

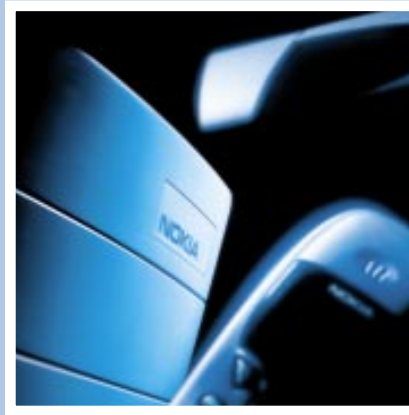


**NOKIA**

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NOKIA

NOKIA



## NOKIA

Nokia is the world's second largest mobile phone manufacturer and a leading supplier of digital mobile and fixed networks. As a broad-scope telecommunications company, Nokia also supplies multimedia equipment, satellite and cable receivers, computer monitors, as well as other telecommunications related products.

Another record year's results reflect solid achievements in all business areas. In 1997, Nokia had sales in 130 countries, totaling FIM 52.6 billion (USD 9.8 billion), and employed more than 36,000 people.

*It's not just **ideas** and processes.*

*It's more like **design,***

**I N S P I R A T I O N, *visions, human touch...***

*Nokia Connecting People.*

Nokia offers advanced solutions and products within wireless and wireline telecommunications, including mobile and fixed networks, mobile phones and other terminals for voice, data, picture and video. Global research and develop-

ment activities serve all Nokia entities, contributing to future technologies and bringing added value to our customers. Special attention is given to third generation wireless systems, multimedia and Internet applications, as well as network management solutions.

Nokia strives for continued leadership in the fastest growing global telecommunications segments through speed in anticipating and fulfilling customer and consumer needs, quality in products and processes, as well as openness with people and their new ideas.

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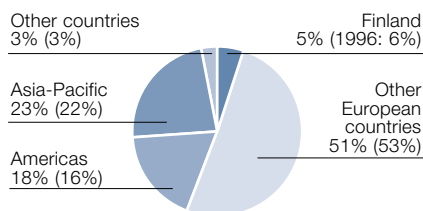
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# Nokia 1997

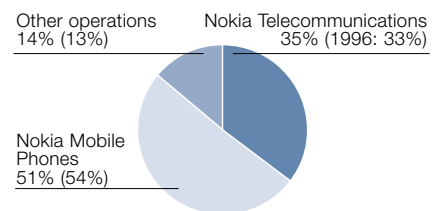
## Highlights

- Nokia sold 21.3 million mobile phones, with a global market share of over 21%.
- Nokia won 12 new GSM infrastructure and 14 new fixed switching customers. Nokia's market share in GSM rose to close to 30%, and Nokia became the largest base station supplier in Europe.
- Nokia introduced the world's first digital satellite receiver with a Common Interface, the Nokia Mediamaster 9600 S.
- Nokia introduced 31 new mobile phone models including the new generation product family, the Nokia 6100 series.
- Nokia expanded its global R&D and established new units in China, Denmark, Japan, Malaysia and Sweden.
- Nokia signed a contract for the delivery of the first operating TETRA digital radio network. Nokia also signed a contract for the delivery of the world's first nationwide digital trunked TETRA network for authorities.
- Nokia introduced a new range of monitors, including its first flat panel display, the Nokia 300Xa.
- Nokia introduced the new Nokia 9000i Communicator with enhanced software features. The product is now also available for GSM 1900 in the Americas.
- Nokia strengthened its IP (Internet Protocol) networking competence by acquiring Ipsilon Networks, Inc.
- Nokia enlarged its corporate bonus plans and introduced a Nokia Connecting People Global Bonus Plan, tied to the company's earnings per share development.

## Net sales by market area

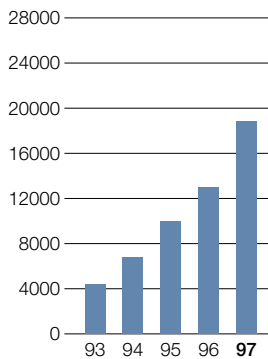


## Net sales by business group

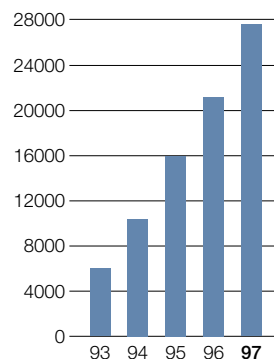


Net sales in 1997 totaled MFIM 52 612.

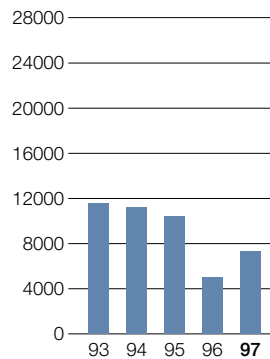
**Nokia  
Telecommunications  
Net sales, MFIM**



**Nokia  
Mobile Phones  
Net sales, MFIM**



**Other  
Operations  
Net sales, MFIM**



**Key Data**

	1997	1996	Change, %
Net sales, FIM million	<b>52 612</b>	39 321	+34
Operating profit, FIM million	<b>8 454</b>	4 266	+98
Profit before taxes, FIM million	<b>8 371</b>	3 898	+115
Profit from continuing operations, FIM million	<b>5 998</b>	3 044	+97
Average number of shares (1 000 shares)	<b>283 282</b>	283 561	
Earnings per share, FIM	<b>21.17</b>	10.73	+97
Dividend per share, FIM	<b>7.50*</b>	3.50	+114
Return on capital employed, %	<b>38.3</b>	22.7	
Net debt to equity (gearing), %	<b>-35</b>	-9	
Research and development, FIM million	<b>4 560</b>	3 514	+30
Capital expenditure**, FIM million	<b>2 402</b>	2 028	+18

1997	Net sales MFIM	Operating profit MFIM	Personnel Dec. 31
Nokia Telecommunications	<b>18 826</b>	<b>4 053</b>	<b>17 168</b>
Nokia Mobile Phones	<b>27 643</b>	<b>3 837</b>	<b>13 371</b>
Other Operations	<b>7 239</b>	<b>564</b>	<b>6 108</b>
Inter-business group eliminations	<b>-1 096</b>		
<b>Nokia Group</b>	<b>52 612</b>	<b>8 454</b>	<b>36 647</b>

The key data above as well as the information given in the Review by the Board of Directors is based on financial statements according to International Accounting Standards, IAS, presented on pages 29–32.

Calculation of key ratios is explained on page 61.

\* Board's proposal.

\*\* Excl. acquisitions and R&D capitalization.

Currency rates at year-end	1997	1996
1 FIM = USD	<b>0.187</b>	0.215
GBP	<b>0.112</b>	0.129
SEK	<b>1.443</b>	1.476
DEM	<b>0.331</b>	0.335
FRF	<b>1.108</b>	1.133
JPY	<b>24.056</b>	24.618
XEU	<b>0.167</b>	0.174

# Nokia Group

## Nokia Telecommunications

**President** Matti Alahuhta

Nokia Telecommunications develops and manufactures infrastructure equipment and systems for mobile and fixed networks. Nokia is the world's second largest supplier of GSM networks and a market leader in mobile data infrastructure. In addition, it is a significant supplier of advanced transmission and switching solutions.

Nokia Telecommunications offers switching systems, access solutions, network management and IP (Internet Protocol) networking, as well as Intelligent Network (IN) solutions for telecom operators for both mobile and fixed networks. The global Customer Services network makes Nokia a full service house.

Nokia Telecommunications has research and development activities in Finland, Australia, Denmark, Germany, Japan, Malaysia, Sweden, the UK and the U.S. Production is conducted in Finland, China, the UK and the U.S. Nokia Telecommunications has 17 200 employees.

## Nokia Mobile Phones

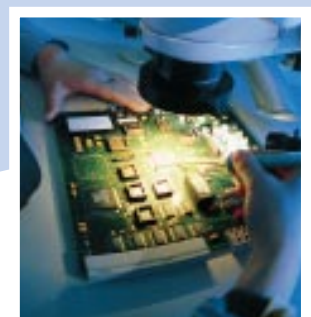
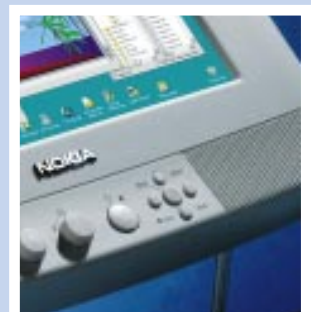
**President** Pekka Ala-Pietilä

Nokia Mobile Phones is the world's second largest mobile phone manufacturer with the leading position in Europe and the number two position in the U.S. In digital phones and pioneering wireless data products, Nokia is a global leader. Nokia's handset product offering covers all major digital and analog standards in 130 countries worldwide.

Development of new technologies and product families is a global effort. Research and development of Nokia's cellular phones is conducted at 11 research centers in seven countries: Finland, Australia, Denmark, Germany, Japan, the UK and the U.S.

Product specification, marketing and production are conducted on a regional basis: in Europe, the Americas, Asia-Pacific and Japan. Nokia's handsets and accessories are manufactured in eight factories in seven countries: Finland, Brazil, China, Germany, Mexico, South Korea and the U.S. Nokia Mobile Phones employs 13 400 people.

### Net sales by market area 1997



## Nokia Multimedia Network Terminals

**President** Heikki Koskinen

Nokia Multimedia Network Terminals is a pioneer in digital satellite, cable and terrestrial network terminals for interactive multimedia applications. Distribution of broadband digital video, audio and data services, including television and interactive services, form the basis for product development.

Nokia Multimedia Network Terminals operates in a global market, and collaborates closely with program and content providers to offer consumers attractive products and services. The division employs 800 people worldwide. Production is located in Sweden, with Product Development centers in Finland, Germany and Sweden. Sales offices are established in all major markets in Europe as well as in Asia-Pacific and the Americas.

## Nokia Industrial Electronics

**President** Hannu Suominen

Nokia Industrial Electronics develops and manufactures computer and workstation monitors, including applications for professional desktop communication and new technology displays. Nokia is a leading professional computer and workstation display manufacturer in Europe. The company's displays are known for their outstanding picture quality, ergonomic design and user-friendliness.

Nokia Industrial Electronics also produces battery chargers for mobile phones, as well as other power supply applications for mobile communication. Nokia is strongly positioned in volume production of chargers, following the growth in the mobile phone market. Additionally, Nokia manufactures advanced RF filters and antennas for wireless communication.

Nokia Industrial Electronics has production facilities in Finland, Hungary and Sweden, and research & development activities in Finland and Sweden. The division has 4 100 employees.

## Nokia Research Center

**Senior Vice President, Research** Juhani Kuusi

Nokia Research Center is the corporate research unit interacting closely with all Nokia business units. Its goal is to enhance the Group'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 in the business units.

To keep up to date with the latest technological developments and to influence them, the center maintains strong global contacts. It actively participates in various international R&D projects in cooperation with universities, research institutes and other telecommunications companies. Additionally, the center supports Nokia's active involvement in the work of global standardization bodies to further develop and define standards in telecommunications.

Nokia Research Center's technology areas are wireless and wireline telecommunications, audio-visual signal processing, software technology and electronics. Its main focuses include GSM enhancement and third generation mobile technology, broadband communications, as well as multimedia.

The center's 700 employees work in Finland, Germany, Hungary, Japan and the U.S.

## Business Group Data

### Nokia Telecommunications

	1997	1996	Change
Net sales	<b>18 826</b>	13 333	+41%
Operating profit	<b>4 053</b>	2 982	+36%
R&D investments	<b>2 556</b>	1 926	+33%
Personnel Dec. 31	<b>17 168</b>	13 475	+27%

### Nokia Mobile Phones

	1997	1996	Change
Net sales	<b>27 643</b>	21 579	+28%
Operating profit	<b>3 837</b>	1 431	+168%
R&D investments	<b>1 714</b>	1 376	+25%
Personnel Dec. 31	<b>13 371</b>	11 329	+18%

### Other Operations \*

	1997	1996	Change
Net sales	<b>7 239</b>	5 197	+39%
Operating profit	<b>564</b>	-147	+484%
Personnel Dec. 31	<b>6 108</b>	6 919	-12%

\* Nokia Multimedia Network Terminals  
Nokia Industrial Electronics  
Nokia Research Center  
General Group Functions



# Review by the President and CEO

## To our shareholders

It is with great satisfaction that I summarize the results of Nokia's operations in 1997. Measured by all indicators, we were able to achieve and even exceed our set targets. Once again, our annual results set a number of new all-time records.

Nokia's net sales grew by 34 per cent, to FIM 52.6 billion and our operating profit almost doubled. In operating profit margin, we reached the industry-high level of 16.1 per cent, compared to 10.8 per cent in 1996. Earnings per share increased by 97 per cent to FIM 21.17, and our financial position is now stronger than ever. We generated a positive cash flow from operations of FIM 10.2 billion and our return on capital employed increased to 38.3 per cent.

These are impressive figures and we have every reason to be satisfied. The results of our activities in 1997 were especially strong as we did not make any compromises in the important investments in research and development, building our already strong

skills, and promoting the visibility and awareness of the Nokia brand. In all of the above mentioned areas, we were able to gain valuable benefits of the critical mass achieved so far.

In 1997, a total of 59 per cent of our sales originated from Europe, 23 per cent from the Asia-Pacific region and 18 per cent from the Americas. In terms of sales, China became our third largest market after the US and the UK.

We set our targets high for 1997.

Nevertheless, as a result of strengthening our market position, increasing efficiencies, volume in production and logistics, growing competence and quality of our overall operations, we clearly demonstrated our ability to reach the targets and even surpass them in many areas.

At the same time, we can state that 1997 was Nokia's first year as a 100 per cent dedicated telecommunications company. The completion of the structural change has allowed us to focus increasingly on our mode of operations, bringing new efficiencies to the surface.

### **Paradigm shift in telecommunications**

The past year was marked by a number of highlights and breakthroughs for Nokia, paving the way for years to come. One emphasis was preparatory work and research in the area of next generation wireless standards. Towards the end of the year, it became clear that the third wireless generation would largely be based on the work we have conducted in our own research laboratories and in cooperation with other telecommunications companies.

Built on the core GSM network, the Wideband Code Division Multiple Access (WCDMA) solution has been selected for the future wireless systems. We are glad that this technology solution took big and positive steps with our strong contribution in 1997 and we anticipate rapid development in upcoming years. Technically solid, it will allow operators, manufacturers and, above all, users a smooth migratory path into a world of new possibilities. Many of today's services will be further improved in the future networks, resulting in economical, fast and personalized solutions.

Another highlight is the emergence of data in all areas of telecommunications. The inclusion of Internet Protocol based services into public networks will change the nature of communications, both in fixed networks, as well as on the wireless side. Fixed and wireless worlds will merge, leaving only a thin line separating the two. Tomorrow's customers will want to be able to use services independently of time, place and technology of access.

In line with the previously mentioned trends, basic voice communication is very rapidly becoming wireless. In Finland and

*Customer satisfaction, **Respect** for the individual,*

*Achievement* and  
CONTINUOUS *learning*





Scandinavia, overall mobile penetration has already increased to more than 40 per cent, and an overwhelming majority of new telephone subscribers worldwide are choosing mobile communications as the preferred way to communicate. Our strong global market share of over 21 per cent in mobile phones, and our broad presence in all of the world's main markets brings us to the forefront of this development.

Increasingly, we have also seen the importance of the visibility of the Nokia brand. For several years, we have together with our distributors and other partners invested in building firm awareness for Nokia as a leading brand in communications. The achieved results have been crucial in helping us to secure our current solid position.

We started our brand building early in the nineties on a large scale in Europe, where we are now the undisputed leader as a preferred brand in mobile communications. During the past few years, we have been very pleased to achieve similar results in many parts of Asia, and in the Americas, which is where global brands are finalized. It is our strong ambition to set our targets even higher to emerge as an industry-leading brand in the future as well. We will continue to strive to meet this goal.

With our leadership in many new areas of telecommunications, as well as our increased global presence and visibility, we have a solid base to move forward and face future challenges. As we experience the shift toward 3rd generation wireless communications, and the inclusion of Internet Protocol based services into public networks, we are confident that we are very well prepared for both.

Being well prepared does not allow time for standing still, and our targets for growth and profitability will remain high. To maintain our success in the future, we will continue to improve our competitiveness in our present businesses. At the same time, we will put forth a special effort to be early in identifying, creating and entering new opportunities in mobile, fixed and data communication.

Based on the paradigms mentioned above, which are the core drivers, we intend to grow parallel with or even faster than the industry in the most attractive segments of telecommunications. We aim for growth, and with that growth we are able to lay the groundwork for continued profitability in the high technology environment we operate in. But growth is also a source of inspiration and a contributor to dynamic change. As such, it is powerful for any organization.

#### **Shareholder value through customer care and dedicated personnel**

The ultimate goal for any company's existence is to generate value for its shareholders. In today's open and global world, where active interaction with the environment is the essential requirement for success, improvement in shareholder value stems from customer care and dedicated personnel.

Together, they enable us to operate efficiently to provide the highest possible long-term return to our shareholders. Solid proof of how we have been able to fulfill this task is the 46 per cent share value increase in 1997, as well as the proposed highest-ever dividend of FIM 7.50 to be paid for the year.

Customer orientation and focusing on competitive solutions are of utmost importance on our list of top priorities. We have taken major steps to maintain and increase our responsiveness, as well as our ability to foresee changes and be the first company to offer competitive solutions and products to our customers again in 1998.

Without motivated and committed personnel and a strong corporate culture, Nokia could not have reached as high as we did last year. Our culture is firmly based on our four core values: Customer satisfaction, Respect for the individual, Achievement and Continuous learning. With pleasure, I have observed a lot of progress in living up to these common values. They have increasingly become part of our everyday work environment. We certainly did not create the values for use in speeches and campaigns only; they were formed with the intention of being used as a way of working life.

High results require hard work. We have improved in all business areas and with the results achieved in 1997, I wish to extend my sincere thanks to the entire personnel of Nokia, all 36 647 people, for making this such an outstanding year.

Maintaining similar high ambition, we face the future with confidence.

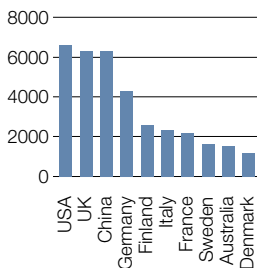
Jorma Ollila

# Review of Operations

**Nokia is a leading international telecommunications company focused on the fast growing segments in the industry. The Group strives to develop and deliver innovative products and total systems solutions. The company's core businesses include supplying mobile and fixed networks to telecommunications operators and dedicated networks to authorities and public utilities, and developing, manufacturing and marketing mobile phones to all major digital and analog standards worldwide. Additionally, Nokia manufactures monitors and multimedia terminals.**

## Nokia's 10 Major Markets 1997

Net sales, MFIM



## Nokia continues to excel in infrastructure business

Nokia is the world's second largest supplier of GSM networks and a significant supplier of fixed networks for voice and data. As a broad-scope telecommunications company, Nokia delivers infrastructure equipment and systems to meet the diverse needs of telecom operators worldwide. It provides switching platforms, fixed and radio access solutions, wireless data, network management and Intelligent Network (IN) solutions for mobile and fixed networks, as well as related customer services.

With deregulation rapidly evolving and being one of the key drivers reshaping the telecommunications industry, the market is becoming increasingly open and competition is more intense. Telecommunications operators must differentiate and expand their service offerings to remain competitive.

As a result, Nokia has grown significantly in several business segments, expanded into new markets and strengthened its position globally in 1997. Nokia has gained market share, especially in Europe and Asia-Pacific, by developing high-quality systems and products designed for the most competitive environments. The telecommunications equipment market has experienced growth of 10–12 per cent. Nokia's market share development in this market has been strong in many segments, with the 58 per cent increase in order inflow in 1997 being even higher than the 41 per cent increase in sales.

In line with the company's global expansion, Nokia Telecommunications invested in strengthening its global network of research and development units in several countries, including Denmark, Japan and Sweden. In addition, Nokia expanded its existing R&D sites in Australia, Finland, Germany, the UK and the U.S.

## Breaking records in wireless network development

As GSM operators continue to establish new networks and increase capacity and coverage with network expansions, the GSM infrastructure market grew by 20–25% in 1997. At the end of the year, Nokia had supplied GSM networks to 65 operators in 34 countries. Nokia's market share in GSM rose to close to 30 per cent.

Nokia holds the world number one position in GSM 1800 networks. With more than 30 GSM 1800 networks established by the end of 1997, Nokia is a network supplier to 19 of these. Eight new milestone agreements signed with, among others, Mobilix, Denmark, Telia Finland, Connect Austria and VIAG Interkom in Germany for the supply of GSM 1800 networks contributed to this significant growth. In addition to its leading position as a GSM 1800 system supplier, Nokia became the leading base station supplier in Europe.

Nokia improved its position in southern Europe by signing major expansion agreements with Omnitel Pronto Italia, one of the fastest growing European GSM operators. In addition, Nokia signed a large expansion agreement with Orange in the UK and won its largest order to date in China, with Fujian PTA.

Nokia also enjoyed significant progress in Australia, Malaysia, New Zealand, the Philippines, Singapore and Thailand.

The Nokia DX 200 GSM switch has proven its competitiveness and ability to flexibly meet increasing capacity needs in mobile networks. This GSM switch already handles 150,000 subscribers in live networks and will continue to reach even higher capacities. "Our success in



## New GSM CUSTOMERS 1997

- Centertel, Poland
- Connect Austria
- Cosmote, Greece
- Digital Phone Company, Thailand
- Mobilix, Denmark
- Mobilkom Austria
- Shanghai PTA, China
- Telia Finland
- Telkomsel, Indonesia
- Telsim, Turkey
- VIAG Interkom, Germany
- Wireless Alliance, USA



Nokia's DX 200 digital switch has proven its adaptability in some of the world's leading mobile and fixed networks. More than 100 operators have implemented this highly flexible technology platform in their networks. A true future-proof platform for both mobile and fixed needs.

GSM is due to a number of factors," states Matti Alahuhta, President, Nokia Telecommunications. "We have understood the market needs and have concentrated on developing solutions to increase operators' competitiveness, by increasing value-added through new services and by simultaneously increasing capacity and coverage to the lowest possible lifetime cost. The high-quality, high-performance Nokia base station system, for example, includes the Intelligent Underlay-Overlay feature which can significantly increase capacity and quality in the GSM network."

In 1997, Nokia's growth in Professional Mobile Radio (PMR) systems was very positive. In addition to maintaining a strong position in analog trunking networks, Nokia won the first four digital Terrestrial Trunked Radio (TETRA) system customers this year. In January, Nokia published a contract for the delivery of the world's first operative TETRA network to the Helsinki City Energy Company. Nokia also delivered TETRA systems to TeleDanmark, to be used by the Dutch Police for testing, and EITele Øst, Norway. In Britain, Nokia is participating in the Quadrant Consortium, which is designing and planning the new digital radio service to be used by the entire country's emergency services. Most recently, Nokia signed an agreement with the Finnish Ministry of the Interior for the world's first nation-wide TETRA contract. The network is a shared system and will provide services for the police, emergency and rescue services, the

## *New Infrastructure Products LAUNCHED in 1997*

- The Nokia Artus wireless data product family
- The Nokia SYNFO NET Access Node
- The Nokia SYNFO NET STM-16 Node
- The world's first GSM Dual Band Base station
- The Nokia Booster Site for GSM networks
- The Nokia Easywave Access, Wireless Local Loop solution
- The Nokia TETRA mobile radio system





**Nokia won the first four digital TETRA system customers in 1997, including the world's first nationwide public safety and security system for the Finnish Ministry of the Interior. EITele Øst, Norway and the Dutch Police among others, rely upon this world-leading technology for their professional mobile radio networks.**

Frontier Guard and other government users throughout Finland. These organizations will use Nokia's TETRA system to improve speech and data communication and utilize new services provided by this technology.

### **Integrated Services – the next step**

Deregulation and rapid technological development are reshaping the telecommunications markets in a favorable way for consumers and creating new opportunities for operators. Mobile, fixed and data services, which traditionally have been offered separately, can now be served by a single operator in packages best suited to specific customer needs. This ability to offer one-stop services creates many attractive new opportunities for both existing and new operators. "We estimate that this integration of fixed and mobile voice/data services will be one of the strong development trends in the coming years. For this market need, Nokia has a range of solutions, including the highly flexible Nokia DX 200 switching platform and Intelligent Networks. They enable the flexible use of both fixed and mobile technologies in the most suitable way for an individual operator's business needs," comments Matti Alahuhta. "Therefore, Nokia is well positioned as a strategic partner for those operators moving into the new age of telecommunications."

### **Increased demand in Intelligent Networks**

Another development is the operators' need to offer value-added services to create new revenues. In 1997, this has led to favorable growth for Nokia in the area of Intelligent Network systems (IN), which enable fast, cost-effective and safe deployment of innovative services in both fixed and mobile networks. Nokia's competitiveness in this area is reflected by the three-fold increase in sales of Nokia's IN systems.

With the continuous growth and increasing complexity of today's networks, effective network management is becoming more essential. The significant sales growth of Nokia's Network Management Systems in 1997 demonstrates our capability to meet the requirements for the total management of large telecommunications networks.

The Nokia Customer Service operations also enjoyed significant growth during 1997, increasing personnel to 3,000 worldwide. "Nokia's capabilities as a broad-scope supplier are enhanced by our global Customer Service organization," states Matti Alahuhta. "With such an extensive global team, we can offer customer services for all stages of an operator's business, from network planning, right through to network operation and personnel training."

**With Nokia's fixed network solutions, the exciting opportunities of broadband networks become available to everybody. With Nokia technology, operators can create new and appealing services.**



### Moving ahead in fixed networks

Nokia has thrived in the deregulated fixed network market. The fixed access market grew as operators continued to invest in building their networks. In line with deregulation, many of Nokia's GSM system customers are expanding into fixed network services.

Strongly supporting open standards, Nokia is a market shaper in introducing open interfaces into fixed networks. Nokia is a leader in introducing the V5.1 open interface standard between the access network and the switch. Implementation of the V5 standard enables operators to implement vendor-independent access network solutions for basic telephony, ISDN (Integrated Services Digital Network) and semi-permanent leased lines. Operators are already seeing the cost benefits from the new open access V5 networks in Europe and Asia-Pacific.

Sales of Nokia's SDH (Synchronous Digital Hierarchy) transmission system, Synfonet, steadily increased this year. The number of Nokia's SDH customers increased to 73 in over 20 countries. In 1997, Nokia complemented its SDH family by introducing the highly integrated Synfonet STM-16 and Synfonet Access Node (SAN). "We are great believers in optical transmission also in the access network with optical lines being built closer and closer to the individual customers," comments Mr. Alahuhta.

### Nokia well positioned for changes in data communications

"Data traffic is now increasing rapidly in both fixed and mobile networks," explains Matti Alahuhta. "We can clearly see a future of Internet-based technologies which are crossing all service operators' network boundaries. This is evident from the growth in fixed data communications networks and the development towards higher bandwidth services utilising faster data transmission speeds such as GPRS (General Packet Radio Service) on the mobile side."

The massive increase in Internet subscribers has already resulted in sales of ISDN rising and will soon be followed by the emergence of broadband services. Nokia is strongly focused on ADSL (Asymmetric Digital Subscriber Line) and VDSL (Very High Speed Digital Subscriber Line) transmission, ATM (Asynchronous Transfer Mode) multiplexing and IP (Internet Protocol) processing in access nodes. In December, Nokia also acquired Ipsilon Networks, Inc. This U.S.-based data communications company has extensive IP-routing capabilities that further strengthen Nokia's competitiveness in this area.

During 1997, Nokia again established itself as a market shaper in wireless data with the introduction of the Nokia Artus product family. These products enable operators to provide fast and easy Internet access to mobile users, via their mobile terminals.

### More than 200 million GSM users in 2000

Growth of the GSM market is extremely encouraging. It is estimated that there will be more than 200 million global GSM users in the year 2000, clearly indicating that voice is going wireless. In response to this tremendous growth, Nokia is investing strongly in the development of new services, products and innovative radio access solutions that will reduce the cost of GSM infrastructure.

Nokia will continue to further develop the strengths of GSM as migration towards the third generation accelerates. Nokia was instrumental in the creation of future 3rd generation standards, proposing a new WCDMA (Wideband Code Division Multiple Access) radio technology coupled with the GSM core network for the future 3rd generation networks. Nokia is working in close cooperation with the international standardization bodies and the Japanese operator NTT DoCoMo to develop this optimal technology solution which will accelerate capacity improvements, enable high-speed mass communications and facilitate the introduction of personalized multimedia services. As these interactive services emerge, the "voice going wireless" trend will continue and the amount of data in wireless networks will also grow. The first 3rd generation networks will be implemented in the early years of the next millennium.



The Nokia Synfonet Access Node, one of the newest members of the Nokia SDH product family. This highly flexible product is an ideal solution for those areas where compactness and high functionality are important.

## Points OF INTEREST 1997

- Nokia's market share in GSM systems increased to close to 30%
- Nokia signed its biggest order in China, with the Fujian PTA
- Nokia announced its support of a new Wideband Code Division Multiple Access (WCDMA) technology coupled with the GSM core network for 3rd generation wideband cellular systems
- Penetration rates in mobile network in Finland reached 40%, confirming Nokia's prediction that voice is going wireless
- Nokia announced its capability to provide full V5 solutions for fixed networks
- The number of Nokia's SDH customers increased to 73
- Nokia acquired Ipsilon Networks, Inc. to strengthen its IP-routing competence
- Nokia established new R&D units in Denmark and Sweden for the development of Mobile IN systems and base stations respectively



The Nokia 3110 offers inspired technology that is easy to use. The smart Nokia Navi™Key sets a straight course to the most needed features of the phone. The Nokia Navi™Key is a registered trade mark of Nokia.

## Leading global supplier of innovative terminals

In 1997, Nokia reinforced its leading position as Europe's largest and the U.S. and world's second largest mobile phone manufacturer with sales in 130 countries worldwide. The company is a forerunner in digital technologies and a global leader in wireless data products. Nokia also produces interactive multimedia terminals and high-quality personal and workstation monitors.

The past development indicates that the power of wireless communications and mobility continues thriving in the future. As forecast for 1997, the cellular market has become increasingly digital globally. In Europe and the Asia-Pacific region, digital standards – mainly GSM – are dominating. The multi-standard U.S. environment and the Latin American market are also rapidly approaching digitalization. In 1997, digital products accounted for some 70 per cent of Nokia Mobile Phones' total sales volume of 21.3 million units.

### Global cellular subscriber growth continues

The use of mobile phones continued to gain momentum globally with approximately 200 million cellular subscribers at the end of 1997, up from 135 million in the beginning of the year. The industry estimates that by the end of the year 2000, the global subscriber base will increase to around 470 million. At the end of 1997, approximately 35 per cent of all mobile phone users were based in the Americas, with Europe accounting for some 30 per cent, Japan for nearly 15 and the other Asia-Pacific region for 20 per cent. The single biggest mobile phone market is currently the U.S., followed by Japan, China, Italy and the UK.

"In the Nordic countries, some 40 per cent of the people already use a mobile phone. These penetration figures are among the highest in the world and they are still rising. A similar trend can be witnessed worldwide. The mobile phone is clearly moving toward becoming the preferred means of voice and data communication for both business and private users," says Pekka Ala-Pietilä, President of Nokia Mobile Phones.

### Shortening product lifecycles and differing lifestyles boost growth

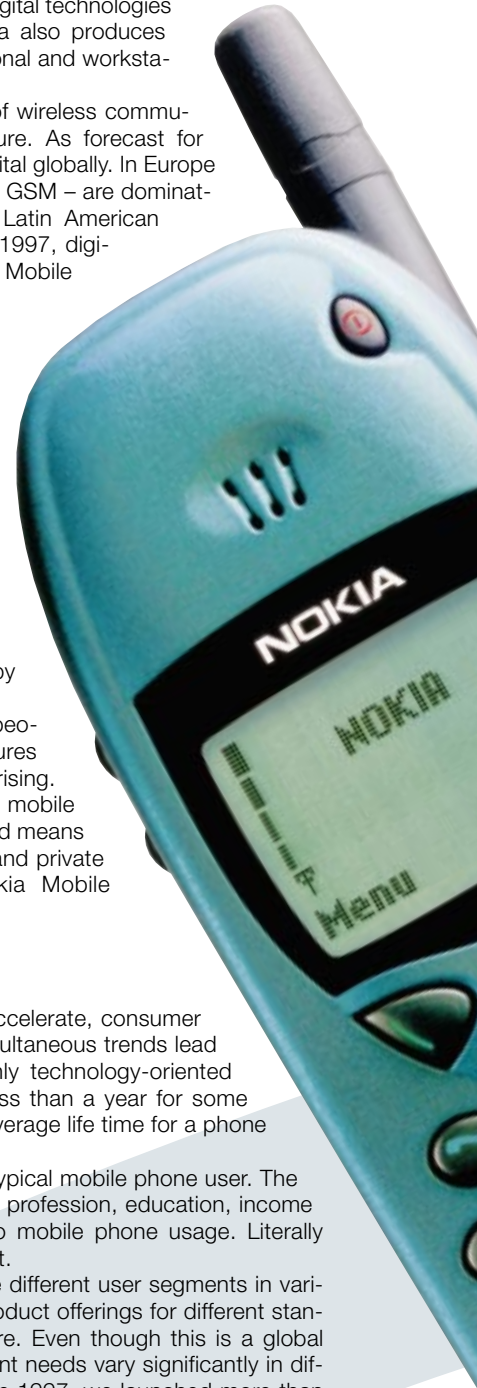
As technology developments in the cellular market accelerate, consumer needs have also become more varied. These two simultaneous trends lead to constantly shortening product life cycles. In highly technology-oriented markets, such as Japan, product life time can be less than a year for some user segments. In Europe and the U.S., the current average life time for a phone is between two and three years.

Today, it is becoming more difficult to define the typical mobile phone user. The demographic differences between gender, nationality, profession, education, income level or age have become less significant factors to mobile phone usage. Literally everyone is a potential customer for a mobile handset.

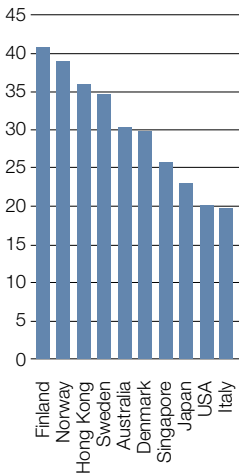
"Nokia has been the first company to go after the different user segments in various markets. This is reflected in our wide range of product offerings for different standards, which will be extremely important in the future. Even though this is a global business, market requirements and consumer segment needs vary significantly in different parts of the world. To address this challenge, in 1997, we launched more than 30 new products globally. A good example of a market specific feature is the Chinese character Short Messaging Service (SMS) that we were the first manufacturer to offer in our mobile phones," Pekka Ala-Pietilä says.

### Different phones for different needs

Nokia's wireless terminal portfolio includes products for different needs, not only in terms of price, but even more importantly in terms of features and functionality. The popular Nokia 3110 with the Navi™Key, providing quick and easy access to all phone functions, represents a basic model with emphasis on ease of use. The new generation Nokia 6100 series of digital phones with their comprehensive set of features and



Cellular penetration in major markets in 1997, %



Source: World Bank, EMC, Preliminary estimates





outstanding operating times appeal to a large number of business and consumer segments.

Apart from the traditional voice service, the new value-added data services will play an increasingly important role for mobile phone users. These wireless information applications include e.g. banking services, timetables, real-time news, sports results and ticket reservation over the Internet, directly from a handset. The Nokia 8110i, introduced in 1997, is the first handportable optimized for quick and easy access to Internet-based operator services. The Nokia 9000i is an all-in-one communications device that integrates a mobile phone, telefax, SMS, Internet browsing and e-mail into a single pocketable unit.

With the wake of the third generation of mobile phones in a few years, the services and information accessible from the Internet via a mobile phone or a similar handheld terminal will become multi-fold. The third generation phones and networks will offer data transmission capacity of up to 2 megabytes per second, facilitating e.g. mobile multimedia and real-time video conferencing. In addition to the standardization work, Nokia actively participates in the development of third generation terminals which are anticipated to be introduced to the market around the year 2000 in Japan and a year or two later in Europe.

#### Technology with a human touch

"The three cornerstones in the development of Nokia phones are usability, reliability and design. We want our phones and their functions to be easy to understand and operate. Reliability means that they perform as expected, even in extreme conditions and over a long period of time. And design with ergonomics, functionality and aesthetic appeal all taken into account, is the essential differentiating factor of Nokia's products. We call this technology with a human touch, and this is perfectly exemplified in our Nokia 6100 product family."

The Nokia 6100 series boasts a standby time of up to 270 hours (11 days) and up to 5 hours of talk-time with a standard battery. They are the first mobile phones to allow the use of all three voice codecs, the Half Rate, Full Rate and the Enhanced Full Rate (EFR), the last of which offers voice quality comparable to that of a landline phone. The graphical user interface is based on a completely

**Value-added wireless services, such as banking, timetables, news and ticket reservation possibilities are becoming increasingly important for mobile phone users.**

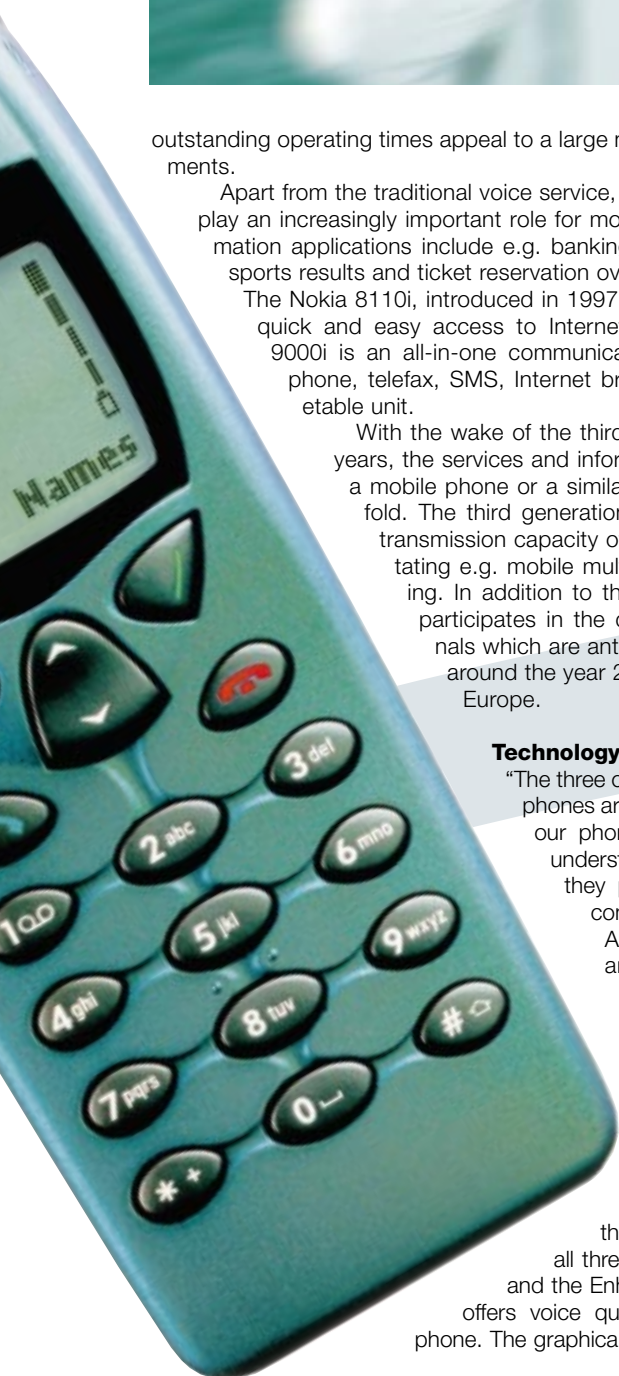
## New Products LAUNCHED in 1997

#### Digital mobile phones and other devices

- Nokia 1610plus for GSM 900
- Nokia 1611 for GSM 900
- Nokia 2160i for TDMA 800
- Nokia 2170 for CDMA 1900
- Nokia 2180 for CDMA 800
- Nokia 2190 for GSM 1900
- Nokia 3110 for GSM 900
- Nokia 3810 for GSM 900
- Nokia 6081 for GSM 900
- Nokia 6110 for GSM 900
- Nokia 6130 for GSM 1800
- Nokia 6138 for GSM 1800
- Nokia 6190 for GSM 1900
- Nokia 8110i for GSM 900
- Nokia 8110plus for GSM 900
- Nokia 8148 for GSM 1800
- Nokia 9000 Communicator for GSM 1800
- Nokia 9000i Communicator for GSM 900
- Nokia 9000i Communicator for GSM 1800
- Nokia 9000i for GSM 1900
- Nokia Cellular Card Phone
- Nokia PDC Phone for Japan
- Nokia Wireless Payphone
- Nokia Cellular Data Suite
- Nokia Soft Data

#### Analog mobile phones

- Nokia 252 for AMPS
- Nokia 540 for NMT 450
- Nokia 550 for NMT 450
- Nokia 918 for AMPS
- RinGo for ETACS/NMT 900
- Nokia C6 for German C-Tel network







**The fastest way to turn a notebook PC into a mobile office is to plug in the Nokia Cellular Card Phone. Call, fax, send files and e-mail – and forget about cables and adapters.**

**Usability, reliability and design are the three cornerstones in the developing of Nokia phones. The analog Nokia 252 design phone, introduced in the U.S. in September in 1997, is marketed as "the World's Most Fashionable Phone".**

new software. The phones are adaptable to the owners' varying daily usage situations by means of profile settings and caller groupings.

The Nokia 6100 series was introduced in November 1997 for all GSM standards worldwide. Nokia also introduced a special PDC (Personal Digital Cellular Standard) version for the Japanese market. In January 1998, AMPS/TDMA (Advanced Mobile Phones Service/Time Division Multiple Access) 800/1900 versions for the American market were added to the product family.

Design has a key role in the development of products with a human touch, including elements from good ergonomics to pleasant looks and feel. Design management has been a focused effort for Nokia and it is an acknowledged building block of the global Nokia brand. The Nokia 8110 is one of the most recognizable models in the industry with its slide cover and curved shape. Another example of a design model is the analog Nokia 252, introduced in the U.S. in September 1997. Dubbed "the World's Most Fashionable Phone," it reflects an individuals' personal preferences with its distinctive finishes, colors and contours.

### **Exponential growth in data**

In the near future, growth in wireless data of operators' GSM traffic is expected to be exponential. As the Internet continues to drive the whole telecommunications industry, Nokia aims to maintain its leadership position in the wireless data market, developing terminals and infrastructure that facilitate the use of new services and solutions.

The range of Nokia's data connectivity products and advanced communications devices, such as the Nokia 9000i Communicator, Nokia Cellular Data Suite and Nokia Cellular Card Phone, have reinforced Nokia's superior position in the area of wireless data. Nokia offers comprehensive solutions both in the terminal business and in infrastructure equipment. This year, Nokia introduced the Nokia Artus Access Manager and Nokia Artus Netgate for Internet and data services access.

Nokia has been actively driving wireless data standardization work projects. Together with other industry leaders, Nokia proposed the Wireless Application Protocol (WAP),





Nokia delivered close to one million digital multimedia terminals in 1997.

a common platform for intelligent messaging to wireless terminals. The goal of this joint effort is to develop a global, license-free and platform-independent protocol.

#### **Pioneer in digital video broadcasting**

As the digital revolution rapidly evolves, interactive services such as video, home banking and distance learning are emerging. In order to maintain a competitive advantage, TV and telecom operators are finding it essential to offer these types of new entertainment, education and financial services. "Nokia's expertise in telecommunications, its global presence, skills in digital signal processing and extensive knowledge of converging technologies places us in an extremely good position to anticipate the services that operators want to provide. Nokia can offer them the terminal concepts necessary for providing these value-added services," says Heikki Koskinen, President of Nokia Multimedia Network Terminals Division.

Nokia is a pioneer in all areas of Digital Video Broadcasting (DVB) including cable, fixed, satellite and terrestrial. Nokia is focusing on interfaces for these networks, which are based on Internet and the global DVB standard. Due to the rapid development of services based on DVB and multimedia, and data communications and entertainment broadcasting merging, Nokia's digital multimedia terminals have tremendous opportunities for growth.

European markets including France, Germany, Italy and Spain are already significant areas for DVB-based multimedia terminals for cable and satellite transmission. Growth is expected for the South American market, especially in Argentina and Brazil.

In 1996, the total market of cable and satellite digital terminals was less than 3.5 million units. In the year 2002, phenomenal growth is expected. In the near future, the number of terminals estimated to be sold annually will be approximately 30 million units globally, with the most growth in the U.S., Western European and Asia-Pacific markets.

The European Imaging & Sound Association (EISA) named Nokia Media-master the European Satellite Receiver of the Year '97-'98 in August.



## *Awards FOR products and technologies*

**Nokia 9000 Communicator**  
Business Week Magazine, USA  
*Best New Product 1997*  
Mobile News, UK  
*Best Technological Advance*  
GSM MoU Association (GSM  
World Conference 1997 in  
Cannes, France)  
*GSM World Award (category  
"Innovation")*

**Nokia 8110**  
Industrie Forum Design Hannover,  
Germany  
*IF Seal of Quality for Good  
Industrial Design*

**Nokia 2160**  
International Consumer  
Electronics Show (CES) in Las  
Vegas, USA  
*Innovations '97*





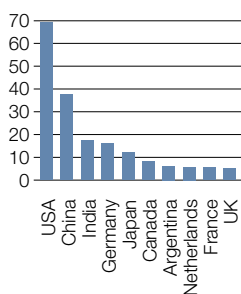
Nokia's mobile phone accessories include fast chargers which enable charging within one hour.

## Launches of satellite receivers and monitors 1997

- World's first digital satellite receiver with Common Interface
- World's first working digital receiver for terrestrial reception
- A range of Free to Air receivers for reception of clear unencrypted digital channels
- A range of new monitors including 15", 17" and 21" screen sizes
- New product category based on 19" screen size
- Nokia 300Xa, Nokia's first flat-screen display

### Worldwide Cable and Satellite Markets 1997

Millions of households



Source: TBI Yearbook, 1997

### Market leader in digital multimedia terminals

As the demand for digital set-top boxes continued to increase this year, Nokia manufactured close to one million digital multimedia terminals. Volumes are also expected to increase in 1998.

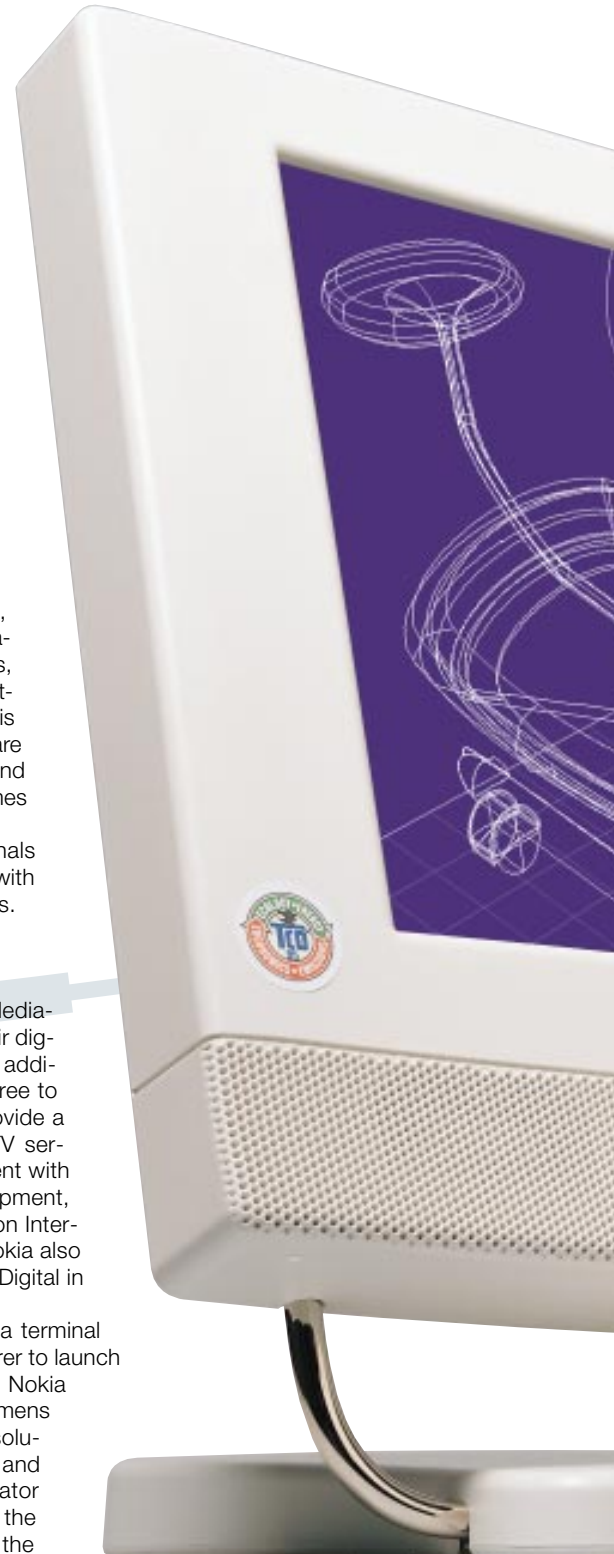
To accommodate this growth, Nokia has signed a contract with U.S.-based electronics manufacturer SCI Systems Inc. Nokia has also increased its R&D investments with facilities in Motala, Sweden; Turku, Finland and Bochum, Germany. Commenting on the concentration in R&D efforts, Mr Koskinen states, "30 per cent of all Nokia Multimedia Network Terminals' R&D is outsourced. This strong cooperation with external software houses is essential to ensure flexibility and fast time to market as this field becomes more fragmented."

Nokia Multimedia Network Terminals also began operations in Asia-Pacific, with Hong Kong as the regional headquarters.

### Launching the digital receiver a significant step

In 1997, Nokia introduced the Nokia Media-master 9600S, the world's first Free to Air digital receiver with Common Interface. In addition, Nokia launched three other new 'Free to Air' digital satellite receivers that will provide a broad range of interactive, radio and TV services. In April, Nokia signed an agreement with Telenor Satellite Services for the development, manufacturing and marketing of Common Interface digital receivers for Scandinavia. Nokia also received a major order from Spain's Via Digital in June.

Additionally, Nokia entered the China terminal market and was also the first manufacturer to launch a digital satellite receiver in the UK. Nokia began cooperation with Germany's Siemens for the development of semiconductor solutions for the digital terrestrial market, and started working with terrestrial operator Teracom in Sweden to prepare for the launch of digital terrestrial services, with the







## Editorial

### AWARDS for Nokia monitors

• 445Xpro	PC Magazine, Germany	Test Winner
• 446Xpro	MikroPC, Finland	Product of the Year 1997
• 447Xpro	MONITOR, Slovakia	"Golden Monitor" Award
• 447Xav	CHIP, Italy	Test Winner
• 447Xi	Personal Computer World, The U.S.	"PCW Highly Recommends."
• 449Xi	Mikrobitti, Finland	Best 15" Monitor
• 449Xa	Computer Panorama, Hungary	Test Winner
• 300Xa	PC Test, Germany	Test Winner
	MikroPC, Finland	Test Winner

UK and Spain planning to be the next to launch digital terrestrial broadcasts. In 1997, Nokia also introduced its World Wide Web and data downloading features in the Nokia Mediamaster through the Multimedia Network Terminal Skybrowser concept.

#### Growth in state-of-the-art monitors

Nokia's high-quality, user-friendly monitors include applications for professional desktop communications and new technology displays. The monitors continue to meet or exceed the ever increasing and stricter industry standards. Nokia's monitors have earned global recognition for excellent image quality and ergonomic design.

Nokia introduced a full range of award-winning monitors, including 15", 17", 19" and 21" screen sizes. Within Nokia's new professional range, the 19" monitor represents a whole new industry category. Also Nokia 300Xa, the first monitor with a flat screen display based on liquid crystal technology, was introduced in 1997. Research and Development efforts have continued in this field, focusing also on innovative monitors with video conferencing capabilities.

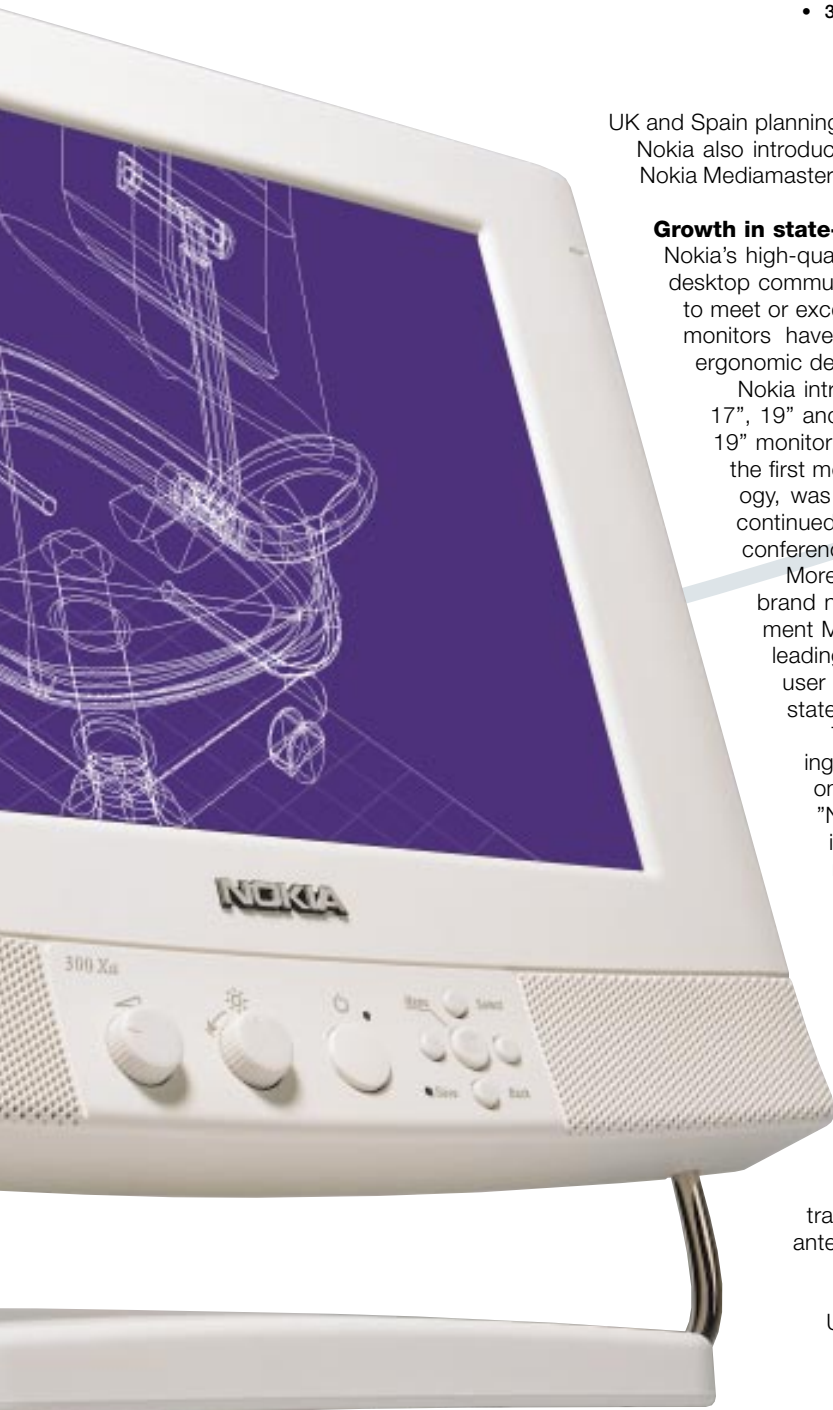
More than 50 per cent of Nokia's monitors are sold under the Nokia brand name, with the remaining portion being sold by Original Equipment Manufacturers (OEM) consisting of the fastest growing, industry leading computer manufacturers. "Our sales growth in professional user group displays this year has clearly surpassed market growth," states Hannu Suominen, President of Nokia Industrial Electronics.

This year, Nokia expanded its activities in Central Europe, including the Czech Republic, Hungary, Poland and Russia. Commenting on the growth potential of these markets, Mr Suominen says, "Nokia is confident that the emerging Central European and Russian markets will grow and strengthen in the future. We have made major investments in production capacity, especially in Hungary where production volumes are more than four times higher than last year, contributing to a total increase in production of about 50 per cent."

#### Fast charger and antenna businesses expanding

Nokia also increased investments in the production of mobile phone accessories and terminal antennas. The mobile phone charger business has grown yearly 40-70 per cent in the past few years. In response to this increasing market demand, Nokia expanded production of its fast chargers for mobile phones in Finland and began contract manufacturing with a partner in Doumen, China. Nokia's antenna business is also expanding, with a new factory beginning operations in Oulu, Finland.

In 1997, Nokia sold its audioelectronics business to U.S.-based Harman International Industries.



## Research and Development

Global partnership and networking with other companies, research institutes and universities is a central part of an efficient R&D operation today. With the help of its global cooperation network, Nokia is able to influence and ensure rapid reactions to technology developments. In 1997, Nokia expanded its global R&D collaboration significantly, and strengthened its position as a creator of global standards.

### Contributing to third generation standardization efforts

Nokia continued to play a major role in the standardization process of the third generation mobile system in all regions. The decision on the third generation mobile standards for Europe was made by ETSI (European Telecommunications Standards Institute) in January 1998, and the U.S. and Japan will finalize their decisions for the next generation mobile standard in 1998. The future Universal Mobile Telecommunication Service (UMTS) technology will be based on Wideband Code Division Multiple Access (WCDMA) radio access technology with certain key features of Time Division/Code Division Multiple Access (TD/CDMA) incorporated. This technology has also been supported by the biggest Japanese mobile operator, NTT DoCoMo.

Nokia fully supports the ETSI standard UMTS as a true third generation system implementing the latest telecommunications research advances. Combined with the GSM core network with its service potential, the WCDMA technology offers the most flexible and future proof solution for the third generation systems. Nokia has wide expertise in WCDMA technologies, and combining this with the modern fixed network technologies, such as Internet/IP, ATM (Asynchronous Transfer Mode) and SDH (Synchronous Digital Hierarchy), Nokia is at the forefront of leading industry initiatives in broadband communications both in fixed and wireless networks.

Nokia has also been a major contributor in the development of the digital mobile communication systems in the United States. Nokia is actively participating in the development of the third generation mobile standards in collaboration with TIA (Telecommunications Industry Association) based on the evolution of the U.S. CDMA (IS-95) and especially TDMA (IS-136) standards. Nokia is also involved in the future development of GSM 1900 standard in co-operation with ETSI and T1P1.

In mobile data, a new Wireless Application Protocol (WAP) was standardized based on strong Nokia R&D input. The continuous GSM standardization activity in ETSI has guaranteed the competitiveness of GSM in the global market with new features and services. Nokia also increased its resources in the R&D of both network architectures and services for the Internet.

Nokia also actively supports DVB (Digital Video Broadcasting) standardization work and develops technology and standards for future interactive services in two-way cable, satellite and terrestrial networks.

### R&D GLOBALLY

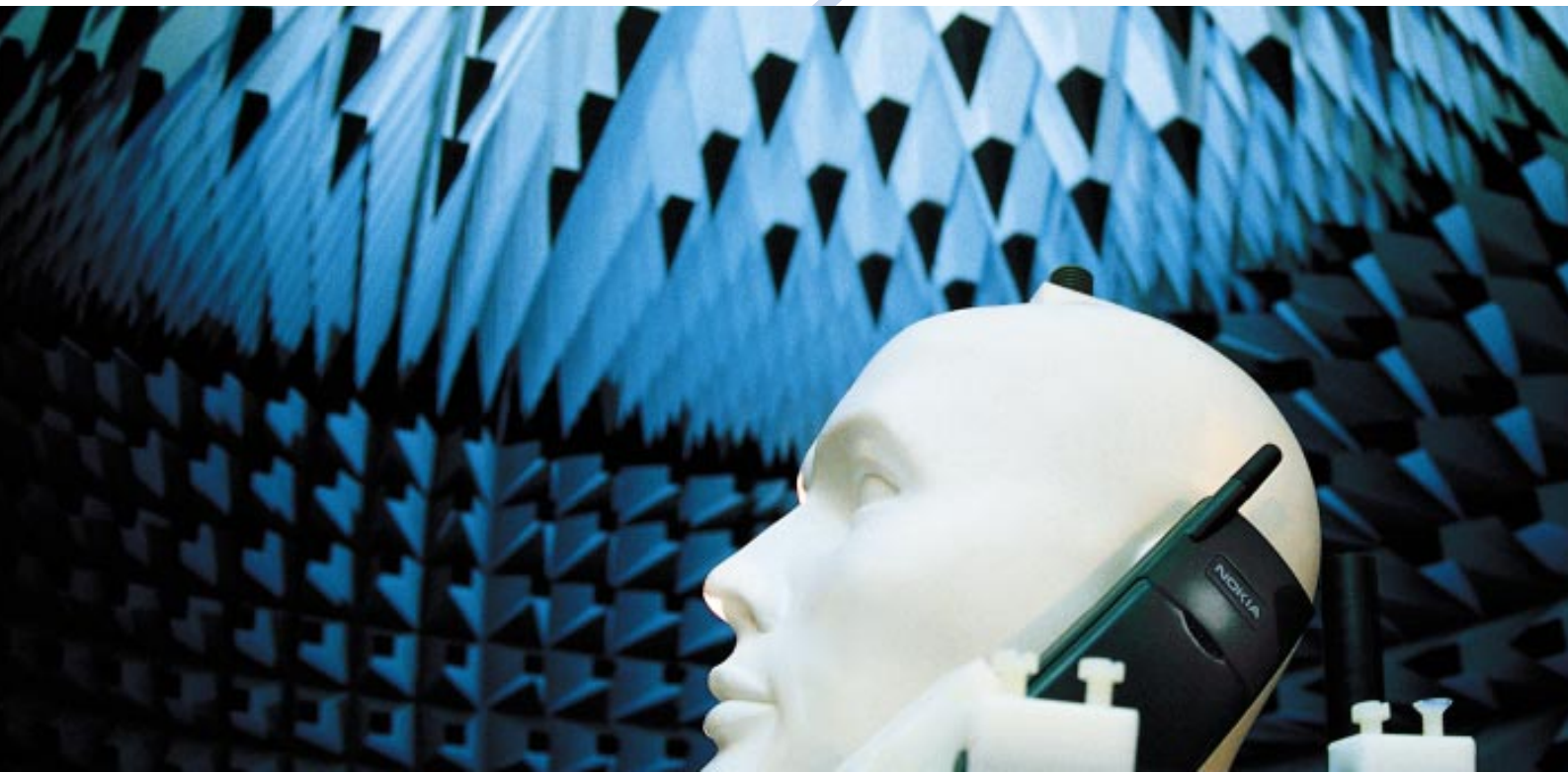
- more than 10 000 employees
- 36 R&D centers
- 11 countries

*Australia  
China  
Denmark  
Finland  
Germany  
Hungary  
Japan  
Malaysia  
Sweden  
UK  
USA*



In 1997, Nokia made major investments within its global R&D network. R&D investments increased by 30 per cent and totaled FIM 4.6 billion.





Nokia has its own testing facility. In its anechoic chamber, radio waves cannot reflect off the walls. All new GSM mobile phone products are tested here.

### Increasing cooperative research opportunities

In January 1997, Nokia was approved to join the Microelectronics and Computer Technology Corporation (MCC) to become the first member headquartered outside of North America. The membership in MCC increases Nokia's opportunities for cooperative research with other leading electronics companies.

To extend its collaboration activities in Asia, Nokia established research cooperation with the Beijing University of Post and Telecommunications (BUPT) in China and the Indian Institute of Science (IISc) in Bangalore, India. In addition to relations with BUPT, Nokia has built up contacts with several top ranking universities in China, all with specific expertise in technology areas relevant to Nokia. The company also established a research and development facility in China, which began operating in January 1998. The unit located in Beijing will focus on research and development in both future wireless and wireline technologies.

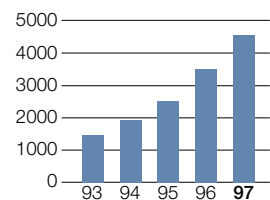
### Expanding global research activities

In September 1997, Nokia Research Center expanded its global activities by establishing a research and development unit in Tokyo, Japan. One of the responsibilities of the new unit is to support Nokia's participation in the development and standardization of the future 3rd generation cellular technology and to increase Nokia's cooperation with universities and research institutes.

Nokia's international R&D facilities encompass a wide range of technology developments for both mobile and fixed networks. These include, for example, the further development of GSM networks, third generation infrastructure and broadband fixed networks. Both GSM terminals and networks are evolving and many new value-added services will be available. In the area of GSM networks, Nokia's R&D work was enhanced with the establishment of new facilities in Denmark and Sweden, focusing on the development of Mobile Intelligent Networks and base station systems respectively.

Additionally, Nokia's data communications R&D capabilities were further strengthened with the acquisition of Ipsilon Networks Inc., a pioneer in the development of Internet Protocol (IP) switching technology that enables high-speed IP routing over ATM switching networks.

Nokia's R&D investments, MFIM





## Environment

"Commitment to protecting the environment is an integral part of the Nokia corporate culture and it is embedded in our values. Eco-efficiency is a primary concern in developing, producing, and marketing new products and solutions. Life cycle thinking, a concept we are working to embrace, covers all environmental concerns relating to our products. We believe that Nokia's open and ethically sound approach will help us reach the goal of sustainable development," says President and CEO Jorma Ollila on Nokia's Environmental Policy.

Nokia's environmental program includes optimizing energy and material use, reducing pollution and waste, enhancing product durability and facilitating end-of-life product treatment. The Company remains committed to the principles of sustainable development, in particular by meeting the needs of the present without jeopardizing the rights and resources of future generations.

Nokia has established close links between economic decision making, the promotion of environmental objectives, and quality management in order to forge a path to sustainable development. Dynamic, responsive and profitable businesses are the driving force, providing the managerial, technical and financial resources needed.

### Commitment to environment through training

Nokia is committed to making environmental issues a part of the everyday life of all employees. Training is important in building up the necessary understanding and integrating environmental considerations into all working practices. Training is organized in three sections: basic, site specific and tailored training.

Special attention is and will continue to be given to basic training on environmental issues, including global environmental concerns, the life-cycle concept, environmental policy, and legislation and business group environmental management. Site specific training will cover, for example, energy efficiency, waste and material management, safety, storage and the safe management of chemicals. Tailored training will be organized for specific target groups, including R&D, manufacturing, marketing, customer service and sourcing personnel.

### Eco-efficiency is part of total efficiency

Eco-efficiency is understood as a part of Nokia's total efficiency concept when developing, producing and marketing solutions and products. The concept of Life Cycle Thinking covers all environmentally important impacts of a product. These start from product planning and cover raw material and component supply, production, as well as the product's end-of-life treatment.

To achieve environmental compatibility as well as other necessary product features in the ever shortening design cycles, Nokia's Design for Environment (DFE) approach integrates environmental consideration systematically into the developing of products, processes and services. DFE usually means minimizing material and energy use, and optimizing reuse and recycling.

Nokia is also implementing programs to review the environmental performance of its suppliers. The goal is to proactively develop and improve all procurement functions to include environmental aspects to be handled, reviewed and audited as an integral part of the overall supplier assessment process.

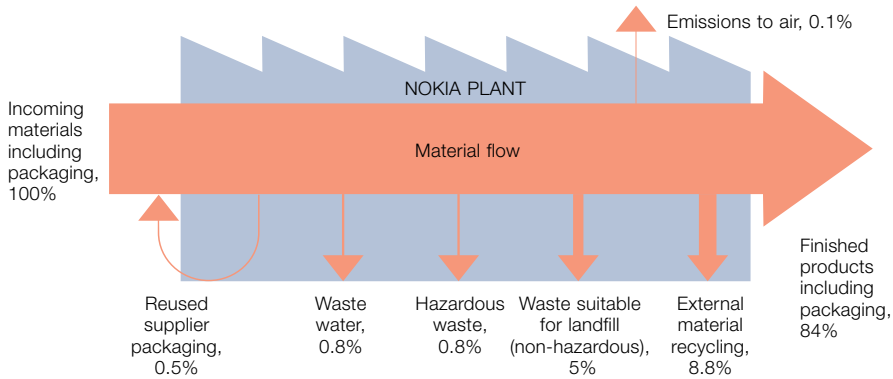


All Nokia monitor models fulfill the strict requirements of Sweden's TCO '95 Monitor Certification, an internationally respected eco-label. As a member of the U.S. Environmental Protection Agency's voluntary Energy Star® Program, all Nokia monitors also comply with Energy Star® power saving requirements.



The new Nokia House in Espoo Finland is covered with a unique eco-facade, an extra layer of glass to idealize the temperature inside.





Material and energy efficiency forms a significant part of Nokia's eco-efficiency.

### Environmental Management Systems at Nokia

Traditionally, environmental activities in major industries have focused on manufacturing processes. However, in the telecommunications field, and at Nokia in particular, the products themselves receive significant environmental scrutiny.

In 1997, Nokia continued to enhance its product and site specific environmental activities. Waste management, for example, is being integrated into overall material management policy, aiming at the minimization of waste going to landfill sites. Environmental Management Systems (EMS) build-ups were simultaneously pursued with DFE projects on business group and business unit levels. A Nokia Environmental Steering Group is responsible for coordinating common activities and reporting to top management.

In its production sites, Nokia continued to incorporate EMS into its operations, with first implementations in Europe and North America. These systems are mainly integrated into existing quality systems and embody the organizational structure, responsibilities, planning, work methods, processes and resources that are required to develop, implement, assess and maintain continuous improvement in environmental performance.

At Nokia, site related environmental issues are being addressed as site-based Environmental Management Systems, covering both manufacturing processes and the facility itself. These are based on the ISO 14001 standard, with Eco-management and Audit Scheme (EMAS) used when appropriate.

### Same functionality with less material and energy

Material and energy efficiency forms a significant part of the basic principles of Nokia's eco-efficiency. An example of this is the degree of the integration of Nokia's products, offering the same functionality with less material in a smaller space. In addition to material efficiency, energy efficiency is also considered to be important in reducing environmental impacts from the whole life cycle of a product. The same progress is true regarding usability and energy consumption.

Nokia continued to actively develop and study reuse and recycling options, focusing on dismantling, recycling and reuse of materials, and cost evaluation of end-of-life management. The reuse and recycling of packaging materials are handled site specifically in conjunction with local and national packaging waste programs. Incoming packaging materials are reused in internal and external transportation of semi-manufactured products.

Nokia is a member of The European Telecommunications and Professional Electronics Industry (ECTEL) association, and continued to participate in the mobile phones take-back initiative pilot in Europe. The pilot program was carried out in Sweden and the UK. Additionally, Nokia joined an experiment to collect and recycle obsolete household electric and electronic devices in Finland.

### Environmental activity review

Nokia's annual environmental activity review is published as part of the Annual Report, with business groups reporting their environmental activities directly to their own interest groups, e.g. site specifically to local interest groups.

Nokia also participates in several dialogues on environmental issues with other interested parties, such as local, regional and national authorities, customers, investors, telecommunications industry associations, employer and employee associations, environmental protection organizations and other interest groups.



The Nokia 6100 series package includes many improvements which make it more environmentally sound. The size of the package has been reduced significantly and the cardboard material is thinner. The package is 100 per cent paper and fully recyclable.

## Human Resources

Nokia's ability to maintain its leadership position in the fastest growing telecommunications segments is based on the employees, the cornerstone of its success. The highly skilled and motivated people working together to achieve outstanding results are the company's most valuable resource and one of Nokia's greatest assets. Fast growth continues to place great demands on the organization.

The total number of employees as of December 31, 1997 was 36 647 (31 723 as of December 31, 1996). For further information, see the Annual Report page 27. In 1997, Nokia increased its personnel by a total 6 626 employees worldwide, excluding the businesses sold in 1997, most of them for R&D, production and customer service positions. Throughout the Group, the average age in 1997 was 32 years.

### The Nokia Way – Nokia's unique way of operating

Nokia's way of operating has been characterized by fast decision-making, flat and unhierarchical organizations, as well as the ability to promptly apply new technologies.

For natural reasons, certain aspects of the Finnish value base have been inherent in the corporate culture, but the company's globalization shows that most of this is compatible with different cultures worldwide.

The four Nokia values – Customer Satisfaction, Respect for the Individual, Achievement and Continuous Learning – are incorporated globally, with local emphasis on different aspects depending on national culture. Understanding these dynamics is a continuous process at Nokia. Additionally, Nokia recognizes three fundamental principles in its operations: always operating according to strict, ethical principles; always serving the society in which you work, and always protecting the environment in which you work and live.

In 1997, Nokia continued to concentrate on implementing its values, developing a way to further integrate the values into the performance management system and encouraging employees to focus on internal cooperation at all levels. The role of senior management and country managers is recognized as critically important for value implementation.

Customers and other business partners are constantly evaluating how Nokia is performing in these areas. Regular employee opinion surveys are one way of measuring our success internally.



### Meet the *Nokia*

#### PEOPLE

Personnel	1997
Nokia Telecommunications	17 168
Nokia Mobile Phones	13 371
Other Operations	6 108
<b>Nokia Group</b>	<b>36 647</b>
Finland	19 779
Other European countries	8 249
Americas	4 676
Asia-Pacific	3 943
Parent Company	862

### Quality through competent people

Nokia believes that quality is achieved through people, and this quest is present in all of our activities and processes. The two fundamental goals of our quality endeavors are customer satisfaction and internal efficiency, thus making it a responsibility of every Nokia employee.

The ability to understand and analyze our competencies as an organization, as well as the skills of individual employees is vital in order to build a competence strategy that supports current and future business needs. Identifying its core competencies, Nokia has also stressed the importance of each manager knowing the skills and skill levels of all team members. The development of employees' competencies is integrated into the performance management practice.

Nokia employees are regularly provided with a wide range of information concerning the performance and prospects of the business they are involved in. Such information is available through the Group internal monthly magazine, bulletin boards and various electronic forms including the Nokia Intranet, and e-mail.

The information flows go in all directions and the performance management process, leadership evaluations and involvement surveys make sure that the voice of every employee is being heard. The target set explicitly by senior management is that every Nokian will have at least one performance management discussion annually.

### Growth of business leads to continued recruitment activity

During the past 3 years, Nokia has recruited more than 17 000 people all over the world. The role of Finland has remained important in terms of personnel. In 1997, the growth was more rapid outside of Finland, and this trend is expected to continue. At year-end 1997, Nokia employed 19 779 people in Finland.





Equal opportunities is an important principle in Nokia's recruitment activities. The determining factors in all recruitment decisions are skills, abilities, experience and other relevant job requirements, along with the capability to deal with continuous change and adherence to Nokia's values.

**Competence development supports continuous learning**

In order to succeed in its rapidly changing business environment, Nokia recognizes competence development as a critical factor of its success. The responsibility of competence development is shared by the company and the individual. Continuous learning is encouraged by providing a wide range of training, from induction, skills and technology training to management and leadership development. Training programs are local or global. Nokia believes that most learning occurs outside of the monitored learning environment, encouraging action learning in many of its programs and providing new assignments and opportunities for growth and job rotation.

In 1997, Nokia employees spent an average of 11 working days in training. The amount of training days typically varies from 4 to more than 30. During their first years, newcomers to Nokia are often trained for at least one month each year. The company's total investment in training in 1997 was approximately FIM 550 million globally.

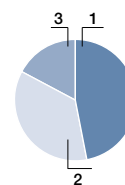
**Competitive compensation and benefits**

Nokia's principle regarding compensation and benefits is to offer competitive and flexible programs that take into account the individual's skills and competencies, as well as local differences. Total compensation aims to establish a balance between cash and other forms of compensation which meet our diverse employee needs and are also externally competitive. Nokia also emphasizes the importance of performance-related pay.

In addition to locally planned compensation and benefit programs, Nokia has introduced various global programs, such as the Option programs and the Nokia Connecting People Bonus plan. All Nokia people are covered by one of these two plans.

Personnel expenses totaled FIM 7 952 million in 1997 (FIM 5 443 million in 1996). For further information, see Annual Report page 42.

**Personnel, Dec. 31**



	1997	1996
1. Nokia Telecommunications	47%	42%
2. Nokia Mobile Phones	36%	36%
3. Other Operations	17%	22%

# Financial Statements

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# Review by the Board of Directors

Nokia's net sales in 1997 totaled FIM 52.6 billion (FIM 39.3 billion in 1996), an increase of 34%. Sales growth continued in Nokia Telecommunications (by 41%), in Nokia Mobile Phones (by 28%) and in Other Operations (by 39%).

Nokia's operating profit (IAS, International Accounting Standards) totaled FIM 8 454 million (FIM 4 266 million in 1996). Operating margin improved to 16.1% (10.8% in 1996). Operating profit in Nokia Telecommunications increased to FIM 4 053 million (FIM 2 982 in 1996), in Nokia Mobile Phones to FIM 3 837 million (FIM 1 431 million in 1996) and in Other Operations to FIM 564 million (loss of FIM 147 million in 1996).

Nokia's net financial expenses totaled FIM 137 million (FIM 405 million in 1996). Profit before taxes and minority interests (IAS) totaled FIM 8 371 million (FIM 3 898 million in 1996), and taxes amounted to FIM 2 274 million (FIM 856 million in 1996). Profit from continuing operations (IAS) was FIM 5 998 million (FIM 3 044 million in 1996). Earnings per share from continuing operations was FIM 21.17 (FIM 10.73 in 1996).

The positive impact from the release of the provision made for the withdrawal from the TV business was FIM 261 million (gain from discontinued business FIM 219 million in 1996). Net profit was FIM 6 259 million (FIM 3 263 million in 1996). Net debt to equity ratio (gearing) was -35% at the end of the year (-9% at the end of 1996).

Nokia enhanced its global market position during 1997 in the growing telecommunications industry. In 1997, Europe accounted for 59% of Nokia's net sales, Asia-Pacific for 23% and the Americas for 18%. The 10 largest markets were the U.S., the UK, China, Germany, Finland, Italy, France, Sweden, Australia and Denmark, representing 66% of total sales in aggregate.

## Geared for growth through investments in R&D, manufacturing and people

Major investments were made within Nokia's global R&D network. At the end of 1997, Nokia had 36 R&D centers in 11 countries, and a total of 10 070 employees working within R&D, approximately 27% of its total workforce. In 1997, Nokia's R&D investments increased by 30% and totaled FIM 4 560 million (FIM 3 514 million in 1996), representing 8.7% of net sales (8.9% of net sales in 1996).

A unanimous decision was reached by ETSI in January 1998 to implement a 3rd generation wireless solution largely based on Nokia's technology proposals. Earlier in 1997, Nokia proposed a new WCDMA (Wideband Code Division Multiple Access) radio technology coupled with the GSM core network for the future 3rd generation networks, and worked in close cooperation with the Japanese operator NTT

DoCoMo and various other operators and telecommunications suppliers and international standardization bodies to develop an optimal technology solution. These 3rd generation networks, providing advanced wireless and multimedia services, are expected to be implemented in the early years of the next decade.

The development of data communications remains a priority for Nokia. The increase in Internet subscribers continued in 1997, resulting in growing sales of ISDN (Integrated Services Digital Network) nodes. This enhanced Nokia's position as a market leader in developing data interfaces in access networks. In December, Nokia acquired Ipsilon Networks, Inc., a U.S.-based company that has pioneered the development of Internet Protocol switching. This acquisition is an important step in further developing Nokia's competitiveness in IP networks. Nokia also continues to have a strong leadership position in innovative wireless data terminals, network solutions and software products.

Other major investments in 1997 included continued expansion of both infrastructure and terminal manufacturing capabilities. Total capital expenditures during 1997 amounted to FIM 2 402 million (FIM 2 028 million in 1996).

Nokia continued to invest in training and recruiting new personnel. In 1997, Nokia increased its personnel by a total of 6 626 employees worldwide, excluding the businesses sold in 1997, most of them for R&D, production and customer service positions. At year-end 1997, Nokia employed 36 647 people (31 723 at year-end 1996). The average number of personnel for 1997 was 35 490 (31 766 for 1996).

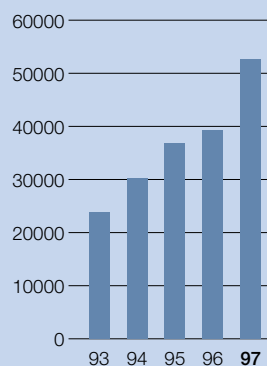
The 97% increase in earnings per share resulted in the maximum 5% bonus, based on annual base pay, for Nokia's personnel participating in the Nokia Connecting People Bonus plan.

## NOKIA TELECOMMUNICATIONS

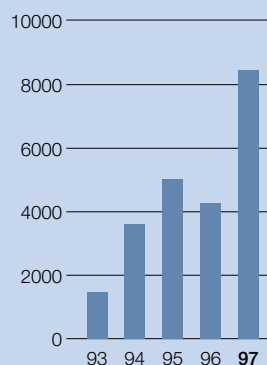
Net sales of Nokia Telecommunications for 1997 increased by 41% to FIM 18 826 million (FIM 13 333 million in 1996). Sales growth was especially strong in Europe and in China. The business group's order inflow was FIM 23 billion (FIM 14.5 billion in 1996), an increase of 58%. Operating profit increased 36% to FIM 4 053 million (FIM 2 982 million in 1996) and operating profit margin was 21.5% (22.4% in 1996).

During 1997, Nokia continued to build on its position as the world's second largest supplier of GSM networks and a significant supplier of fixed networks. Nokia has achieved even greater diversity in its telecommunications operations through the worldwide delivery of infrastructure equipment, such as switching

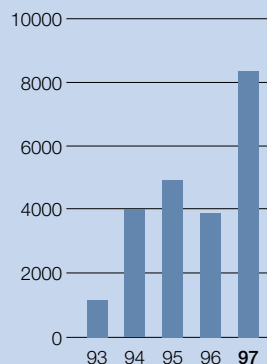
Net sales, MFIM



Operating profit, IAS, MFIM

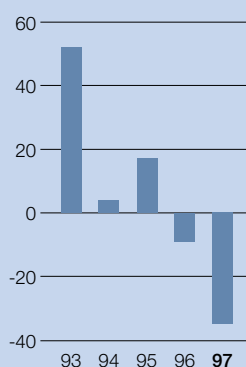


Profit before tax and minority interests, IAS, MFIM

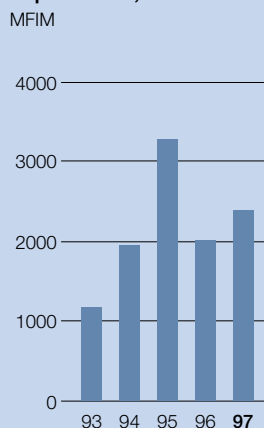


### Net debt to equity,

% (gearing)



### Capital expenditure, MFIM



platforms and through fixed and radio access solutions, wireless data, network management and Intelligent Network (IN) solutions for mobile and fixed networks, as well as related customer services.

Nokia thereby firmly established itself as a full-fledged telecommunications systems supplier and continued to strengthen its position as one of the major suppliers within mobile and fixed networks. In 1997, Nokia's global GSM infrastructure market share increased to close to 30%. Nokia also became the leading base station supplier in Europe.

At the end of 1997, more than 30 GSM 1800 networks had been established globally. As a network supplier to 19 of these, Nokia holds the undisputed leading global position. During the year, Nokia signed eight new GSM 1800 network agreements. In GSM 900, growth was fastest in Europe and in China where Nokia signed a number of sizable expansion deals. Nokia also signed major GSM 900 network expansion agreements with Omnitel Pronto Italia, one of the fastest growing European GSM operators.

Nokia introduced a series of innovative new products for wireless data communications during 1997, such as the Nokia Artus product family, which effectively opens up the Internet to mobile users. Nokia also continued to develop ADSL (Asymmetric Digital Subscriber Line) and VDSL (Very High Speed Digital Subscriber Line) transmission, ATM (Asynchronous Transfer Mode) multiplexing and IP (Internet Protocol) processing in access nodes.

In Professional Mobile Radio (PMR) systems Nokia maintained its strong position in analog trunking networks and was the first company to sign agreements for digital Terrestrial Trunked Radio (TETRA) systems.

Nokia also continued to strengthen its position in the deregulated fixed network market. Strongly supporting open standards, Nokia introduced products with new open interface solutions for fixed networks, including the V5.1.

Sales of Nokia's SDH transmission system, Synfonet, increased steadily, bringing the number of Nokia's SDH customers to 73 in more than 20 countries at year-end. Nokia also complemented its SDH family by introducing the highly integrated Synfonet STM-16 and Access Node (SAN).

### NOKIA MOBILE PHONES

Net sales of Nokia Mobile Phones for 1997 increased by 28% to FIM 27 643 million (FIM 21 579 million in 1996). Operating profit increased by 168% to FIM 3 837 million (FIM 1 431 million in 1996) and operating profit margin was 13.9% (6.6% in 1996). Sales grew fastest in the increasingly digital European markets and in the U.S. Sales growth slowed in the second half of the year due to lack of competitive product in Japan, and the preparation for product transitions from the lower priced Nokia 1600 and 2100 series to the newer 3100 and 6100 series.

The strong profitability improvement was due to further development of logistics processes and efficient management of working capital. Renewal of the product range and continuous cost improvements also had an important contribution to profitability.

According to industry estimates, there were approximately 201 million mobile phone users globally at the end of 1997, up from 135 million at the beginning of the year. In 1997, the number of new subscribers was 66 million while the number of handsets sold amounted to about

Net sales by business group Jan. 1–Dec. 31	1997		1996		Change %
	MFIM	%	MFIM	%	
Nokia Telecommunications	18 826	36	13 333	34	41.2
Nokia Mobile Phones	27 643	52	21 579	55	28.1
Other Operations*	7 239	14	5 197	13	39.3
Inter-business group eliminations	-1 096	-2	-788	-2	
<b>Nokia Group</b>	<b>52 612</b>	<b>100</b>	<b>39 321</b>	<b>100</b>	<b>33.8</b>
* of which Discontinued and Divested Operations	-		589		

Operating profit/loss, IAS, Jan. 1–Dec. 31	1997	% of	1996	% of
	MFIM	net sales	MFIM	net sales
Nokia Telecommunications	4 053	21.5	2 982	22.4
Nokia Mobile Phones	3 837	13.9	1 431	6.6
Other Operations	564	7.8	-147	-2.8
<b>Nokia Group</b>	<b>8 454</b>	<b>16.1</b>	<b>4 266</b>	<b>10.8</b>

101 million. Nokia's global market share is over 21%, with 21.3 million phones sold in 1997. Nokia is the leading mobile phone manufacturer in Europe and the second largest globally.

Digital standards continued to dominate in Europe, gained momentum in the Asia-Pacific region, and made their first broad appearances in the growing Latin American market and in the multistandard U.S. environment. In 1997, digital products accounted for 70% of Nokia Mobile Phones' total sales volume.

Nokia continued its systematic brand building activities on all continents. Nokia Mobile Phones introduced a total of 31 new phone models and wireless data products for 10 standards during 1997. The new Nokia 6100 product family, with several industry-first features including a graphical user interface, boasts unsurpassed operating times, supports all three voice codecs (Half Rate, Full Rate and Enhanced Full Rate), and incorporates personal adaptation capabilities with the Profiles function and Caller groups.

In addition to the Nokia 9000i Communicator, Nokia's other advanced data communications devices, including the Nokia Cellular Data Suite and Nokia Cellular Card Phone, solidified Nokia's leading position in wireless data. Nokia also announced that it is developing a common, license-free platform protocol WAP (Wireless Application Protocol) for intelligent messaging over wireless networks. Value-added wireless services, such as banking, timetables, news and ticket reservation possibilities are expected to play an increasingly important role for mobile phone users.

Nokia's expertise in developing cellular terminals and networks also positions the company at the forefront of Smart Traffic Products. Nokia cooperates with major car manufacturers

in the area of these future products, integrating navigation and positioning tools, alarm systems, as well as other services into car electronics.

## OTHER OPERATIONS

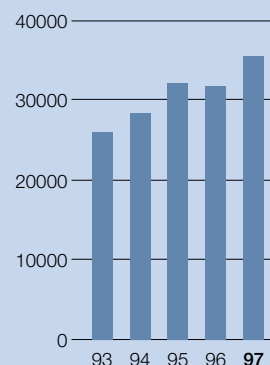
Net sales of Other Operations for the year 1997 increased by 39% to FIM 7 239 million (5 197 million in 1996). Operating profit increased to FIM 564 million (loss of FIM 147 million in 1996) and operating profit margin was 7.8% (- 2.8% in 1996). Sales continued to grow and profitability increased in both the Nokia Multimedia Network Terminals and Nokia Industrial Electronics divisions.

## Nokia Multimedia Network Terminals

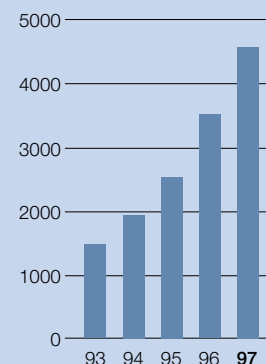
The demand for digital set-top boxes continued to increase, and Nokia received a major order from Spain's Via Digital. The amount of digital multimedia terminal deliveries, which began in late 1996, was close to one million units in 1997.

During 1997, Nokia entered the Chinese multimedia market, and was the first manufacturer to launch a digital satellite receiver in the UK. To accommodate future growth, Nokia signed a contract with U.S.-based electronics manufacturer SCI Systems Inc., and increased multimedia related R&D in Sweden and in Finland. Nokia also entered into a cooperation agreement with Siemens for the development of semiconductor solutions for the digital terrestrial market, and joined the Swedish terrestrial operator Teracom to prepare for the launch of digital terrestrial services. Additionally, Nokia signed an agreement with the Norway-based Telenor Satellite Services for the development,

Average personnel



Nokia's R&D investments, MFIM



## Average personnel

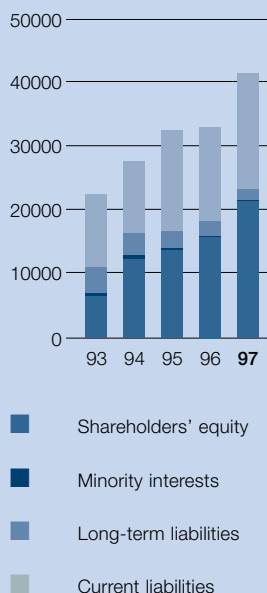
	1997	1996
Nokia Telecommunications	15 710	12 558
Nokia Mobile Phones	12 631	10 927
Other Operations	7 149	8 281
<b>Nokia Group</b>	<b>35 490</b>	<b>31 766</b>
Finland	19 342	17 999
Other European countries	8 532	8 633
Americas	4 152	2 751
Asia-Pacific	3 464	2 372
Other countries	-	11
Parent Company	810	699

## Research and development, MFIM

	1997	1996
Nokia Telecommunications	2 556	1 926
Nokia Mobile Phones	1 714	1 376
Other Operations	290	212
<b>Nokia Group</b>	<b>4 560</b>	<b>3 514</b>



**Shareholders' equity and liabilities, IAS, MFIM**



manufacturing and marketing of common interface digital receivers for Scandinavia.

Nokia introduced the Nokia Mediamaster 9600S, the world's first 'Free to Air' digital receiver with Common Interface, and launched three other new 'Free to Air' digital satellite receivers, providing a broad range of interactive, radio and TV services. Nokia also introduced its World Wide Web and data downloading features in the Nokia Mediamaster through the Multimedia Network Terminal Skybrowser concept.

**Nokia Industrial Electronics**

During 1997, Nokia introduced a range of new monitors, including 15", 17", 19" and 21" screen sizes and its first flat screen display, the Nokia 300Xa. Over half of Nokia's monitors were sold under the Nokia brand name, the rest being sold to several leading PC manufacturers.

Nokia expanded its monitor sales in the Central European markets and increased monitor production in Pécs, Hungary. The R&D unit in Salo, Finland, continued to focus on monitors for professional use and on innovative monitors with video conferencing capabilities.

Responding to increased market demand, Nokia expanded production volumes of mobile phone accessories in Finland and signed an agreement to manufacture mobile phone fast chargers with a partner in Doumen, China. Nokia also opened a new factory to increase its manufacturing of mobile phone antennas in Finland.

**CHANGES IN SHARE CAPITAL AND COMPANY FORM**

On March 25, 1997, Nokia's Annual General Meeting approved the issuance of FIM 2 375 000 principal amount of non-interest bearing bonds with warrants attached to key personnel worldwide as part of Nokia's employee incentive program. The warrants confer the right to purchase up to 9 500 000 A Shares at a price of FIM 307 per share during the period from December 1, 1997 through January 31, 2003. The maximum

number of new A Shares that may be issued represents 3.1% of the Company's total share capital.

Nokia's share capital increased in 1997 by FIM 1 510 880, to a total of FIM 1 499 260 780, as a result of the issuance of 302 176 new A Shares upon exercise of warrants issued to key personnel in 1995 and 1997. The total number of shares outstanding at December 31, 1997 was 299 852 156. As the result of these issuances, Nokia received a total of FIM 72 557 432 as additional shareholders' equity.

On December 31, 1997, Nokia Finance International B.V., a wholly owned subsidiary of Nokia, owned a total of 13 813 384 Nokia K Shares and a total of 2 267 116 Nokia A Shares, representing an aggregate nominal value of FIM 80 402 500, and representing 5.4% of Nokia's share capital and 13.9% of the total voting rights.

Effective September 1, 1997, Nokia's Annual General Meeting approved a change in the company form into a public limited liability company in accordance with revised Finnish legislation. The official name was changed to Nokia Oyj in Finnish and to Nokia Abp in Swedish. The official English name, Nokia Corporation, was unchanged.

**OUTLOOK**

Nokia's business is fundamentally strong. Focusing on its core telecommunications businesses and offering solutions and products for mobile communications, fixed telecommunications and data communications, Nokia is well positioned to achieve its future goals.

**DIVIDEND**

The Nokia Board of Directors will propose to the Annual General Meeting on March 24, 1998 that a dividend of FIM 7.50 per share (FIM 3.50 per share for 1996) be paid on K and A shares.

# Consolidated Profit and Loss Account, IAS

Prepared according to International Accounting Standards – IAS\*

Financial year ended December 31	Notes**	1997 MFIM	1996 MFIM
<b>Net sales</b>		<b>52 612</b>	39 321
Costs of goods sold		-33 999	-28 029
Research and development expenses		-4 560	-3 514
Selling, general and administrative expenses		-5 599	-3 512
<b>Operating profit</b>	<b>2, 3, 4, 5, 6, 7</b>	<b>8 454</b>	4 266
Share of results of associated companies		54	37
Financial income and expenses	<b>8</b>	-137	-405
<b>Profit before tax and minority interests</b>		<b>8 371</b>	3 898
Tax	<b>9</b>	-2 274	-856
Minority interests		-99	2
<b>Profit from continuing operations</b>		<b>5 998</b>	3 044
Discontinued operations	<b>10</b>	261	219
<b>Net profit</b>		<b>6 259</b>	3 263

\* The accounting principles adopted by Nokia in preparing the financial statements according to IAS are set out on pages 40 to 41.

\*\* Notes are shown on pages 40 to 57.

## Key Ratios

	1997	1996
Earnings per share, FIM: Continuing operations <sup>1)</sup>	<b>21.17</b>	10.73
Dividend per share <sup>2)</sup> , FIM	<b>7.50</b>	3.50
Shareholders' equity per share <sup>3)</sup> , FIM	<b>75.85</b>	56.24
Return on capital employed <sup>4)</sup> , %	<b>38.3</b>	22.7
Return on shareholders' equity <sup>5)</sup> , %	<b>32.0</b>	20.5

<sup>1)</sup> Profit from continuing operations divided by average of adjusted number of shares.

<sup>2)</sup> The Board's proposed dividend for 1997.

<sup>3)</sup> Adjusted number of shares at the end of the year.

<sup>4)</sup> Profit before tax and minority interests plus interest and other financial expenses as a percentage of the total of average shareholders' equity, short-term and long-term loans and minority shareholders' interests.

<sup>5)</sup> Profit from continuing operations as a percentage of average shareholders' equity.

# Consolidated Balance Sheet, IAS

Prepared according to International Accounting Standards – IAS

December 31	Notes*	1997 MFIM	1996 MFIM
<b>ASSETS</b>			
<b>Fixed assets and other non current assets</b>			
Intangible assets	12	2 061	1 455
Property, plant and equipment	13	6 240	5 662
Investments	14	789	901
Long-term loan receivables		160	138
Other non-current assets		195	253
		<b>9 445</b>	<b>8 409</b>
<b>Current assets</b>			
Inventories	16	7 314	6 423
Accounts receivable	17	12 732	10 898
Short-term investments		9 363	5 886
Bank and cash		2 884	1 659
		<b>32 293</b>	<b>24 866</b>
<b>Total assets</b>		<b>41 738</b>	<b>33 275</b>

December 31	Notes*	1997 MFIM	1996 MFIM
<b>SHAREHOLDERS' EQUITY AND LIABILITIES</b>			
<b>Shareholders' equity</b>			
Share capital	18	1 499	1 498
Other restricted equity	18	5 542	5 298
Treasury shares	18	-654	-657
Untaxed reserves	18, 19	1 279	1 516
Retained earnings	18	13 858	8 270
		<b>21 524</b>	<b>15 925</b>
<b>Minority interests</b>		<b>195</b>	<b>29</b>
<b>Long-term liabilities</b>	<b>21</b>		
Long-term debt		1 348	2 117
Other long-term liabilities		295	297
		<b>1 643</b>	<b>2 414</b>
<b>Current liabilities</b>			
Short-term borrowings	25	3 008	3 404
Current portion of long-term debt	21	285	555
Accounts payable and accrued liabilities	24	14 541	10 610
Advance payments		542	338
		<b>18 376</b>	<b>14 907</b>
<b>Total shareholders' equity and liabilities</b>		<b>41 738</b>	<b>33 275</b>

\* Notes are shown on pages 40 to 57.

# Consolidated Cash Flow Statement, IAS and FAS

Financial year ended December 31	Notes*	1997 MFIM	1996 MFIM
<b>Cash flow from operating activities</b>			
Operating profit		8 454	4 266
Adjustments, total	31	2 552	2 209
Operating profit before change in net working capital		11 006	6 475
Change in net working capital	31	877	2 993
Cash generated from operations		11 883	9 468
Interest received		703	451
Interest paid		-1 031	-874
Other financial income and expenses		280	-65
Income taxes paid		-1 634	-661
<b>Net cash from operating activities</b>		<b>10 201</b>	<b>8 319</b>
<b>Cash flow from investing activities</b>			
Acquisition of Group companies, net of acquired cash		-505	-127
Treasury shares acquired		-	-210
Investments in other shares		-47	-48
Additions in capitalized R&D costs		-949	-677
Capital expenditures		-2 402	-2 028
Discontinued operations, net of disposed cash		86	-378
Proceeds from disposal of shares in Group companies, net of disposed cash		5	-
Proceeds from sale of treasury shares		81	-
Proceeds from sale of other shares		227	74
Proceeds from sale of fixed assets		506	293
Dividends received		26	27
<b>Net cash used in investing activities</b>		<b>-2 972</b>	<b>-3 074</b>
<b>Cash flow from financing activities</b>			
Share issue		72	-
Proceeds from (+), payments of (-) long-term liabilities		-1 027	242
Proceeds from (+), payments of (-) short-term borrowings		-980	-675
Proceeds from (+), payments of (-) long-term receivables		107	153
Proceeds from (+), payments of (-) short-term receivables		248	-758
Dividends paid		-1 061	-901
<b>Net cash used in financing activities</b>		<b>-2 641</b>	<b>-1 939</b>
<b>Net increase in cash and cash equivalents</b>		<b>4 588</b>	<b>3 306</b>
<b>Cash and cash equivalents at beginning of period</b>		<b>7 659</b>	<b>4 239</b>
<b>Cash and cash equivalents at end of period</b>		<b>12 247</b>	<b>7 545</b>

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:

As previously reported for 1996 and 1995, respectively	7 545	4 214
Foreign exchange adjustment	114	25
	7 659	4 239
Net increase in cash and cash equivalents	4 588	3 306
As reported for 1997 and 1996	12 247	7 545

\* Notes are shown on pages 40 to 57.

# Reconciliation between the Financial Statements under FAS and IAS

	Notes*	1997 MFIM	1996 MFIM
<b>Net profit for the year under FAS</b>		6 499	3 470
Untaxed reserves		-240	-348
		<b>6 259</b>	<b>3 122</b>
Discontinued operations	10	-	141
<b>Net profit for the year under IAS</b>		<b>6 259</b>	<b>3 263</b>
		1997 MFIM	1996 MFIM
<b>Shareholders' equity under FAS</b>		20 245	14 409
Untaxed reserves		1 279	1 516
<b>Shareholders' equity under IAS</b>		<b>21 524</b>	<b>15 925</b>

\* Notes are shown on pages 40 to 57.

# Consolidated Profit and Loss Account, FAS

Prepared according to Finnish Accounting Standards – FAS

Financial year ended December 31	Notes*	1997 MFIM	%	1996 MFIM	%
<b>Net sales</b>		52 612	100.0	39 321	100.0
Costs of goods sold		-33 999		-28 029	
<b>Gross margin</b>		18 613	35.4	11 292	28.7
Research and development expenses		-4 560		-3 514	
Selling, general and administrative expenses		-5 599		-3 512	
		-10 159		-7 026	
<b>Operating profit</b>	<b>2, 3, 4, 5, 6, 7</b>	8 454	16.1	4 266	10.8
Share of results of associated companies		54		37	
Financial income and expenses	<b>8</b>	-137		-405	
<b>Profit before extraordinary items, appropriations and taxes</b>		8 371	15.9	3 898	9.9
Extraordinary items	<b>10</b>	261		78	
<b>Profit before appropriations and taxes</b>		8 632	16.4	3 976	10.1
Difference between actual and planned depreciation, increase (-), decrease (+)	<b>7</b>	-222		71	
Movements on untaxed reserves, increase (-), decrease (+)	<b>11</b>	462		277	
Direct taxes	<b>9</b>	-2 274		-856	
<b>Profit before minority interests</b>		6 598	12.5	3 468	8.8
Minority interests		-99		2	
<b>Net profit</b>		6 499	12.4	3 470	8.8

\* Notes are shown on pages 40 to 57.



# Consolidated Balance Sheet, FAS

Prepared according to Finnish Accounting Standards – FAS

December 31	Notes*	1997 MFIM	%	1996 MFIM	%
<b>ASSETS</b>					
<b>Fixed assets and other non-current assets</b>					
Intangible assets	<b>12</b>				
Capitalized R&D costs		1 348		958	
Intangible rights		265		266	
Goodwill		235		89	
Other intangible assets		213		142	
		<b>2 061</b>	<b>4.9</b>	1 455	4.4
Tangible assets	<b>13</b>				
Land and water areas		383		393	
Buildings and constructions		1 917		1 540	
Machinery and equipment		3 558		3 111	
Other tangible assets		226		204	
Advance payments and fixed assets under construction		156		414	
		<b>6 240</b>	<b>15.0</b>	5 662	17.0
Long-term investments					
Investments in associated companies	<b>14</b>	335		414	
Investments in other shares	<b>14</b>	454		487	
Long-term loan receivables		160		138	
Other non-current assets		195		253	
		<b>1 144</b>	<b>2.8</b>	1 292	3.9
<b>Current assets</b>					
Inventories					
Raw materials and supplies		2 512		2 615	
Work in progress		2 545		922	
Finished goods		2 249		2 873	
Advance payments		8		13	
		<b>7 314</b>	<b>17.5</b>	6 423	19.3
Receivables	<b>17</b>				
Accounts receivable		9 748		8 181	
Short-term loan receivables		363		659	
Prepaid expenses and accrued income		2 621		2 058	
		<b>12 732</b>	<b>30.5</b>	10 898	32.7
Short-term investments		9 363	22.4	5 886	17.7
Bank and cash		2 884	6.9	1 659	5.0
		<b>41 738</b>	<b>100.0</b>	33 275	100.0

\* Notes are shown on pages 40 to 57.

December 31	Notes*	1997 MFIM	%	1996 MFIM	%
<b>SHAREHOLDERS' EQUITY AND LIABILITIES</b>					
<b>Shareholders' equity</b>	<b>18</b>				
Restricted equity					
Share capital		1 499		1 498	
Share issue premium		4 776		4 233	
Other restricted equity		766		675	
		7 041	16.9	6 406	19.3
Distributable reserves					
Retained earnings		6 705		4 533	
Net profit for the year		6 499		3 470	
		13 204	31.6	8 003	24.0
Total shareholders' equity		20 245	48.5	14 409	43.3
<b>Minority interests</b>		195	0.5	29	0.1
<b>Accumulated appropriations</b>	<b>19</b>				
Accumulated depreciation in excess of plan		1 177	2.8	957	2.9
Untaxed reserves					
Investment reserve		-		40	
Other reserves		101		519	
		101	0.2	559	1.7
<b>Provisions</b>	<b>20</b>	404	1.0	445	1.3
<b>Liabilities</b>					
Long-term liabilities	<b>21</b>				
Bonds	<b>22</b>	995		937	
Convertible bonds	<b>23</b>	4		2	
Loans from financial institutions		314		509	
Pension premium loans		27		341	
Other long-term finance loans		8		328	
Other long-term liabilities		295		297	
		1 643	3.9	2 414	7.2
Short-term liabilities					
Current finance liabilities		3 008		3 404	
Current maturities of long-term loans		285		555	
Advance payments		542		338	
Accounts payable		4 865		3 559	
Accrued expenses and prepaid income		9 273		6 606	
		17 973	43.1	14 462	43.5
Total liabilities		19 616	47.0	16 876	50.7
		41 738	100.0	33 275	100.0

\* Notes are shown on pages 40 to 57.

# Profit and Loss Account, Parent Company, FAS

Prepared according to Finnish Accounting Standards – FAS

Financial year ended December 31	Notes*	1997 MFIM	1996 MFIM
<b>Net sales</b>		211	177
Costs of goods sold		-	-
<b>Gross margin</b>		211	177
Research and development expenses		-280	-227
Administrative expenses		-75	-89
Other operating expenses		-83	-24
Other operating income		141	47
<b>Operating loss</b>	<b>4, 5, 7</b>	<b>-86</b>	<b>-116</b>
Dividend income from Group companies		220	67
Dividend income from other investments		42	41
Interest income from Group companies from long-term investments		84	113
Interest income from other companies from long-term investments		3	21
Interest income from Group companies from short-term investments		389	497
Interest income from other companies from short-term investments		271	252
Other financial income from Group companies		-	1
Other financial income from other companies		29	4
Exchange gains and losses		7	-45
Interest expenses to Group companies		-95	-140
Interest expenses to other companies		-475	-464
Other financial expenses		-14	-11
Financial income and expenses		461	336
<b>Profit before extraordinary items, appropriations and taxes</b>		<b>375</b>	<b>220</b>
<b>Extraordinary items</b>			
Extraordinary income		-	54
Extraordinary expenses		-43	-616
Group contributions		6 009	2 267
Extraordinary items, total		5 966	1 705
<b>Profit before appropriations and taxes</b>		<b>6 341</b>	<b>1 925</b>
Difference between actual and planned depreciation, increase (-)/decrease (+)	<b>7</b>	<b>-330</b>	<b>-78</b>
Movements on untaxed reserves, increase (-)/decrease (+)		<b>347</b>	<b>84</b>
Direct taxes			
for the year		<b>-1 709</b>	<b>-463</b>
from previous years		<b>16</b>	<b>-8</b>
<b>Net profit</b>		<b>4 665</b>	<b>1 460</b>

\* Notes are shown on pages 40 to 57.

# Cash Flow Statement, Parent Company, FAS

Financial year ended December 31

Notes\*

1997  
MFIM

1996  
MFIM

	Notes*	1997 MFIM	1996 MFIM
<b>Cash flow from operating activities</b>			
Operating loss		-86	-116
Adjustments, total	31	9	10
Operating loss before change in net working capital		-77	-106
Change in net working capital	31	-86	-11
Cash generated from operations		-163	-117
Interest received		740	889
Interest paid		-564	-573
Other financial income and expenses		108	-127
Income taxes paid		-856	-371
Cash flow before extraordinary items		-735	-299
Extraordinary income and expenses		2 224	1 501
<b>Net cash from operating activities</b>		<b>1 489</b>	<b>1 202</b>
<b>Cash flow from investing activities</b>			
Investments in shares		-290	-196
Capital expenditures		-138	-348
Proceeds from sale of shares and discontinued operations, net		186	-91
Proceeds from sale of fixed assets		14	3
Dividends received		251	99
<b>Net cash from/used in investing activities</b>		<b>23</b>	<b>-533</b>
<b>Cash flow from financing activities</b>			
Share issue		72	-
Proceeds from (+), payments of (-) long-term liabilities		-426	70
Proceeds from (+), payments of (-) short-term borrowings		-714	-746
Proceeds from (+), payments of (-) long-term receivables		523	138
Proceeds from (+), payments of (-) short-term receivables		-1 160	3 216
Dividends paid		-1 061	-901
<b>Net cash used in/from financing activities</b>		<b>-2 766</b>	<b>1 777</b>
<b>Net decrease (-)/increase (+) in cash and cash equivalents</b>		<b>-1 254</b>	<b>2 446</b>
<b>Cash and cash equivalents at beginning of period</b>		<b>3 456</b>	<b>1 011</b>
<b>Cash and cash equivalents at end of period</b>		<b>2 202</b>	<b>3 457</b>

\* Notes are shown on pages 40 to 57.



# Balance Sheet, Parent Company, FAS

Prepared according to Finnish Accounting Standards – FAS

December 31	Notes*	1997 MFIM	1996 MFIM
<b>ASSETS</b>			
<b>Fixed assets and other non-current assets</b>			
Intangible assets	<b>12</b>		
Intangible rights		17	12
Other intangible assets		15	16
		<b>32</b>	28
Tangible assets	<b>13</b>		
Land and water areas		85	85
Buildings and constructions		432	137
Machinery and equipment		153	68
Other tangible assets		3	1
Advance payments and fixed assets under construction		-	317
		<b>673</b>	608
Long-term investments			
Investments in subsidiaries	<b>14</b>	4 581	4 658
Investments in associated companies	<b>14</b>	184	222
Investments in other shares	<b>14</b>	316	378
Long-term loan receivables from Group companies		748	1 118
Long-term loan receivables from other companies		50	50
Other non-current assets		165	208
		<b>6 044</b>	6 634
<b>Current assets</b>			
Inventories and work in progress			
Finished goods		9	6
Receivables	<b>17</b>		
Trade debtors from Group companies		337	110
Trade debtors from other companies		4	5
Short-term loan receivables from Group companies		10 168	5 637
Short-term loan receivables from other companies		9	7
Prepaid expenses and accrued income from Group companies		213	253
Prepaid expenses and accrued income from other companies		491	247
		<b>11 222</b>	6 259
Short-term investments		1 639	3 031
Bank and cash		563	426
		<b>20 182</b>	16 992

\* Notes are shown on pages 40 to 57.

December 31

Notes\*

1997  
MFIM1996  
MFIM

		1997 MFIM	1996 MFIM
<b>SHAREHOLDERS' EQUITY AND LIABILITIES</b>			
<b>Shareholders' equity</b>	<b>18</b>		
Restricted equity			
Share capital		1 499	1 498
Share issue premium		4 695	4 623
		<b>6 194</b>	6 121
Distributable reserves			
Contingency reserve		127	127
Retained earnings		2 788	2 389
Net profit for the year		4 665	1 460
		<b>7 580</b>	3 976
Total shareholders' equity		<b>13 774</b>	10 097
<b>Accumulated appropriations</b>	<b>19</b>		
Accumulated depreciation in excess of plan		467	137
Untaxed reserves			
Other reserves		-	346
<b>Liabilities</b>			
Long-term liabilities	<b>21</b>		
Bonds	<b>22</b>	995	937
Convertible bonds	<b>23</b>	4	2
Loans from financial institutions		267	464
Pension premium loans		-	140
		<b>1 266</b>	1 543
Short-term liabilities			
Current finance liabilities from Group companies		2 527	3 067
Current finance liabilities from other companies		-	457
Current maturities of long-term loans		268	592
Advance payments from other companies		23	16
Trade creditors to Group companies		89	9
Trade creditors to other companies		17	41
Accrued expenses and prepaid income to Group companies		109	116
Accrued expenses and prepaid income to other companies		1 642	571
		<b>4 675</b>	4 869
Total liabilities		<b>5 941</b>	6 412
		<b>20 182</b>	16 992

# Notes to the Financial Statements

## 1. Accounting principles

The consolidated financial statements of Nokia Corporation (Nokia or the Group) prepared in accordance with International Accounting Standards (IAS) are presented on pages 29-31. The financial statements prepared in accordance with Finnish Accounting Standards (FAS) are presented on pages 31 and 33-39.

*The accounting principles adopted by Nokia are in compliance with IAS, except for the item indicated below in italic type. A reconciliation between the financial statements under FAS and IAS is presented on page 32.*

### Use of estimates

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.

### 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 distributable reserves 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 results. 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 (voting rights between 20% and 50%) 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, untaxed reserves and other

restricted equity) is added to the cost of associated company investments in the consolidated balance sheet.

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

Investments in other companies (voting rights less than 20%) and also some joint ventures in the start-up phase are stated at cost; provision is made where necessary to reduce the cost to estimated net realizable 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. Translation differences related to the restricted equity at the time of acquisition are treated as a part of restricted equity and exchange differences on the other reserves of foreign subsidiaries are credited or charged to retained earnings. 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 and untaxed reserves 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 the 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 costs 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 closing 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 costs 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 3 to 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:

Buildings	20-40 years
Machinery and equipment	3-15 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. Finance leases are treated as fixed assets.

#### **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 liquid financial instruments.

#### **Discontinued operations**

A discontinued operation results from the sale or abandonment of an operation that represents a separate, major line of business of an enterprise 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. In the FAS financial statements discontinued operations are classified as a component of extraordinary items.

#### **Appropriations**

In Finland and certain other countries, 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.

*In the consolidated IAS financial statements, accumulated appropriations are included in the balance sheet as part of shareholders' equity as "Untaxed reserves". Transfers to and from untaxed reserves are reflected through retained earnings.*

#### **Taxes**

The consolidated financial statements include direct taxes, which are based on the results of the Group companies and are calculated according to local tax rules.



Provision is made for deferred tax at the corporate income tax rate in effect at the end of the accounting period, except in the case of any tax reduction that can reasonably be expected to continue in the foreseeable future.

### 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

Earnings per share is based on profit from continuing operations divided by the weighted average number of K shares and A

shares outstanding during each period. The weighted average number of K shares and A shares used in calculating earnings per share was 283 282 000 shares for 1997 and 283 561 000 shares in 1996.

### Changes in International Accounting Standards

Beginning 1 January 1998, the Group will adopt the revised IAS 12, Income taxes, and recognize the deferred tax assets and liabilities for temporary differences.

Beginning in 1998, the Group will calculate both basic and diluted earnings per share in accordance with the new IAS 33, Earnings per share.

2. Segment information	Telecom- munications	Mobile Phones	Other Operations	Elimi- nations	Group total
Net sales					
<b>1997, MFIM</b>	<b>18 826</b>	<b>27 643</b>	<b>7 239</b>	<b>-1 096</b>	<b>52 612</b>
1996, MFIM	13 333	21 579	5 197	-788	39 321
Operating profit/loss, IAS					
<b>1997, MFIM</b>	<b>4 053</b>	<b>3 837</b>	<b>564</b>	<b>-</b>	<b>8 454</b>
1996, MFIM	2 982	1 431	-147	-	4 266
Capital expenditures*					
<b>1997, MFIM</b>	<b>1 037</b>	<b>886</b>	<b>479</b>	<b>-</b>	<b>2 402</b>
1996, MFIM	825	614	589	-	2 028
Identifiable assets, IAS					
<b>1997, MFIM</b>	<b>14 426</b>	<b>12 659</b>	<b>26 608</b>	<b>-11 955</b>	<b>41 738</b>
1996, MFIM	10 205	9 369	16 091	-2 390	33 275

\* Excluding acquisitions and R&D capitalization.

### 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 (6.6 billion FIM in 1997 and 4.2 billion FIM in 1996) was of a long-term project nature.

4. Personnel expenses	GROUP	GROUP	PARENT COMPANY	
	1997 MFIM	1996 MFIM	1997 MFIM	1996 MFIM
Wages and salaries	<b>6 338</b>	4 475	<b>172</b>	156
Pension expenses	<b>656</b>	181	<b>30</b>	11
Other social expenses	<b>836</b>	688	<b>29</b>	27
Personnel expenses as per profit and loss account	<b>7 830</b>	5 344	<b>231</b>	194
Monetary value of fringe benefits	<b>122</b>	99	<b>2</b>	2
Total	<b>7 952</b>	5 443	<b>233</b>	196
Remuneration of the members of the Boards of Directors, Group Executive Board, President and Chief Executive Officer, and Presidents and Managing Directors*	<b>64</b>	43	<b>6</b>	5
* Salaries include incentives	<b>5</b>	4	<b>1</b>	1

Pension commitments for the management:

The retirement age of the management of the Group companies has been agreed to be between 60-65 years.

For the Chief Executive Officer of the Parent Company the retirement age has been agreed to be 60 years.

<b>5. Selling and marketing expenses, administration expenses and other operating income and expenses</b>	GROUP	GROUP
	1997	1996
	MFIM	MFIM
Selling and marketing expenses	-4 148	-2 842
Administration expenses	-1 323	-616
Other operating expenses	-548	-225
Other operating income	420	171
<b>Total</b>	<b>-5 599</b>	<b>-3 512</b>

Other operating income 1997 includes a gain of 129 MFIM arising from the sale of the audioelectronics business.

## **6. Acquisitions**

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, which are consolidated in the financial statements from the date of acquisition, mainly comprise goodwill amortization.

<b>7. Depreciation</b>	GROUP	GROUP	PARENT COMPANY	
	1997	1996	1997	1996
	MFIM	MFIM	MFIM	MFIM
<b>Depreciation according to plan</b>				
Intangible assets				
Capitalized R&D costs	559	674	-	-
Intangible rights	100	79	7	6
Goodwill	346	25	-	-
Other intangible assets	7	25	2	3
<b>Property, plant and equipment</b>				
Buildings and constructions	138	117	12	4
Machinery and equipment	1 523	1 239	38	17
Other tangible assets	89	77	-	-
<b>Total</b>	<b>2 762</b>	<b>2 236</b>	<b>59</b>	<b>30</b>
<b>Change in accumulated depreciation in excess of plan</b>				
Intangible assets				
Intangible rights	7	7	1	2
Other intangible assets	-7	4	-	1
Property, plant and equipment				
Buildings and constructions	-289	-79	-294	-69
Machinery and equipment	66	136	-37	-12
Other tangible assets	1	3	-	-
<b>Total</b>	<b>-222</b>	<b>71</b>	<b>-330</b>	<b>-78</b>
<b>Depreciation by function</b>				
Costs of goods sold	805	669	-	-
R&D	1 021	1 068	20	16
Selling, marketing and administration	359	241	39	14
Other operating expenses	231	233	-	-
Goodwill	346	25	-	-
<b>Total</b>	<b>2 762</b>	<b>2 236</b>	<b>59</b>	<b>30</b>

8. Financial income and expenses	GROUP	GROUP	PARENT COMPANY	
	1997	1996	1997	1996
	MFIM	MFIM	MFIM	MFIM
Dividend income	26	27	262	108
Interest income from long-term investments	4	23	87	134
Interest income from short-term investments	727	510	661	748
Other financial income	42	8	29	4
Exchange gains and losses	106	27	7	-45
Interest expenses	-1 006	-966	-571	-603
Other financial expenses	-36	-34	-14	-10
Total	<b>-137</b>	-405	<b>461</b>	336

9. Direct taxes	GROUP	GROUP
	1997	1996
	MFIM	MFIM
For the year	-2 410	-884
From previous years	136	28
Total	<b>-2 274</b>	-856
Finland	-1 846	-605
Other countries	-428	-251
Total	<b>-2 274</b>	-856

## 10. Discontinued operations

In February 1996, Nokia announced its intention to exit the TV business. In June, 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.

Following the contribution of the Group's wholly-owned Chemicals business to a 50/50 joint venture company (Finnish Chemicals) with Kymmene Oy in 1991, the Group finally exited the Chemicals business at the end of 1996 with the disposal of its 50% interest, which resulted in a net of tax gain of 192 MFIM. The equity accounted earnings attributable to Nokia's 50% interest in Finnish Chemicals amounted to 50 MFIM in 1996 up to the date of disposal.

Nokia divested its remaining 55% shareholding in the Dutch cable making company NKF in March, 1996. Following this transaction, Nokia's only remaining interest in the cable business is its majority shareholding in the Turkish Türkkablo A.O. Nokia intends to divest its holdings of these shares.

	GROUP	GROUP
	1997	1996
	MFIM	MFIM
Discontinuation of TV business	261	-
Divestment of Chemicals business, net of tax	-	242
Divestment and discontinuation of Cables business, net of tax	-	-23
Discontinued operations, IAS	261	219
FAS-adjustments	-	-141
Extraordinary income and expenses, FAS	<b>261</b>	78

The parent company's extraordinary income is mainly profits on the sale of fixed assets. Extraordinary expenses include expenses arising from discontinued operations and write-offs of Group company shares.

	GROUP 1997 MFIM	GROUP 1996 MFIM
<b>11. Change in untaxed reserves</b>		
Investments	-222	71
Others	462	206
Total	240	277

	GROUP 1997 MFIM	GROUP 1996 MFIM	PARENT COMPANY 1997 MFIM	PARENT COMPANY 1996 MFIM
<b>12. Intangible assets</b>				
<b>Capitalized R&amp;D costs</b>				
Acquisition cost Jan. 1	2 534	1 857		
Additions	929	677		
Disposals	-676	-		
Accumulated depreciation Dec. 31	-1 439	-1 576		
Net carrying amount Dec. 31	1 348	958	-	-
<b>Intangible rights</b>				
Acquisition cost Jan. 1	476	490	23	28
Additions	212	115	12	6
Disposals	-48	-129	-1	-11
Accumulated depreciation Dec. 31	-375	-210	-17	-11
Net carrying amount Dec. 31	265	266	17	12
<b>Goodwill</b>				
Acquisition cost Jan. 1	1 093	1 240		
Additions	492	-		
Disposals	-	-147		
Accumulated depreciation Dec. 31	-1 350	-1 004		
Net carrying amount Dec. 31	235	89	-	-
<b>Other intangible assets</b>				
Acquisition cost Jan. 1	218	199	20	34
Additions	120	54	1	1
Disposals	-11	-35	-	-15
Accumulated depreciation Dec. 31	-114	-76	-6	-4
Net carrying amount Dec. 31	213	142	15	16

<b>13. Tangible assets</b>	GROUP	GROUP	PARENT COMPANY	
	1997 MFIM	1996 MFIM	1997 MFIM	1996 MFIM
<b>Land and water areas</b>				
Acquisition cost Jan. 1	393	579	85	84
Additions	33	3	4	1
Disposals	-61	-203	-4	-
Translation differences	18	14	-	-
Net carrying amount Dec. 31	<b>383</b>	393	<b>85</b>	85
<b>Buildings and constructions</b>				
Acquisition cost Jan. 1	2 013	2 187	180	108
Additions	515	138	308	73
Disposals	-51	-332	-2	-1
Translation differences	40	20	-	-
Accumulated depreciation Dec. 31	-600	-473	-54	-43
Net carrying amount Dec. 31	<b>1 917</b>	1 540	<b>432</b>	137
<b>Machinery and equipment</b>				
Acquisition cost Jan. 1	6 960	7 395	125	93
Additions	1 871	1 201	130	42
Disposals	-301	-1 700	-20	-10
Translation differences	98	64	-	-
Accumulated depreciation Dec. 31	-5 070	-3 849	-82	-57
Net carrying amount Dec. 31	<b>3 558</b>	3 111	<b>153</b>	68
<b>Other tangible assets</b>				
Acquisition cost Jan. 1	501	780	10	10
Additions	111	108	2	-
Disposals	-202	-402	-1	-
Translation differences	28	15	-	-
Accumulated depreciation Dec. 31	-212	-297	-8	-9
Net carrying amount Dec. 31	<b>226</b>	204	<b>3</b>	1
<b>Advance payments and fixed assets under construction</b>				
Acquisition cost Jan. 1	414	397	317	95
Additions	359	402	72	311
Disposals	-623	-387	-389	-89
Translation differences	6	2	-	-
Net carrying amount Dec. 31	<b>156</b>	414	<b>0</b>	317



<b>14. Shares</b>	GROUP	GROUP	PARENT COMPANY	
	1997	1996	1997	1996
	MFIM	MFIM	MFIM	MFIM
Acquisition cost Jan. 1	901	979	5 258	5 379
Additions	47	47	338	283
Disposals	-183	-140	-446	-185
Write-downs	-	-55	-68	-219
Associated companies	21	69	-	-
Translation differences	3	1	-	-
Net carrying amount Dec. 31, FAS	<b>789</b>	901	<b>5 082</b>	5 258

<b>15. Fixed asset valuation by local tax authorities</b>	GROUP	GROUP	PARENT COMPANY	
	1997	1996	1997	1996
	MFIM	MFIM	MFIM	MFIM
Land and water areas	251	256	77	77
Buildings and constructions	652	475	228	49
Investments	2 597	2 632	2 174	2 275
Total	<b>3 500</b>	3 363	<b>2 479</b>	2 401

The fixed asset valuation by the local tax authorities relates to the values reported by the Parent Company and the subsidiaries in Finland.

<b>16. Inventories</b>	GROUP	GROUP	PARENT COMPANY	
	1997	1996	1997	1996
	MFIM	MFIM	MFIM	MFIM
Raw materials, supplies and other	2 520	2 628	-	-
Work in progress	2 545	922	-	-
Finished goods	2 249	2 873	9	6
Total	<b>7 314</b>	6 423	<b>9</b>	6

<b>17. Receivables</b>	GROUP	GROUP	PARENT COMPANY	
	1997	1996	1997	1996
	MFIM	MFIM	MFIM	MFIM
Current receivables falling due after one year				
Accounts receivable	363	136	-	-
Total	<b>363</b>	136	<b>-</b>	-

18. Shareholders' equity	Share capital		Other restricted equity	Treasury shares	Untaxed reserves	Retained earnings	Total
	K share	A share					
<b>Group, MFIM</b>							
IAS Balance at Dec. 31, 1995	547	951	5 455	-470	1 873	5 450	13 806
Dividend						-899	-899
Purchase of treasury shares				-187			-187
Translation differences			-108			-15	-123
Release of accumulated appr.					-348	348	-
Other increase/decrease, net	-48	48	-49		-9	123	65
Net profit						3 263	3 263
IAS Balance at Dec. 31, 1996	499	999	5 298	-657	1 516	8 270	15 925
Share issue		1	71				72
Dividend						-1 048	-1 048
Profit of sale of treasury shares			81				81
Sale of treasury shares				3		3	6
Translation differences			133			69	202
Release of accumulated appr.					-240	240	-
Other increase/decrease, net	-106	106	-41		3	65	27
Net profit						6 259	6 259
<b>IAS Balance at Dec. 31, 1997</b>	<b>393</b>	<b>1 106</b>	<b>5 542</b>	<b>-654</b>	<b>1 279</b>	<b>13 858</b>	<b>21 524</b>
IAS Balance at Dec. 31, 1996	499	999	5 298	-657	1 516	8 270	15 925
Treasury shares			-390	657		-267	-
Untaxed reserves					-1 516		-1 516
FAS Balance at Dec. 31, 1996	499	999	4 908	-	-	8 003	14 409
IAS Balance at Dec. 31, 1997	393	1 106	5 542	-654	1 279	13 858	21 524
Treasury shares				654		-654	-
Untaxed reserves					-1 279		-1 279
<b>FAS Balance at Dec. 31, 1997</b>	<b>393</b>	<b>1 106</b>	<b>5 542</b>	<b>-</b>	<b>-</b>	<b>13 204</b>	<b>20 245</b>

Exchange differences that arose from loans and financial instruments hedging investments in foreign subsidiaries in 1997 amounted to MFIM 11 (MFIM -39 in 1996) and were offset against the translation differences arising from consolidation. In 1997 the cumulative translation differences on subsidiaries' post acquisition equity amounted to 35 MFIM (248 MFIM in 1996).

Parent Company, MFIM	Share capital		Other restricted equity	Contingency reserve	Retained earnings	Total
	K share	A share				
Balance at Dec. 31, 1995	547	951	4 624	127	3 290	9 539
Dividend					-899	-899
Reserved for public worthy causes decided by the Board					-3	-3
Other increase/decrease, net	-48	48				-
Net profit					1 460	1 460
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
<b>Balance at Dec. 31, 1997</b>	<b>393</b>	<b>1 106</b>	<b>4 695</b>	<b>127</b>	<b>7 453</b>	<b>13 774</b>

19. Accumulated appropriations	GROUP	GROUP	PARENT COMPANY	
	1997	1996	1997	1996
	MFIM	MFIM	MFIM	MFIM
Accumulated depreciation in excess of plan	1 177	957	467	138
Untaxed reserves	102	559	-	345
Accumulated appropriations	1 279	1 516	467	483

For tax purposes, companies in Finland and in certain other countries have been able to claim substantial tax deductions by charging income for tax purposes for adjustments to untaxed reserves and accumulating these charges in the balance sheet in untaxed reserve accounts. According to Finnish tax law, all untaxed reserves in Finnish companies, except for the depreciation in excess of plan reserve, have been utilized or released to income for tax purposes by the end of 1997.

Since management considers that most of the other untaxed reserves will further be converted to depreciation in excess of plan reserve, no provision for deferred tax in respect of accumulated appropriations has been made under IAS, because management considers that such reserves are unlikely to decrease.

Deferred tax liability for the accumulated appropriations computed using the tax rate of 28% totaled MFIM 358.

## 20. Provisions

Provisions include those future expenditure or future losses to which the company is committed or the realization of which is considered to be probable and which are not likely to yield any further income. These include warranty accruals and litigation settlements, among others.

21. Long-term liabilities	GROUP	GROUP	PARENT COMPANY	
	Outstanding	Repayment	Outstanding	Repayment
	Dec. 31, 1997	date beyond	Dec. 31, 1997	date beyond
	MFIM	5 years	MFIM	5 years
Long-term loans are repayable as follows:				
Bonds	995	595	995	595
Convertible bonds	4	-	4	-
Loans from financial institutions	314	19	267	-
Pension loans	27	23	-	-
Other long-term finance loans	8	1	-	-
Other long-term liabilities	295	295	-	-
	1 643	933	1 266	595

The long-term liabilities as of December 31, 1997 mature as follows:

	MFIM		MFIM	
1998	285	14.8%	268	17.4%
1999	390	20.3%	367	24.0%
2000	14	0.7%	4	0.2%
2001	303	15.7%	300	19.6%
2002	2	0.1%	0	0.0%
Thereafter	934	48.4%	595	38.8%
	1 928		1 534	

The currency mix of the Group long-term liabilities as at December 31, 1997

	FIM	USD	GBP	DEM	Others
	34.9%	17.1%	28.6%	16.3%	3.1%

Long-term loan portfolio includes a fixed-rate loan with a face amount of 50 million British pound sterling. The loan is callable by the creditor on a three-month notice basis beginning July 24, 1994. Although the loan was guaranteed until August 1997, the Group does not anticipate that the creditors request for a prepayment prior to the final maturity.

The Group has committed credit facilities totaling USD 950 million and short-term uncommitted facilities.

At December 31, 1997, the Group's borrowings were collateralized by mortgages totaling MFIM 45 and assets (principally securities) were pledged with a net book value of MFIM 107.

At December 31, 1997 and 1996 the weighted average interest rate of loans from financial institutions was 6.5% and 6.5%, respectively.

<b>22. Bonds</b>	Million	Interest	GROUP	GROUP	PARENT COMPANY	PARENT COMPANY	
			1997	1996	1997	1996	
			MFIM	MFIM	MFIM	MFIM	
1989–2004	50.0	GBP	11.375%	445	387	445	387
1993–2003	150.0	FIM	Floating	150	150	150	150
1996–1999	100.0	FIM	5.300%	100	100	100	100
1996–2001	300.0	FIM	7.000%	300	300	300	300
				<b>995</b>	937	<b>995</b>	937

<b>23. Convertible bonds</b>	Million	Interest	GROUP	GROUP	PARENT COMPANY	PARENT COMPANY	
			1997	1996	1997	1996	
			MFIM	MFIM	MFIM	MFIM	
Bonds issued with warrants							
1994–1999	0.07	FIM	2.000%	0.1	0.1	0.1	0.1
1995–2000	1.45	FIM	0.000%	1.5	1.5	1.5	1.5
1997–2000	2.38	FIM	0.000%	2.4	-	2.4	-
				<b>4.0</b>	1.6	<b>4.0</b>	1.6

<b>24. Accounts payable and accrued liabilities</b>	GROUP	GROUP
	1997	1996
	MFIM	MFIM
Accounts payable and accrued liabilities consist of the following at December 31:		
Accounts payable	4.865	3.559
Accrued expenses and prepaid income	9.676	7.051
	<b>14 541</b>	10.610

## **25. Short-term borrowings**

Short-term borrowings consist primarily of borrowings from banks. The weighted average interest rate at December 31, 1997 and 1996 is 7.2% and 5.7%, respectively. The weighted average interest rate of short-term borrowings is derived from different foreign currency denominated loan amounts.

## 26. The shares of the Parent Company

On March 30, 1995, Nokia's shareholders voted to reduce the par value of each class of Nokia's shares from FIM 20 to FIM 5 through a 4-for-1 stock split. The stock split was effected on April 24, 1995. As a result of the stock split, the designation "A shares" was assigned to the class of shares Nokia had previously designated as preferred shares; the designation "K shares" was assigned to the class of shares Nokia had previously designated as common shares.

At shareholders' meetings, each K share is entitled to ten (10) votes, and each A share to one (1) vote.

The A shares are entitled to receive out of available retained profit a fixed annual dividend amounting to ten (10)% of the nominal value of the share before the K shares are entitled to receive dividends. Should it be impossible in any year to distribute such a dividend, the A shares are entitled to receive the remainder out of the retained profit that is available in the following year before any dividend can be distributed on the K shares. Should a dividend higher than ten (10)% of the nominal value of the share be distributed on the K shares, a supplementary dividend is distributed on the A shares so that the dividends will be of equal size for both share classes.

At Nokia Corporation's Extraordinary General meeting held in June, 1994 amendments to Nokia's Articles of Association were approved, which established the right of holders of K shares to convert their holdings to A shares, within certain limits. As of December 31, 1997 a total of 85 705 538 K shares had been converted to A shares.

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

	Units	FIM each	FIM
K shares	78 687 526	5	393 437 630
A shares	221 164 630	5	1 105 823 150
Total 31.12.1997	299 852 156	5	1 499 260 780

At December 31, 1997, the above mentioned shares included 16 080 500 shares owned by the Group.

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.

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 four 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 800 000 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 16 000 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 one A share 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 5 800 000 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 of the shares is FIM 168. The stock option plan covers approximately 350 persons who are entitled to purchase a maximum average number of 16 600 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). The subscription period was from April 16 to June 13, 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 one A share. 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 total of 9 500 000 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 the shares is FIM 307. The stock option plan covers approximately 2 000 persons who are entitled to purchase a maximum average number of 4 750 shares.

Consequently pursuant to the stock option plans an aggregate maximum number of 15 797 824 new A shares may be subscribed for representing 1.5 per cent of votes.

As of December 31, 1997, 302 176 warrants had been exercised for the subscription of shares under the bonds resulting in the issue of 302 176 new shares and the increase of share capital of Nokia with FIM 1 510 880.



<b>27. Contingent liabilities</b>	GROUP	GROUP	PARENT COMPANY	
	1997 MFIM	1996 MFIM	1997 MFIM	1996 MFIM
<b>Pension fund liability</b>				
Liability of pensions funds	2	2	-	-
<b>Liability for Bills of Exchange</b>	3	1	-	-
<b>Mortgages</b>				
As security for loans				
For own debts	45	254	3	5
Other mortgages				
For own commitments	13	37	-	-
<b>Assets pledged</b>				
As security for own debts	107	62	20	20
As security for debts of Group companies	-	-	4	25
<b>Guarantees</b>				
Guarantees for loans				
As security for loans of Group companies	-	-	794	989
As security for loans of associated companies	6	6	6	6
As security for loans of other companies	341	82	307	82
Other guarantees				
As security for own commitments	1 198	991	-	-
As security for Group company commitments	-	-	532	446

## **28. 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:

		Finance lease	Operating lease
Leasing payments, MFIM	1998	2	330
	1999	2	253
	2000	2	192
	2001	-	152
	2002	-	121
	and thereafter	-	285
<b>Total</b>		<b>6</b>	<b>1 333</b>

Rental expense amounted to MFIM 533 and MFIM 576 in 1997 and 1996, respectively.

<b>29. Loans granted to top management</b>	GROUP	GROUP	PARENT COMPANY	
	1997	1996	1997	1996
	MFIM	MFIM	MFIM	MFIM
Loans granted to top management	3	5	-	-

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.

<b>30. Associated companies</b>	GROUP	GROUP
	1997	1996
	MFIM	MFIM
Share of results of associated companies	54	37
Dividend income	16	18
Share of shareholders' equity of associated companies	310	344
Receivables from associated companies		
Current receivables	68	201
Short-term loan receivables	-	10
Liabilities to associated companies		
Current liabilities	2	77

<b>31. Notes to cash flow statement</b>	GROUP	GROUP	PARENT COMPANY	
	1997	1996	1997	1996
	MFIM	MFIM	MFIM	MFIM
Adjustments for:				
Depreciation	2 762	2 236	58	30
Other operating income and expenses	-210	-27	-49	-20
Adjustments, total	2 552	2 209	9	10
Change in net working capital				
Short-term trade receivables, increase (-), decrease (+)	-1 616	-917	-352	117
Inventories, increase (-), decrease (+)	-718	3 113	-2	4
Interest-free short-term liabilities, increase (+), decrease (-)	3 211	797	268	-132
Change in net working capital	877	2 993	-86	-11

## 32. Financial risk management

Sound financial risk management is one of the cornerstones of Nokia's profitability. The continuously evolving financial environment together with a rapidly changing business environment creates a challenging environment for Nokia's Treasury. 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. In this task Nokia utilizes 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.

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 more detailed Standard Operating Procedures covering for example foreign exchange exposure management.

At the moment, management believes that the probability of the third phase of EMU starting within the official timetable is high. The third phase of EMU will mean that the bilateral conversion rates between national currencies of EMU countries and the euro become irrevocably fixed on January 1, 1999. Nokia established an EMU Steering Committee in 1996. The objective of the Steering Committee and the subsequent Work Groups, established in spring 1997 has been to identify and analyze the impacts the introduction of the Euro will have on Nokia's business activities including treasury. Based on this analysis, the Euro Strategy and Action Plan of Nokia was completed in December 1997.

### 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 base 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 is against Finnish markka, since a significant proportion of production and personnel expenses is incurred in Finland, whilst only approximately 5% of the turnover is denominated in Finnish markka. The most important revenue generating currencies are USD, DEM and GBP. In general, the appreciation of Finnish markka relative to another currency has an adverse effect on Nokia's revenues and operating profit in the long term, while depreciation of the Finnish markka has a positive effect in the long term.

Nokia's Treasury has centralized European dealing operations into one platform. The objective has been to streamline and develop processes in order to more efficiently manage money flows and to improve the overall level of services provided to Group Companies. In addition to this Nokia seeks to benefit from the harmonization of financial markets in Europe.

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 to assess the foreign exchange risk. Value at risk 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 simulations are used. The VAR based net foreign exchange transaction risk figure in Nokia Group with a one week horizon and 99 % confidence level was 31.6 million Finnish markka as at December 31, 1997. The aggregate foreign exchange transaction exposure is based on monthly exposure reports from the Group companies that have foreign exchange risk, and includes all certain assets, liabilities and probable transactions denominated in foreign currencies as well as derivative financial instruments hedging the underlying exposures.

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 51.7 million Finnish markka as at December 31, 1997.

#### 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 in order to facilitate performance measurement.

#### 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 Group investment policy specifically allocates the investment lines to reflect the creditworthiness of the respective financial institution, corporate or other institution. The outstanding investments are also constantly monitored by management. Management does not expect the counterparties to default given their high credit ratings.

Financial instruments, which potentially subject the Group to concentrations of credit risk primarily consist of trade receivables. However, concentrations of credit risk with respect to trade receivables are limited due to the number of customers in the Group's customer base, and their dispersion across different businesses and geographic regions. Risks related to long term customer receivables are systematically monitored and no major credit losses have occurred.

#### Liquidity risk

Prudent liquidity risk management implies maintaining sufficient cash and marketable securities, the availability of funding through an adequate amount of committed credit facilities and the ability to close out market positions.

Due to the dynamic nature of the underlying business Group Treasury aims at maintaining flexibility in funding by keeping committed credit lines available. In addition to this, the international creditworthiness of Nokia facilitates the efficient use of international capital and loan market. The most recent significant transaction has been a 7-year USD 350 million multicurrency revolving credit facility signed in September 1997. This transaction replaced a 7-year USD 350 million multicurrency revolving credit facility signed in May 1995. Nokia has also utilized the short term capital markets by establishing a new USD 500 million Commercial Paper Programme in March, 1997. This US Commercial Paper Programme has been rated A-1 and Prime-1 by Standard & Poor's and Moody's, respectively. In addition to short term ratings, Nokia has a long term rating of A-, assigned by Standard & Poor's.

#### Notional amounts of derivative financial instruments <sup>1</sup>

MFIM	1997	1996
Foreign exchange forward contracts <sup>2,3</sup>	57 228	30 714
Currency options bought	7 945	5 796
Currency options sold	8 299	5 827
Interest rate forward and futures contracts <sup>2</sup>	5 695	25 519
Interest rate swaps	575	1 645
Interest rate options bought	187	1 139
Interest rate options sold	-	342

<sup>1</sup> 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.

<sup>2</sup> Notional amounts outstanding include positions, which have been closed off.

<sup>3</sup> As at December 31, 1997 notional amount includes contracts amounting to 5.2 billion FIM used to hedge the shareholders' equity of foreign subsidiaries (December 31, 1996 2.1 billion FIM).

### 33. 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, 1997 and 1996. 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	1997 Fair value	Carrying amount	1996 Fair value
Financial assets				
Cash and cash equivalents	12 247	12 260	7 545	7 552
Receivables	10 637	10 637	9 352	9 352
Investments in other shares	453	548	487	552
Other non-current assets	195	195	253	267
Financial liabilities				
Accounts payable	5 188	5 188	4 385	4 385
Short-term borrowings	3 008	3 008	3 404	3 404
Long-term debt	1 348	1 473	2 117	2 222
Off-balance-sheet instruments				
Currency options purchased <sup>1,2</sup>	41	41	33	33
Currency options written <sup>2</sup>	-45	-45	-72	-72
Forward foreign exchange contracts <sup>1,2</sup>	-152	-152	-131	-131
Interest rate swaps <sup>3</sup>	10	30	18	44
Interest rate FRA's and futures	-	2	-	23
Interest rate options	-	-	-	-4

<sup>1</sup> 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.

<sup>2</sup> Forward foreign exchange contracts and currency options used to hedge the shareholders' equity of foreign subsidiaries are not included.

<sup>3</sup> 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 analyzes.

##### *Long-term debt*

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*

The fair values of swap instruments have been estimated by using discounted cash flow analyzes.

##### *Forward rate agreements, interest rate option and futures contracts*

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



**34. Principal Nokia Group companies on December 31, 1997**

	Net sales MFIM	Number of shares	Parent holding %	Group majority %	Total nominal value in 1 000 units	Book value FIM 1 000
<b>Nokia Telecommunications</b>						
FI Nokia Telecommunications Oy	14 589	226 000	100.0	100.0	226 000 FIM	376 000
GB Nokia Telecommunications Ltd	4 040	20 000 000		100.0	20 000 GBP	178 020
CH Beijing Nokia Mobile Telecommunications Ltd	2 454	2		50.0	10 735 USD	44 992
<b>Nokia Mobile Phones</b>						
FI Nokia Mobile Phones Ltd	15 363	665	60.2	100.0	33 250 FIM	106 704
US Nokia Mobile Phones Inc.	7 920	1 300		100.0	1 USD	805 627
DE Nokia Mobile Phones Produktionsgesellschaft mbH	7 191	2		100.0	90 DEM	272
KR TMC Company Limited	2 648	232 080	100.0	100.0	2 320 800 KRW	150 123
<b>Other Operations</b>						
FI Nokia Display Products Oy	3 474	30 000	100.0	100.0	30 000 FIM	30 000
SE Nokia Satellite Systems AB	1 410	1 103		100.0	1 103 SEK	205 679
FI Salcomp Oy	901	47 653		100.0	47 653 FIM	49 208
HU Nokia Monitor Magyarorzag KFT	715			100.0	2 600 USD	11 099
DE Nokia Audio Electronics GmbH	511	2		100.0	2 000 DEM	6 045
NL Nokia Finance International B.V.		229	99.6	100.0	229 NLG	1 119 182

**Shares in other listed companies**

Group holding more than 5%	Group holding %	Group voting %
Geoworks Inc.	6.5	6.5
Nokia-Maillefer Holding S.A.	25.0	50.0
Nokian Tyres plc	24.4	24.4

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

# NOKIA 1993–1997, IAS

Prepared according to International Accounting Standards – IAS

	1997	1996	1995	1994	1993
<b>Profit and loss account, MFIM</b>					
Net sales	52 612	39 321	36 810	30 177	23 697
Costs and expenses	-44 158	-35 055	-31 798	-26 581	-22 232
Operating profit	8 454	4 266	5 012	3 596	1 465
Share of results of associated companies	54	37	85	22	28
Financial income and expenses	-137	-405	-164	384	-347
Profit before tax and minority interests	8 371	3 898	4 933	4 002	1 146
Tax	-2 274	-856	-769	-932	-299
Minority interests	-99	2	-77	-75	-80
Profit from continuing operations	5 998	3 044	4 087	2 995	767
Discontinued operations	261	219	-2 340	-	-
Profit from ordinary activities before cumulative effect of change in accounting policies	6 259	3 263	1 747	2 995	767
Cumulative prior year effect (after tax) of change in accounting policies	-	-	485	-	-
Profit before extraordinary items	6 259	3 263	2 232	2 995	767
Extraordinary items	-	-	-	944	-1 917
Net profit/loss	6 259	3 263	2 232	3 939	-1 150
<b>Balance sheet items, MFIM</b>					
Fixed assets and other non-current assets	9 445	8 409	9 047	7 943	7 994
Current assets	32 293	24 866	23 714	19 906	14 653
Inventories	7 314	6 423	9 982	6 803	5 129
Accounts receivable and prepaid expenses	12 732	10 898	9 518	7 835	6 227
Cash and cash equivalents	12 247	7 545	4 214	5 268	3 297
Shareholders' equity	21 524	15 925	13 806	12 418	6 511
Minority shareholders' interests	195	29	422	555	536
Long-term liabilities	1 643	2 414	2 578	3 557	4 080
Long-term debts	1 348	2 117	2 121	3 071	3 397
Other long-term liabilities	295	297	457	486	683
Current liabilities	18 376	14 907	15 955	11 319	11 520
Short-term borrowings	3 008	3 404	4 332	2 453	3 435
Current portion of long-term loans	285	555	187	278	139
Accounts payable and accrued liabilities	14 541	10 610	9 388	8 086	5 976
Advance payments	542	338	396	502	534
Discontinuity/restructuring provision	-	-	1 652	-	1 436
Total assets	41 738	33 275	32 761	27 849	22 647
<b>Key ratios</b>					
Earnings per share, FIM	21.17	10.73	14.36	10.97	3.07
Dividend per share, FIM	7.50*	3.50	3.00	2.50	0.70
Profit before tax and minority interests, % of net sales	15.9	9.9	13.4	13.3	4.8
Return on capital employed, %	38.3	22.7	29.1	25.4	14.7
Return on shareholders' equity, %	32.0	20.5	31.2	31.6	11.6
Net debt to equity, %	-35	-9	17	4	52

\* Board's proposal

Calculation of Key Ratios, see page 61.

See also Key Ratios according to Finnish Accounting Standards on page 60.

	1997	1996	1995	1994	1993
<b>Net sales by business group, MFIM</b>					
Nokia Telecommunications	18 826	13 333	10 341	6 906	4 578
Nokia Mobile Phones	27 643	21 579	16 052	10 702	6 314
Other Operations*	7 239	5 197	11 156	13 119	13 371
Inter-business group eliminations	-1 096	-788	-739	-550	-566
<b>Nokia Group</b>	<b>52 612</b>	<b>39 321</b>	<b>36 810</b>	<b>30 177</b>	<b>23 697</b>
<b>Net sales by market area, MFIM</b>					
Finland	2 557	2 440	3 227	3 449	3 547
Other European countries	26 914	20 587	20 807	17 758	14 448
Americas	9 520	6 334	4 715	4 061	2 351
Asia-Pacific	12 105	8 788	7 138	3 821	2 768
Other countries	1 516	1 172	923	1 088	583
<b>Total</b>	<b>52 612</b>	<b>39 321</b>	<b>36 810</b>	<b>30 177</b>	<b>23 697</b>
<b>Operating profit/loss, MFIM</b>					
Nokia Telecommunications	4 053	2 982	2 722	1 700	983
Nokia Mobile Phones	3 837	1 431	1 753	1 745	950
Other Operations**	564	-147	537	151	-468
<b>Nokia Group</b>	<b>8 454</b>	<b>4 266</b>	<b>5 012</b>	<b>3 596</b>	<b>1 465</b>
<b>Average personnel</b>					
Nokia Telecommunications	15 710	12 558	9 915	7 187	5 867
Nokia Mobile Phones	12 631	10 927	10 616	5 826	3 759
Other Operations*	7 149	8 281	11 417	15 030	16 175
<b>Nokia Group</b>	<b>35 490</b>	<b>31 766</b>	<b>31 948</b>	<b>28 043</b>	<b>25 801</b>
In Finland	19 342	17 999	17 821	14 984	13 813
Outside Finland	16 148	13 767	14 127	13 059	11 988

\* "Other operations" include discontinued and divested operations as follows: Nokia Power 1993–1994, Nokia Tyres and Machinery until the moment of disposal 1993–1995, TV business 1993–1995, NKF/Cable Industry until the moment of disposal 1993–1996 and Türkkablo/Cable Industry 1993–1996.

\*\* "Other operations" include the operating profit/loss of discontinued and divested operations as follows: Nokia Power 1993–1994, Nokia Tyres and Machinery until the moment of disposal 1993–1995, NKF/Cable Industry until the moment of disposal 1993–1996 and Türkkablo/Cable Industry 1993–1996.

# NOKIA 1993–1997, FAS

Prepared according to Finnish Accounting Standards – FAS

	1997	1996	1995	1994	1993
Net sales, MFIM	<b>52 612</b>	39 321	36 810	30 177	23 697
Change, %	<b>33.8</b>	6.8	22.0	27.3	30.4
Exports from Finland, MFIM	<b>32 156</b>	23 461	17 738	13 723	9 997
Exports and foreign subsidiaries, MFIM	<b>50 055</b>	36 881	33 583	26 728	20 150
Salaries and social expenses, MFIM	<b>7 830</b>	5 344	6 492	5 515	5 484
Operating profit, MFIM	<b>8 454</b>	4 266	5 012	3 596	1 486
% of net sales	<b>16.1</b>	10.8	13.6	11.9	6.3
Financial income and expenses, MFIM	<b>-137</b>	-405	-164	384	-334
% of net sales	<b>-0.3</b>	-1.0	-0.4	1.3	-1.4
Profit before extraordinary items, MFIM	<b>8 371</b>	3 898	4 909	3 978	1 152
Profit/loss before appropriations and taxes, MFIM	<b>8 631</b>	3 976	3 054	4 714	-689
% of net sales	<b>16.4</b>	10.1	8.3	15.6	-2.9
Taxes, MFIM	<b>2 274</b>	856	769	932	299
Dividends, MFIM	<b>2 249*</b>	1 048	899	749	193
Capital expenditure, MFIM	<b>3 974</b>	3 058	4 179	2 410	1 930
% of net sales	<b>7.6</b>	7.8	11.4	8.0	8.1
R&D expenditure, MFIM	<b>4 560</b>	3 514	2 531	1 937	1 472
% of net sales	<b>8.7</b>	8.9	6.9	6.4	6.2
Average personnel	<b>35 490</b>	31 766	31 948	28 043	25 801
Non-interest bearing liabilities, MFIM	<b>15 378</b>	11 245	11 893	9 074	8 630
Interest bearing liabilities, MFIM	<b>4 641</b>	6 076	6 640	5 802	6 971
Accumulated appropriations, MFIM	<b>1 279</b>	1 516	1 873	1 727	1 717
Shareholders' equity, MFIM	<b>20 245</b>	14 409	12 075	10 857	5 319
Total assets, MFIM	<b>41 738</b>	33 275	32 903	28 015	23 173
Return on capital employed, %	<b>38.3</b>	22.6	28.7	24.7	14.2
Return on equity, %	<b>32.4</b>	20.1	30.1	29.4	11.0
Equity ratio, %	<b>52.7</b>	48.4	44.2	47.8	33.5
Earnings per share, FIM (adjusted)	<b>21.17</b>	10.73	14.28	10.89	3.05
Dividend per share (nominal), FIM	<b>7.50*</b>	3.50	3.00	2.50	0.70
Shareholders' equity per share, FIM	<b>76</b>	56	49	44	27
P/E ratio, K share	<b>18.4</b>	24.8	12.1	16.0	23.6

\* Board's proposal  
Calculation of Key Ratios, see page 61.

# Calculation of Key Ratios

## KEY RATIOS UNDER IAS

### Operating profit/loss

Profit/loss after depreciation

### Shareholders' equity

Share capital + reserves

### Earnings per share

Profit/loss from continuing operations

Average of adjusted number of shares during the year

### P/E ratio

Adjusted share price, December 31

Earnings per share

### Dividend per share

Nominal dividend per share

The adjustment coefficients of the share issues that have taken place during or after the year in question

### Payout ratio

Dividend per share

Earnings per share

### Dividend yield, %

Nominal dividend per share

Share price

### Shareholders' equity per share

Shareholders' equity

Adjusted number of shares at year-end

### Market capitalization

Number of shares x share price per share class

### Adjusted average share price

Amount traded, in FIM, during the period

Adjusted number of shares traded during the period

### Share turnover, %

Number of shares traded during the period

Average number of shares during the period

### Return on capital employed, %

Profit/loss before taxes and minority interests

+ interest and other financial expenses

Average shareholders' equity + short-term borrowings

+ long-term loans (including the current portion thereof)

+ minority shareholders' interests

### Return on shareholders' equity, %

Profit/loss from continuing operations

Average shareholders' equity during the year

### Net debt to equity (gearing), %

Long-term loans (including the current portion thereof)

+ short-term borrowings - cash and cash equivalents

Shareholders' equity + minority shareholders' interests

## KEY RATIOS UNDER FAS

### Return on capital employed, %

Profit/loss before extraordinary items

+ interest and other financial expenses

Average total assets - interest-free liabilities

### Return on equity, %

Profit/loss before extraordinary items - taxes

Average shareholders' equity + minority shareholders'

interests + accumulated appropriations

### Equity ratio, %

Shareholders' equity + minority shareholders' interests

+ accumulated appropriations

Total assets - advance payments received

### Earnings per share

Profit/loss before extraordinary items - taxes

- minority shareholders' interests

Average of adjusted number of shares outstanding

### Shareholders' equity per share

Shareholders' equity + accumulated appropriations

Adjusted number of shares outstanding at year-end

### P/E ratio

Adjusted share price December 31

Earnings per share

## Year-end currency rates

	1997	1996	1995	1994	1993
1 FIM =					
USD	<b>0.187</b>	0.215	0.229	0.211	0.173
GBP	<b>0.112</b>	0.129	0.148	0.135	0.117
SEK	<b>1.443</b>	1.476	1.527	1.572	1.439
DEM	<b>0.331</b>	0.335	0.329	0.327	0.300
FRF	<b>1.108</b>	1.133	1.122	1.127	1.018
JPY	<b>24.056</b>	24.618	23.618	21.013	19.316
XEU	<b>0.167</b>	0.174	0.179	0.172	0.155

## Average rates

	1997	1996	1995	1994	1993
1 FIM =					
USD	<b>0.194</b>	0.218	0.229	0.191	0.176
GBP	<b>0.118</b>	0.140	0.145	0.125	0.117
SEK	<b>1.474</b>	1.462	1.626	1.481	1.368
DEM	<b>0.334</b>	0.327	0.327	0.311	0.290
FRF	<b>1.125</b>	1.114	1.138	1.063	0.992
JPY	<b>23.435</b>	23.679	21.456	19.541	19.517
XEU	<b>0.171</b>	0.174	0.177	0.162	0.150



# Proposal by the Board of Directors to the Annual General Meeting

The distributable reserves in the balance sheet of the Group amount to FIM 13 204 million and those of the Company to FIM 7 580 million.

The Board proposes that from the funds at the disposal of the Annual General Meeting, a dividend of FIM 7.50 per share is to be paid out on a total of 299 852 156 K and A shares, amounting to FIM 2 249 million.

Espoo, February 12, 1998

**Casimir Ehrnrooth**

**Iiro Viinanen**

**Pirkko Alitalo**

**Edward Andersson**

**Ahti Hirvonen**

**Jouko K. Leskinen**

**Yrjö Niskanen**

**Vesa Vainio**

**Jorma Ollila**  
President and CEO

# Auditors' Report

## **To the shareholders of Nokia Corporation**

We have audited the accounting records, the accounts and the administration of Nokia Corporation for the year ended December 31, 1997. The accounts 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), consolidated and Parent company profit and loss accounts, balance sheets, cash flow statements and notes to the financial statements. Based on our audit we express an opinion on these accounts and the Parent company's 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.

In our opinion, the financial statements prepared in accordance with International Accounting Standards (IAS) present fairly, in all material respects, the financial position of Nokia Corporation and subsidiary companies at the end of the financial period and the consolidated results of their operations, for the year then ended in accordance with International Accounting Standards.

The accounts showing a consolidated profit of FIM 6 499 343 000 have been prepared in accordance with the 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 Accounting Act, of both the consolidated and Parent company result of operations, as well as of the financial position. The accounts 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 made by the Board of Directors concerning the disposition of the profit for the year is in compliance with the Companies' Act.

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 in Finland.

Espoo, February 12, 1998

**Eric Haglund**

Authorized Public Accountant  
(KPMG)

**Lars Blomquist**

Authorized Public Accountant  
(Coopers & Lybrand)

# 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:

	1997 MFIM	1996 MFIM
<b>Reconciliation of net income</b>		
Net income reported under IAS	6 259	3 263
U.S. GAAP adjustments:		
Deferred income taxes	174	-129
Pension expense	144	-19
Development costs	-180	32
Sale-leaseback transactions	4	4
Other adjustments	-	235
Deferred tax effect of U.S. GAAP adjustments	-5	-84
Net income under U.S. GAAP	<b>6 396</b>	3 302
<b>Presentation of net income under U.S. GAAP</b>		
Income from continuing operations	6 135	2 954
Discontinued operations:		
Profit from operations, net of income tax of FIM 14 million in 1996	-	41
Gain on disposal, net of income tax of FIM 124 million in 1996	261	307
Gain from discontinued operations	261	348
Net income	<b>6 396</b>	3 302
<b>Reconciliation of shareholders' equity</b>		
Total shareholders' equity reported under IAS	21 524	15 925
U.S. GAAP adjustments:		
Deferred income taxes	416	242
Pension expense	173	29
Development costs	-715	-535
Sale-leaseback transactions	-28	-32
Other adjustments	114	88
Deferred tax effect of U.S. GAAP adjustments	118	123
Total shareholders' equity under U.S. GAAP	<b>21 602</b>	15 840

**Deferred income taxes**

Under IAS deferred income taxes have not been provided for differences between taxable income and accounting income that are 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.

No deferred tax liability has been recognized for undistributed earnings of domestic subsidiaries since, in most cases, such earnings can be transferred to the parent company without tax consequences. The Group also does not provide deferred income taxes on undistributed earnings of foreign subsidiaries because such earnings are intended to be permanently reinvested in those operations.

**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.

The Group maintains many pension plans for its operations throughout the world. Most of these programs are defined benefit pension schemes with retirement, disability, death and termination income benefits. The retirement income benefits are generally a function of years of employment and final salary and are generally coordinated with local national pensions. The Group's policy for funding its defined benefit 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.

**Development costs**

Beginning in 1995, 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 from three to 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.

**Sale-leaseback transactions**

Under IAS, the Group recorded gains from transactions involving the sale of property and equipment and has recorded rental expense associated with the subsequent leaseback of such property and equipment. In 1994, the Group sold its interest in all but one of the properties that had been leased-back.

Under U.S. GAAP, the sale-lease back transactions would be treated as financings. Accordingly, until the gain is realized through sale of the property and equipment, the gains 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.

**Other adjustments**

There are also differences between IAS and U.S. GAAP in relation to marketable securities, nonmonetary transactions, goodwill and restructuring charges. None of these differences are individually material and they are therefore shown as a combined total.

**Discontinued operations**

As described in Note 10, components of discontinued operations in the consolidated profit and loss account include Nokia's exit from the chemicals, cables and TV businesses.

# Board of Directors

February 12, 1998

## Chairman

### Casimir Ehrnrooth, 66

Doctor of Technology h.c.

Member since 1989,

Chairman since 1992 (term expires 1999)

*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 Incentive AB, 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, 53

President and CEO, The Pohjola Group

Vice Chairman since 1996

(term expires 1999)

*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, member of the Board of Directors of Kone Corporation and Martela Oy*

### Pirkko Alitalo, 48

Executive Vice President, The Pohjola Group

Member since 1992 (term expires 1998)

*Senior Vice President, (CFO) of The Pohjola Group 1989–1997*

*Member of the Board of Directors of Aamulehti-yhtymä Oy, Aspo Group Ltd and Silja Oy Ab*

### Dr Edward Andersson, 64

Professor of Public Law, University of Helsinki

Member since 1973 (term expires 1999)

*Chairman of the Board of Directors of Oy Aga Ab, Chairman of the Supervisory Board of Merita Bank Ltd*

### Ahti Hirvonen, 66

Doctor of Economics h.c.

Member since 1990 (term expires 1999)

*Chairman of the Board of Directors of Unitas Ltd. 1992–1995, Chairman and CEO of Unitas Ltd. 1991–1992, Chairman of the Board of*

*Management and CEO of Union Bank of Finland Ltd. 1989–1991, Chief General Manager of Union Bank of Finland 1983–1988*

*Member of the Board of Directors of Outokumpu Oyj*

### Jouko K. Leskinen, 54

President, Sampo Group,

CEO and Member of the Board of Sampo Insurance Company Limited

Member since 1994 (term expires 2000)

*Senior Executive Director, Vice Chairman of the Board of Directors of Neste Oy 1989–1992, Senior Executive Director, Member of the Board of*

*Directors of Neste Oy 1987–1989*

*Chairman of the Board of Directors of Cultor Corporation*

*Member of the Board of Directors of Finnlines Ltd and UPM-Kymmene Corporation*

*Chairman of the Board of Federation of Finnish Insurance Companies*

### Yrjö Niskanen, 65

Doctor of Economics h.c.

Vice Chairman 1992–1996,

Member since 1997 (term expires 2000)

*Chairman of the Boards of The Pohjola Group*

*1992–1996, President of The Pohjola Group*

*1986–1992, member of the Boards of Directors of The Pohjola Group 1980–1996*

*Member of the Board of Directors of Lassila & Tikanoja plc and UPM-Kymmene Corporation*

### Jorma Ollila, 47

President and CEO,

Chairman of the Group Executive Board,

Nokia Corporation

Member since 1995 (term expires 1998)

*President of Nokia Mobile Phones 1990–1992, Senior Vice President, Finance of Nokia Group 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, Chairman of the Supervisory Board of the Finnish Foreign Trade Association, member of the European Round Table of Industrialists*

### Vesa Vainio, 55

Chairman of the Board of Directors of

MeritaNordbanken Plc, President and

member of the Board of Directors of Merita

Plc and member of the Board of Directors of

Nordbanken Holding AB (publ)

Member since 1993 (term expires 1999)

*Chairman of the Board of Management and CEO of*

*Merita Bank Ltd, CEO of Merita Plc 1992–1997,*

*President of Kymmene Corporation 1991–1992*

*Vice Chairman of the Board of Directors of Metra*

*Corporation and UPM-Kymmene Corporation,*

*Chairman of the Board of Directors of Central*

*Chamber of Commerce and member of the Board of Directors of Finnish Bankers' Association*

Secretary

**Ursula Ranin**

### **Tasks of the Board of Directors**

The Board decides on matters in relation to the Group's activities 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 three years at a time.

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

The Board of Nokia proposes to the Annual General Meeting convening on March 24, 1998 that the Articles of Association be amended so that the term of the Board members be shortened to one year. So according to the proposed amendment all members of the Board will be elected annually, and their term start at the closing of the General Meeting at which they were elected and expire at the closing of the following General Meeting. Members of the Board can be re-elected.

### **Committees of the Board of Directors in 1997**

The Executive Committee and its composition are prescribed in the Articles of Association. The Executive Committee reviews matters prior to their submission to the Board and makes decisions on issues which have been delegated to the Committee by the Board. The Executive Committee was composed of the Chairman of the Board, Mr Casimir Ehrnrooth, Vice Chairman of the Board, Mr Iiro Viinanen and President and CEO, Mr Jorma Ollila.

In addition the Board has two other committees in accordance with its Rules of Procedure:

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: Ms Pirkko Alitalo, Mr Jorma Ollila and Mr Vesa Vainio.

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 Group Controller and, upon invitation, other senior executives. The Audit Committee was composed of the following members of the Board: Dr Edward Andersson, Mr Ahti Hirvonen, Mr Jouko K. Leskinen and Mr Yrjö Niskanen.

The Board of Directors proposes to the Annual General Meeting that the stipulation in the Articles of Association concerning the Executive Committee be removed.

### **Meetings of the Board of Directors**

The Board met twelve times in 1997. Three of the meetings were held in a form of conference call.

### **President and CEO**

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

### **Remuneration**

In 1997 the remuneration paid to the Chairman of the Board was FIM 414 400, to the Vice Chairman of the Board FIM 322 000 and to the non-executive directors in total FIM 1 280 000. The salary and other remuneration earned by and paid to the President and CEO was FIM 4 001 800 including a bonus for 1996 of FIM 504 000.



# Management

February 12, 1998

## **Group Executive Board**

### **Chairman**

**Jorma Ollila, 47**  
President and CEO  
member since 1986,  
Chairman since 1992  
with Nokia since 1985

### **Dr Matti Alahuhta, 45**

President, Nokia  
Telecommunications  
member since 1993  
with Nokia 1975–82 and  
since 1984

### **Pekka Ala-Pietilä, 41**

President,  
Nokia Mobile Phones  
member since 1992  
with Nokia since 1984

### **Sari Baldauf, 42**

Executive Vice President,  
Nokia APAC  
member since 1994  
with Nokia since 1983

### **Olli-Pekka Kallasvuo, 44**

Executive Vice President,  
Nokia Americas  
member since 1990  
with Nokia since 1980

### **Dr Yrjö Neuvo, 54**

Senior Vice President,  
Product Creation,  
Nokia Mobile Phones  
member since 1993  
with Nokia since 1993

### **Veli Sundbäck, 51**

Executive Vice President,  
Corporate Relations and  
Trade Policy  
member since 1996  
with Nokia since 1996

## **Auditors**

### **Eric Haglund, 63**

Authorized Public Accountant  
(KPMG)

### **Lars Blomquist, 54**

Authorized Public Accountant  
(Coopers & Lybrand)

## **Deputies**

### **KPMG Wideri Oy Ab**

Authorized Public Accountant  
(Deputy to Eric Haglund)

### **SVH Coopers & Lybrand Oy**

Authorized Public Accountant  
(Deputy to Lars Blomquist)

## **Nokia Head Office**

### **Corporate Relations & Trade Policy**

Veli Sundbäck

### **Finance & Control**

Majja Torkko

### **Group Treasurer**

Timo Korvenpää

### **Technology**

Kaj Lindén

### **Research Center**

Juhani Kuusi

### **Strategy and Information Management**

Mikko Kosonen

### **Investor Relations**

Martin Sandelin

### **General Counsel**

Ursula Ranin

### **Human Resources**

Pii Kotilainen

### **Communications**

Lauri Kivinen

### **International Trade Affairs**

Stefan Widomski

## **Nokia Group Executive Board.**

Sitting from left: Veli Sundbäck, Sari Baldauf, Olli-Pekka Kallasvuo, Jorma Ollila and Matti Alahuhta. Standing from left: Yrjö Neuvo and Pekka Ala-Pietilä.



## **Nokia Area Management**

### **Americas**

Olli-Pekka Kallasvuo

#### **Mobile Phones**

Kari-Pekka Wilska

#### **Telecommunications**

Jyrki Salo

#### **Display Products**

Jim Cookson

#### **Finance & Control**

Tuomo Alamäki

#### **Human Resources**

Rick Gangemi

#### **Business Development and Industry Relations**

John Malloy

#### **Legal**

Joe Pitts III

#### **Communications**

Jim Bowman

#### **Technology Standards**

Christopher Wallace

### **Asia-Pacific**

Sari Baldauf

#### **Greater China**

Folke Ahlbäck

#### **Japan**

Olav Stang

#### **Mobile Phones/APAC**

Nigel Litchfield

#### **Telecommunications/SEAP**

Kari Ahola

#### **Business Development**

Mauro Montanaro

## **Nokia Telecommunications**

Matti Alahuhta

### **Network Systems**

Mikko Heikkinen

#### **Switching Systems**

Lauri Melamies

##### **Mobile Switching**

Sauli Salo

##### **Fixed Switching**

Aarne Sipilä

##### **Intelligent Network Platforms**

Pertti Heinonen

##### **Switching Platforms**

Keijo Olkkola

##### **IP Networking**

Jussi Ilmarinen

##### **IP Routing**

Brian NeSmith

#### **Wireless Data Server Systems**

Petri Pöyhönen

#### **Professional Mobile Radio**

Tapio Heikkilä

#### **Network Management Systems**

Jorma Häkkinen

### **Service Integration**

Mikael von Hertzen

### **System Development**

Heikki Hämmäinen

### **System Marketing and Sales**

Mika Vehviläinen

### **Radio Access Systems**

J.T. Bergqvist

#### **Base Stations**

Christian Kurten

#### **Base Station Controllers**

Tapio Harila

#### **Cellular Transmission**

Sakari Nikkanen

#### **New Radio Systems**

Eero Vallström

#### **Fixed Wireless**

Pekka Salonoja

#### **System Development**

Pekka Soini

#### **System Marketing and Sales**

Olli Oittinen

### **Fixed Access Systems**

Kari Suneli

#### **Network Terminals**

Olli Rissanen

#### **Access Nodes**

Markku Hynninen

#### **Regional Transport**

Matti Peltola

#### **Operations**

Tapio Karjalainen

#### **System Development**

Rune Udd

#### **System Marketing and Sales**

Vesa Tykkyläinen

#### **Dedicated Networks**

Hans Holmberg

### **Customer Services**

Pekka Oranen

### **Area Management – Europe**

Pekka Vartiainen

### **Area Management – Southeast Asia and Pacific**

Kari Ahola

### **Area Management – Greater China**

Folke Ahlbäck

### **Area Management – North and South America**

Jyrki Salo

### **Legal Affairs & Intellectual Property Rights**

Timo Ruikka

### **Finance and Control**

Kirsi Sormunen

### **Business Development**

Pekka Lundmark

### **Human Resources**

Kirsi-Marja Kuivalainen

### **Communications**

Arja Suominen

## **Nokia Mobile Phones**

Pekka Ala-Pietilä

### **Americas**

Kari-Pekka Wilska

#### **Sales & Marketing, USA**

Rich Geruson

#### **Latin & South America**

Sven Markelin

#### **Canada**

Al Gilchrist

#### **Operations**

Anssi Rätty

#### **Logistics**

John Robinson

### **Europe-Africa & Gulf**

Anssi Vanjoki

#### **Sales**

Bengt-Åke Gyllenberg,

Matti Heikkilä

#### **Operations**

Risto Mäkinen

#### **Logistics**

Jukka Rajakangas

#### **Product Marketing**

Jyrki Salminen

### **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

### **Product Creation**

Yrjö Neuvo

#### **Product Programs**

Pekka Valjus

#### **Product Line Management**

Søren Jenry Petersen

#### **Wireless Data**

Mikko Terho

#### **Special Products**

Erkki Veikkolainen

### **Research & Technology**

Reijo Paaajanen

### **Global Operations**

Frank McGovern

#### **Sourcing**

Veikko Laakko

### **Global Logistics**

Pertti Korhonen

### **Finance & Control**

Anja Korhonen

### **Human Resources**

Juhani Hokkanen

### **Corporate Planning**

Juha Putkiranta

#### **Smart Traffic Products**

Kalevi Kaartinen

### **Quality**

Timo Hannukainen

### **Legal Affairs & Intellectual Property Rights**

Urho Ilmonen

### **Communications**

Tapio Hedman

## **Other units**

### **Nokia Multimedia**

#### **Network Terminals**

Heikki Koskinen

##### **Sales & Marketing**

Stefan Majurin

##### **Finance & Control**

Steinar Døhlen

##### **New Technology and Operators**

Helmut Stein

##### **Business Development**

Ari Nieminen

##### **Legal**

Leif Rotkirch

##### **Human Resources**

Marie-Louise Hasselblad

##### **Terminal products**

Owe Törnqvist

##### **Strategic Purchasing**

Jan Magnusson

##### **Operations & Quality**

Krister Rapp

### **Nokia Industrial**

#### **Electronics**

Hannu Suominen

##### **Finance & Control**

Asko Avoranta

##### **Business Development**

Lindy Yngvesson

##### **Legal**

Karin von Konow

##### **Human Resources**

Pekka Heinänen

##### **Car Electronics**

Leif Lundberg

##### **Display Products**

Reijo Lantto

##### **LK-Products**

Esko Rantala

##### **Power Supplies**

Kari Vuorialho

# Nokia Worldwide

## **Nokia Group**

Keilalahdentie 4  
P.O. Box 226  
FIN-00045 NOKIA GROUP  
Tel. +358 9 18 071  
Fax +358 9 656 388  
Fax +358 9 652 409 (Communications)

## **Nokia Area Management**

### **Nokia Americas**

6000 Connection Drive  
IRVING, Texas 75039  
Tel. +1 972 894 5000  
Fax +1 972 894 5001

### **Nokia APAC**

Keilalahdentie 4  
P.O. Box 226  
FIN-00045 NOKIA GROUP  
Tel. +358 9 18 071  
Fax +358 9 5113 8003

### **Nokia Telecommunications**

Keilalahdentie 4  
P.O. Box 300  
FIN-00045 NOKIA GROUP  
Tel. +358 9 51 121  
Fax +358 9 5113 4010  
Fax +358 9 5113 8200 (Communications)

## **Nokia Mobile Phones**

Keilalahdentie 4  
P.O. Box 100  
FIN-00045 NOKIA GROUP  
Tel. +358 10 5051  
Fax +358 10 505 5768  
Fax +358 10 505 5782 (Communications)

## **Other Operations**

### **Nokia Multimedia Network Terminals**

Keilalahdentie 4  
P.O. Box 226  
FIN-00045 NOKIA GROUP  
Tel. +358 9 18 071  
Fax +358 9 646 712

### **Nokia Industrial Electronics**

Salorankatu 5-7  
P.O. Box 14  
FIN-24101 SALO  
Tel. +358 2 7711  
Fax +358 2 771 2024

### **Nokia Research Center**

Heikkiläntie 7  
P.O. Box 407  
FIN-00045 NOKIA GROUP  
Tel. +358 9 43 761  
Fax +358 9 437 66227

- Nokia has sales in 130 countries
- Nokia has production facilities in 12 countries
- Nokia has research & development centers in 11 countries



**Austria:** Connect Austria, Mobilkom Austria  
**Belgium:** Belgacom Mobile  
**Czech Republic:** EuroTel Praha  
**Denmark:** Mobilix, Sonofon  
**Estonia:** Radiolinja Eesti  
**Finland:** Radiolinja, Telecom Finland, Telia Finland  
**France:** Bouygues Telecom, Société Française du Radiotéléphone (SFR)  
**Germany:** E-Plus, VIAG Interkom  
**Greece:** Cosmote  
**Hungary:** Pannon GSM  
**Italy:** Omnitel Pronto Italia  
**Latvia:** Latvian Mobile Telephone (LMT)  
**The Netherlands:** PTT Telecom Netherlands  
**Norway:** NetCom GSM, Telenor Mobil  
**Poland:** Centertel, Polkomtel  
**The Russian Federation:** North-West GSM  
**Spain:** Telefónica  
**Sweden:** Europolitan, Telia Mobile  
**Switzerland:** Swisscom  
**Turkey:** Telsim  
**United Kingdom:** Cellnet, Orange, Vodafone

**People's Republic of China:** Beijing TA, Fujian PTA, Henan PTA, Hunan Unicom, Jiangxi PTA, Shanghai PTA, Shanghai Unicom, Yunnan PTA, Zhejiang PTA, Hong Kong Telecom CSL, New World PCS, P Plus Communications  
**India:** BPL US West Cellular  
Telecommunications Services, Evergrowth Telecom, Fascal, Modi Telstra, SkyCell, Tata Communications  
**Indonesia:** Telkomsel  
**Iran:** Telecommunications Company of Iran  
**Malaysia:** Time Wireless  
**Philippines:** Globe Telecom  
**Singapore:** MobileOne  
**Thailand:** Advanced Information Service (AIS), Digital Phone Company (DPC), Total Access Communications (TAC)  
**Uzbekistan:** Uzmacom



**Australia:** Optus Communications  
**New Zealand:** BellSouth New Zealand

**Morocco:** Office National des Postes et Télécommunications (ONPT)

**United States of America:** Aerial Communications, Western Wireless, Wireless Alliance

Nokia had supplied (by the end of 1997) GSM technology to 65 operators in 34 countries.

# Nokia's 1997 Press Releases include

## January

- 09 Beijing Nokia Mobile Telecommunications Ltd. and the Yunnan PTA in China signed a major contract for an expansion of subscriber capacity for digital GSM systems and Short Message Service.
- 09 Nokia introduced two new wireless phones, the Nokia 2190 EFR and the Nokia 918.
- 10 Nokia and Psion Dacom announced a cooperation agreement which makes Nokia GSM and PCN phones and Psion Dacom PC cards compatible with each other.
- 10 Total Access Communications Public Company Limited and Nokia signed a frame agreement for the delivery of digital cellular network equipment for the 1997 expansion of TAC's GSM 1800 network in Thailand.
- 13 Nokia and Sendit agreed to collaborate and coordinate their product plans for Sendit's mobile-based e-messaging platform ICOSA and Nokia's wireless Internet systems.
- 15 Nokia announced the launch of the Nokia 1611 mobile phone.
- 22 Nokia and Helsinki City Energy Company signed an agreement for a development project based on a digital TETRA system.
- 23 Nokia was approved to become the first MCC Associate member headquartered outside of North America.
- 29 Beijing Nokia Mobile Telecommunications Ltd. and the Henan Post and Telecommunications Administration signed a major GSM expansion contract.

## February

- 03 Helsinki Telephone Company Ltd (HPY) will introduce a multimedia network supplied by Nokia.
- 06 Nokia signed a cooperation agreement with "Kiasma", the Helsinki Museum of Contemporary Art.
- 07 Telenor Mobil of Norway and Nokia signed a two-year frame agreement for the expansion of Telenor Mobil's NMT networks.
- 07 Nokia signed an agreement to divest its tuner operations.
- 19 The Nokia 9000 Communicator was presented the GSM World Award 1997 for innovation.
- 26 Beijing Telecommunications Administration and Beijing Nokia Mobile Telecommunications Ltd. signed an agreement for the expansion of Beijing TA's GSM network.
- 27 Nokia announced an agreement with Circuit City Stores Inc. for the retail distribution of Nokia phones across the United States.

## March

- 03 Globe Telecom chose Nokia to supply it with a residential access network for the Philippines.
- 03 Nokia announced that it has designed its own CDMA chip set for use in Nokia products.
- 03 Nokia introduced an integrated wireless payphone for GSM 1900 networks in the Americas.
- 03 Nokia announced that its TDMA IS-136 wireless phones will be equipped with the new Enhanced Full Rate voice codec.
- 06 Nokia and Oslo Energi Tele signed an agreement for the supply of a trunked mobile radio system, based on the new digital TETRA standard.
- 12 Nokia introduced a new wireless data product family, Nokia Artus.
- 12 Nokia announced of new GSM products: the Nokia 3110, the Nokia 8148, the Nokia 8110i, the Nokia 9000 Communicator for GSM 1800, the Nokia Cellular Card Phone and the Nokia Cellular Data Suite.

- 13 Nokia launched its Mediamaster DVB 9200S Free To Air.
- 13 Nokia launched its first flat panel LCD monitor, the Nokia 300Xa.
- 14 Nokia introduced two new members to the SYNFFONET product family; the SYNFFONET Access Node and SYNFFONET STM-16 Node.
- 17 Siemens Semiconductors and Nokia signed a letter of intent for their joint development of a new, integrated receiver chip to be designed for the use in terrestrial digital TV reception equipment.
- 17 Nokia and Shanghai Post and Telecommunications Administration signed an agreement for the supply of a GSM 1800 cellular network and wireless data solution.
- 17 Nokia and Data Fellows signed an agreement to integrate Data Fellows' F-Secure VPN encryption software into Nokia's Artus wireless data networking solutions.
- 20 Nokia launched three new mobile phones for the Asia-Pacific market.
- 27 Nokia announced that its first total GSM 1900 system solution for commercial PCS will come on-line in Columbus, Ohio.

## April

- 02 Nokia and Redstone Network Services Limited in the UK signed an agreement on the delivery of Nokia's DX 200 switching systems.
- 03 NTT DoCoMo, announced that Nokia has been chosen to participate in the development of third generation prototype mobile terminals for their test network.
- 07 Nokia and Oracle Corp. announced that they have joined forces to bring unified messaging solutions to the GSM market place.
- 07 Nokia announced it has signed an agreement to supply Pacific Bell Mobile Services with digital PCS wireless handsets.
- 15 Telenor Mobil and Nokia entered an agreement on the expansion of Telenor Mobil's GSM network.
- 16 Nokia signed a supply agreement with AOZT Tele-North in Murmansk, Russia, for the supply and installation of an analogue NMT 450 cellular system.
- 18 Beijing Telecommunications Administration and Nokia made an agreement for the supply of a GSM 1800 trial network to Beijing.
- 22 Advanced Info Service (AIS) of Thailand and Nokia signed an agreement for turn-key expansions of the AIS' GSM and NMT cellular networks.
- 25 Nokia announced Smart Messaging, a new direct Internet access service technology.
- 30 Cellnet in the UK implements Nokia's Intelligent Underlay-Overlay solution to improve network capacity and quality.
- 30 Telivo and Nokia signed a frame agreement for a complete GSM 1800 network solution.

## May

- 06 Nokia announced that it has signed an additional agreement with Aerial Communications to supply digital handsets and accessories.
- 06 Nokia launched the first digital satellite receiver with Common Interface, the DVB 9600 S.
- 08 Nokia announced a cooperation agreement with Gradiente Electronica S/A.
- 12 MobileOne of Singapore and Nokia signed an agreement for network expansion.
- 12 Nokia announced it has signed a multiyear contract to supply Wireless Alliance, LLC with digital GSM 1900 network equipment in Minnesota.

- 22 Nokia, the MTV3 Channel and Digital Media Institute of The Technical University of Tampere announced that they have developed an interactive virtual world.
- 22 Mobilix, a subsidiary of the France Telecom Group and Nokia signed a contract for the supply of the infrastructure for a new GSM 1800 cellular network in Denmark.
- 27 Nokia settled an agreement with Via Digital in Spain about Nokia digital decoders.

## June

- 03 Nokia announced that it has reached an agreement with Ipsilon Networks, Inc. of Sunnyvale, CA. to collaborate on the development of broadband technologies.
- 09 Nokia presented a new handportable radio for MPT 1327 trunked radio networks.
- 09 Nokia and Ericsson jointly announced their support of a new WCDMA technology for 3rd generation wideband cellular systems.
- 09 Nokia and SingTel introduced first integrated wireless payphones to Singapore.
- 10 Nokia introduced a new WLL solution, Easyway Access.
- 11 Globe Telecom selected Nokia to supply a wireless solution for their fixed telephone project in the Philippines.
- 11 Total Access Communications (TAC) of Thailand and Nokia signed an agreement for the supply of SYNFFONET transmission system and network management system.
- 18 Beijing Nokia MobileTelecommunications Co., Ltd and Yunnan PTA, PRC, signed an agreement for the further extension of the GSM network in the Yunnan province.
- 19 Nokia and Cosmote, a joint venture between the Greek PTT, OTE, and Telenor of Norway, signed a letter of intent for the a complete GSM 1800 turn-key system.
- 19 Nokia was chosen to be the main base station subsystem supplier for the third phase expansion of China Unicom Shanghai Branch's GSM network expansion in China.
- 23 Nokia announced that its total GSM 1900 system solution, including switching equipment, will come on-line in Tampa, Florida.
- 25 Nokia, Ericsson, Motorola and Unwired Planet™ announced plans to co-operate in defining a common Wireless Application Protocol.

## July

- 03 Europolitan, a Swedish cellular operator, announced that it is now providing Internet access to its GSM mobile phone customers, with the use of the NetGate functionality of the Nokia Artus Messaging Platform.
- 04 Mobile phone company BellSouth New Zealand and Nokia signed a major agreement which will help expand BellSouth's GSM Digital network over the next two years.
- 08 Nokia announced it has joined the Internet Mail Consortium (IMC).
- 16 Optus Communications and Nokia signed an agreement which will facilitate the planned expansion of the Optus mobile digital network.
- 18 Globe Telecom and Nokia signed an agreement for a major expansion of Globe's GSM network capacity and coverage in the Philippines.
- 21 Nokia, Boehringer Mannheim and Orion announced a joint project plan to develop a telemedicine diabetes management concept, WellMate™.



- 29 Cellnet, the UK mobile phone network operator and Nokia agreed on the expansion of Cellnet's GSM digital network.
- 31 Nokia and Zhejiang Post and Telecommunications Administration, China, signed agreements for the third phase expansion of the Zhejiang GSM 900 network.
- August**
- 06 VIAG Interkom, the fourth mobile network operator in Germany, selected Nokia as the main supplier for the delivery and installation of its base station systems.
- 11 Nokia introduced the Nokia 2180, its first digital CDMA handset in the USA.
- 14 Nokia, Alcatel, Ericsson and Siemens announced their commitment to the timely standardization of wideband wireless multimedia technology based on GSM core network.
- 21 Nokia announced that it partners with Islacom and Gemplus to introduce the first integrated wireless smart card payphones in the Philippines.
- 25 Telsim Mobil Telekomünikasyon Hizmetleri A.S. of Turkey and Nokia signed an agreement for the delivery of equipment for the extension of Telsim's GSM network.
- 26 Bouygues Telecom selected the partnership of Nokia and the French company Dassault A.T., for the delivery of a turnkey GSM 1800 cellular network in Lorraine.
- 29 Mobilkom Austria AG and Nokia signed an agreement covering the expansion of Mobilkom's GSM network.
- 29 Nokia and Elektrotit Oy announced they have jointly developed a new hand-held radio for the global TETRA market.
- 29 Nokia introduced a new GSM car phone, the Nokia 6081.
- 29 Nokia demonstrated its Smart Messaging concept at IFA '97, Berlin, Germany.
- 29 Nokia won EISA European Satellite Receiver of the Year '97-'98 and announced the European launch of the Nokia Mediamaster 9600 S.
- September**
- 01 The highest cellular call ever in Europe was made from the top of Mont-Blanc, France. The Nokia 1611 was used to make phone calls, and the Nokia 9000 Communicator to send faxes.
- 02 The first call on the Helsinki City Energy Company's digital TETRA network was made.
- 03 Nokia signed a deal worth over USD 300 million for the further expansion of the Fujian PTA GSM network.
- 04 Nokia introduced its newest product, the Nokia 252 in the United States.
- 08 Nokia was showcasing electronic payment services done via the Internet in GSM networks, using the Nokia 9000 Communicator.
- 09 Nokia introduced the world's first GSM dual band base station, the Nokia GSM 900/1800 Dual Band BTS.
- 10 Nokia announced the launch of the Nokia 9000i Communicator for GSM 1900.
- 10 Nokia introduced the new Nokia Booster Site that triples the coverage area of a base station.
- 12 Nokia signed a frame agreement for base station system infrastructure deliveries to Omnitel Pronto Italia.
- 16 Ericsson, Motorola, Nokia and Unwired Planet introduced the architecture of the Wireless Application Protocol.
- 16 Nokia announced that it will expand Mediamaster production by signing a contract with SCI Systems Inc., the US-based electronics manufacturer.
- 22 Jorma Ollila was announced Chief Executive of the Year by International Media Partners.
- 23 Connect Austria GmbH chose Nokia for the supply of its GSM 1800 network in Austria.
- 25 Nokia announced it will establish a Research and Development unit in Tokyo, Japan.
- 25 Nokia, its distributor in Indonesia, P.T. Abhimata Citra Abadi and P.T. Telekomunikasi Selular (Telkomsel) signed an agreement for the expansion of Telkomsel's GSM network.
- 26 Nokia and Orange PCS Ltd, the UK national GSM 1800 mobile network operator, signed a frame agreement for the supply of telecommunication infrastructure equipment until the end of 1998.
- 29 Nokia introduced a new handset for the NMT 450 standard, the Nokia 550.
- 29 The Dutch Police IT organisation made the first real call on their pilot TETRA network. The trial network and terminals were manufactured by Nokia.
- 30 The Digital Phone Company Ltd (DPC) and Nokia signed an agreement for the delivery of a complete GSM 1800 cellular network and transmission system to Thailand.
- October**
- 01 Centertel and Nokia signed an agreement for the supply of the first GSM 1800 network in Poland.
- 06 MobileOne of Singapore and Nokia signed an agreement for the second expansion of the MobileOne's GSM network.
- 09 Nokia announced that its improved TDMA IS-136 wireless phone, the Nokia 2160i, is equipped with the Nokia-developed Enhanced Full Rate voice codec.
- 10 The airport of Palma de Mallorca chose Nokia's Actionet trunked mobile radio system.
- 13 Nokia announced it will expand its Kemijärvi charger production.
- 13 Nokia and Sapura Holding's signed a joint venture agreement for an R&D company in Malaysia.
- 14 Nokia launched a new range of digital satellite receivers for the Nordic markets.
- 15 The British Government announced that the QUADRANT Consortium – consisting of BT, Nokia, Motorola and TRW – is to commence work on the specification of the new national digital radio service.
- 17 Nokia was awarded the development of the digital cellular telephone system with the German Eduard Rhein Foundation's Technology Award.
- 21 Nokia and Tele1 Europe signed an agreement for fixed network solutions in Sweden.
- 21 Nokia announced its capability for the provision of a full V5 ISDN solution.
- 21 Nokia introduced the Nokia ACM4, the new 2Mbit/s primary multiplexer.
- 22 Nokia announced the expansion of the Research & Development facilities in Oulu.
- 22 Telia Finland Oy and Nokia signed a contract for the supply of SDH transmission equipment for Telia's transmission network in Finland.
- 24 Nokia and Tele2, Sweden signed an agreement for the provision of fixed switching equipment.
- November**
- 03 Nokia and Italian telecommunications operator Flashnet Telecomunicazioni S.p.a signed a letter of intent announcing a cooperation.
- 03 Nokia announced it is setting up new Research and Development centres in Copenhagen, Denmark and Stockholm, Sweden.
- 04 Nokia announced its next generation half-rate handportable for the digital PDC standard in Japan.
- 05 Nokia announced that it has developed a revolutionary wireless data product, the Nokia Artus Wireless Data Enhancer.
- 05 Nokia introduced the Nokia 9000i Communicator.
- 10 Nokia introduced its next generation GSM product family in Beijing, China. The new Nokia 6100 series features four GSM products: the Nokia 6110 for GSM 900, the Nokia 6130 for GSM 1800 (Nokia 6138 for Asia-Pacific) and the Nokia 6190 for GSM 1900 networks.
- 11 Nokia announced it will establish a Research and Development facility in China.
- 11 Shanghai Unicom and Guilin Nokia Telecom signed a contract for the supply of Nokia's SDH solution, the Nokia SYNFFONET.
- 12 E-Plus Mobilfunk GmbH and Nokia signed a contract for the supply of an Intelligent Network (IN) for the E-Plus cellular telecommunications network.
- 12 A complete Wireless Local Loop test network in the south-eastern Brazilian state of Minas Gerais was deployed, following the signing of an agreement between Nokia, Telecomunicações de Minas Gerais (Telemig) and Telebrás.
- 14 Nokia and Jiangxi Post and Telecommunications Administration, China, signed an agreement for the third expansion of the Jiangxi GSM 900 network.
- 14 Nokia and the Henan Post and Telecommunications Administration (PTA) signed a contract for the supply of the third expansion to the Henan PTA GSM 900 network.
- 24 Nokia President and CEO Jorma Ollila stated that Nokia is leading the way towards the new wireless information society emerging with the 3rd generation.
- 26 Europolitán, a GSM operator in Sweden, announced the launch of its new service packages based on Nokia's mobile Intelligent Network (IN) system.
- 27 Nokia and Mobitai signed an agreement for the supply of SDH equipment for the Mobitai network in Taiwan.
- 27 Nokia and Fujian PTA signed an agreement for a new joint venture in China.
- 28 Nokia and GSM Information Network B.V. (GIN) signed a memorandum of co-operation in providing wireless data service solutions to telecommunications operators.
- December**
- 01 Nokia and the Beijing Telecommunications Administration (BTA) signed a contract for the supply of the fifth GSM network expansion.
- 03 Nokia launched the Asia Pacific operations of Nokia Multimedia Network Terminals.
- 03 Nokia introduced the company's first Code Division Multiple Access-based 1900 MHz digital phone, the Nokia 2170.
- 08 Nokia introduced a new handset for the NMT 450 standard, the Nokia 540.
- 09 Nokia announced it will supply a GSM network expansion to North-West GSM, St. Petersburg, Russia.
- 09 Nokia announced it will acquire Ipsilon Networks, Inc., a data communication company based in Sunnyvale, California, US.
- 11 Nokia became the sole supplier for Telecom Finland's switching and access network equipment in a three-year contract.
- 11 Nokia and Tele2 Europe S.A. signed an agreement for the supply of Nokia's DX 200 fixed switching equipment.
- 11 Nokia announced it is the title sponsor of the FIS Freestyle World Cup 1997-1998.
- 12 Nokia and the Finnish Ministry of the Interior signed an agreement for the supply of the first nationwide digital TETRA network.
- 15 Nokia introduced a new analog handportable for the German C-Tel network, the Nokia C6.
- 22 Nokia and Tampereen Puhelin Oyj (TPO) signed an agreement for the supply of a fixed network management system.
- 23 Nokia announced it has signed an agreement to sell its loudspeaker operations which are part of the Nokia Industrial Electronics Division.



# Nokia Shares and Shareholders

## Shares and voting rights

Nokia has two classes of shares, A shares and K shares.<sup>1)</sup> 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 amount 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 amount 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 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, 1997, the share capital fully paid and entered in the trade register was FIM 1 499 260 780 and the total number of votes 1 008 039 890.

The Articles of Association contain a provision permitting the holders of K shares 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, 1997, a total of 85 705 538 K shares had been converted into A shares. Thus the total number of shares was 299 852 156 of which 221 164 630 were A shares and 78 687 526 K shares.

The shares of Nokia are registered in the book-entry securities system. By December 31, 1997, a total 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 foreigner or a foreign association 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 a foreign organization approved by Finnish Central Securities Depository to act as a custodian.

On December 31, 1997, Nokia shares registered in the name of a nominee accounted for 70.5 per cent of the total number of shares and for 31.3 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 by which the amount of dividend is determined.

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

## The effect of the imputation system

The imputation system (avoir fiscal) will apply to the 1997 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 1997 is proposed by the Board of Directors to be FIM 7.50 per share, the tax credit thus amounts to FIM 2.92 thereby increasing the shareholder's profit to FIM 10.42, 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 Stock Exchange 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.

Volumes of A shares traded in 1997:<sup>2)</sup>

New York <sup>3)</sup>	257 922 100
Helsinki	171 380 657
London	118 607 432
Stockholm	96 870 747
Frankfurt	5 795 561
Paris	949 259
In total	651 525 756

<sup>1)</sup> At the Annual General Meeting held on March 30, 1995, Nokia's shareholders resolved to reduce the par value of each class of Nokia shares from FIM 20 to FIM 5 through a 4-for-1 stock split. The split was effected on April 24, 1995. In connection with the split, the shares were renamed as A shares, previously preferred shares, and K shares, previously common shares.

<sup>2)</sup> Source: Bloomberg L.P.

<sup>3)</sup> In the form of ADSs.

<b>Share capital and shares, Dec. 31</b>	<b>1997</b>	1996	1995	1994	1993
<b>Share capital, MFIM</b>					
K (common)	<b>393</b>	499	547	721	822
A (preferred)	<b>1 106</b>	999	951	777	556
<b>Total</b>	<b>1 499</b>	1 498	1 498	1 498	1 378
<b>Shares</b> (1 000, nominal value FIM 5)					
K (common)	<b>78 687</b>	99 713	109 377	144 198	164 393
A (preferred)	<b>221 165</b>	199 837	190 173	155 352	111 157
<b>Total</b>	<b>299 852</b>	299 550	299 550	299 550	275 550
Shares owned by the Group at year-end (1 000)	<b>16 080</b>	16 281	15 181	14 981	13 781
Number of shares excl. shares owned by the Group at year-end (1 000)	<b>283 772</b>	283 269	284 369	284 569	261 769
Average number of shares excl. shares owned by the Group during the year (1 000)	<b>283 282</b>	283 561	284 567	272 929	249 627
<b>Number of registered shareholders <sup>1)</sup></b>	<b>28 596</b>	26 160	27 466	24 770	31 486

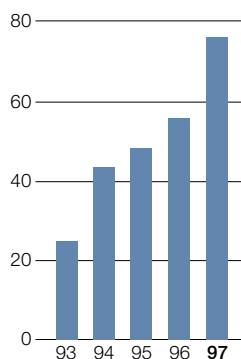
<b>Key Ratios Dec. 31, IAS</b> (calculation see page 61)	<b>1997</b>	1996	1995	1994	1993
<b>Earnings per share, FIM</b>	<b>21.17</b>	10.73	14.36	10.97	3.07
<b>P/E ratio</b>					
K (common)	<b>18.4</b>	24.8	12.0	15.9	23.4
A (preferred)	<b>18.3</b>	24.9	11.9	15.9	23.5
<b>(Nominal) dividend per share, FIM</b>	<b>7.50<sup>2)</sup></b>	3.50	3.00	2.50	0.70
<b>Total dividends paid, MFIM</b>	<b>2 249<sup>2)</sup></b>	1 048	899	749	193
<b>Payout ratio</b>	<b>0.35</b>	0.33	0.21	0.23	0.23
<b>Dividend yield, per cent</b>					
K (common)	<b>1.9</b>	1.3	1.7	1.4	1.0
A (preferred)	<b>1.9</b>	1.3	1.8	1.4	1.0
<b>Shareholders' equity per share, FIM</b>	<b>75.9</b>	56.2	48.5	43.6	24.9
<b>Market capitalization, MFIM <sup>3)</sup></b>	<b>110 014</b>	75 547	48 724	49 657	18 875

<sup>1)</sup> Each nominee register is included in the figure as only one registered shareholder.

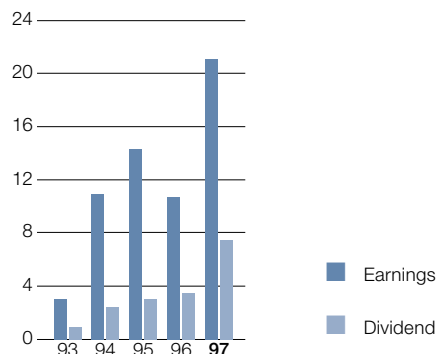
<sup>2)</sup> Proposed.

<sup>3)</sup> Shares owned by Nokia Finance International B.V. are excluded.

**Shareholder's equity per share, FIM**



**Earnings and dividend per share, FIM**



### 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 sponsored and administered by the Depository Bank, Citibank, N.A. Nokia has consented to the establishment of Plan by the Depository 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.

### Authorizations

At the end of 1997, the Board 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 four 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 800 000 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 16 000 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 one A share 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 5 800 000 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 of the shares is FIM 168. The stock option plan covers approximately 350 persons who are entitled to purchase a maximum average number of 16 600 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). The subscription period was from April 16 to June 13, 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 one A share. 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 total of 9 500 000 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 the shares is FIM 307. The stock option plan covers approximately 2 000 persons who are entitled to purchase a maximum average number of 4 750 shares.

Consequently pursuant to the stock option plans an aggregate maximum number of 15 797 824 new A shares may be subscribed for representing 1.5 per cent of votes.

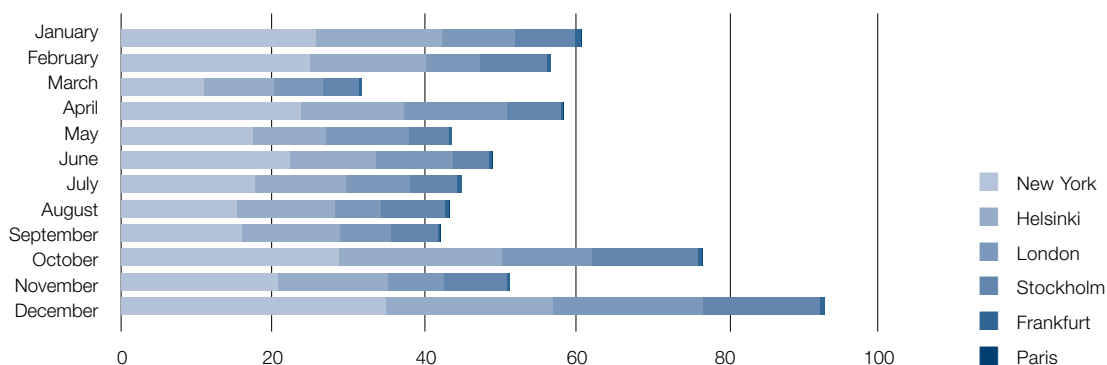
As of December 31, 1997, 302 176 warrants had been exercised for the subscription of shares under the bonds resulting in the issue of 302 176 new shares and the increase of share capital of Nokia with FIM 1 510 880.

All of the three stock option plans are part of Nokia's incentive schemes to the management and key personnel.

There were no other bonds with warrants and no convertible bonds outstanding during the year 1997.

### Volumes of Nokia A shares traded in 1997

1 000 000 shares



Source: Bloomberg L.P.

## Share Issues 1993–1997

Type of issue	Subscription date	Subscription price	Number of new shares	Date of payment	Net proceeds MFIM	New share capital MFIM	Share capital after issue MFIM
Global offering <sup>1)</sup>	June 30, 1993 and July 2, 1993	FIM 39.75 and USD 7.02	24 000 000 A shares	July 8, 1993	918.2	120	1 378
Global offering <sup>1)</sup>	July 1, 1994 and July 6, 1994	FIM 104.51 and USD 19.59	24 000 000 A shares	July 11, 1994	2 490.3	120	1 498
Nokia Stock Option Plan 1995	December 1997	FIM 168	145 400 A shares	December 1997	24.4	0.7	1 498
Nokia Stock Option Plan 1997	December 1997	FIM 307	156 776 A shares	December 1997	48.1	0.8	1 499

<sup>1)</sup> Prices and numbers of shares have been recalculated to correspond the nominal value of FIM 5 of the shares.

## Share turnover (all stock exchanges) <sup>2)</sup>

1000 shares	1997	1996	1995	1994	1993
K share turnover	<b>24 829</b>	67 617	99 871	154 164	191 876
Total number of K shares (1000)	<b>78 687</b>	99 713	109 377	144 198	164 393
% of total number of K shares	<b>32</b>	68	91	107	117
A share turnover	<b>651 526</b>	760 379	642 713	346 536	233 792
Total number of A shares (1000)	<b>221 165</b>	199 837	190 173	155 352	111 157
% of total number of A shares	<b>295</b>	380	338	223	210

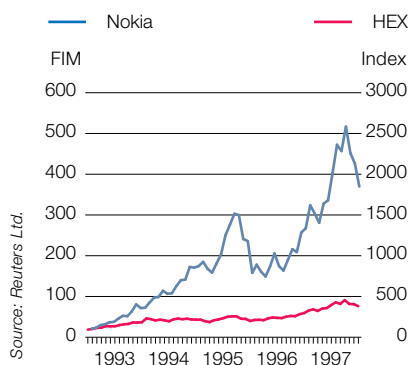
<sup>2)</sup> Based on the outstanding number of shares on December 31, 1997.

## Share prices, FIM (Helsinki Stock Exchange)

	1997	1996	1995	1994	1993
K share					
Low/high	<b>259/546</b>	146/267	138/340	71/178	24/87
Average <sup>3)</sup>	<b>352</b>	187	221	120	47
Year-end	<b>390</b>	266	172	174	72
A share					
Low/high	<b>261/547</b>	146/268	137/340	72/178	20/86
Average <sup>3)</sup>	<b>391</b>	189	220	123	46
Year-end	<b>387</b>	267	171	174	72

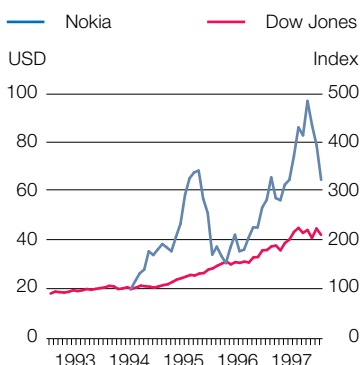
<sup>3)</sup> Calculated by weighing average price of each day with daily trading volumes.

## Nokia A share price in Helsinki and HEX index <sup>4)</sup>



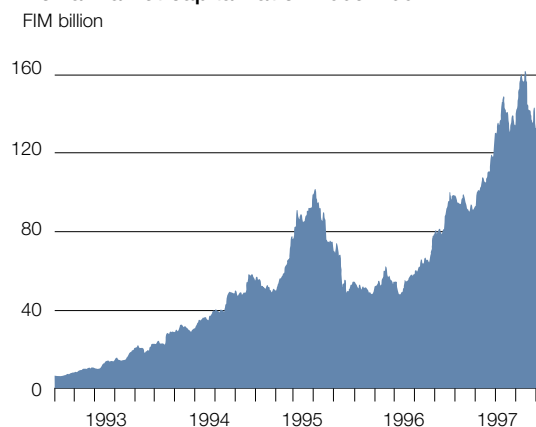
<sup>4)</sup> Index of January 3, 1993 = 100

## Nokia ADS price in New York and Dow Jones index <sup>5)</sup>



<sup>5)</sup> Index of July 3, 1994 = 100

## Nokia market capitalization 1993–1997



## Registered shareholders on December 31, 1997

Registered shareholders represent 29.5 per cent of the total number of shares.

Largest registered shareholders (excludes nominee registrations)	K shares	A shares	Total	Per cent of shares	Number of voting rights	Per cent of voting rights
Nokia Finance International B.V.	13 813 384	2 267 116	16 080 500	5.4	140 400 956	13.9 <sup>1)</sup>
UPM-Kymmene Corporation	7 119 984	29 720	7 149 704	2.4	71 229 560	7.1
Pohjola Insurance Company Ltd	5 165 400	175 000	5 340 400	1.8	51 829 000	5.1
Pension Insurance Company Ilmarinen Ltd	3 424 500	111 000	3 535 500	1.2	34 356 000	3.4
Industrial Insurance Company Ltd	2 900 000	0	2 900 000	1.0	29 000 000	2.9
Suomi Mutual Life Assurance Company	2 465 200	0	2 465 200	0.8	24 652 000	2.4
Svenska Litteratursällskapet i Finland r.f.	2 158 000	0	2 158 000	0.7	21 580 000	2.1
The Local Government Pensions Institution	1 597 944	1 391 200	2 989 144	1.0	17 370 640	1.7
Merita Ltd Pension Fund	1 295 600	0	1 295 600	0.4	12 956 000	1.3
Pohjola Life Assurance Company Ltd	1 175 000	16 800	1 191 800	0.4	11 766 800	1.2

UPM-Kymmene Corporation informed Nokia on February 12, 1997 that its voting rights with respect to Nokia shares had exceeded the limit of 10 per cent due to conversion of shares and further on June 30, 1997 that its voting rights had been reduced to less than 10 per cent.

The number of registered shareholders was 28 596 on December 31, 1997. Each nominee register (21) is included in this figure as only one registered shareholder.

Members of Nokia's Board of Directors and Group Executive Board owned a total of 5 016 K shares and 46 512 A shares representing 0.01 per cent of the total voting rights and 0.02 per cent of the total number of shares as well as a number of warrants representing 4.7 per cent of the total number of warrants issued by Nokia on December 31, 1997. If exercised in full said warrants would be exercisable for 738 516 A shares representing 0.07 per cent of the total voting rights and 0.25 per cent of the total number of shares as of December 31, 1997.

On December 31, 1997 Nokia Finance International B.V., a wholly owned subsidiary of Nokia, owned 16 080 500 Nokia shares representing 5.4 per cent of the total number of shares.

## Shares registered in the name of a nominee on December 31, 1997

	K shares	A shares	Total	Per cent of shares	Number of voting rights	Per cent of voting rights
Merita Bank Ltd	11 245 118	195 892 323	207 137 441	69.1	308 343 503	30.6
Other nominees	285 815	3 929 499	4 215 314	1.4	6 787 649	0.7

## Breakdown of share ownership on December 31, 1997

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	20 569	71.9	3 273 945	1.1	159
501-1 000	3 400	11.9	2 494 918	0.8	734
1 001-10 000	4 198	14.7	11 320 092	3.8	2 696
10 001-100 000	376	1.3	9 367 024	3.1	24 912
over 100 000	53	0.2	62 043 422	20.7	1 170 630
Total	28 596	100.0	88 499 401	29.5	3 095
Shares registered in the name of a nominee			211 352 755	70.5	
Total			299 852 156	100.0	

By shareholder category, per cent	K shares	A shares	Total
1. Foreign shareholders <sup>2)</sup>	32.8	91.8	76.3
2. Financial and insurance institutions	23.5	1.1	7.0
3. Households	11.4	3.8	5.7
4. Non-financial corporations	12.9	1.1	4.2
5. Non-profit organisations	12.2	0.6	3.7
6. General government	7.2	1.6	3.1
Total	100.0	100.0	100.0

<sup>1)</sup> No voting right can be exercised through shares owned by Nokia Group.

<sup>2)</sup> Includes also the shares registered in the name of a nominee and the shares owned by Nokia Finance International B.V.

# Investor Information

## Annual General Meeting

Date: Tuesday, March 24, 1998, at 3 p.m.

Place: the Helsinki Fair Centre, Congress Hall C 1, Rautatieäisenkatu 3, Helsinki, Finland.

## Dividend

Dividend proposed by the Board of Directors for 1997 is FIM 7.50. The dividend record date is March 27, 1998 and the dividend will be paid after April 3, 1998.

## Stock Exchanges

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

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

The continuous trading hours of Nokia's shares are as follows:

Helsinki 10.30 a.m. – 5.30 p.m.  
Stockholm 10.00 a.m. – 5.00 p.m.  
London 8.30 a.m. – 4.30 p.m.  
Frankfurt 8.30 a.m. – 5.00 p.m.  
Paris 10.00 a.m. – 5.00 p.m.  
New York 9.30 a.m. – 4.00 p.m.

## Financial reporting

Nokia's quarterly interim reports in 1998 are due on April 24, July 24 and October 23. The 1998 results will be published in January/February 1999 and the Annual Report for 1998 in March 1999. The reports are published in English, Finnish and Swedish.

The financial reports are available from:

### Investor Relation contacts

Mr Martin Sandelin,  
Vice President  
6000 Connection Drive  
IRVING, Texas 75039, USA  
tel. +1 972 894 4880  
fax +1 972 894 4831  
e-mail: martin.sandelin@ntc.nokia.com

Ms. Ulla James,  
Assistant Vice President  
P.O. Box 226  
FIN-00045 NOKIA GROUP  
Finland  
tel. +358 9 180 7290  
fax +358 9 176 406  
e-mail: ulla.james@nokia.com

Ms. Audrey McGinnis,  
Manager  
6000 Connection Drive  
IRVING, Texas 75039, USA  
tel. +1 972 894 4880  
fax +1 972 894 4831  
e-mail: audrey.mcginis@nokia.com

**Nokia Corporate Communications**  
P.O. Box 226  
FIN-00045 NOKIA GROUP  
Finland  
tel. +358 9 18 071  
fax +358 9 652 409  
e-mail: corporate.communications@nokia.com

## Information via the Internet

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

The Nokia 1997 Annual Report is available also on CD-ROM.



# Abbreviations

<b>ADSL</b>	Asymmetric Digital Subscriber Line
<b>AMPS</b>	Advanced Mobile Phone Service
<b>ATM</b>	Asynchronous Transfer Mode
<b>CDMA</b>	Code Division Multiple Access
<b>DVB</b>	Digital Video Broadcasting
<b>EFR</b>	Enhanced Full Rate
<b>ETSI</b>	European Telecommunications Standards Institute
<b>GPRS</b>	General Packet Radio Service
<b>GSM</b>	Global System for Mobile Communications
<b>HDSL</b>	High Bit Rate Digital Subscriber Line
<b>IMT</b>	International Mobile Telephony
<b>IN</b>	Intelligent Network
<b>IP</b>	Internet Protocol
<b>IS</b>	Interim Standard
<b>ISO</b>	International Standardization Organization
<b>ISDN</b>	Integrated Services Digital Network
<b>NMT</b>	Nordic Mobile Telephone
<b>OEM</b>	Original Equipment Manufacturer
<b>PDC</b>	Personal Digital Cellular Standard
<b>PMR</b>	Professional Mobile Radio
<b>TDMA</b>	Time Division Multiple Access
<b>TETRA</b>	Terrestrial Trunked Radio
<b>TIA</b>	Telecommunications Industry Association
<b>SAN</b>	Synfonet Access Node
<b>SDH</b>	Synchronous Digital Hierarchy
<b>SMS</b>	Short Messaging Service
<b>UMTS</b>	Universal Mobile Telephone System
<b>VDSL</b>	Very High Speed Digital Subscriber Line
<b>WAP</b>	Wireless Application Protocol
<b>WCDMA</b>	Wideband Code Division Multiple Access

The Nokia logo is centered in the lower half of the page. It consists of the word "NOKIA" in a bold, white, sans-serif font. Below it, the tagline "CONNECTING PEOPLE" is written in a smaller, white, sans-serif font. The background is a dark blue gradient with a bright blue diagonal streak on the right side.

**NOKIA**  
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