MFIM	1997 MFIM
Land and water areas		
Acquisition cost Jan. 1	85	85
Additions	57	4
Disposals	-5	-4
Net carrying amount Dec. 31	137	85
Buildings and constructions		
Acquisition cost Jan. 1	486	180
Additions	12	308
Disposals	-	-2
Accumulated depreciation Dec. 31	-69	-54
Net carrying amount Dec. 31	429	432
Machinery and equipment		
Acquisition cost Jan. 1	235	125
Additions	30	130
Disposals	-19	-20
Accumulated depreciation Dec. 31	-112	-82
Net carrying amount Dec. 31	134	153
Other tangible assets		
Acquisition cost Jan. 1	11	10
Additions	-	2
Disposals	-2	-1
Accumulated depreciation Dec. 31	-6	-8
Net carrying amount Dec. 31	3	3
Advance payments and fixed assets under construction		
Acquisition cost Jan. 1	-	317
Additions	10	72
Transfers		
Land and water areas	-	-2
Buildings and constructions	-	-296
Machinery and equipment	-	-89
Other tangible assets	-	-2
Net carrying amount Dec. 31	10	-

7. Investments

	1998 MFIM	1997 MFIM
Investments in subsidiaries		
Acquisition cost Jan. 1	**4 581**	4 658
Additions	**21**	324
Disposals	**-35**	-333
Write-downs	**-**	-68
Net carrying amount Dec. 31	**4 567**	4 581

	1998 MFIM	1997 MFIM
Investments in associated companies		
Acquisition cost Jan. 1	**184**	222
Additions	**-**	2
Disposals	**-**	-40
Net carrying amount Dec. 31	**184**	184

Shareholdings in associated companies include listed investments of MFIM 133. At the balance sheet date, the fair value of these investments, based on quoted market prices, was MFIM 503.

	1998 MFIM	1997 MFIM
Investments in other shares		
Acquisition cost Jan. 1	**316**	378
Additions	**174**	12
Disposals	**-37**	-74
Net carrying amount Dec. 31	**453**	316

Shareholdings in other companies include listed investments of MFIM 408. At the balance sheet date, the fair value of these investments was MFIM 654.

8. Shareholders' equity

	Share capital K share	Share capital A share	Share issue premium	Contin-gency reserve	Retained earnings	Total
Parent Company, MFIM						
Balance at Dec. 31, 1996	499	999	4 624	127	3 848	10 097
Share issue		1	71			72
Dividend					-1 048	-1 048
Reserved for public worthy causes decided by the Board					-12	-12
Other increase/decrease, net	-106	106				-
Net profit					4 665	4 665
Balance at Dec. 31, 1997	393	1 106	4 695	127	7 453	13 774
Share issue		15	628			643
Dividend					-2 249	-2 249
Reserved for public worthy causes decided by the Board					-13	-13
Other increase/decrease, net	-76	76		-127	127	-
Net profit					28 386	28 386
Balance at Dec. 31, 1998	**317**	**1 197**	**5 323**	**-**	**33 704**	**40 541**

9. Distributable earnings

	MFIM
Retained earnings from previous years	5 318
Net profit for the year	28 386
Retained earnings, total	33 704
- Non-distributable items	-20 425
Distributable earnings Dec. 1, 1998	**13 279**

A decision to merge Nokiterra Oy (subsidiary company) to Nokia Oyj (parent company) was made in January 1999. As a result of this Nokia Oyj will receive 32 140 342 treasury shares. The book value of the treasury shares amounts to MFIM 20 425, which will reduce the distributable earnings of Nokia Oyj.

10. Accumulated appropriations

Deferred tax liability for the accumulated appropriations computed using the tax rate of 28% totalled MFIM 124.

11. Long-term liabilities

	Outstanding Dec. 31, 1998 MFIM	Repayment date beyond 5 years MFIM
Long-term loans are repayable as follows:		
Bonds	**854**	424
Convertible bonds	**4**	-
	858	424

The long-term liabilities as of December 31, 1998 mature as follows:

	MFIM	
1999	352	29.1%
2000	4	0.3%
2001	280	23.1%
2002	-	-
2003	150	12.4%
Thereafter	424	35.1%
	1 210	

12. Bonds

	Million		Interest	1998 MFIM	1997 MFIM
1989–2004	50.0	GBP	11.375%	**424**	445
1993–2003	150.0	FIM	Floating	**150**	150
1996–1999	100.0	FIM	5.300%	**-**	100
1996–2001	300.0	FIM	7.000%	**280**	300
				854	995

13. Convertible bonds

	Million		Interest	1998 MFIM	1997 MFIM
Bonds issued with warrants					
1994–1999	0.07	FIM	2.000%	**-**	0.1
1995–2000	1.45	FIM	0.000%	**1.5**	1.5
1997–2000	2.38	FIM	0.000%	**2.4**	2.4
				3.9	4.0

14. Commitments and contingencies

	1998 MFIM	1997 MFIM
Collateral for own commitments		
Assets pledged	**20**	20
Collateral given on behalf of Group companies		
Assets pledged	**-**	4
Collateral given on behalf of other companies		
Mortgages	**3**	3
Contingent liabilities on behalf of Group companies		
Guarantees for loans	**691**	794
Other guarantees	**671**	532
Contingent liabilities on behalf of associated companies		
Guarantees for loans	**4**	6
Contingent liabilities on behalf of other companies		
Guarantees for loans	**445**	307

15. Leasing contracts

At December 31, 1998 the leasing contracts of the Parent Company amounted to MFIM 241, of which MFIM 38 will fall due in 1999.

16. Loans granted to top management

There were no loans granted to top management at 31.12.1998.

17. Notes to cash flow statement

	1998 MFIM	1997 MFIM
Adjustments for:		
Depreciation	**71**	58
Other operating income and expenses	**-79**	-49
Adjustments, total	**-8**	9
Change in net working capital		
Short-term trade receivables, increase (-), decrease (+)	**408**	-352
Inventories, increase (-), decrease (+)	**1**	-2
Interest-free short-term liabilities, increase (+), decrease (-)	**-298**	268
Change in net working capital	**111**	-86

18. Principal Nokia Group companies on December 31, 1998

See Group note no. 31.

19. Nokia shares and shareholders

See Nokia Shares and Shareholders, p. 27–31.

Nokia Shares and Shareholders

Shares and voting rights

Nokia has two classes of shares, A shares and K shares.[1] At General Meetings, each K share is entitled to ten (10) votes and each A share to one (1) vote. The A shares are entitled to a fixed annual dividend of 10 per cent of the nominal value before the K shares are entitled to receive dividends. Should it be impossible in any year to distribute such dividend, the A shares are entitled to receive the remainder in the following year before any dividend can be distributed on the K shares. Should a dividend higher than 10 per cent of the nominal value be distributed on the K shares, a supplementary dividend is distributed on the A shares so that the dividend will be of equal size for both share classes.

The shareholders of Nokia resolved at the Annual General Meeting held on March 24, 1998 to split the nominal value of each class of Nokia shares on a two-for-one basis. With effect from April 16, 1998 the nominal value was reduced from FIM 5 to FIM 2.50.

The minimum share capital stipulated in the Articles of Association is FIM 957 million and the maximum share capital FIM 3 828 million. The share capital may be increased or reduced within these limits without amending the Articles of Association. On December 31, 1998 the share capital of the Parent Company was FIM 1 513 991 410 and the total number of votes 1 748 873 269.

The Articles of Association contain a provision permitting the holders of K shares or, with regard to shares registered in the name of a nominee, the custodian registered as administrator of such shares in a book-entry register, to convert their shares to an equivalent number of A shares, within the limits set for the minimum and maximum numbers of shares in each class of shares.

By December 31, 1998, a total of 201 755 383 K shares had been converted into A shares.

The shares of the Parent Company are distributed into K shares and A shares as follows:

	units	FIM each	FIM
K shares	127 030 745	2.50	317 576 862.50
A shares	478 565 819	2.50	1 196 414 547.50
Total Dec. 31, 1998	605 596 564	2.50	1 513 991 410.00

On December 31, 1998 shares included 32 161 000 shares owned by the Group companies of which 27 626 768 were K shares and 4 534 232 A shares with an aggregate nominal value of FIM 80 402 500. The shares represent 5.3 per cent of the total number of shares and 16.1 per cent of the total number of voting rights.

Authorizations

At the end of 1998, the Board of Directors had no unused authorizations to issue shares, convertible bonds or bonds with warrants.

Convertible bonds and bonds with warrants

The Annual General Meeting held on April 7, 1994 approved the issue of up to 200 2 per cent bonds with warrants due April 15, 1999, for up to an aggregate principal amount of FIM 200 000 to certain members of Nokia's management (Nokia Stock Option Plan 1994). Each bond has a principal amount of FIM 1 000 and carries 1 000 warrants, each of which is exercisable at FIM 374 for eight A shares from December 1, 1998 to January 31, 2000. The bonds were issued on April 15, 1994. If exercised in full, the warrants would be exercisable for a total of 1 600 000 A shares, whereby the share capital would be increased by a maximum amount of FIM 4 000 000 representing less than one per cent of the outstanding share capital of Nokia. The stock option plan covers approximately 50 persons who are entitled to purchase a maximum average number of 32 000 shares.

The Annual General Meeting held on March 30, 1995 approved the issue of up to 1 450 non-interest bearing bonds with warrants due May 31, 2000, for up to an aggregate principal amount of FIM 1 450 000 to certain members of the management of the Nokia Group (Nokia Stock Option Plan 1995). Each bond has a principal amount of FIM 1 000 and carries 2 000 A warrants and 2 000 B warrants. Each A warrant confers the right to subscribe for two A shares during the period from December 1, 1997 to January 31, 2001, and each B warrant during the period from December 1, 1999 to January 31, 2001, respectively. The bonds were issued on May 31,1995. If exercised in full, the warrants would be exercisable for a total of 11 600 000 A shares, whereby the share capital would be increased by a maximum amount of FIM 29 000 000 representing approximately 1.9 per cent of the outstanding share capital of Nokia. The subscription price for two A shares is FIM 168. The stock option plan covers approximately 350 persons who are entitled to purchase a maximum average number of 33 200 shares.

The Annual General Meeting held on March 25, 1997 approved the issue of up to 4 750 non-interest bearing bonds with warrants due April 16, 2000, for up to an aggregate principal amount of FIM 2 375 000 to key personnel of the Nokia Group (Nokia Stock Option Plan 1997). Each bond has a principal amount of FIM 500 and carries 500 A warrants, 500 B warrants and 1 000 C warrants. Each warrant confers the right to subscribe for two A shares. The A warrants may be exercised from December 1, 1997 to January 31, 2003, the B warrants from November 1, 1999 to January 31, 2003 and the C warrants from November 1, 2001 to January 31, 2003. The bonds were issued on April 16, 1997. If exercised in full, the warrants would be exercisable for a

[1] At the Annual General Meeting held on March 30, 1995, Nokia's shareholders resolved to rename Nokia shares as A shares, previously preferred shares, and K shares, previously common shares. In connection with that it was resolved to reduce the nominal value of each class of shares from FIM 20 to FIM 5 through a four-to-one stock split. The split was effected on April 24, 1995.

Share capital and shares, Dec. 31[1]	1998	1997	1996	1995	1994
Share capital, MFIM					
K (common) [2]	**318**	393	499	547	721
A (preferred) [2]	**1 196**	1 106	999	951	777
Total	**1 514**	1 499	1 498	1 498	1 498
Share capital, MEUR					
K (common)	**54**	66	84	92	121
A (preferred)	**201**	186	168	160	131
Total	**255**	252	252	252	252
Shares					
(1 000, nominal value FIM 2.50)					
K (common)	**127 031**	157 374	199 426	218 754	288 396
A (preferred)	**478 566**	442 330	399 674	380 346	310 704
Total	**605 597**	599 704	599 100	599 100	599 100
Shares owned by the Group at year-end (1 000)	**32 161**	32 161	32 562	30 362	29 962
Number of shares excl. shares owned by the Group at year-end (1 000)	**573 436**	567 543	566 538	568 738	569 138
Average number of shares excl. shares owned by the Group during the year (1 000)	**569 170**	566 564	567 122	569 134	545 858
Number of registered shareholders [3]	**30 339**	28 596	26 160	27 466	24 770

Key Ratios Dec. 31, IAS (calculations on p. 42)	1998	1997	1996	1995	1994
Earnings per share, from continuing operations, basic					
Earnings per share, FIM	**17.56**	10.59	5.37	7.18	5.49
Earnings per share, EUR	**2.95**	1.78	0.90	1.21	0.92
P/E ratio					
K (common)	**35.3**	18.4	24.8	12.0	15.9
A (preferred)	**35.3**	18.3	24.9	11.9	15.9
(Nominal) dividend per share, FIM	**5.75** [4]	3.75	1.75	1.50	1.25
Total dividends, MFIM	**3 482** [4]	2 249	1 048	899	749
Payout ratio	**0.33**	0.35	0.33	0.21	0.23
(Nominal) dividend per share, EUR	**0.97** [4]	0.63	0.29	0.25	0.21
Total dividends, MEUR	**586** [4]	378	176	151	126
Dividend yield, per cent					
K (common)	**0.9**	1.9	1.3	1.7	1.4
A (preferred)	**0.9**	1.9	1.3	1.8	1.4
Shareholders' equity per share, FIM	**52.98**	37.92	28.12	24.27	21.82
Market capitalization, MFIM [5]	**355 530**	110 014	75 547	48 724	49 657
Shareholders' equity per share, EUR	**8.91**	6.38	4.73	4.08	3.67
Market capitalization, MEUR [5]	**59 796**	18 503	12 706	8 195	8 352

[1] All figures are split adjusted.
[2] See footnote 1 on page 27.
[3] Each nominee register is included in the figure as only one registered shareholder.
[4] Proposed by the Board of Directors.
[5] Shares owned by the Group are excluded.

total of 19 000 000 A shares whereby the share capital would be increased by a maximum amount of FIM 47 500 000 representing approximately 3.1 per cent of the outstanding share capital of Nokia and 0.9 per cent of votes. The subscription price for two A shares is FIM 307. The stock option plan covers approximately 2 000 persons who are entitled to purchase a maximum average number of 9 500 shares.

Shares subscribed under the bonds will rank for dividend for the financial year in which subscription occurs. Other shareholder rights will commence on the date on which the share subscription is entered in the Finnish Trade Register.

Pursuant to the warrants issued an aggregate maximum number of 26 307 748 new A shares may be subscribed for representing 1.5 per cent of votes. During the year 1998, the exercise of 2 933 562 warrants attached to the bonds resulted in the issue of 5 892 252 new A shares and the increase of share capital of the Parent Company with FIM 14 730 630.

There were no other bonds with warrants and no convertible bonds outstanding during the year 1998.

Splits of the nominal value of Nokia shares

	Nominal value before (FIM)	Split ratio	Nominal value after (FIM)	Effective date
1986	100	5:1	20	January 2, 1987
1995	20	4:1	5	April 24, 1995
1998	5	2:1	2.5	April 16, 1998

Share prices, FIM

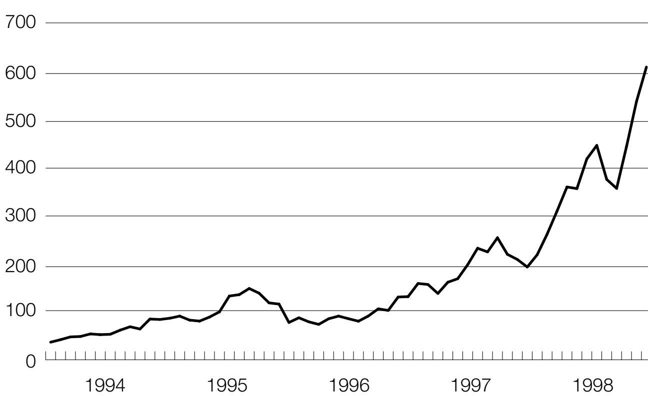
(Helsinki Exchanges)	**1998**	1997	1996	1995	1994
K share					
Low/high	**184/638**	130/273	73/134	69/170	36/89
Average [1]	**489**	176	94	111	60
Year-end	**620**	195	133	86	87
A share					
Low/high	**185/638**	131/274	73/134	69/170	36/89
Average [1]	**378**	196	95	110	62
Year-end	**620**	194	134	85	87

Share prices, USD

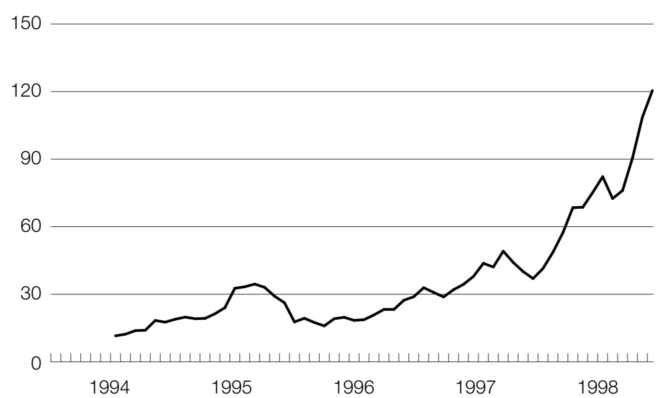
(New York Stock Exchange)	**1998**	1997	1996	1995	1994
ADS					
Low/high	**34/125**	28/51	16/29	16/38	11/19
Average [1]	**68**	37	20	24	16
Year-end	**120**	35	29	20	19

[1] Calculated by weighing average price of each day with daily trading volumes.

Nokia A share price in Helsinki, FIM



Nokia ADS price in New York, USD



Share Issues 1994–1998 [1]

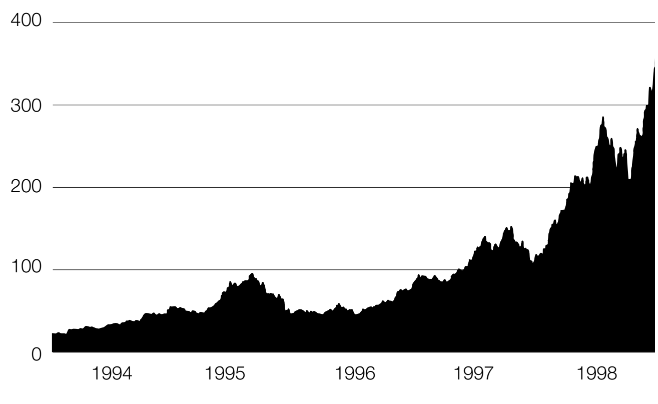
Type of issue	Subscription date	Subscription price	Number of new A shares	Date of payment	Net proceeds MFIM	New share capital MFIM	Share capital after issue MFIM
Global Offering	July 1, 1994 and July 6, 1994	FIM 52.3 and USD 9.8	48 000 000	July 11, 1994	2 490.3	120	1 498
Nokia Stock Option Plan 1994	1998	FIM 46.75	33 504	1998	1.6	0.1	1 499
Nokia Stock Option Plan 1995	1997 1998	FIM 84.00 FIM 84.00	290 800 3 788 000	1997 1998	24.4 318.2	0.7 9.5	1 498 1 509
Nokia Stock Option Plan 1997	1997 1998	FIM 153.50 FIM 153.50	313 552 2 070 748	1997 1998	48.1 317.9	0.8 5.2	1 499 1 514

Share turnover (all stock exchanges) [2]

1000 shares	**1998**	1997	1996	1995	1994
K share turnover	**63 777**	49 658	135 234	199 742	308 328
Total number of K shares	**127 031**	157 374	199 426	218 754	288 396
Per cent of total number of K shares	**50**	32	68	91	107
A share turnover	**1 282 039**	1 303 052	1 520 758	1 285 426	693 072
Total number of A shares	**478 566**	442 330	399 674	380 346	310 704
Per cent of total number of A shares	**268**	295	380	338	223

[1] Prices and numbers of shares have been recalculated to correspond the nominal value of FIM 2.50 of the shares.
[2] Based on the outstanding number of shares on December 31, 1998.

Nokia market capitalization in 1994–1998, FIM billion



Largest registered shareholders on December 31, 1998

Registered shareholders represent 23.5 per cent of the total number of shares of the Parent Company.

	K shares	A shares	Total	Per cent of shares	Number of voting rights	Per cent of voting rights
Nokiterra Oy	27 626 768	4 513 574	32 140 342	5.3	280 781 254	16.1 [1]
Pohjola Group Insurance Corporation	8 100 000	707 262	8 807 262	1.5	81 707 262	4.7
UPM-Kymmene Corporation	6 284 968		6 284 968	1.0	62 849 680	3.6
Ilmarinen Mutual Pension Insurance Company	5 176 400	590 700	5 767 100	1.0	52 354 700	3.0
Suomi Mutual Life Assurance Company	4 350 000	580 400	4 930 400	0.8	44 080 400	2.5
Industrial Insurance Company Ltd	4 350 000	550 000	4 900 000	0.8	44 050 000	2.5
The Local Government Pensions Institution	3 120 888	1 084 800	4 205 688	0.7	32 293 680	1.8
Svenska Litteratursällskapet i Finland rf	3 775 864	8 272	3 784 136	0.6	37 766 912	2.2
Varma-Sampo Mutual Pension Insurance Company	2 581 000	8 100	2 589 100	0.4	25 818 100	1.5
Pohjola Life Assurance Company Ltd	2 107 000	228 000	2 335 000	0.4	21 298 000	1.2

The number of registered shareholders was 30 339 on December 31, 1998. Each nominee register (17) is included in this figure as only one registered shareholder.

Shares and warrants owned by Board of Directors and Group Executive Board

Members of the Board of Directors and Group Executive Board owned an aggregate of 9 280 K shares and 99 760 A shares representing 0.02 per cent of the aggregate number of shares and 0.02 per cent of the aggregate voting rights as well as a number of warrants representing 4.5 per cent of the total number of warrants issued on December 31, 1998. If exercised in full said warrants would be exercisable for 1 381 600 A shares representing rights 0.23 per cent of the total number of shares and 0.08 per cent of the total voting as of December 31, 1998.

Shares registered in the name of a nominee on December 1998

	K shares	A shares	Total	Per cent of shares	Number of voting rights	Per cent of voting rights
Merita Bank Ltd	17 867 269	431 247 084	449 114 353	74.2	609 919 774	34.9
Other nominees	508 047	13 701 581	14 209 628	2.3	18 782 051	1.1

Breakdown of share ownership on December 31, 1998

By number of shares owned	Number of shareholders	Per cent of shareholders	Total number of shares	Per cent of share capital	Average holding
1–500	19 523	64.2	3 113 486	0.5	159
501–1 000	3 919	13.0	2 939 315	0.5	750
1 001–10 000	6 127	20.2	17 673 038	2.9	2 884
10 001–100 000	698	2.3	16 535 219	2.7	23 689
Over 100 000	72	0.3	102 011 525	16.9	1 416 827
Total	30 339	100.0	142 272 583	23.5	4 676
Shares registered in the name of a nominee			463 323 981	76.5	
Total			605 596 564	100.0	

By shareholder category, per cent	K shares	A shares	Total
1. Foreign shareholders [2]	15.0	93.1	76.7
2. Non-financial corporations [3]	29.8	1.4	7.3
3. Households	12.2	2.9	4.9
4. Financial and insurance institutions	17.9	1.0	4.6
5. Non-profit organisations	13.2	0.7	3.3
6. General government	11.9	0.9	3.2
Total	100.0	100.0	100.0

1) No voting right can be exercised through shares owned by Nokia Group.
2) Includes the shares registered in the name of a nominee and the shares owned by Nokia Inc.
3) Includes the shares owned by Nokiterra Oy.

Nokia 1994–1998, IAS (MFIM)

	1998	1997	1996	1995	1994
Profit and loss account, MFIM					
Net sales	**79 231**	52 612	39 321	36 810	30 177
Cost and expenses	**-64 432**	-44 158	-35 055	-31 798	-26 581
Operating profit	**14 799**	8 454	4 266	5 012	3 596
Share of results of associated companies	**38**	54	37	85	22
Financial income and expenses	**-234**	-137	-405	-164	384
Profit before tax and minority interests	**14 603**	8 371	3 898	4 933	4 002
Tax	**-4 380**	-2 274	-856	-769	-932
Minority interests	**-231**	-99	2	-77	-75
Profit from continuing operations	**9 992**	5 998	3 044	4 087	2 995
Discontinued operations	**-**	261	219	-2 340	-
Profit from ordinary activities before cumulative effect of change in accounting policies	**9 992**	6 259	3 263	1 747	2 995
Cumulative prior year effect (after tax) of change in accounting policies	**416**	-	-	485	-
Profit before extraordinary items	**10 408**	6 259	3 263	2 232	2 995
Extraordinary items	**-**	-	-	-	944
Net profit	**10 408**	6 259	3 263	2 232	3 939

	1998	1997	1996	1995	1994
Balance sheet items, MFIM					
Fixed assets and other non-current assets	**13 200**	9 445	8 409	9 047	7 943
Current assets	**46 460**	32 293	24 866	23 714	19 906
Inventories	**7 684**	7 314	6 423	9 982	6 803
Accounts receivable and prepaid expenses	**21 588**	12 732	10 898	9 518	7 835
Cash and cash equivalents	**17 188**	12 247	7 545	4 214	5 268
Shareholders' equity	**30 379**	21 524	15 925	13 806	12 418
Minority shareholders' interests	**376**	195	29	422	555
Long-term liabilities	**2 429**	1 643	2 414	2 578	3 557
Long-term interest-bearing liabilities	**1 530**	1 348	2 117	2 121	3 071
Deferred tax liabilities	**522**	-	-	-	-
Other long-term liabilities	**377**	295	297	457	486
Current liabilities	**26 476**	18 376	14 907	15 955	11 319
Short-term borrowings	**4 157**	3 008	3 404	4 332	2 453
Current portion of long-term loans	**361**	285	555	187	278
Accounts payable and accrued liabilities	**21 496**	14 541	10 610	9 388	8 086
Advance payments	**462**	542	338	396	502
Discontinuity/restructuring provision	**-**	-	-	1 652	-
Total assets	**59 660**	41 738	33 275	32 761	27 849

	1998	1997	1996	1995	1994
Net sales by business group, MFIM					
Nokia Telecommunications	**26 103**	18 826	13 333	10 341	6 906
Nokia Mobile Phones	**47 984**	27 643	21 579	16 052	10 702
Other Operations*	**6 029**	7 239	5 197	11 156	13 119
Inter-business group eliminations	**-885**	-1 096	-788	-739	-550
Nokia Group	**79 231**	52 612	39 321	36 810	30 177
Net sales by market area, MFIM					
Finland	**2 763**	2 557	2 440	3 227	3 449
Other European countries	**41 011**	26 914	20 587	20 807	17 758
Americas	**16 740**	9 520	6 334	4 715	4 061
Asia-Pacific	**16 873**	12 105	8 788	7 138	3 821
Other countries	**1 844**	1 516	1 172	923	1 088
Total	**79 231**	52 612	39 321	36 810	30 177
Operating profit/loss, MFIM					
Nokia Telecommunications	**5 706**	4 053	2 982	2 722	1 700
Nokia Mobile Phones	**9 158**	3 837	1 431	1 753	1 745
Other Operations**	**-65**	564	-147	537	151
Nokia Group	**14 799**	8 454	4 266	5 012	3 596
Average personnel					
Nokia Telecommunications	**19 280**	15 710	12 558	9 915	7 187
Nokia Mobile Phones	**16 064**	12 631	10 927	10 616	5 826
Other Operations*	**5 747**	7 149	8 281	11 417	15 030
Nokia Group	**41 091**	35 490	31 766	31 948	28 043
In Finland	**20 978**	19 342	17 999	17 821	14 984
Outside Finland	**20 113**	16 148	13 767	14 127	13 059

* “Other operations” include discontinued and divested operations as follows: Nokia Power 1994, Nokia Tyres and Machinery until the moment of disposal 1994-1995, TV business 1994-1995, NKF/Cable Industry until the moment of disposal 1994-1996 and Türkkablo/Cable Industry 1994-1996.

** “Other operations” include the operating profit/loss of discontinued and divested operations as follows: Nokia Power 1994, Nokia Tyres and Machinery until the moment of disposal 1994-1995, NKF/Cable Industry until the moment of disposal 1994-1996 and Türkkablo/Cable Industry 1994-1996.

Nokia 1994–1998, IAS, Proforma (MEUR)

	1998	1997	1996	1995	1994
Profit and loss account, MEUR					
Net sales	**13 326**	8 849	6 613	6 191	5 075
Cost and expenses	**-10 837**	-7 427	-5 896	-5 348	-4 470
Operating profit	**2 489**	1 422	717	843	605
Share of results of associated companies	**6**	9	6	14	4
Financial income and expenses	**-39**	-23	-68	-27	64
Profit before tax and minority interests	**2 456**	1 408	655	830	673
Tax	**-737**	-382	-144	-130	-157
Minority interests	**-39**	-17	1	-13	-12
Profit from continuing operations	**1 680**	1 009	512	687	504
Discontinued operations	**-**	44	37	-393	-
Profit from ordinary activities before cumulative effect of change in accounting policies	**1 680**	1 053	549	294	504
Cumulative prior year effect (after tax) of change in accounting policies	**70**	-	-	81	-
Profit before extraordinary items	**1 750**	1 053	549	375	504
Extraordinary items	**-**	-	-	-	158
Net profit	**1 750**	1 053	549	375	662

	1998	1997	1996	1995	1994
Balance sheet items, MEUR					
Fixed assets and other non-current assets	**2 220**	1 589	1 414	1 522	1 336
Current assets	**7 814**	5 431	4 182	3 988	3 348
Inventories	**1 292**	1 230	1 080	1 679	1 144
Accounts receivable and prepaid expenses	**3 631**	2 141	1 833	1 601	1 318
Cash and cash equivalents	**2 891**	2 060	1 269	708	886
Shareholders' equity	**5 109**	3 620	2 678	2 322	2 089
Minority shareholders' interests	**63**	33	5	71	93
Long-term liabilities	**409**	276	406	434	598
Long-term interest-bearing liabilities	**257**	226	356	357	516
Deferred tax liabilities	**88**	-	-	-	-
Other long-term liabilities	**64**	50	50	77	82
Current liabilities	**4 453**	3 091	2 507	2 683	1 904
Short-term borrowings	**699**	506	573	729	413
Current portion of long-term loans	**61**	48	93	31	47
Accounts payable and accrued liabilities	**3 615**	2 446	1 784	1 579	1 360
Advance payments	**78**	91	57	66	84
Discontinuity/restructuring provision	**-**	-	-	278	-
Total assets	**10 034**	7 020	5 596	5 510	4 684

Additional quartely information in euros for 1995–1998 on the Internet at www.nokia.com

	1998	1997	1996	1995	1994
Net sales by business group, MEUR					
Nokia Telecommunications	**4 390**	3 166	2 242	1 739	1 162
Nokia Mobile Phones	**8 070**	4 649	3 629	2 700	1 800
Other Operations*	**1 014**	1 218	874	1 876	2 206
Inter-business group eliminations	**-148**	-184	-132	-124	-93
Nokia Group	**13 326**	8 849	6 613	6 191	5 075

	1998	1997	1996	1995	1994
Net sales by market area, MEUR					
Finland	**465**	430	410	543	580
Other European countries	**6 898**	4 527	3 463	3 499	2 987
Americas	**2 815**	1 601	1 065	793	683
Asia-Pacific	**2 838**	2 036	1 478	1 201	642
Other countries	**310**	255	197	155	183
Total	**13 326**	8 849	6 613	6 191	5 075

	1998	1997	1996	1995	1994
Operating profit/loss, MEUR					
Nokia Telecommunications	**960**	682	501	458	286
Nokia Mobile Phones	**1 540**	645	241	295	294
Other Operations**	**-11**	95	-25	90	25
Nokia Group	**2 489**	1 422	717	843	605

* "Other operations" include discontinued and divested operations as follows: Nokia Power 1994, Nokia Tyres and Machinery until the moment of disposal 1994–1995, TV business 1994–1995, NKF/Cable Industry until the moment of disposal 1994–1996 and Türkkablo/Cable Industry 1994–1996.
** "Other operations" include the operating profit/loss of discontinued and divested operations as follows: Nokia Power 1994, Nokia Tyres and Machinery until the moment of disposal 1994–1995, NKF/Cable Industry until the moment of disposal 1994–1996 and Türkkablo/Cable Industry 1994–1996.

Nokia 1994–1998, IAS (MFIM)

Key ratios and economic indicators

	1998	1997	1996	1995	1994
Net sales, MFIM	**79 231**	52 612	39 321	36 810	30 177
Change, %	**50.6**	33.8	6.8	22.0	27.3
Exports from Finland, MFIM	**41 847**	32 156	23 461	17 738	13 723
Exports and foreign subsidiaries, MFIM	**76 468**	50 055	36 881	33 583	26 728
Salaries and social expenses, MFIM	**11 640**	7 830	5 344	6 492	5 515
Operating profit, MFIM	**14 799**	8 454	4 266	5 012	3 596
% of net sales	**18.7**	16.1	10.8	13.6	11.9
Financial income and expenses, MFIM	**-234**	-137	-405	-164	384
% of net sales	**-0.3**	-0.3	-1.0	-0.4	1.3
Profit before tax and minority interests, MFIM	**14 603**	8 371	3 898	4 933	4 002
% of net sales	**18.4**	15.9	9.9	13.4	13.3
Profit from continuing operations, MFIM	**9 992**	5 998	3 044	4 087	2 995
% of net sales	**12.6**	11.4	7.7	11.1	9.9
Taxes, MFIM	**4 380**	2 274	856	769	932
Dividends, MFIM	**3 482** *	2 249	1 048	899	749
Capital expenditure, MFIM	**4 527**	2 402	2 028	3 299	1 967
% of net sales	**5.7**	4.6	5.2	9.0	6.5
Gross investments**, MFIM	**6 374**	3 974	3 058	4 179	2 410
% of net sales	**8.0**	7.6	7.8	11.4	8.0
R&D expenditure, MFIM	**6 838**	4 560	3 514	2 531	1 937
% of net sales	**8.6**	8.7	8.9	6.9	6.4
Average personnel	**41 091**	35 490	31 766	31 948	28 043
Non-interest bearing liabilities, MFIM	**22 857**	15 378	11 245	11 893	9 074
Interest bearing liabilities, MFIM	**6 048**	4 641	6 076	6 640	5 802
Return on capital employed, %	**50.2**	38.3	22.7	29.1	25.4
Return on equity, %	**38.5**	32.0	20.5	31.2	31.6
Equity ratio, %	**52.0**	52.7	48.4	44.0	47.4
Net debt to equity, %	**-36**	-35	-9	17	4

* Board's proposal

** Incl. also acquisitions, invesment in shares and R&D capitalization.

Calculation of Key Ratios, see page 42.

Nokia 1994–1998, IAS, Proforma (MEUR)

Key ratios and economic indicators

	1998	1997	1996	1995	1994
Net sales, MEUR	**13 326**	8 849	6 613	6 191	5 075
Change, %	**50.6**	33.8	6.8	22.0	27.3
Exports from Finland, MEUR	**7 038**	5 408	3 946	2 983	2 308
Exports and foreign subsidiaries, MEUR	**12 861**	8 419	6 203	5 648	4 495
Salaries and social expenses, MEUR	**1 958**	1 317	899	1 092	928
Operating profit, MEUR	**2 489**	1 422	717	843	605
% of net sales	**18.7**	16.1	10.8	13.6	11.9
Financial income and expenses, MEUR	**-39**	-23	-68	-27	64
% of net sales	**-0.3**	-0.3	-1.0	-0.4	1.3
Profit before tax and minority interests, MEUR	**2 456**	1 408	655	830	673
% of net sales	**18.4**	15.9	9.9	13.4	13.3
Profit from continuing operations, MEUR	**1 680**	1 009	512	687	504
% of net sales	**12.6**	11.4	7.7	11.1	9.9
Taxes, MEUR	**737**	382	144	130	157
Dividends, MEUR	**586** *	378	176	151	126
Capital expenditure, MEUR	**761**	404	341	555	331
% of net sales	**5.7**	4.6	5.2	9.0	6.5
Gross investments**, MEUR	**1 072**	668	514	703	405
% of net sales	**8.0**	7.6	7.8	11.4	8.0
R&D expenditure, MEUR	**1 150**	767	591	426	326
% of net sales	**8.6**	8.7	8.9	6.9	6.4
Average personnel	**41 091**	35 490	31 766	31 948	28 043
Non-interest bearing liabilities, MEUR	**3 844**	2 586	1 891	2 000	1 526
Interest bearing liabilities, MEUR	**1 017**	781	1 022	1 117	976
Return on capital employed, %	**50.2**	38.3	22.7	29.1	25.4
Return on equity, %	**38.5**	32.0	20.5	31.2	31.6
Equity ratio, %	**52.0**	52.7	48.4	44.0	47.4
Net debt to equity, %	**-36**	-35	-9	17	4

Proposal by the Board of Directors to the Annual General Meeting

The distributable earnings in the balance sheet of the Group amount to FIM 22 471 million and those of the Company to FIM 13 279 million.

The Board proposes that from the funds at the disposal of the Annual General Meeting, a dividend of FIM 5.75 per share is to be paid out on a total of 605 596 564 K and A shares, amounting to FIM 3 482 million.

Espoo, January 29, 1999

Casimir Ehrnrooth **Iiro Viinanen**

Pirkko Alitalo **Edward Andersson** **Paul J. Collins**

Jouko K. Leskinen **Robert F.W. van Oordt** **Vesa Vainio**

Jorma Ollila
President and CEO

Auditors' Report

To the shareholders of Nokia Corporation

We have audited the accounting records, the financial statements and the administration of Nokia Corporation for the year ended December 31, 1998. The financial statements prepared by the Board of Directors and the President and Chief Executive Officer include the report of the Board of Directors, consolidated financial statements prepared in accordance with International Accounting Standards (IAS), and parent company financial statements prepared in accordance with prevailing regulations in Finland (FAS). Based on our audit we express an opinion on the consolidated financial statements and on the parent company's financial statements and administration.

We conducted our audit in accordance with Finnish Generally Accepted Auditing Standards. Those standards require that we plan and perform the audit in order 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 and significant estimates made by the management, as well as evaluating the overall financial statement presentation. The purpose of our audit of the administration has been to examine that the Board of Directors and the President and Chief Executive Officer have complied with the rules of the Finnish Companies' Act.

Consolidated financial statements

In our opinion, the consolidated financial statements prepared in accordance with International Accounting Standards (IAS) give a true and fair view of the consolidated result of operations as well as of the financial position. The financial statements are in accordance with prevailing regulations in Finland and can be adopted.

Parent company financial statements and administration

The financial statements have been prepared in accordance with the Finnish Accounting Act and other rules and regulations governing the preparation of financial statements in Finland. The financial statements give a true and fair view, as defined in the Finnish Accounting Act, of the parent company's result of operations, as well as the financial position. The financial statements can be adopted and the members of the Board of Directors and the President and Chief Executive Officer of the parent company can be discharged from liability for the period audited by us. The proposal by the Board of Directors concerning the disposition of the profit for the year is in compliance with the Finnish Companies' Act.

In accordance with Finnish regulations we have acquainted ourselves with the interim reports published by the company during the year. In our opinion they have been prepared in accordance with the rules and regulations governing the preparation of such reports.

Espoo, January 29, 1999

Eric Haglund	**Lars Blomquist**
Authorized Public Accountant	Authorized Public Accountant
(KPMG)	(PricewaterhouseCoopers)

U.S. GAAP

The principal differences between IAS and U.S. GAAP are presented below together with explanations of certain adjustments that affect consolidated net income and total shareholders' equity as of and for the years ended December 31:

	1998 MFIM	1997 MFIM
Reconciliation of net income		
Net income reported under IAS	10 408	6 259
U.S. GAAP adjustments:		
Deferred income taxes	-	174
Pension expense	96	144
Development costs	-109	-180
Marketable securities	172	-
Sale-leaseback transaction	4	4
Deferred tax effect of U.S. GAAP adjustments	-110	-5
Net income under U.S. GAAP	10 461	6 396

	1998 MFIM	1997 MFIM
Reconciliation of shareholders' equity		
Total shareholders' equity reported under IAS	30 379	21 524
U.S. GAAP adjustments:		
Deferred income taxes	-	416
Pension expense	269	173
Development costs	-824	-715
Marketable securities	530	114
Sale-leaseback transaction	-24	-28
Deferred tax effect of U.S. GAAP adjustments	8	118
Total shareholders' equity under U.S. GAAP	30 338	21 602

Deferred income taxes

Beginning January 1, 1998 the Group has accounted for deferred income taxes under IAS using the liability method.

The differences between the application of IAS and U.S. GAAP are insignificant in relation to Nokia's deferred tax balance.

Prior to January 1, 1998, under IAS, deferred income taxes were not provided for differences between taxable income and accounting income that were not expected to reverse for some considerable period of time. U.S. GAAP requires recognition of deferred income taxes on a comprehensive basis for all temporary differences. Under this method, deferred tax liabilities and assets are determined based on the difference between the financial statement and tax bases of assets and liabilities using enacted tax rates in effect at year-end. Deferred tax assets are also recognized on net operating loss carryforwards, reduced by a valuation allowance where it is more likely than not that the asset will not be realized.

Pension expense

Under IAS, the determination of pension expense for defined benefit plans differs from the methodology set forth in U.S. GAAP. For purposes of U.S. GAAP, the Group has estimated the effect on net income and shareholders' equity assuming the application of SFAS No. 87 in calculating pension expense as of January 1, 1992.

Development costs

Development costs have been capitalized under IAS after the product involved has reached a certain degree of technical feasibility. Capitalization ceases and depreciation begins when the product becomes available to customers. The depreciation period of these capitalized assets is between two and five years.

Under U.S. GAAP software development costs would similarly be capitalized after the product has reached a certain degree of technical feasibility. However, certain non-software related development costs capitalized under IAS would not be capitalizable under U.S. GAAP and therefore would have been expensed.

Marketable securities

Under IAS, marketable securities for which it is management's intent to sell within the current operating cycle are marked to market value; otherwise such securities are carried at cost. The unrealized gain or loss recognized in connection with these securities that have been marked to market is charged to the profit and loss statement. Under U.S. GAAP, the Group's marketable securities would be classified as available for sale and carried at aggregate fair value with gross unrealized holding gains and losses reported as a separate component of shareholders' equity. Any unrealized losses recognized under IAS would be reversed under U.S. GAAP.

Sale-leaseback transaction

Under IAS, the Group recorded a gain from a transaction involving the sale of property and equipment and has recorded rental expense associated with the subsequent leaseback of such property and equipment.

Under U.S. GAAP, the sale-leaseback transaction would be treated as a financing. Accordingly, the gain would be reversed and the proceeds from the sale treated as an obligation. Rental payments would be applied to interest expense on the obligation as well as to reducing the principal amount of the obligation.

Calculation of Key Ratios

KEY RATIOS UNDER IAS

Operating profit
Profit after depreciation

Shareholders' equity
Share capital + reserves

Earnings per share

$$\frac{\text{Profit from continuing operations}}{\text{Average of adjusted number of shares during the year}}$$

P/E ratio

$$\frac{\text{Adjusted share price, December 31}}{\text{Earnings per share}}$$

Dividend per share

$$\frac{\text{Nominal dividend per share}}{\text{The adjustment coefficients of the share issues that have taken place during or after the year in question}}$$

Payout ratio

$$\frac{\text{Dividend per share}}{\text{Earnings per share}}$$

Dividend yield, %

$$\frac{\text{Nominal dividend per share}}{\text{Share price}}$$

Shareholders' equity per share

$$\frac{\text{Shareholders' equity}}{\text{Adjusted number of shares at year-end}}$$

Market capitalization
Number of shares x share price per share class

Adjusted average share price

$$\frac{\text{Amount traded, in FIM, during the period}}{\text{Adjusted number of shares traded during the period}}$$

Share turnover, %

$$\frac{\text{Number of shares traded during the period}}{\text{Average number of shares during the period}}$$

Return on capital employed, %

$$\frac{\text{Profit before taxes and minority interests + interest and other financial expenses}}{\text{Average shareholders' equity + short-term borrowings + long-term interest-bearing liabilities (including the current portion thereof) + minority shareholders' interests}}$$

Return on shareholders' equity, %

$$\frac{\text{Profit from continuing operations}}{\text{Average shareholders' equity during the year}}$$

Equity ratio, %

$$\frac{\text{Shareholders' equity + minority shareholders' interests}}{\text{Total assets - advance payments received}}$$

Net debt to equity (gearing), %

$$\frac{\text{Long-term interest-bearing liabilities (including the current portion thereof) + short-term borrowings - cash and cash equivalents}}{\text{Shareholders' equity + minority shareholders' interests}}$$

Year-end currency rates

	1998	1997	1996	1995	1994
1 FIM =					
USD	**0.198**	0.187	0.215	0.229	0.211
GBP	**0.118**	0.112	0.129	0.148	0.135
SEK	**1.594**	1.443	1.476	1.527	1.572
DEM	**0.329**	0.331	0.335	0.329	0.327
FRF	**1.103**	1.108	1.133	1.122	1.127
ITL	**325.733**	324.675	330.033	363.636	342.466
JPY	**22.815**	24.056	24.618	23.618	21.013

1 EUR = 5.94573 FIM

Average rates

	1998	1997	1996	1995	1994
1 FIM =					
USD	**0.187**	0.194	0.218	0.229	0.191
GBP	**0.113**	0.118	0.140	0.145	0.125
SEK	**1.483**	1.474	1.462	1.626	1.481
DEM	**0.329**	0.334	0.327	0.327	0.311
FRF	**1.104**	1.125	1.114	1.138	1.063
ITL	**325.000**	328.615	337.312	372.024	309.215
JPY	**24.418**	23.435	23.679	21.456	19.541

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