

# Allgon in 60 seconds

- Allgon's business concept is to develop, market and produce radio-based solutions and other products for wireless telephony and data communication.
- Operations are carried out in Business Areas Allgon System, Allgon Mobile Communications and from the year 2000 also Allgon Microwave.
- Business Area System is one of the five largest companies in the world in its niche. Business Area Mobile Communications is the world leader with regard to antennas for mobile telephones with a market share of just under 40 percent. Business Area Microwave launched its first products during 1999.
- The product range consists of antenna systems for infrastructure in mobile telephone networks; filters, combiners and similar products for base stations; repeater networks; microwave equipment; mobile telephone antennas; antenna solutions for vehicles; wireless local networks and Bluetooth products.
- Customers are operators of mobile telephone networks, system, telephone and vehicle manufacturers as well as distributors.
- In 1999, net Group sales amounted to SEK 2,136 million and operating income to SEK 124 million. The Group had 1,249 staff at 1999 year-end.
- Allgon has offices in eight countries on four continents. Its head office is located in North Stockholm. Sales are made to some 60 countries of which 97 percent refers to customers outside Sweden.
- Allgon was formed in 1946. The share was introduced on the OM Stockholm Exchange in 1988.

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# Allgon's Products



# Radio Equipment

- 1. Combiner makes it possible to send several outgoing calls simultaneously from the same base station antenna. The product range includes Automatically Tuned Combiners ATC, which automatically follow the base stations' frequency and Wide Band Combiners WBC, which can be used over a large band width and which are able to combine different transmitter frequencies without changing tuning
- 2. Filter suppresses unwanted and interfering radio signals within both the receiver and transmitter bands.
- **3. Dual band-filter** combines duplexed signals from GSM 800/900 and 1800/1900 MHz base stations into one signal.
- 4. Front end-system includes a number of components such as filters, multicouplers, combiners and tower top amplifiers which have been combined into a subsystem.
- 5. Receiver multicoupler makes it possible to receive several calls simultaneously from the same base station antenna. A multicoupler amplifies, distributes and passes on the received radio signals to several receiver channels.

# Repeater Networks

6. Repeater receives radio signals from the base station, then amplifies and retransmits them to areas where radio shadow occurs, for example behind hills and mountains, in tunnels, behind tall buildings and indoors in office buildings and department stores. The repeater also works in the opposite direction, i.e. it receives signals from mobile telephones and then amplifies and retransmits them to the base station.

# Antenna Systems

- 7. Tower Top Amplifier TTA is placed on the tower top at the base station and improves the call quality by boosting the relatively weak signal which goes from the mobile telephone to the base station's receiver antenna, which is especially important when there is a large distance between them. It also makes it possible to use a coaxial cable with a smaller dimension and therefore a lower price between the base station and its antenna in the tower top.
- **8. Tower Top Power Amplifier TTPA**. Same functions as TTA but in addition amplifies the transmitted signal from the base station.
- **9.** Base station antennas are mounted on the tower and transmit and receive radio signals from mobile telephones or vehicle-mounted telephones.

# Microwave Radio

**10. Microwave radio** connect a base station wirelessly with a telephone switches and other units in infrastructures. They are found in several variants for different frequency ranges and capacities.

# Terminal Antennas

- 11. Terminal antennas transfer the telephone's signal from and to the base station.
- 12. Satellite telephone antennas transfer the telephone's signal to the base station via a satellite.

### Vehicle Antennas

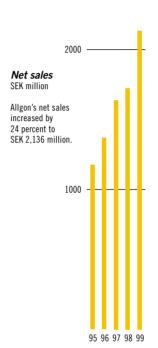
- **13. Vehicle antennas** transfer the telephone's signal to the base station and receive signals from the base station.
- **14. Multifunctional antennas** with GPS, dual band GSM and other antenna functions for fleet management.

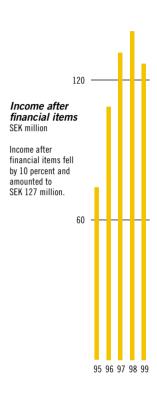
# Other Products

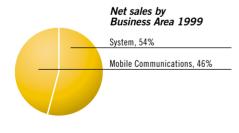
**15. Other products** in the product range also include products for wireless local networks, W-LAN and Bluetooth.

# The year in brief

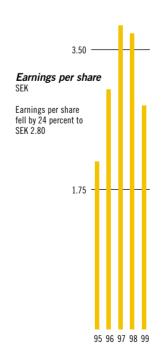
- Net sales rose by 24 percent to SEK 2,136 million (1,725) during
- Operating income fell by 14 percent to SEK 124 million (144) and income after financial items to SEK 127 million (141).
- Orders received increased by 28 percent to SEK 2,266 million (1,764).
- Business Area System reported strong sales growth, especially in North America.
- High volume growth for Business Area Mobile Communications.
- General agreements relating to microwave radio were signed with
   Tele2 and the first deliveries were made at the end of 1999.
- In December 1999, Wireless Solutions, which is involved with wireless communication within industry, home and office, was acquired.

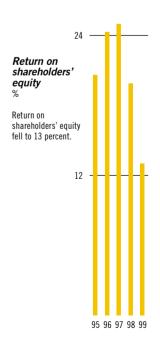












# Well-positioned Allgon with increasingly strong product offering



During 1999, the two Business Areas System and Mobile Communications developed positively in step with global market growth. Net sales in 1999 increased by 24 percent to SEK 2,136 million, whereas income after financial items fell by 10 percent to SEK 127 million. Particularly our sales on the North American market increased above expectations during the second half of the year. The launch of the microwave radio was carried out as planned and resulted in important reference orders during 1999. We will now focus on our customers' needs for communication solutions and offer a larger value content in our products.

## Increased sales in North America

Business Area System's invoicing rose by 22 percent to SEK 1,146 million. The positive trend in North America was extremely important and met with a response on other markets. At the start of the year, we gave an anticipated penetration for mobile telephony of 30 percent at end-1999 in North America and we are now able to note that this was exceeded. In step with expansion of the infrastructure of the mobile telephone networks, more uniform tariffs and establishment of larger operators, we were able to increase our sales on the North American market by a total of 24 percent for both Business Areas.

# Mobile telephony market stronger and stronger

Business Area Mobile Communications increased its

invoiced sales by 26 percent to SEK 990 million, mainly due to strong growth in the number of mobile telephones sold. At the beginning of 1999, the mobile telephone manufacturers raised their forecasts for sales on the world market to 240 million mobile telephones, which was exceeded as sales for the full-year were approximately 270 million. For Mobile Communications we were able to note a volume growth of nearly 50 percent which means that the Business Area largely maintained its market share of just under 40 percent for terminal antennas. Since 1993, Allgon has delivered approximately 230 million terminal antennas, of which 96 million were delivered during 1999. This is a strong performance as the rapid sales growth involved strains on both production and logistics. As we received large orders during the second and third quarters at the same time as sufficient production equipment was not yet in place, we fulfilled our commitments by employing staff on a temporary basis, who carried out certain work-operations manually. However, this brought about increased costs.

During 1999, deliveries of built-in antennas started and in addition we introduced a new general product concept for these antennas.

We also launched our microwave radio during 1999 and in October received an important reference order from the Scandinavian operator, Tele2. Our objective is to deliver high quality microwave radio products based on current and future demands for performance and handling.

"The launch of the microwave radio was carried out as planned and resulted in important reference orders during 1999."

"We will now focus on our customers' needs for communication solutions and offer a larger value content in our products." We aim to achieve a market share of 5–10 percent from 2003. From the year 2000, microwave radio forms a separate Business Area within the Group, Allgon Microwave.

# Strengthening existing establishments

During the year 2000 we shall concentrate primarily on strengthening our establishments in North America, China and Brazil. We will increase our presence in North America in order to be able to support our customers even better. We also see sound criteria for a growing operation in South America where market growth has so far been slow due to, among other things, economic turbulence and uncertainty regarding operator licenses. However, the market is expected to enjoy positive growth in the future. In China, we have established an operation which will start to deliver base station antennas at the end of the first quarter of the year 2000.

# Expertise and quality

After my first year as President, I am able to state with satisfaction that Allgon has successfully kept well up with the competition regarding quality and performance in products and customer relations as well as regarding expertise in the Company. We are strengthening our skill-improving activities further and are making plans for providing the Company with fresh talent. We offer further training for our staff and we also support the establishment of an upper secondary school telecom and radio course.

Our quality work is carried out with the customer in focus on the basis of the response that our yearly customer polls provide us. An important aspect in our quality strategy is our environmental work and our ambition to reduce the environmental influence of our operations. During the past year we produced, among other things, solutions for recovery of packaging and reduction of waste.

# Focus on improved profitability

During the year 2000, we want to improve profitability and aim at a sales growth of at least 20 percent for which we see sound prerequisites following high growth during 1999. On the expansive markets in which we operate there is continuous price pressure and our strategy is

therefore to continuously develop products with a larger value content such as multiple antenna functions, software and an expanded supply of subsystems and communication solutions

# Well-positioned within wireless communication

The trend is towards a society in which communication is increasingly taking place on a wireless basis. Allgon has a strong market position. Business Area Mobile Communication is the world leader in antennas for mobile telephones. Business Area System delivers the infrastructure for the mobile telephone networks and is well-positioned on strategically important markets.

We are moving upward in the value chain by increasingly delivering complete communication solutions and subsystems rather than individual products and components. Our customers' needs are becoming increasingly complex and frequently extend far in excess of purely product deliveries at the same time as the customers strive to reduce the number of suppliers.

To supplement our product family and raise and expand our expertise still further, in December we acquired the Swedish company Wireless Solutions which specializes in systems and products within wireless communication for industry, office and home. Our ambition is to be at the forefront of tomorrow's technology development and have solutions ready when demand arises. Allgon possesses very sound spearhead expertise and we operate in segments in which it will have a large impact.

I look forward to yet another stimulating year in which we shall strengthen our position on all markets and carry Allgon's development further into the communication society of the future.



Åkersberga, February 2000

Jan Edhäll

# Mobile telephony – a market under change

# Market growth

The market for mobile telephony continued to grow rapidly during 1999. The number of mobile telephones sold amounted to 260–280 (163) million according to Allgon's evaluation and the number of subscribers grew by 471) percent to a total of 454 (309) million subscribers.

In **Europe**, the number of subscribers increased by 58 percent to 164 (104) million during 1999. Significant growth is still taking place despite relatively high penetration, i.e. the ratio between number of subscribers and inhabitants. In Finland and Norway, penetration increased to 65 and 62 percent, respectively, which means that these countries have the highest density of mobile telephones in the world. Lower tariffs and introduction of prepaid cash cards contributed to the strong increase.

From having had a weak trend in recent years, the market accelerated in North America during 1999. The number of subscribers increased from 74 to 91 million. which is equivalent to a rise of 23 percent. Simplified tariff structures as well as collaborations and mergers between operators facilitated the transfer of calls between different mobile telephone networks and pushed up demand. The increasing penetration and expansion of digital systems, combined with increased talktime per subscriber, have been the prime driving forces behind the growth. Further growth-stimulating changes are expected. A proposal that the person who calls should pay for the calls is under discussion by the Federal Communications Commission, the American telecommunications authority. This system will probably be introduced gradually in the USA during 2000-03. At the present time, the mobile telephone subscriber pays for both incoming and outgoing calls.

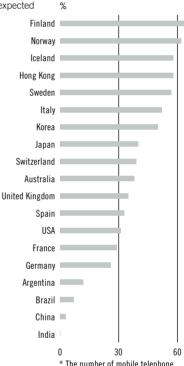
In **Latin America**, the number of subscribers increased by 67 percent to 35 (21), million. This is a strong percentage rise but from a low level. In several Latin American

countries, new operators received licenses which increased competition. During the year 2000 an increase is expected

in investments and infrastructure for mobile telephony in connection with the new operators expanding their networks.

In **Asia**, Japan accounted for the largest growth, whereas other countries developed relatively slowly. The number of subscribers in Asia rose by a total of 48 percent to 151 (102) million. In Japan, the number of subscribers increased by 28 percent. In China the situation was initially uncertain as decisions regarding investments in infrastructure were stopped due to reorganization of the telecom sector. During the latter part of 1999, the level of activity increased significantly as a result of the fact that the new structure began to stabilize and the number of subscribers increased by 60 percent. In South East Asia, recovery from the economic crisis remained sluggish.

# Penetration ratio in selected countries 1999\*



\* The number of mobile telephone subscribers in relation to the number of inhabitants at 1999 year-end.

# Different system standards

There are a number of different digital and analog system standards in the world. The analog system standards are AMPS, TACS and NMT. AMPS continues to develop, partly due to the connection to the digital AMPS. Few investments are being made in other analog systems. The digital systems account for virtually all of the market growth.

1) Unless otherwise stated, the source of information in the Market overview section is EMC World Cellular Database. Information pertaining to 1999 and later refers to forecasts from EMC.

# Subscribers

Million subscribers	Dec 1998	Increase 1999	Increase 1999, %	Dec 1999
North America	74	17	23%	91
Latin America	21	14	67%	35
Europe	104	60	58%	164
Asia (excl China) and Oceania	77	34	44%	111
China	25	15	60%	40
Rest of the world	8	5	63%	13
Total	309	145	Δ7%	454

They consist primarily of GSM, CDMA, PDC and D-AMPS (US TDMA). In 1999, GSM, the largest system by far, grew by 102 million to 240 million subscribers, which is equivalent to an increase of 74 percent. The other digital systems, CDMA, PDC, iDEN and D-AMPS, grew by 74 million to a total of 132 million users.

# Market develops and is segmented

A strong driving factor for the rapid development of mobile telephony has been the deregulation and privatization which was carried out all over the world during the 1990s. Deregulation continues and brings about continuously increasing competition which drives on the technology development and leads to falling prices. The operators compete for subscribers and are continuously forced to re-evaluate and improve their offers.

Subscribers are becoming increasingly sophisticated in their use of mobile telephones. Falling prices mean that they make more calls and make increasing use of mobile telephone services. Examples of services are the opportunity to send and receive text messages to the telephone. Some operators have stated that text messages account for approximately 10 percent of income.

Manufacturers of mobile telephones bring out an increasing number of models and identify new customer

groups and design telephones especially for them. In addition, function content and user-friendliness in the telephones is continuously increasing. On average, a subscriber uses a telephone for 2-3 years before it is replaced. In the future many will probably have several telephones, for example one telephone for sport and another for other activities. All this means that the number of telephones sold will increase more than the number of new subscribers. In the year 2000, more than half of telephone sales is expected to be due to replacement of existing tele-

In countries in which development of mobile telephony has come relatively far and outdoor coverage is good, increasing demands are placed on improved indoor coverage, in subways and in trains. This will require substantial investments in infrastructure over the next few years.

phones.

The number of frequency ranges, which have now been allocated to mobile telephony, is limited. Additional frequency ranges and improved utilization of frequency ranges will be necessary to meet the increasing number of subscribers and solve capacity problems in the big cities. License allocation of new frequency ranges for the third generation's systems means that new operators will be

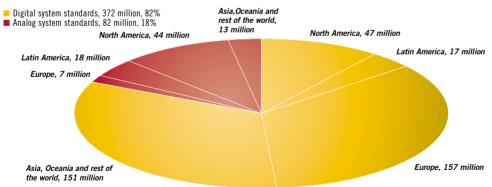
# Number of subscribers in various mobile systems

a GSN	1	53%	
b AMP	'S	15%	
c CDN	1A	11%	
d PDC		10%	
e TDN	IA (D-AMPS)	7%	
f TAC	S	2%	
g iDEI	V	1%	
h NMT	•	1%	

100% = 454 million subscribers

# Total market, December 31, 1999





# Digital system standards

North America US TDMA-800/1900, CDMA-800/1900, GSM-1900, iDEN Latin America CDMA-800/1900, GSM-900/1900, US TDMA-800/1900 Europe GSM-900/1800, US TDMA-800

Asia, Oceania and rest of the world PDC-800/1500, GSM-900/1800/1900, CDMA-800/1700/1900, US TDMA-800 Analog system standards North America AMPS Latin America AMPS Europe TACS, NMT-450/900, AMPS Asia, Oceania and rest of the world TACS, AMPS, NMT-450/900 added during 2000–02 and that the need for telecommunications equipment will therefore increase still further.

# Structural change on the mobile telephony market

### Mega operators and small operators

Large operators within a country strive to become global as opportunities for expansion within the country are limited. Several mega operators were therefore established during 1999. The British company, Vodafone, acquired the American company, Airtouch, and in addition made offers for several other operators. In the USA, Voicestream acquired Omnipoint, and the German company, Mannesmann, acquired the British company, Orange. This restructuring of the sector will probably continue. At the same time, small and niche operators will establish themselves on the market, for example operators who offer wireless data traffic between offices, or small operators who specialize in specific customer groups. On the system suppliers' side there is a small number of large operators, and several collaborations were established during the year. For example, collaboration began between Motorola and Alcatel, and between Siemens and NEC.

# Operators move upwards in the value chain

In step with rising competition, the operators' supply of services is becoming increasingly important. Therefore, some activities are transferred to the system suppliers, for example, technology development of infrastructure and installation of telephone networks. In turn, the system suppliers hand over some services to their subcontractors which means that the subcontractors are also able to increase the value added of their services.

# Future trends

# Wide band radio technology

To be able to efficiently offer services which demand large transmission capacity in the mobile telephone systems, higher speeds than currently exist are required. Existing GSM operators have the opportunity to develop the current systems with GPRS technology and EDGE. GPRS is a

technology which makes possible data speeds of up to 115 kbit per second and which could be a commercial operation in 2000-01. EDGE makes possible data speeds up to 400 kbit per second and is 1-2 years later in development. These data speeds can be compared with a current maximum speed of 9.6 kbit per second. At the same time, new frequency ranges have been licensed in several countries for the third generation systems, a new standard within mobile telephony. The first and second generations consist of the analog and the digital systems, respectively. The third generation will be launched in Japan during the second half of 2001 and on the European market in 2002. The new system offers data speeds of up to 2 Mbit per second. The current digital systems are expected to grow strongly over the next 5-10 years, whereas the third generation systems are expected to show high growth around 2004-05.

# Internet via the mobile telephone

It is already possible to integrate mobile telephony and the Internet, and new services based on WAP technology are being developed. WAP is a standard which makes possible development of software and services optimized for a mobile environment. Overall, services based on data will increasingly develop. In addition to e-mail, the subscriber is already able – via the mobile telephone – to access weather forecasts, sports results, timetables, etc. If in addition, GPS is connected to the telephone, additional services can be offered: for example information about the nearest petrol station or restaurant and a map covering the area in which the subscriber finds himself.

## Telemetry

The market for telemetry – wireless communication between machines and appliances – will probably develop very rapidly. Examples of wireless telemetry are reading of electricity and water meters, monitoring of wear on machines and wireless applications within the home, such as alarms. Telemetry systems can be based on different technologies such as GSM or Bluetooth.

Bluetooth is a system for wireless communication between appliances at a distance of up to ten meters. The

system replaces cables everywhere where data or telephony was previously transferred via cable. Products with Bluetooth will be launched during the year 2000. Examples of products in which Bluetooth can be used are the mobile telephone, portable computer, hand-held computer and computer mouse, or in wireless local networks, so-called W-LAN. A new generation of Bluetooth with a range of 100 meters is under development.

# Satellite communication

During 1999 and 2000, several satellite mobile telephone systems will be launched. Since these systems were originally planned, the requirement has reduced significantly. Today, subscribers are able to make use of functioning land-based systems between continents and countries. In addition, the satellite systems have the limitation that they do not provide coverage indoors. There will be a requirement for satellite systems but the market will probably not achieve the growth that was anticipated a few years ago.

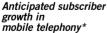
### Vehicle industry

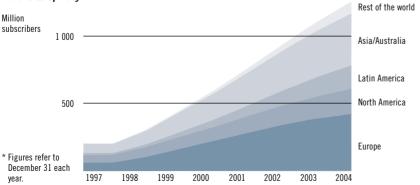
The vehicle industry is developing increasingly sophisticated communication systems with built-in modules for mobile telephony, navigation, localization services as well as entertainment in the form of radio, TV and games.

Transport and logistics companies need new solutions to enable them to improve monitoring and communication with their vehicles. In addition, several countries are legislating against the use of mobile telephones in vehicles without hands-free equipment. All this means that demand will increase for advanced radio solutions.

# Development creates large potential

There will be continued strong growth in mobile telephony due to the increasing number of subscribers, the increased use of mobile telephones, more frequent replacement of telephone models, establishment of the third generation's mobile telephone systems as well as development of many new services and new areas of application for wireless communication. The rapid development will also require significant expansion of infrastructure. However, a twofold increase in the number of subscribers will not require a twofold rise in investments in the infrastructure. The value of the investments is affected by the fact that the increasingly large volumes will lead to reduced product prices as well as the fact that new technology solutions mean that the same capacity can be achieved with fewer units. The number of subscribers is expected to amount to 1,110 million in 2003 compared with 454 million at 1999 year-end.





# This is Allgon

# Allgon's business concept

- Allgon's business concept is to develop, produce and market radio-based solutions and other products for wireless telephony and data communication
- The product range consists of:
  - -antenna systems for infrastructure
  - -filters, combiners and similar products for base stations
  - -repeater networks
  - -microwave radio equipment
  - -mobile telephone antennas
  - -antenna solutions for vehicles
  - -wireless local networks
  - -Bluetooth products

# Allgon's strategic targets

- Increased market shares within the wave propagation segment.
- Expansion of the product program for wave propagation products.
- Increased sales of complete subsystems and services.
- Technology leadership within the product areas
   addressed
- To provide technologically-advanced products, high quality, high delivery precision and short lead times.

# Allgon's financial targets

- Annual sales growth at least 20 percent.
- Return on operating capital at least 25 percent.
- Equity ratio at least 40 percent.
- Dividend at least 15 percent of income after tax.

# Allgon's strategy

Long-term strategy:

- Development of complete subsystems.
- Continued development of existing product range.
- A strong organization for marketing and local presence.
- Acquisition to secure key technologies and broaden operations.
- Focus on automation, verification and final assembly, as well as a flexible network of subcontractors.
- Continuous development of staff skills.

# Plans for year 2000:

- Continued international expansion to strengthen customer relations and strengthening of operations in South America, China, Japan and the USA.
- Increased development and sales of subsystems and function solutions in Business Areas System and Mobile Communications
- Strengthening the market organization and expanding the product range within Business Area Microwave.
- Creation of additional modular product concepts within System and Mobile Communications.
- Increasing the degree of automated production of volume products.
- Shortening lead times from order to delivery still further.
- Transfer some production to subcontractors.
- Continued skill development of the staff via Allgon Academy.
- Further development of Wireless Solutions' product range and rapid market launch of completed products.

# Three Business Areas – seven Business Segments

From the year 2000, operations are carried out in the three Business Areas: System, Mobile Communications and Microwave. Microwave previously formed Product Area Microwave Radio in Business Area System. Wireless Solutions is operated as an independent Business Segment under the Parent Company.

During 1999, the Product Areas were restructured into Business Segments which focus on the respective market segment. In 1999, Business Area System was organized in four Product Areas: Base Station Equipment, Repeater Systems, Base Station Antennas and Microwave Radio. From now on, Business Area System will be described in accordance with the new organization: Business Segments: Antenna Systems, Repeater Networks and Radio Equipment. In 1999, Business Area Mobile Communications was organized in the two Product Areas: Terminal Antennas and Vehicle Antennas. From the year 2000, these will be replaced by Business Segments: Mobile Telephone Manufacturers and Vehicle Manufacturers, Distributors and Operators, respectively.

# History 1990s

Allgon is one of the world's leading companies in its sector within telecommunications with operations in eight countries and sales in around 60 countries. In 1999, Allgon's net sales amount to SEK 2,136 million and there are 1,249 employees.

### 1980s

Operations are concentrated on antennas and base station equipment for mobile telephony and the Company's international expansion begins to accelerate. In 1988, the Company is listed on the OM Stockholm Exchange. Net sales amount to SEK 55 million in 1985 and there are 117 employees.

### 1970

Manufacturing and sales of mobile antennas, base station antennas and technically advanced short-wave antennas. Military applications still account for a large share of operations. Net sales amount to SEK 10 million in 1975 and there are 72 employees.

## 1960s

Allgon manufactures mobile and base station equipment for VHF and UHF bands and has both commercial and military customers. Development work on high effect short-wave antennas begins. Net sales amount to SEK 2 million in 1965 and there are 50 employees.

### 1950s

The Company expands its operations to technically advanced antenna products, including TV antennas and antennas for short-wave radio.

### 1946

Allgon is formed and its operations established through production and sale of vehicle radio antennas.

# Positioning via patents

During 1999, Allgon filed 34 (28) patent applications, an increase of 21 percent compared with the previous year.

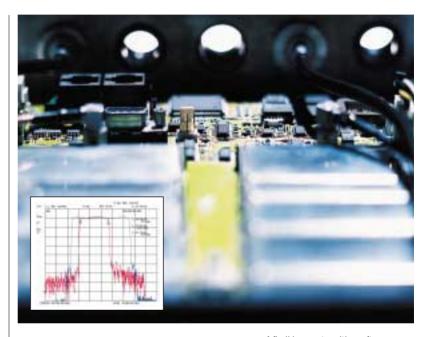
For Allgon, the result of research and development is of very considerable importance for its long-term business development. The mobile telephone market is growing strongly and demand for innovative thinking and new types of communication aids is significant. This places increasingly high demand on the performance of the radio units in both systems and terminals.

Allgon's patent portfolio has grown strongly in recent years in step with expansion of operations. This means that the majority of patents for the Company's key products are relatively new. The first patents on current products do not expire until the end of this decade.

Patents provide for significant opportunities in the mobile telephone sector.

- Own patents indirectly provide freedom to sell products without obstruction by third party.
- Patents ensure continued strong ability to produce innovative products.
- Patents strengthen Allgon's position vis-à-vis its competitors.
- Negotiations regarding collaboration projects could come about as a result of mutual patent rights. This could clear the way for Allgon into new technology areas.
   Allgon recently began two collaborations which are partly based on patent rights.

During 1999, Business Area System obtained a number of patents for a new generation of the automatically tuned combiner. A patent application was made for further development of repeater products for cover in difficult-to-access terrain or city environments, and several important patents were granted. A patent application has also been

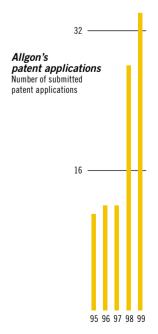


A flexible repeater with a softwarecontrolled bandwidth was patented in the USA, among other countries.

made for the microwave radio program which was launched during 1999. The patent portfolio for Allgon's new base station antennas was strengthened and patent applications were made for new areas of application for the technology.

Business Area Mobile Communications has several important patents relating to retractable mobile telephone antennas. A large investment in future generations' built-in terminal antennas involves extensive patenting during 1999. Both design and technology in multifunctional vehicle antennas have been protected.

During 1999, the Group strengthened its organization for patents and other intellectual property rights. In addition, strategic collaborations were initiated with several new patent agents and intellectual property rights lawyers.



# Allgon's customers and competitors

# **CUSTOMERS**

Well-managed customer relations are decisive for Allgon's success. This requires a customer-oriented organization with local presence, short lead times and a flexible production apparatus. Customer collaborations are based on mutual trust and exchange of technical knowledge.

# Allgon System

The Business Area's customers consist of operators of mobile telephone networks and system suppliers who account for 56 and 44 percent of sales, respectively. Allgon makes deliveries to all large system suppliers such as Ericsson, Lucent Technologies, Motorola, Nokia and Nortel as well as a large number of operators: AT&T Wireless, Bouygues, E-plus, Hong Kong Telecom, Nextel Communications and Omnitel. With regard to microwave radio, customers are mainly found among operators such as Tele2 and Telia. Allgon's products are sold via the Company's own sales force, agents and resellers. Allgon is aiming upwards in the value chain by offering its customers overall undertakings, for example customer-adapted coverage solutions based on the Company's repeaters. Among the customers are found the following trends:

- Demand for comprehensive coverage in the mobile telephone networks including indoors, in subways, on trains and in road tunnels.
- New customers will be added when dual band systems are launched. The trend is towards operator collaboration to build mobile telephone networks and then seek suppliers who are able to offer an overall solution for distribution of several operators' systems.
- Transfer of data with mobile telephones is expected to increase which will involve need for additional capacity as well as stricter demands on the quality of the radio signals.
- The customers strive for fewer subcontractors.



Allgon Mobile Communications
Business Segment Mobile Telephone
Manufacturers

Customers of the Business Segment are major mobile telephone manufacturers such as Ericsson, Hyundai, LG Group, Motorola, Nokia, Panasonic, Philips, Qualcomm, Samsung, Siemens and Sony. Allgon works with 70 percent of the world's mobile telephone manufacturers who together have a world market share of more than 90 percent.

Allgon's antennas are adapted for every customer and a customer collaboration is generally started when Allgon receives an inquiry for developing an antenna solution long before the telephone is fully-developed and fully-designed. The following trends are found among the customers:

- Demands on ever shorter lead times.
- Increased demands on radio performance with data communication.
- Increased demands on flexibility with regard to design.

Collaboration with customers is generally initiated at an early stage of production development with the aim of producing tailor-made solutions.

Allgon's customers' share of sales

1-5 largest customers, 46%

6-10, 12%

11-15, 8% Others, 34%

# Business Segment Vehicle Manufacturers, Distributors and Operators

Customers are vehicle manufacturers, distributors and operators of mobile telephone systems. Allgon develops tailor-made radio solutions for radio, telephony, satellite communication, GPS and TV.

Allgon normally has 1–3 distributors per country or an agent covering a large geographic area. The following trends are found among customers:

- An increasing number of countries are introducing a ban on telephoning while driving a vehicle without a hands-free set.
- Increased demands for antennas for dual band systems and multifunctional antennas as a result of a rising number of courier firms, taxi companies and private individuals installing navigation systems.
- More exclusive automobile models are being equipped with built-in antennas for radio, telephony and GPS.
- Increased demand for built-in automobile antennas and more antenna functions in the automobile.

# Allgon's ten largest customers

In 1999, Allgon's ten largest customers accounted for 58 percent (59) of total invoiced sales. No individual customer accounted for more than 18 percent and the number of customers who made purchases in excess of SEK 10 million was 37 (27).

# COMPETITORS

# Business Area System

Business Area System is one of the world's five largest operators in its niche and has a limited number of major competitors, among others the American companies, ADC Telecommunications, Andrew Corporation and Allen Telecom, the German company Kathrein, RFS which is owned by the French company, Alcatel, and the British company, Filtronic. Together with Allgon, these account for more than half the market. Allgon is the third or fourth largest operator based on sales. Allgon's main competitive advantages are sound system know-how and radio expertise as well as one of the most extensive product ranges.

# **Business Area Mobile Communications**

Allgon is clearly the largest operator within terminal antennas with a world market share of just under 40 percent. The Business Area has more customers, a more extensive product range and better ability to handle high production volumes with high flexibility than any competitor. In addition, Allgon has a high level of expertise with regard to technologically advanced solutions and is at the forefront in the development of new technology.

Allgon's largest competitors on the terminal antenna side are the American company, Centurion, Moteco in Sweden, Galtronics in Israel, Yokowo in Japan and the Finnish company, LK Products which is part of Filtronic. The competitive scenario is relatively stable and no major competitor was added during 1999. With regard to products for vehicle manufacturers, distributors and operators, the competitive scenario is more divided with a number of small operators. Competitors are the American companies, Andrew Corporation and Allen Telecom, Panorama in the United Kingdom and the German companies, Kathrein and Hirschmann. Most operators concentrate mainly on one market, which in Allgon's case is Europe.

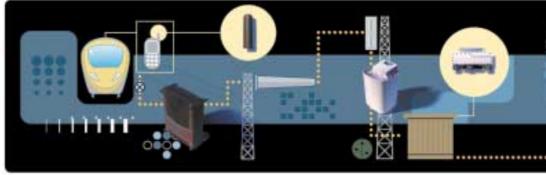
Product range	Terminal antennas	Base station antennas	Infrastructure products *	Microwave radio
Allgon				
ADC				
Allen Telecom				
Andrew Corporation				
Centurion				
Digital Microwave Corporation				
Ericsson **				
Filtronic				
Galtronics				
Harris				
Hirschmann				
Kathrein				
Moteco				
NEC				
Nera				
Nokia				
Panorama				
P-Com				
RFS				
Yokowo				

<sup>\*</sup> The term infrastructure products includes tower top amplifiers, combiners, filters, amplifiers and repeaters.

\*\* In addition, Ericsson manufactures base station equipment, mainly for the systems they sell and install themselves.

The table is a rough sketch of the competitive scenario. Only areas in which the competitors compete significantly with Allgon have been included.

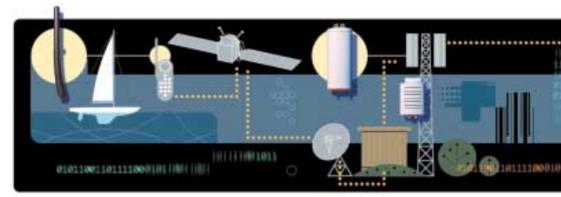
The subscriber conducts his banking business via his WAP telephone on the train



The subscriber calls from his WAP telephone from the train to his bank. The call is transferred via radio waves from the telephone's terminal antenna to a so-called leaking cable in the tunnel wall which

transmits the signal on to a repeater. The repeater amplifies the signal and, via a donor antenna, transmits it on to a base station antenna in which the signal is boosted with the aid of a tower top amplifier

The subscriber calls from the middle of the ocean to an automobile driver in a tunnel



The subscriber is on a sailing holiday and makes a call from his satellite telephone to a driver who is in his automobile in a tunnel. The call is transferred via radio waves from the telephone's terminal antenna

to a satellite. The satellite transmits the call on, down to a teleport which connects the call on to the wireline telephone network. The call is transmitted on to a base station. From here, the signal is passed on

The subscriber calls a colleague in his office from a taxi



The subscriber calls a colleague in his office from his mobile telephone inside the taxi. The call is transmitted via radio waves from the automobile's external vehicle antenna to a base station antenna.

There, the signal is received and transmitted on down to the base station where there is base station equipment

Base station is a radio station in a mobile telephone system. Allgon supplies certain components for base stations.

Base station antenna transmits and receives radio signals from mobile telephones. Exist as omni antenna, directional antenna, sector antenna and as a dual polarized diversity antenna.

Combiner makes it possible to send several outgoing calls simultaneously from the same base station antenna.

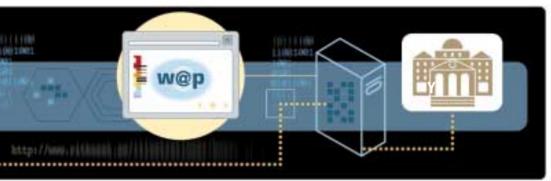
Directional antenna is a base station antenna with a directional beam which is used, among other things, to move radio traffic between a base station and repeater. Donor antenna allocates a signal that a repeater has picked up it to a base station.

Dual polarized diversity antenna is two base station antennas which coverage a certain area. The antennas are normally placed in groups of three and thus coverage 360 degrees.

External antenna is used to improve coverage in, for example, a hotel room, train and automobile.

Filters suppress unwanted radio signals.

Microwave radio makes it possible to link wirelessly a base station with telephone switches and other units in the infrastructure



before it is transmitted down to the base station. Here, there is base station equipment, for example **filters** which suppress interfering radio signals. The call is then transmitted to the wireline telephone network and,

via the Internet, reaches the bank's computer to ensure that the subscriber with the aid of only his WAP telephone is able to carry out his banking transaction from his seat on the train.



to a **tower top amplifier** and is boosted before being transmitted out from a **base station antenna**. The signal is picked up by a donor antenna and transmitted via a cable down to a **repeater** inside the road tunnel. There, the signal is received by the automobile's **vehicle antenna** which passes it on to the driver's mobile telephone.



such as **combiners**. From the base station the signal is transmitted back up to the tower but now to a **microwave radio** which passes the signal on to another base station.

**Monitoring equipment** monitors the transmitting and receiving base station antennas and feeder cables, and signals an alarm in the event of malfunction.

**Receiver multicoupler** makes it possible for a base station to receive several calls simultaneously.

Repeater receives radio signals from the base station, then amplifies and retransmits them via a base station antenna to areas where radio shadow occurs. Repeaters also work in the opposite direction, i.e. receiving radio signals from mobile telephones, then amplifying and retransmitting them to the base station. In the subway, the repeater covers the tunnel system and makes possible calls under ground both in trains and on platforms.

From the base station, the call is transmitted via a **repeater** inside an office building to a distributed network of **indoor antennas** inside the office and finally reaches the colleague's telephone.

Satellite telephone antenna is a terminal antenna for satellite telephone.

**Sector antenna** is a base station antenna that covers a specific area. Normally six sector antennas are placed together in groups of two to cover 360 degrees.

**Terminal antenna** transfers the mobile telephone's signal to the base station and receives signals from the base station.

**Tower top amplifier** improves call quality by boosting the signal from the base station antenna to the base station.

Vehicle antenna transfers signals to and from base stations and repeaters.



# New market-focused organization

Business Area System develops markets and produces radio-based solutions and other products for wireless telephony and data communication. The product range comprises systems and components for base stations, repeater networks and antenna systems. The Business Area is organized in three Business Segments: Antenna Systems, Repeater Networks and Radio Equipment. Approximately 98 percent of the Business Area's sales are made to countries outside Sweden, of which North America accounts for the largest share.

# Development in 1999

The Business Area's invoiced sales rose by 22 percent to SEK 1,146 million (938), equivalent to 54 percent (54) of Allgon's total sales.

In 1999, the Business Area enjoyed a strong sales development in North America. The number of subscribers in the USA increased, especially due to AT&T's investment in national coverage and uniform tariffs, which brought about increased investments in infrastructure. System maintained its position on the growing market.

In Europe, sales started of complete and customeradapted cover solutions to net operators, which developed beyond expectation. Sales of dual band solutions consisting of filters and antennas as well as tower top amplifiers also developed positively.

Growth in invoiced sales on the Asian market was modest due to restructuring of the telecom sector in China as well as the continued slow recovery from the economic crisis in the region.

After a wait-and-see period, investments in South

America again accelerated in 1999. This was due to the fact
that the previous financial turbulence in Brazil calmed down
and that a number of new licenses were issued to operators.

Allgon, which is relatively newly-established in the region,

was favored by the growth, and invoiced sales developed positively.

During the year, production started in Brazil. In addition, a production unit was established in China which will begin deliveries during the first quarter of the year 2000.

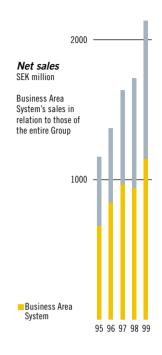
At the beginning of the year 2000, Allgon completed a new 17,000 square meter facility in North Stockholm. The Business Area's operations in Sweden for Business Segments Antenna Systems and Radio Equipment as well as Global Product Supply will all be accommodated there.

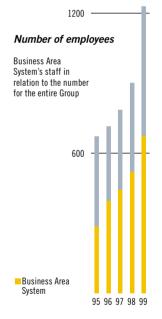
Research and development maintains a central role and investments in product development increased during 1999 compared with 1998. Part of the development work is carried out in collaboration with major customers and some basic research takes place in collaboration with institutions such as the Royal Institute of Technology in Stockholm and the Chalmers Institute in Gothenburg.

# Three new Business Segments created

Telecom, datacom and media are about to converge into a common communication industry. The effect is that the focus of the operators is shifted and that demands on suppliers of equipment are changing. From having been hardware-oriented, in the future manufacturers must deliver system solutions with tailor-made applications.

By adapting the operations to the changes on the mobile telephone market, Allgon is able to achieve a stronger position with fewer competitors. A keyword in this market development is mobility, which requires radio-based solutions. Although the market is undergoing radical change, Allgon will be able to continue to develop and market products as demand for mobility and wireless communications will remain. This applies not only to antennas. When large volumes of data is to be distributed in the networks, the







Geographic distribution

The photograph on the left shows part of Allgon's latest combiner model, the compact combiner.



requirement increases for high capacity and coverage.

This is facilitated through the use of filters, amplifiers and repeaters.

To take advantage of the changed market criteria, a new strategy has been worked out which has also resulted in a structural change. The Business Area is now organized in three Business Segments which work separate parts of the market:

- Antenna Systems antenna products and systems for system manufacturers and operator customers.
- Repeater Networks turnkey solutions for operator customers
- Radio Equipment customer-adapted products and solutions included in the base station stand for system manufacturers.

The change involves increased market focus, improved customer service and products which provide better overall economy for the customers. The three Business Segments have a product supply covering all major world standards. To create criteria for increased market orientation, the responsibility for order handling, planning, purchasing, logistics, production and distribution is merged into a joint organization for the Business Area – Global Product Supply.

From year 2000, Microwave Radio is organized as a separate Business Area and is described in detail on pages 18–19.

# **Business Segment Antenna Systems**

The Business Segment offers a broad range of base station antennas and amplifiers for both up-link and down-link with advanced control electronics and various degrees of integration of these products.

Antenna Systems has been the market leader in North

America for many years. Through increased capacity, in

the past year Allgon succeeded in meeting increased demand and defending its position on the American market despite demands for shorter lead times. In South America, Antenna Systems strengthened its market position still further and the Business Segment is the leading supplier in several countries. The Business Segment's market share in Asia was unchanged at 1999 year-end. Like the rest of the world, the European market had a weak start to the year but existing customers increased their orders during the latter part. In 1999, Antenna Systems signed several global contracts with multinational customers such as, for example, Motorola.

During 1999, Antenna Systems launched a new generation of advanced amplifiers which were delivered to Asia and North America with positive results. The success with the new product line should be regarded as a first step towards increased complexity in the product supply.

## **Business Segment Repeater Networks**

The Business Segments offer coverage solutions which comprise systems and networks established around repeaters, software, OMC (Operations and Maintenance

Allgon has delivered more than 25 percent of the base station antennas in New York. In this difficult radio environment, which places high demands on capacity, Allgon's high-performance products have proved to work very well.



Center) and appurtenant services.

The year 1999 was characterized by a favorable start with increasing volumes of repeaters, especially in Europe. Sales on the North American market developed less positively than expected which was mainly due to intensive expansion of primary infrastructure. The reduction in invoicing in North America was compensated by a positive development on the Asian market. The market showed increased interest in coverage solutions in which Allgon takes on overall responsibility for coverage and functionality in a part of the customer's network. Examples of these solutions are Brussels Airport, the subway in Santiago, the North Cape tunnel and the Arlanda train in Stockholm which were all delivered turnkey.

During the year, the Business Segment's product range was expanded with a new generation of compact repeaters. The Segment's strong focus on software development continued. A new monitoring software for operation and maintenance, OMS (Operating Maintenance System), was introduced. The program, which is a further development of Allgon's previous OMC product, handles alarm, updating of radio parameters and new software.

Previously, repeaters were used particularly to create coverage in individual areas in which there was no coverage. Now, repeaters are also used as a distributed antenna system in which high capacity is required, in which several operators share an antenna system to reduce the investment cost, or in which property owners want to limit the equipment volume.

# Business Segment Radio Equipment

The Business Segment has tailor-made radio-based solutions and products for base stations for mobile networks.

Fiscal 1999 developed positively and sales were in line with Allgon's expectations. Through determined investment in the development of new products for different mobile standards, both the product range and customer base were expanded during the year. Examples of new products are filters for micro- and pico-base stations and high power applications as well as more advanced combiners with new types of materials and significant software content.

The majority of the Business Segment's sales were to



North American system suppliers. Through an expanded product range for GSM, sales are expected to increase in the future within Europe and Asia, the largest markets for GSM systems.

# New global product supply organization

The organization, Global Product Supply, has the main responsibility for product supply from order to delivery.

An establishment of logistics centers in four different sales regions in the world will provide further improved customer service. These centers will serve customers from order booking through to delivery, regardless of the manufacturing location of the products.

# Focus on added value for the customer during the year 2000

Allgon's new business structure means continued orientation towards products and services with increased value for the customer. Allgon estimates that the operators' investments in infrastructure will continue to rise while, at the same time, new technology standards will be introduced for existing and third generation systems. During the year 2000, the products will be developed further to make it possible to meet all the customers' different system selections. However, products for the third generation systems will not significantly affect invoiced sales in the year 2000.

Increased customer demand for complete coverage in the mobile telephone networks, for example on trains, provides Allgon with new business opportunities to climb higher up the value chain and offer complete coverage solutions. The picture shows the airport shuttle, Arlanda Express, in which there is GSM 900 coverage on platforms and in tunnels.

# **Business Area Microwave**

Stefan Wellenstam Head of Business Area Microwave From February 21, 2000



# Successful launch of the microwave radio

Business Area Microwave develops, produces and markets an extensive product range within the microwave radio segment. Microwave radio is used in all types of communication networks such as mobile telephone networks and networks for wireline telephone traffic and also extensively in private networks for industries, companies, municipalities and county councils.

In 1999, the operations in the Business Area belonged to Business Area System. From the year 2000, Microwave forms a separate Business Area: Allgon Microwave.

# Global microwave radio market

Allgon estimates that the global market for microwave radio totals SEK 11-12 billion. Growth is estimated at around 15 percent per annum over the next few years.

The market is characterized by tough competition with many strong and established suppliers as well as a number of newly-established companies. Among the traditional microwave radio companies can be mentioned Digital Microwave Corporation, Ericsson, Harris, Nera, Nec, Nokia and P-Com. Like the rest of the mobile telephony market, it is characterized by squeezed price levels.

# Development and launch

Allgon's development of the microwave radio products started in 1997. An organization with experience within radio technology, digital technology, software and mechanics was established. In 1998, production and marketing functions took shape.

In 1999, the first products were launched. During the launch year, marketing was intensive and comprised a large number of field trials as well as evaluations at customer locations. During the second half of the year, contracts were concluded with both net-

work operators and customers for private networks. Among other things, Allgon entered into a strategically important two-year supply agreement with the Scandinavian operator, Tele2, with an order value of SEK 23 million in 1999. The first mass deliveries started during the fourth quarter of 1999. At the beginning of January 2000, a two-year general agreement was concluded with the Swedish Operator, Telia Mobile. Invoicing within the framework of this agreement is expected to amount to SEK 15–20 million during the year 2000. The marketing organization and product resources have been strengthened for continued deliveries during the year 2000.

Development work and production are located in Gothenburg. Overall marketing and sales to Europe take place mainly from Sweden. Sales to the rest of the world are made via Allgon's companies in the USA, Hong Kong, Germany and Brazil.

# Allgon's microwave radio – simple and adaptable

Allgon's microwave radio equipment is modularly constructed and is one of the smallest and most adaptable on the market which simplifies installation, putting into operation and maintenance. There is also an opportunity for remote control and monitoring via, among other, the Internet. Throughout the development work it has been Allgon's ambition that the products will be the best on the market. Allgon aims to have 5–10 percent of the microwave radio market in 2003.

The product program comprises microwave radio types for the 18–40 Ghz frequency range with a large number of different capacity types. There are two categories of microwave radio: PDH and SDH. Allgon currently manufactures only PDH products. All microwave types meet the demand of the European Standardization Institute, ETSI.





# Very strong volume increase

Business Area Mobile Communications develops, markets and produces radio solutions for various types of user terminals, of which mobile telephones constitute the largest portion. Other user terminals are satellite telephones, computers and other types of machine as well as antenna applications in vehicles.

The Business Area works mainly towards the mobile telephone industry and vehicle industry and is therefore divided into these two Business Segments.

Approximately 96 percent of sales are made to customers outside Sweden, mainly Europe, Asia and North America. Predominant customers are the large manufacturers of mobile telephones. These frequently have production on several continents and therefore act as global customers.

# Development during 1999

The Business Area's invoiced sales rose by 26 percent to SEK 990 million (787), equivalent to 46 percent (46) of Allgon's sales.

In the past year, the mobile telephony market continued to develop very strongly. The number of mobile telephones sold increased by 260–280 (163) million. Contributing factors were a significant increase in the number of cash card customers on the major markets, increased competition as a result of new operator licenses in North America and Europe and high growth in Latin America.

To meet the increasing demand on the world market, Allgon invested in new production lines during the year which were put into operation during the second half of 1999. However, in the second and third quarters Allgon was forced to take extraordinary action to be able to increase volumes rapidly and, among other things, the component of manual assembly increased. Delivery capacity of Allgon's subcontractors was not sufficient to

meet the rapidly growing demand in full, which periodically resulted in a shortage of components in Allgon's production. Taken together, these factors led to certain production interruptions with ensuing increase in production costs in the second and third quarters.

During the fourth quarter 1999, a large customer decided to make a reconstruction of a telephone model. The volumes for this model were significantly reduced.

The price pressure remained with undiminished strength during 1999 and, on Allgon's part, was equivalent to approximately 10–20 percent. The product mix was relatively stable during the year with a distribution equivalent to that which prevailed at the end of 1998. However, compared with the 1998 full-year, some shift took place in the product mix:

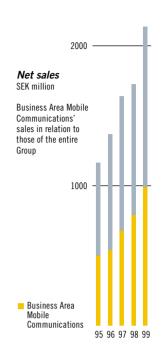
Retractable antennas 38 percent (48)Fixed antennas 61 percent (52)

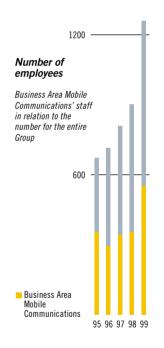
■ Built-in antennas 1 percent (0)

In general it can be said that the retractable antennas are more complex to develop and manufacture and that they therefore command a higher price than the fixed antennas. Built-in antennas vary in complexity.

The Business Area largely maintained its world market share for terminal antennas of just under 40 percent during 1999. In addition, Allgon was able to add a further number of collaborations with world-leading telephone manufacturers to its list of customers.

The market for satellite telephones has so far developed in line with Allgon's expectations. However, the continued development is uncertain. The land-based mobile telephone systems are working increasingly better, also for subscribers who move between countries and continents. This reduces the need for satellite telephones. The majority of the growth in wireless communication is

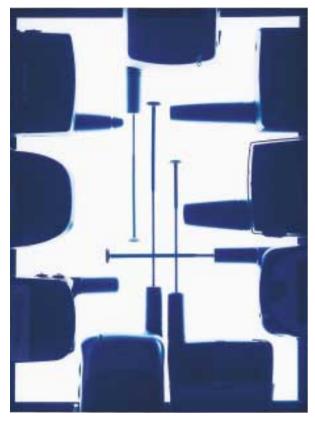




Geographic distribution



The photograph on the left shows part of Allgon's built-in antenna, Allin.



Allgon supplies an extensive selection of fixed, retractable and built-in mobile telephone antennas.

taking place in an indoor environment, in which the satellite systems find it more difficult to compete due to inferior coverage. However, the potential of the satellite systems for use within telemetry (machine-to-machine communication) and transport monitoring systems (fleet management) is considerable.

The vehicle industry's need for antenna solutions is satisfied by, among other things, aerials for external mounting on vehicles. Allgon sells these antennas direct to vehicle manufacturers via distributors and to operators of mobile telephone networks. In 1999, the market was largely unchanged compared with the previous year.

Vehicle manufacturers are increasingly incorporating various types of communication facilities in their vehicles, for example mobile telephony, satellite communication and GPS reception for navigation systems. During the year, Allgon carried out development of radio solutions for this type of application.



# Business Segment Mobile Telephone Manufacturers

The Business Segments' products comprise radio solutions for mobile telephones with a wide selection of retractable, fixed and built-in antennas. The product portfolio also comprises products for all frequency ranges and standards. The strong growth places high demands on suppliers on the mobile telephony market. The number of mobile telephones produced is increasing by 40-60 percent annually and the number of new models is rising every year. The life of the mobile telephones is becoming increasingly shorter and changeover to new products must be made at an increasingly rapid pace. The product life cycle averages 2–3 years but is in some instances as brief as 6-12 months which means that the demands are raised for short lead times and increased volume flexibility. The price pressure requires continuous cost rationalization and a high degree of automation. Only suppliers with in-depth expertise, long experience and high volume ability are able to meet the market's demands.

Design is becoming increasingly important within the mobile telephony industry. For example, demands are put that it should be possible to adapt the color and form of external antennas to the appearance of the mobile telephone. As far as built-in antennas are concerned, adaptation is required to enable them to fit in among other components in the mobile telephone. The market also places demands on increased functionality with 2–4 frequency ranges for mobile telephony, GPS reception as well as communication via satellite and Bluetooth. Good radio coverage is becoming increasingly important in step with the increase in data communication. Text and data mes-

Via transport control systems, taxi centers are able to monitor their cabs. Allgon supplies advanced radio solutions with multiple antenna functions such as GPS and GSM.



sages are more sensitive to interference than voice communication. For satellite telephones, performance requirements are even higher as the range is considerably larger.

Allgon is the world leader in these areas with solutions that are based on several important patents.

The need for a strong and capable collaboration partner within radio functionality is becoming increasingly important for mobile telephone manufacturers. In addition,
mobile telephone manufacturers frequently have global
organizations with centers for research, development and
production spread all over the world. Allgon has intimate
knowledge of this global environment and is established in
several locations in Europe and Asia as well as in North
and South America.

Allgon produces telephone antennas in Sweden and the USA for delivery all over the world with short lead times. From the time a mobile telephone manufacturer orders an antenna, it takes only a few days until it is mounted in a telephone on the other side of the globe.

# Business Segment Vehicle Manufacturers, Distributors and Operators

The Business Segment's products comprise tailor-made radio solutions for mobile telephones, satellite communication, GPS reception, automobile radio and TV to vehicle manufactures. The product range for distributors and operators consists of different antennas for mounting on vehicle bodies and on the outside or inside of automobile windows.

Allgon's resources within these areas are focused on product development, marketing and sales. Subcontractors are engaged for production and distribution in order to achieve high cost efficiency.

Market growth for vehicle antennas varies. Demand is increasing in countries which are introducing dual band systems where the coverage in the higher frequency range

is not usually as good as in the lower range. A vehicle

antenna levels out these differences and increases the range of the telephone. An increasing number of countries, for example Israel, Denmark, Norway and Germany, are legislating against the use of a mobile telephone in vehicles without hands-free equipment, which also has a positive effect on demand.

A growing customer segment involves transport and logistics companies which wish to monitor and communicate with their vehicles.

Allgon develops radio solutions with antennas and amplifiers for this customer segment.

# Focus on function, performance and design in the year 2000

In the year 2000, the total number of telephones sold in the world is expected to amount to at least 360-400 million units which can be compared with 1999 when the number was 260-280 million. As far as radio solutions for mobile telephony are concerned, built-in, fixed and retractable concepts are expected to increase. Combinations of built-in and retractable antennas will also exist. For the Business Area, this involves development of new antenna products with increased flexibility with regard to color, design and placing. The Business Area will also improve the performance of the antennas for handling the increased data communication and meet the demands for improved battery performance. Additional investments will be made to secure the ability to deliver in step with the increased growth and the demands that the increasing number of telephone models bring about. During the year 2000, production capacity in the USA will be expanded. Following the expansion, the American plant will account for nearly one-third of Allgon's production of terminal antennas.



Satellite telephony can provide cover in areas which are not financially viable or technically difficult for land-based systems, for example oceans, polar regions and deserts

# Japan – the next generation's mobile telephony market

Japan is one of the most interesting markets for mobile telephony with approximately 50 million mobile telephone subscribers at end-1999, equivalent to a penetration ratio of 40 percent. In 2004 there are expected to be more than 100 million subscribers. The need for a new system, which is able to swallow the growing volume of subscribers, is therefore very large. The next generation's systems will become operational in Japan as early as during the first half of 2001, earlier than in any other country. The system is described as the third generation system and differs from the first (analog) and second (digital) generation's systems by making possible the transfer of large volumes of data. In addition, a number of new services based on the new technology will be launched.

One problem in Japan has been that the current mobile telephony system, PDC, exists only within the country. GSM and other systems are found in several countries in Europe, Asia and North America, which has meant that manufacturers of GSM equipment have been able to benefit from large production volumes and other benefits of scale. The next generation's system, IMT-2000, will be expanded in several countries, including Japan, which means that the competitive situation of the Japanese manufacturers will improve.

In April 1999, a new system, cdmaOne, based on the same technology as the American CDMA systems was launched in Japan. The system has cover all over Japan and quickly became popular – at end-1999, the number of subscribers amounted to 3 million. An advantage with the new system is that it can also be used internationally, which means that the Japanese subscribers will be able to use the telephone in other countries' networks. Yet another system, PHS, exists with more than 5 million users, but its low output and short range means that it is not normally counted as a cellular mobile telephone system.



the development of mobile telephony. Wireless data communication is growing rapidly and application opportunities within this segment are unlimited. With its 126 million inhabitants, Japan is also an interesting market because of its size. In addition, products are developed there for several international systems and most large mobile telephone manufacturers have development departments in Japan. For Allgon, it is very important to have a local presence in order to receive information at an early stage about future demands on the third generation's systems. The traditional Japanese demands for rapid response, a high level of ser-

The Japanese market has advanced a very long way in

At the beginning of 1999, Allgon established a company in Japan for customer-adapted development and sales of terminal antenna solutions to the large manufacturers of mobile telephones. In the long term, production in Japan could be on the agenda in order to meet the demands of the Japanese customers.

vice and short lead times are additional factors which

require a local presence.

Through a local presence Allgon is able to meet customer demands for a high level of service and short lead times and get information at an early stage about the third generation's mobile telephone systems.

# China – one of the largest markets in the world

China is the most densely populated country in the world with 1.2 billion inhabitants. Subscriber development within mobile telephony has been very rapid. There were 4 million subscribers in 1995 and at end-1999 the number is estimated to amount to approximately 40 million. The growth rate is around 26 percent per annum, which means that in 2003 there will be more than 100 million subscribers in China.

As early as in 1986–87, China began the establishment of mobile telephone networks when construction started on the first TACS systems. All telephony is administrated by the Ministry of Post and Telecommunications (China Telecom). To increase competition, an additional operator, China Unicom, was formed in 1993. During 1998–99, the telecom sector was reorganized and responsibility transferred to the newly-created Ministry of Information Industry.

China Telecom is now by far the largest operator in China with 95 percent of all subscribers. China Telecom operates TACS, GSM 900 and 1800 networks. The remaining 5 percent of the subscribers are found in China Unicom's GSM 900 Network and Great Wall's four cdmaOne test networks. In the 800 MHz range, frequencies are available that will probably be allocated to cdmaOne which is likely to involve an expansion of cdmaOne during the year 2000. At the same time, China Telecom will probably continue the already-started expansion of dual band systems in the cities to cope with the strong increase in subscribers.

At the beginning of 1999, the situation on the Chinese market was uncertain. A restructuring of the telecom sector meant that all decisions regarding investments in infrastructure were postponed. However, during the last two quarters the level of activity increased significantly in connection with the new structure taking shape. The final structure of the



telecom sector has not yet been established.

The objective of the Chinese Government is to establish its own mobile telephone industry. With the aim of transferring technology and expertise to China, the authorities demand that foreign telecom companies establish manufacturing and research operations in the country.

China is in many ways different from the more traditional markets in Europe and North America. Customers want the systems to be supplied complete or in a small number of subdeliveries. This requires flexible production systems. Quality awareness and knowledge about mobile telephony are increasing which in turn leads to increased demands on suppliers of equipment. Price sensitivity in China is very high and often decisive in the selection of supplier.

Business Area System initiated activities in China in 1994 with Hong Kong as the base. At the end of 1996, a representative office was established in Beijing to obtain better market information and increase knowledge regarding Allgon in China. The office in Hong Kong has overall responsibility for System's operations in Asia. As a step in Allgon's global strategy, establishment of a production unit in Wuxi in the Jiangsu Province began in 1999.

Allgon has been represented in China since 1994. During 1999, the organization was strengthened still further and establishment of a production unit started.

# Skill development – an increasingly important part

At 1999 year-end, Allgon had 1,249 staff (901), an increase of 39 percent. The largest rise took place in Business Area Mobile Communications which increased from 356 to 522. Business Area System increased from 520 to 674.

In 1999, staff turnover amounted to 10 percent (9). The improvement in the Swedish economy meant increased mobility on the labor market, which on Allgon's part meant that staff turnover on the production side increased slightly compared with the previous year. However, staff turnover on the office and technical side remained relatively constant.

Allgon is striving for a workplace in which personal development is included in the Company's strategy and in which an overall view on the individual is seen as obvious. It is therefore of utmost importance to create criteria to ensure that staff are happy and develop, from a skill and career viewpoint, and as individuals.

Many individuals now value health, development, a full private life and an inspiring work environment at least as much as a high salary. During the year, Allgon started the establishment of a Company-adapted school under its own management, called Allgon Academy, in which staff are given an opportunity for advanced and individually-adapted training. Both technical and business-oriented courses are included. The objective is to raise the value of the intellectual capital within the Group and create a more attractive workplace, which in turn reduces staff turnover and makes it easier to recruit new skilled labor. To increase still further the value of the training programs, there will be an opportunity to take examinations and be awarded university credits. This is achieved through collaboration with the Swedish Technical Institutes, Chalmers and the Royal Institute of Technology.

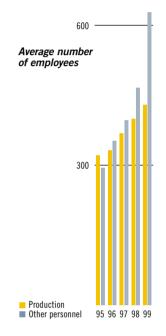
Allgon has also initiated collaboration with a sec-

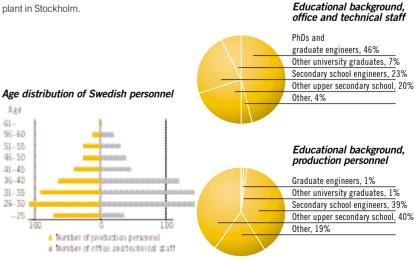
ondary school which will offer the students elective subjects such as telecommunication and antenna knowledge. Students who participate in "the Allgon program" will be offered trainee jobs and summer jobs within the Company. In addition, Allgon will provide lecturers for parts of the training program.

To make it easier for the individual staff member to create a balance between working life and private life, Allgon introduced a system during the year involving compensation for any reduction in salary during the first six months of parental leave. During this period, staff members receive a total of 80 percent of salary.

During the year, Allgon produced a staff plan which includes activities that are aimed at improving ambiance and team spirit. As a step in this work, a number of activities were carried out during the year for staff members and their families.

The investment in healthy lifestyle measures continued. Among other things, the employees were offered keep-fit exercises, bodybuilding and Qi Gong on Mobile Communications' premises in Stockholm. Similar activities will also be arranged in System's newly-constructed plant in Stockholm.







# Distribution of employees by geographic region

	Sweden	Europe	America	America	Asia	Total
Number of office and						
technical staff	589	15	73	9	33	719
Number of production						
personnel	443	32	55	0	0	530
Total	1 032	47	128	9	33	1249*
*Of whom, 325 women	and 924	men				
Key figures				1	999	1998
Number of employees	S			1.	249	901
Allgon AB					33	25
Allgon System					674	520
Allgon Mobile Com	municati	ons			522	356

Wireless Solutions 20 33 33 Average age Office and technical staff 35 35 Production personnel 31 31 Average period of employment, years 2.9 2.6 Office and technical staff 3,5 3,0 2.0 22 Production personnel Net sales per employee, SEK million 2,03 1,99 Value added per employee, SEK million 0.57 0,58 Average number of training days per employee

The wellbeing and health of its staff are factors which are prioritized by Allgon. Through Qi Gong gymnastics, participants are able to learn to relax and find an inner balance.

# Jesper Söderqvist



Head of Allgon Coverage Engineering, Business Area System. Work-tasks involve, among other things, buildingup engineering groups in Allgon's offices in São Paulo, Fort Worth, Hong Kong and Stockholm. He is a graduate engi-

neer and doctor of technology in physics and has worked at Allgon since September 1998.

## What do you enjoy most in your job at Allgon?

"What attracted me to Allgon was mainly the technical expertise that exists within the Company. Allgon is characterized by motivated staff and a positive go-ahead spirit. Put simply, we have a great deal of fun in our work."

## What do you contribute to Allgon?

"I have a broad general technical education and considerable power to use my own initiative which I find very useful in my job. My analytical ability contributes to enabling me to create solutions both technically and from a business viewpoint. I feel a strong involvement and like to carry out new initiatives which is something that I think is beneficial to our business development."

# What makes your job at Allgon special?

"It is exciting to be allowed to participate in the entire chain from concept to completed system solution."

# Annika Hu



Studied to become a graduate engineer in China and supplemented her degree with a licentiate's dissertation in electromagnetism during four years at the Royal Institute of Technology. Started in 1994 as RF engineer in Business

Segment Vehicle Manufacturers, Distributors and Operators and transferred to Business Segment Mobile Telephone Manufacturers, Business Area Mobile Communications in 1997.

# What characterizes Allgon?

"It's great fun to work at Allgon. Allgon consists of a collection of young and enthusiastic people. As the sector is changing so rapidly and the personnel are young, you are not stuck in old routines. In addition, Allgon offers the most interesting solutions and development opportunities for antenna specialists. Allgon operates in a fast-moving sector which means that you are constantly confronted with new problems and opportunities. You have to take your own initiative and there is a great deal of freedom. Rapid developments mean that you will never be fully trained which is very stimulating."

# What do you contribute to Allgon?

"I have a good education and a sound technical background with extensive antenna experience. In addition, I have worked at Allgon for a long time which makes me well acquainted with the Company and its way of working."

# Görgen Björling



Production Manager, Global Production Supplies, Business Area System. Has been employed since November 1994. Started as an assembler on the night shift for combiners, was appointed supervisor of a group of 8–10

people seven months later and subsequently became works manager for production of filters and tower top amplifiers. Has attended a four-year upper secondary technical course.

# What characterizes Allgon?

"Allgon is a company which works at a fast pace. We live with continuous changes, which can sometimes be disorganized but at the same time it is most stimulating. In addition, work at Allgon is very diversified. All the time new doors are being opened and if you want to, you can easily advance within the Company."

# What do you contribute to Allgon?

"One of my strengths is that I find it easy to get on with people and motivate them. In my work, I am responsible for 56 people. This means that the job consists of strategic work of change as well as "soft" parts such as motivating staff and ensuring that they are happy as well as recruiting new people."

# What knowledge/quality is required to work at Allgon?

"In my job you need a combination of good leadership qualities, knowledge of people and technical expertise. As a rule I am participating in and making decisions regarding investments in machinery and then my technical knowledge proves very useful."

# Focus on certification within quality and environment

# **Environment**

The overall objective of Allgon's environmental work is to contribute to improved resource utilization and long-term tenable development of the community. This will be achieved by striving continuously to reduce the environmental effect of its operations.

Environmental issues are also becoming increasingly important within the telecom sector. Demands on suppliers by authorities and customers are not only limited to the product but also apply to packaging materials, production processes, logistics, construction solutions and waste handling.

The largest environment-influencing factors in Allgon's operations are waste, packaging, transports and business travel. The production process generates no significant discharges into air or water.

In 1999 Allgon was involved with the recovery of packaging and developing new packaging for more efficient handling and a reduced effect on the environment. This work brought about reduced influence on the environment and lower costs.

During the year, legislation regarding producer responsibility for recovering electric and electronic products has come closer to implementation within the EU. In the current proposal, common legislation will be introduced in 2004. Allgon is working on constructing products which are inexpensive and easy to recover. Any legislation will probably not involve increased costs.

Work on establishing an environmental system in accordance with ISO 14001 continues according to plan. Mobile Communications plans a certification during the year 2000 and System is expected to become certified in 2001

In many countries there is intensive environmental debate, frequently about a certain material or substance.

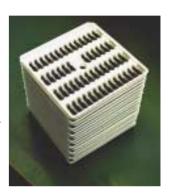
Allgon is involved with adapting both existing and future products to new discoveries. Substances which are to be avoided or must not be used in products and production processes have been identified and replaced with environmentally-friendly alternatives. Two examples are Allgon's halogen-free coaxial cable, which was produced in collaboration with the supplier, and the introduction of lead-free solder.

# Quality

Allgon carried out an annual customer survey to obtain information about how the Company is perceived. From the latest figures it is clear that Allgon is perceived as a capable company with high-quality products. In 1999 a survey was also carried out to find out what the suppliers think of Allgon. Based on the results of the customer and supplier surveys, several projects were started during 1999 which are aimed at strengthening Allgon's collaboration with its suppliers which is necessary to secure Allgon's quality.

In 1999, Mobile Communications started work on introducing QS 9000, a quality standard within the automotive industry. The objective is to obtain certification in mid-2000. Since 1995, the Allgon Group has been certified in accordance with ISO 9001 and, in 1998, Allgon's American operations received ISO 9002 certification. System is continuing according to plan with quality certification of its subsidiaries in accordance with ISO 9001.

In 1999, work on process orientation and process management was intensified, which had thus far focused on shortening lead times and increasing cost efficiency in the product development process. Work on other processes will continue during the year 2000.



Several of Allgon's packages are re-used which leads to less damage to the environment and cost savings.

# Directors' Report

# **OPERATIONS AND STRUCTURE**

The Allgon Group, whose operations are concentrated on developing, manufacturing and marketing of radio-based solutions and other products for wireless telephony and data communication, is organized in a Parent Company and, from the year 2000, in three operating Business Areas: Allgon System, Allgon Mobile Communications and Allgon Microwave. Allgon Microwave previously formed Product Area Radio Link in Business Area System. The legal organization structure includes the Parent Company, Allgon AB, corporate identity number 556088-4966, as well as wholly and partly-owned subsidiaries in Sweden, Finland, Germany, United Kingdom, USA, Brazil, China and Japan. During 1999, the former branch office in Hong Kong was transformed into a wholly-owned limited company and the company in Japan was established. In addition, a wholly-owned company was established outside Shanghai, China, to start some local manufacturing there. Further, there are representative offices in Beijing and London. As before, the Parent Company, Allgon AB, concentrates mainly on Group management, consolidated reporting, finance management and IT coordination. In December 1999, Wireless Solutions Sweden AB was acquired, which develops products and systems for wireless communications for applications within industry, office and home. Organizationally, the company will be an independent unit directly under the Parent Company.

In December 1998, the Board of Directors appointed Jan Edhäll as President and CEO. Jan Edhäll took up his duties on February 15, 1999.

At the present time, Allgon has a strong position in its niche of the mobile telephony market. The Group's ambition is to continue to strengthen its position on this rapidly growing market through substantial investments in product development with increasing value content in the products, high international market presence as well as appropriate acquisitions aimed at securing key technology and expanding the product range.

# Orders received

Total orders received by the Group increased by 28 percent to SEK 2,266.3 million (1,764.1). Allgon's order flow varies over the year but does not follow any clear seasonal pattern. However, in recent years it has been noted that

the second half of the year has been stronger from a sales viewpoint whereas the first quarter has been weaker. At the year-end the order backlog amounted to SEK 451.9 million.

# STATEMENT OF INCOME ANALYSIS

### Distribution of net sales 1999

SEK m	Europe	North and South America	Asia and the rest of the world	Total
System	270	687	189	1 146
<b>Mobile Communications</b>	233	304	453	990
Total	503	991	642	2 136

# Net sales

Group net sales rose by 24 percent (5) to SEK 2,135.6 million (1,725.2).

Business Area System reported total sales of SEK 1,145.6 million (937.9). Of total sales within the Business Area in 1999, 44 percent (44) was to system manufacturers and 56 percent (56) to operators. Radio equipment is mainly sold to system manufacturers whereas antenna systems and repeater networks are primarily sold to operators.

Business Area Mobile Communications reported total sales of SEK 990.0 million (787.3). Customers can be split into telephone manufacturers who purchase terminal antennas, vehicle manufacturers, distributors and certain other customers who require vehicle antennas and other special antenna solutions.

Allgon's product range was subjected to continued price pressure.

During 1999, there was some shifting of the product mix in Business

Area Mobile Communications towards a larger proportion of fixed antennas compared with 1998.

## Distribution of antenna types

		1999		1998
	Number, million	Share	Number, million	Share
Fixed	58	61%	34	52 %
Retractable	37	38%	31	48 %
Built-in	1	1%	-	-
Total	96	100 %	65	100 %

During the second half of the year, Allgon delivered built-in telephone antennas for the first time. The retractable antennas are normally more

complex to develop and manufacture and that they therefore command a higher price than the fixed and built-in antennas.

Price reductions were also noted in Business Area System. Radio Equipment had, as had the other two Business Segments, Repeater Networks and Antenna Systems, a positive volume development. The favorable market trend in the USA with increased investments as a result of the expansion of the mobile networks was a strongly contributing factor. For a long time, Allgon has held a strong position in North America.

Had the USD rates, which influenced 1998 net sales, also applied during 1999, total net sales for the Group would have been SEK 2,077.4 million or 3 percent lower.

Net sales per employee amounted to SEK 2.03 million (1.99) during 1999.

## Gross income

Allgon carries out product development and design under its own management, whereas a large proportion of the components is manufactured by subcontractors. The strategy provides for flexibility and opportunity for adaptation following volume changes. During the second and third quarters of 1999, sales volumes increased significantly and this had the effect that production equipment temporarily formed a bottleneck, especially with regard to manufacturing of terminal antennas. This was solved by temporarily carrying out more work operations manually which brought about increased costs and reduced efficiency in production. However, the situation was normalized during the fourth quarter. The strong volume increases during the year also meant that some of Allgon's subcontractors had difficulties in delivering sufficient quantities at the desired time. These interruptions led to additional costs for Allgon.

Income in the fourth quarter was negatively affected by the fact that a large customer significantly reduced advised volumes of mobile telephone antennas.

During the year, the gross profit margin fell to 37.3 percent (39.3). The fall in margin of 2.0 percentage points is mainly explained by the aforementioned production interruptions which brought about temporary overcapacity in production. The gross profit margin was also affected by a changed product and customer mix with a slightly lower proportion of high-margin products, and price changes on the market.

# Operating income

Operating income for 1999 amounted to SEK 124.0 million (143.7), equivalent to an operating margin of 5.8 percent (8.3).

**Selling and marketing expenses** increased significantly and amounted to SEK 244.1 million (186.2), equivalent to 11 percent (11) of net sales. The sales organizations in Europe and China were expanded. The American company was given increased resources for marketing. A Japanese sub-

sidiary, which was established especially for working the Japanese market for terminal antennas, started operations in January 1999.

**Administrative expenses** amounted to SEK 122.4 million (105.1), equivalent to 6 percent (6) of net sales.

Research and development costs amounted to SEK 297.1 million (224.5), equivalent to 14 percent (13) of net sales. As planned, the development costs rose significantly as a result of increased investments in existing segments. Costs of microwave radio operations amounted to SEK 50.4 million and exceeded 1998 costs by SEK 19.1 million, of which the majority referred to development costs.

The acquisition of the Scottish development company, 3C Scotland, at the end of 1998 also contributed to higher development costs in 1999.

Other operating income and expenses referred mainly to booked currency effects relating to business operations and amounted to SEK –8.2 million (–17.9). These currency effects consist of two components. One is the currency effect attributable to forward contracts entered into which amounted to SEK –16.8 million (–22.4). This is analyzed in more detail in the section Currency exposure, see page 34. The second component is linked to the principles applied in booking customer and supplier invoices in foreign currency. Slightly simplified, this component can be said to reflect the difference between the average book rate, which is set for each month and to which the sales or purchases are booked, and the actual daily rate that prevailed on the date on which payment was made or received.

Operating income was charged with **goodwill amortization** of SEK 5.2 million (3.5). Of this amount, SEK 2.5 million (0.4) influenced cost of goods sold whereas SEK 2.7 million (2.7) affected research and development costs.

# Goodwill items

SEK m	Total	Previous amortization	The year's amortization	Remaining goodwill
Allgon System Oy	13.4	3.1	2.7	7.6
3C Scotland Ltd.	11.3	0.4	2.2	8.7
West Plating AB	1.5	0.0	0.3	1.2
Wireless Solutions Sweden AB	73.1	_	-	73.1
Total	99.3	3.5	5.2	90.6

Wireless Solutions Sweden AB was acquired at 31 December 1999. The goodwill which arose, SEK 73.1 million, will – due to the long-term strategic value of the acquisition – be amortized over 10 years starting the year 2000. The acquisition was financed via a directed issue of 383,343 B shares to previous owners and via a cash payment of SEK 17.5 million which was paid in December 1999. The purchase price amounted to SEK 75.0 million, of which SEK 5.2 million refers to an acquired convertible loan. Under certain circumstances a supplementary purchase price, equivalent to 535,333 B shares maximum, could be paid during the period until 2003 inclusive.

# Income after financial items

Income after financial items fell by 10 percent to SEK 126.7 million (140.6), equivalent to a profit margin of 5.9 percent (8.1). Financial income/expense refers to interest expenses for interest-bearing liabilities, interest income on liquid assets as well as the interest income/expense which is attributable to the interest portion of forward contracts entered into. Financial income/expense amounted to SEK 2.7 million (–3.1), of which the interest difference on forward contracts entered as expense was SEK –7.7 million (–4.8). In addition, net exchange rate differences of SEK 8.6 million (–2.2) were included attributable to liquid funds on currency accounts and some other financial items. Allgon's income is strongly affected by changes in the rate-relation between USD and SEK as 58 percent of net sales are made in USD, whereas costs corresponding to only 14 percent of invoicing are denominated in USD.

Had the exchange rates which influenced 1998 income also applied in 1999, income after financial items, all else being equal, would have been SEK 56.1 million lower. Implemented hedging had a negative effect on financial income/expense of SEK 16.8 million (22.4) and SEK 7.7 million (4.8), respectively. Had there been no forward cover, income before taxes would consequently have been SEK 24.5 million higher.

# **Taxes**

Tax expense amounted to SEK 44.3 million (31.2), equivalent to an effective tax rate of 35 percent (22) which exceeds the nominal tax rate of 28 percent in Sweden. This is mainly due to non-deductible goodwill amortization and the fact that significant profit was generated in foreign subsidiaries with higher tax rates. Previous losses carried forward have now been utilized in full which means that the year's tax rate largely reflects the nominal tax rates in the countries in which Allgon operates. The tax rate for the year 2000 is also expected to reflect closely the nominal tax rates in the countries in which Allgon operates.

# **BALANCE SHEET ANALYSIS**

# Fixed assets

In Business Area System, growth in recent years brought about a need for larger office and development areas which was solved by renting premises. The shortfall in efficiency, which arose because the operations were spread over many locations led to a site of 70,000 square meters being acquired in 1998 for SEK 42.5 million. Towards the end of 1998, construction of a plant for a majority of the Business Area's Swedish operations started on this site. In 1999, an additional SEK 148.6 million was invested in the construction. Moving in will take place during March 2000.

# Trade accounts receivable and inventories

On December 31, trade accounts receivable amounted to SEK 437.5 mil-

lion (295.2), equivalent to 63 days' sales (57). On the same date, Group inventories amounted to SEK 325.2 million (134.1), which meant an increase of SEK 191.1 million or 143 percent. At the year-end, inventories were equivalent to 83 days' sales (52).

Inventories in Business Area Mobile Communications increased slightly more than invoiced sales, partly caused by the large volume increases and the increased number of antenna variants. In Business Area System, inventories increased as a consequence of the fact that consignment inventories were established at certain customer locations in North America. Some inventory increase can be attributed to the safety inventories which were built ahead of the turn of the Millennium.

Manufacturing of base station antennas in Allgon's plant in Fort Worth, USA, continued according to plan as did production of terminal antennas which started there at the beginning of 1998. During the year 2000, manufacturing of terminal antennas in the USA will be significantly expanded. Towards the end of 1999, the first commercial deliveries of base station antennas were made from the Company's manufacturing unit in São Paulo, Brazil. In July 1999, Allgon decided to start manufacturing of antenna systems in China for the local market. Suitable premises have been acquired in Wuxi, outside Shanghai, and production is expected to start at the end of the first quarter of the year 2000.

# Liquid funds

The Group had interest-bearing loans of SEK 205.0 million (0) at the end of the fiscal year. In addition, there were some interest-bearing liabilities relating to the acquisition of Allgon System Oy (formerly Fertron Oy) in 1997 and 3C Scotland Ltd in 1998. These liabilities amounted to SEK 13.9 million (19.0). The net debt amounted to SEK 162.4 million at the turn of the year. At 1998 year-end, net liquid funds amounted to SEK 199.3 million.

# Capital turnover rate

Total assets increased by 46 percent (21) and amounted to SEK 1,380.7 million (944.1). During the year, capital turnover rate was 1.8 (2.0).

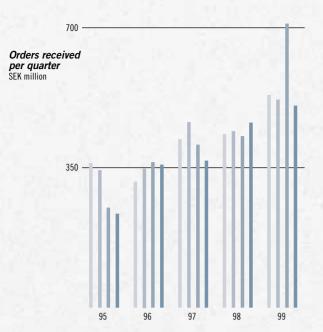
# Equity ratio and yield

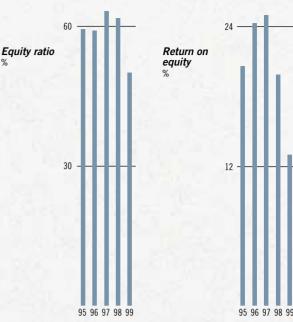
The equity ratio at the year-end amounted to 50 percent (62). Return on capital employed fell to 21 percent (31) and return on shareholders' equity was 13 percent (20).

# CASH FLOW ANALYSIS

# Cash flow before change in working capital

Cash flow from business activities before changes in working capital amounted to SEK 158.3 million (180.3).





# Change in working capital

During the year inventories increased, mainly as a result of the strong volume increase, an expanded product range and the establishment of consignment inventories.

During the year, trade accounts receivable increased by SEK 142.3 million to SEK 437.5 million (295.2). In practice, there is no project financing. Sales on some markets, mainly in Asia and South America, are often made against confirmed letter of credit. Other operating receivables fell by SEK 14.9 million. Trade accounts payable increased by 57 percent, mainly due to the increased invoicing with ensuing increase in purchasing volumes and also because of trade accounts payable of SEK 14.9 million attributable to the new construction in Sweden. The increase in other operating liabilities amounted to SEK 25.0 million.

# Capital expenditures

During the year, SEK 148.6 million was invested in new construction for Business Area System. The total real estate investment is expected to amount to approximately SEK 240 million when the plant is ready for use at the end of the first quarter of the year 2000. Added to this will be investments in production, laboratory and IT equipment as well as office equipment in connection with moving in. These investments are expected to amount to SEK 40 million.

Capital expenditures in machinery and equipment amounted to SEK 147.3 million (98.0), equivalent to 7 percent (6) of net sales. Of these investments, SEK 88.2 million (54.6) referred to production equipment and SEK 24.0 million (17.6) to measuring and other laboratory equipment. The remaining SEK 20.7 million (25.8) referred mainly to IT equipment.

In 1999, volume growth for terminal antennas was very strong which brought about additional investments in automated production. Some equipment was also acquired for manufacturing of microwave radio products which started at the end of 1999.

Finally, Allgon's IT equipment is continuously upgraded. The increased number of employees brought about a need for IT equipment and other workplace-related investments.

During the year, investments were made in goodwill of SEK 73.1 million compared with SEK 12.8 million during 1998.

## Cash flow after investments

Cash flow after investments amounted to SEK -338.1 million (44.1).

## Cash flow

SEK m	1999	1998
Cash flow after investments	-338.1	44.1
Dividend	-24.1	-20.4
Cash flow before change in financing	-362.2	23.7
Change in borrowing	200.3	10.4
Decrease/Increase in liquid funds	-161.9	34.1

# Capital expenditures

a Production equipment, 30%

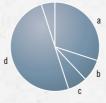
b Measuring equipment, etc to development departments, 8%

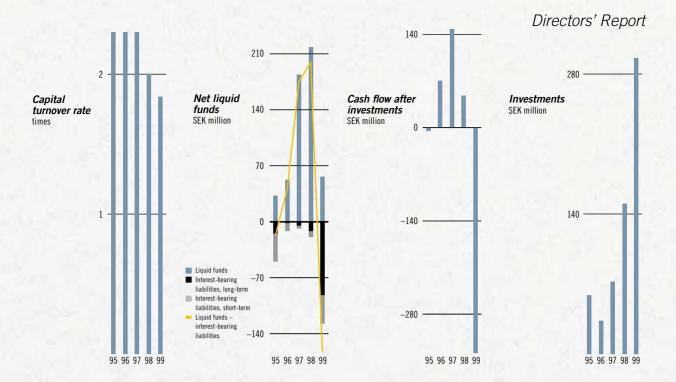
- modouring equipment, etc to development departments, e

c Other computer equipment, 7%

d Buildings and land, 50%

e Other, 5%





# RISK HANDLING Business risks

Allgon operates in a dynamic sector which is characterized by rapid technology development as well as competent customers and competitors. It is therefore important for Allgon to be at the forefront of development to ensure that the Company is constantly able to offer its customers an attractive and competitive product supply. To minimize the risk for losing position vis-à-vis competitors and to secure rapid growth, Allgon prioritizes development investments in a balancing between short-term profitability and sustainable profit. Recruitment and skill development of technical staff are for the same reason very important areas for Allgon. In recent years, Allgon has expanded its product range through, among other things, the addition of the microwave radio family and through Wireless Solutions Sweden AB's products for wireless applications within industry, office and home.

The customer base has been expanded in the same way. Today, all the largest telephone manufacturers are customers of Allgon as are most of the large system manufacturers. As a result, too large dependence on individual products and customers is reduced.

The risk that a technology leap would render Allgon's products out of date appears to be low. Because of the high level of expertise of the Company's own development staff and the close collaboration which has been established with customers, suppliers, universities, technology institutions and standardization organizations, Allgon is participating actively in the development of telecommunication systems and is certainly well-informed about technology and market trends as well as new research discoveries.

# Financial risks

In its operations, Allgon is subjected to various financial risks of which the currency risk is completely predominant. Examples of other risks are interest rates, financing, liquidity and counterparty risks. However, in the present situation these can be considered to be of limited importance for Allgon, which is due to the Group's strong financial position. The financial risks are handled in accordance with the financial policy that has been adopted by the Board of Directors. The policy establishes that the risks will be handled in a way that minimizes the short-term effect on income and creates scope for action in the long term.

The finance operation in the form of risk handling, liquidity management and borrowing is handled centrally by the Parent Company.

# Sensitivity analysis

The following evaluation is based on a theoretically slightly simplified analysis of Allgon's sensitivity to some significant parameters. It is important to note that the development of the USD rate in the short term has a significant effect on Allgon's income. However, in the long term, the USD rate is only one influencing parameter among several others such as sales prices, raw material prices, wages and salary development and volume changes. In the long term, the Company is also adapting its action according to changes in these parameters.

Variable	Change	Effect on income after financial items, SEK m	
USD rate	+/- 0.50 SEK/USD	+/-55	Ī
Price change	+/- 5 percent	+/65	
Volume change	+/- 5 percent	+/- 50	

#### Currency exposure

Currency fluctuations affect Group income and equity in various ways:

- Commercial flows with deposits and payments in various currencies give rise to a transaction risk.
- The income of foreign subsidiaries is affected by changes in exchange rates when converted into SEK.
- The Group's shareholders' equity is affected when the net assets of the foreign subsidiaries are translated into SEK

Changes in exchange rates can also influence a competitive situation and consequently the Group's sales and income. They can also have a macroeconomic effect and as a result influence the market and demand as a whole.

Of Allgon's sales 97 percent (97) is made to countries outside Sweden. Production is mainly carried out in Sweden. Manufacturing in the USA amounted to 9 percent (5) of total manufacturing during 1999.

Manufacturing in the United Kingdom, Finland and Brazil is still of limited extent and together accounted for 1 percent (0) of total manufacturing.

The majority of the Group's invoicing is made in the customer's currency or another internationally marketable currency. The predominant part of the product and service purchases as well as other expenses is attributable to Sweden and settled in SEK. This means therefore that Allgon has large net inflows in foreign currencies even if there are minor net outflows in specific currencies.

As in the previous year, the largest foreign currency was USD followed by EUR and currencies within EMU. Of the year's invoiced sales, 58 percent (50) was in USD whereas costs in USD amounted to 14 percent (14) of total invoicing. Net exposure to the USD was consequently 44 percent (36) of invoiced sales.

#### Forward cover

The extent of the Group's forward cover is decided by the Board of Directors in accordance with the finance policy based on considerations regarding the products' profitability and competitiveness and an evaluation of the current currency situation and fixed price period. During 1999, 100 percent of the anticipated payment flows over the next four months were hedged through the forward sale of currency. On January 1, the effected cover was equivalent to four months' anticipated flows.

A contract is signed on the basis of the exchange rate applicable on the day it is signed, spot rate. As a result, Allgon covers the amount in SEK that is received or will be paid from a future customer or to a supplier invoice in foreign currency.

The value of matured forward contracts which thus refer to net sales of foreign currency amounted to SEK 1,327.4 million (1,400.7), of which SEK 1,106.9 million (1,080.4) referred to USD which was covered at an average rate of SEK 8.17 (7.71).

The currency effects of the forward contracts that are attributable to 1999 operating income can be split into four items:

- Forward contracts which on December 31, 1998 had not yet matured but were posted to income. These contracts referred to deliveries and purchases which at 1998 year-end had been invoiced but not paid and were thus included as trade accounts receivable and trade accounts payable in the Balance Sheet on December 31, 1998.
- Contracts signed in 1998 and matured in 1999 which related to payments for sales and purchases which were not invoiced at 1998 year-end. The value of these forward contracts amounted to SEK 68.9 million, of which SEK 32.6 million referred to USD at an average spot rate of SEK 8.18.
- Contracts signed and matured during 1999 which with regard to USD amounted to SEK 884.0 million. The average spot rate for these contracts for USD was SEK 8.27.
- Contracts signed but not matured during 1999 that corresponded with net assets in the Balance Sheet on December 31, 1999. For these contracts, the difference between the spot rate in the contract and closing day rate has been charged to income.

In addition, there is an interest effect in the forward contracts which reflects the interest difference on date of contract between interest for SEK and interest for the currency in question for the period to which the contract refers. A higher interest rate for the foreign currency means a negative interest effect on forward sale of currency. As the USD rate was higher than the SEK rate during the period that covered contracts which ran during 1999 this meant that the Group's income was affected negatively by the interest difference. The interest difference has been posted to income over the maturity of the contract.

#### Currency dependency\*

1999	USD	EUR	DEM	GBP	FRF	Other	Total
Net sales	58 %	1%	3%	1%	1%	5%	69%
Operating expences	-14%	-1%	-2%	-1%	-1%	-4%	-23%
Net dependency	44 %	0%	1%	0%	0%	1%	46%

<sup>\*</sup> As a percentage of Group net sales excluding SEK

#### Effect of forward cover on income

Effect of forward cover on income can be summarized as follows:

Total	SEK -24.5 m
Interest difference	SEK −7.7 m
Exchange rate difference on pending contracts relating to operations	SEK -11.2 m
Exchange rate difference on matured contracts relating to operations	SEK -5.6 m

Net assets in foreign subsidiaries will be hedged in the long term from 2000 as the Parent Company raised a loan for USD 10 million in December 1999. At year-end, net assets amounted to SEK 51.4 million (23.5). The translation difference relating to these net assets amounted to SEK 3.0 million (0.2) and the Group's shareholders' equity was therefore negatively affected.



#### Matured forward contracts in 1999 Financial income/expense, SEK m 1999 Total maturing Average Currency during the year SFK m forward rate, SEK USD m 135.5 1.106.9 8.17 -7.0EUR m 75.4 8.87 0.1 8.5 Other, SEK m 145.1 -0.81,327.4 Total, SEK m -7.7

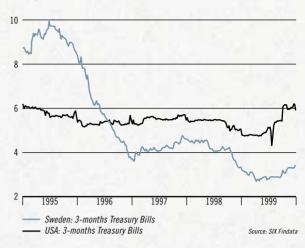
#### Interest risk and liquidity risk

At the start of 1999, the Group had no borrowing nor utilized any bank overdraft facility. However, in the second half of the year the increased investments led to increased need of capital. At the year-end, long-term borrowing therefore amounted to SEK 85.2 million. The liquidity reserve consisted of bank deposits, unutilized bank overdraft facilities and other forms of unutilized credit facilities. At year-end, the liquidity reserve amounted to SEK 201.5 million (393.3), equivalent to 9 percent (23) of net sales. According to the Group's financial policy, the liquidity reserve should amount to at least 6 percent of net sales.

#### Financing risk

The Annual General Meeting in March 1999 renewed the previous year's authorization for the Board of Directors to raise a new share issue of up to 1,000,000 class B shares without right of preference for existing share-holders. With the share price that prevailed at the year-end, this authorization was equivalent to SEK 169 million. The objective of this was to give the Board of Directors extensive freedom of action should any inter-





esting acquisitions need financing.

The acquisition of Wireless Solutions was financed via such a directed new share issue amounting to 383,343 B shares. The new issue will be registered at the beginning of the year 2000.

#### Risks attributable to tax, patent and legal disputes

With regard to the tax situation, the Swedish tax authority has rejected some of Allgon's demands for allowance. However, Allgon does not share the authority's appraisal and has appealed against the decision. Allgon's reported position in the 1999 Accounts will in all essential respects be unaffected should the tax dispute be lost.

Discussions and disputes regarding utilization of patents are an everyday occurrence in business operations and no significant risk is deemed to exist. The Group is not involved in any legal disputes of significance.

#### Other risks

Other risks which the Group is exposed to can be exemplified by fire and other traditional insurance risk such as theft of equipment, transport damage and product responsibility. During 1999, insurance damages of this type amounted to SEK 0.6 million (0.4). The Group's maximum risk-taking per damage with regard to damage to property amounts to two basic amounts.

Other possible risks can be classified as theft or copying of ideas, tech-

#### Outstanding forward contracts

at Dec. 31, 1999		Average Financial		ncial income/expense, SEK m Revaluation at cl		closing date rate, SEK m	
Currency	Amount	forward rate, SEK	1999	2000	1999 *	2000 **	
USD m	45	8.22	-1.3	-1.4	-11.2	0.1	
EUR m	3	8.72	0.0	0.0	0.5	0.0	
Other, SEK m	28		-0.1	-0.1	-0.5	0.0	
Total. SEK m			-1.4	-1.5	-11.2	0.1	

<sup>\*</sup> Included in operating income 1999.

<sup>\*\*</sup> Assuming that the closing date rate applies in 2000, the figures in the table will affect operating income for 2000.

nology and databases. The Group works actively with intellectual property rights (see patent section on page 9). Security matters are an important component in the continuous improvement work. During the year, Allgon analyzed the Group's security and improved both the physical protection and protection for illegal misuse of computer information.

Environmental risks are an area described in more detail in the environmental section on page 28. In summary, however, it can be noted that Allgon's operations, manufacturing processes and products are of such a nature that the environmental risks are deemed to be limited. Allgon is included in the list of companies which are considered to handle their environmental matters in an exemplary way, published by the Swedish environmental organization, "Det Naturliga Steget".

#### **YEAR 2000**

During 1998–99, Allgon's Year 2000 Group examined existing products, production and other equipment, IT systems and other internal systems as well as suppliers with regard to risks in connection with the turn of the Millennium.

The examination and risk evaluation of the project group identified necessary measures which were implemented before 1999 year-end. These referred to upgrading and adaptation of some internal systems. Old computers were replaced and switchboard and admission systems upgraded at a cost of SEK 3.1 million. The changeover to the new Millennium was entirely problem-free.

#### **EURO**

Allgon's sales to Euro countries amounted to SEK 211 million, equivalent to 10 percent of net sales, and purchases amounted to SEK 97 million.

Allgon has subsidiaries in two of the countries which are included in EMU, Germany and Finland, and has customers and suppliers in several EMU countries. The introduction of EUR will gradually simplify Allgon's currency handling. So far, customers and suppliers have accepted EUR as a quotation and invoicing currency only to a limited extent. At the present time, Allgon has no plans to list the Company's share in EUR, nor any intention to report in EUR.

#### **BOARD OF DIRECTORS' WAY OF WORKING**

Allgon's Board of Directors consists of seven Members elected by the Annual General Meeting and two Members appointed by the employees.

During 1999, the Allgon Board held ten minuted meetings. At these meetings, the Board discussed the fixed items that were on the agenda of the respective Board Meeting, in accordance with the Board's rules of procedure, such as business situation, budget, annual accounts and interim reports. In addition, Groupwide issues were discussed relating to acquisitions and other investments, long-term strategies as well as structural and organization changes. Individual Board Members also assisted the Corporate Management in various strategic issues.

Part of the Board forms a Nomination Committee which, ahead of the 2000 Annual General Meeting, consists of Gunnar Bark, Chairman, Jonas Kämpe and Per Wejke. Its task, following consultation with the Company's major shareholders, is to submit proposals on an annual basis for election of Members and remuneration of the Board of Directors at the Annual General Meeting and to gain support for some other proposals to the AGM. The Nomination Committee also accepts proposals for election of Members from other shareholders.

At the year's first Board Meeting, the Group's Auditors report their observations from the examination of the Group's internal control and accounts. The Allgon Board has therefore not found any need to appoint a special audit committee.

The Board sets terms of employment for the CEO.

#### THE CORPORATE MANAGEMENT'S WAY OF WORKING

The Corporate Management works with the objective of holding minuted meetings a couple of times a month when it will discuss issues of an operating nature as well as Group policies, strategies and long-term orientation. In 1999, the Corporate Management met 30 times for this type of meeting.

In addition, the Corporate Management meets on a regular basis to discuss the Business Areas' business situation, income development and plans for the future. These meetings are held 4–5 times per annum for each Business Area. In addition, the Corporate Management set aside five days during 1999 for work on Groupwide strategies.

## Statements of Income

		G	Group		Parent Company	
SEK million		1999	1998	1999	1998	
Net sales	Note 2	2,135.6	1,725.2	63.9	154.0	
Cost of goods sold		-1,339.8	-1,047.8	-	-0.9	
Gross income	7.8	795.8	677.4	63.9	153.1	
Selling expenses		-244.1	-186.2	-6.1	-0.3	
Administrative expenses		-122.4	-105.1	-41.7	-73.4	
Research and development costs		-297.1	-224.5	-34.6	-33.0	
Other operating income		15.7	9.4	0.0	0.4	
Other operating expenses		-23.9	-27.3	-16.8	-22.5	
Operating income	Notes 3,4,5	,6,7 <b>124.0</b>	143.7	-35.3	24.3	
Result of financial investments						
Result of participations in subsidiaries	Note 8			3.7	4.7	
Interest income and similar income items	Note 9	34.3	29.0	40.5	36.3	
Interest expenses and similar loss items	Note 10	-31.6	-32.1	-35.3	-30.9	
Total result of financial investments		2.7	-3.1	8.9	10.1	
Income after financial items		126.7	140.6	-26.4	34.4	
Appropriations	Note 11			1.8	1.7	
Tax on net income for the year	Note 12	-44.3	-31.2	7.7	-9.6	
Minority interest of net income for the year	Note 13	-1.7	-2.8			
Net income for the year		80.7	106.6	-16.9	26.5	

In Statements of Income, Balance Sheets and Cash Flow Analysis, the following style has been adopted. Blank means that the item is not relevant

means that no value exists

<sup>0</sup> means that a value exists which rounded-off becomes zero.

## **Balance Sheets**

		Group		Parent Company	
SEK million		1999 1998		1999	1998
ASSETS	1 1000	40.00	100	- 11 15 2	
Fixed assets					
Intangible fixed assets	Note 14				
Goodwill		90.6	22.7		
Total		90.6	22.7	100	
Tangible fixed assets	Note 15				
Buildings and land		43.5	42.5	_	_
Machinery and other technical plant		101.6	63.5	_	_
Equipment, tools and installations		96.2	73.0	22.2	19.4
New construction in progress		159.6	11.0	_	- 27 /-
Total		400.9	190.0	22.2	19.4
Financial fixed assets					
Participations in subsidiaries	Note 16, 17			125.0	43.7
Receivables from subsidiaries	Note 16			17.5	17.3
Other long-term receivables		0.3	- V -		_
Total	38 (19 E. J. )	0.3	- 1, X <del>-</del>	142.5	61.0
Total fixed assets		491.8	212.7	164.7	80.4
Current assets					
Inventories, etc					
Raw materials and necessities		186.1	67.7		_
Work in progress		19.5	3.9		
Finished products		119.6	62.5	6 H7 - 0	=7, =
Total		325.2	134.1	H	-
Current receivables					
Trade accounts receivables		437.5	295.2	0.1	0.1
Receivables from subsidiaries				357.8	122.8
Income taxes recoverable		2.5	17.3	1.6	n , -! -
Other receivables		47.9	49.5	3.4	17.6
Prepaid expenses and accrued income		19.3	17.0	5.0	5.4
Total	77 76 188	507.2	379.0	367.9	145.9
Short-term investments	Note 27		60.0	) () <del>-</del> (=	60.0
Cash and bank	Note 27	56.5	158.3	36.9	129.6
Total current assets		888.9	731.4	404.8	335.5
Total assets		1,380.7	944.1	569.5	415.9

		Gr	oup		company
SEK million		1999	1998	1999	1998
EQUITY AND LIABILITIES					
Shareholders' equity	Note 18				
Restricted equity	11010 10				
Share capital		57.6	57.6	57.6	57.6
Restricted reserves		193.5	97.0	107.2	49.7
Total		251.1	154.6	164.8	107.3
Non-restricted equity					
Non-restricted reserves		362.0	317.9	215.2	190.7
Net income for the year		80.7	106.6	-16.9	26.5
Total		442.7	424.5	198.3	217.2
Total shareholders' equity		693.8	579.1	363.1	324.5
Minority interest		2.6	3.3		
Untaxed reserves	Note 19			11.1	12.9
Provisions					
Provisions for pensions	Note 3	1.2	1.6	1.2	1.6
Provisions for taxes	Note 20	60.7	54.6	<del>-</del>	
Provision for guarantees		1.6	3.6	-	1.0
Total		63.5	59.8	1.2	1.6
Long-term liabilities					
Bank overdraft facility	Note 21		-	, , , , , , , , , , , , , , , , , , ,	_
Liabilities to subsidiaries			11.0	8.7	1.1
Other liabilities		91.6	11.3	6.5	11.3
Total		91.6	11.3	15.2	12.4
Current liabilities		1.1	11.3		
Advance payments from customers Trade accounts payable		249.0	158.2	8.2	17.5
Liabilities to subsidiaries		249.0	136.2	19.6	22.7
Tax liabilities				19.0	1.5
Other liabilities		145.8	23.6	128.1	10.6
Accrued expenses and prepaid income	Note 22	133.3	97.5	23.0	12.2
Total	Note 22	529.2	290.6	178.9	64.5
Total equity and liabilities		1,380.7	944.1	569.5	415.9
Pledged assets					
Contingent liabilities	Note 23	23.8	14.4	87.3	1.9

## Cash Flow Analysis

		Group		Parent Company	
SEK million	19	999	1998	1999	1998
Business operations		10.5			
Net sales	2,13	35.6	1,725.2	63.9	154.0
Operating expenses, adjusted	-1,93	30.4	-1,536.9	-88.3	-130.5
Total Total	20	)5.2	188.3	-24.4	23.5
nterest received	3	32.7	27.6	39.1	34.9
nterest paid	-3	30.3	-32.0	-34.7	-30.2
Dividends received				3.7	4.7
ncome tax paid		34.6	-3.6		-0.7
Total	_5	32.2	-8.0	8.1	8.7
Cash flow from current operations					- 3.7
pefore change in working capital	17	73.0	180.3	-16.3	32.2
Change in working capital (excluding liquid funds)					
nventories		1.2	37.9	_	
Trade accounts receivable		12.3	-61.6	0.0	0.0
Other operating receivables		14.9	-30.6	-194.8	11.4
Trade accounts payable		90.8 25.0	16.0	-9.3	10.0
Other operating liabilities			48.4	3.3	-2.0
Total	-20	)2.8	10.1	-200.8	19.4
Cash flow from business operations	-2	29.8	190.4	-217.1	51.6
INVESTMENT OPERATIONS			K A.		
Acquisition of tangible fixed assets	-29	5.8	-151.2	-12.8	-13.8
Sale of tangible fixed assets		_	17.8	6 F. T N	11.4
,		2.5	-12.9	-23.8	-15.9
Cash flow from investment operations	-30	08.3	-146.3	-36.6	-18.3
Cash flow after investments	-33	88.1	44.1	-253.7	33.3
FINANCING OPERATIONS					
Short-term borrowing	12	20.0	3.9	119.8	3.9
ong-term borrowing/amortization	8	30.3	6.5	2.8	6.5
Short-term lending		-			-5.0
Dividend paid	-2	24.1	-20.4	-21.6	-18.7
Cash flow from financing operations	17	76.2	-10.0	101.0	-13.3
Change in liquid funds	-16	51.9	34.1	-152.7	20.0
Liquid funds on January 1	21	18.3	184.2	189.6	169.6
Change in liquid funds		51.9	34.1	-152.7	20.0
oriange in riquid turius	=10	,1.9	34.1	-132./	20.0
Liquid funds at year-end	Note 27	6.5	218.3	36.9	189.6
Unutilized bank overdraft facility		30.0	30.0	30.0	30.0

## Notes (amounts in SEK million unless otherwise stated)

#### Note 1

#### Accounting principles

The Annual Report has been prepared in accordance with the Annual Accounts Act. The Company follows the accounting and evaluation principles of the Swedish Accounting Standards Board and the Swedish Accounting Standards Council.

#### **Consolidated Accounts**

The Consolidated Accounts include subsidiaries in which the Parent Company directly or indirectly owns more than 50 percent of the voting rights. The Consolidated Accounts have been prepared in accordance with the Swedish Financial Accounting Standard Council's recommendation regarding consolidated accounts which means that the equity of the subsidiaries on the date of acquisition, stated as the difference between the actual values of the assets and liabilities, are eliminated in full. As a result, the consolidated equity includes only the portion of the subsidiaries' equity that is added after the acquisition.

When the acquisition value of the shares on consolidation exceeds the value of the Company's net assets stated in the acquisition analysis, the difference is reported as goodwill on consolidation.

Companies acquired during the year are included in the Consolidated Accounts with amounts that refer to the period after the acquisition. Results of companies sold during the year have been included in the Consolidated Statement of Income for the period until the date of divestment.

Allgon applies the current method for translation of accounts of foreign subsidiaries. This means that assets and liabilities of the foreign subsidiaries are translated at closing day rate. All items in the Statement of Income are translated at the year's average rate. Translation differences are posted direct to consolidated equity.

On different valuation of assets and liabilities at Group and company level the tax effect is taken into consideration which is reported as deferred income taxes recoverable and deferred tax liability, respectively.

Intra-Group profit is eliminated in full without taking minority interest into consideration.

In the Consolidated Statement of Income is reported minority interest in net income for the year. Minority interest in equity of subsidiaries is reported in a separate item in the Consolidated Balance Sheet.

#### Receivables

Receivables are reported at the amounts at which they are expected to be paid following individual evaluation.

#### Receivables and liabilities in foreign currency

Receivables and liabilities in foreign currency have been valued at closing day rate in accordance with the Swedish Accounting Standards Council's recommendation RR8

When currency is hedged via forward contracts, the current rate on the day on which the currency is hedged is used on valuation of the underlying receivable or liability. The difference compared with the forward rate on the date the contract was entered into is accrued over the term of the contract and is reported among financial income and expenses.

#### Exchange gains and exchange losses

Realized exchange rate differences including forward cover attributable to sales revenues and operating expenses are reported among other operating income and operating expenses. Exchange rate differences, which have arisen on revaluation of loans and receivables in foreign currency and other financial allocations, are reported as financial income or expense.

#### Reporting of Group contributions

Allgon follows the Swedish Accounting Standards Council's statement on reporting of Group contributions which means that Group contributions are reported according to their financial significance. Group contributions, which are paid or received with the objective of minimizing the Group's tax, are reported as a decrease and increase in non-restricted equity, respectively.

#### Reporting of income taxes

Allgon follows the Swedish Accounting Standards Council's new recommendation, RR9 applicable to reporting of income taxes.

#### Inventories

By application of FIFO, inventories are valued at the lower of acquisition and actual value or replacement value on closing date.

#### Short-term investments

Financial investments that are to be retained until maturity are valued at their acquisition value.

#### Leasing

The Group has not entered into any financial leasing agreements of significant importance. Financial leasing agreements entered into refer in all essential respects to automobile leasing, the amounts of which have no significant importance for the evaluation of the Group's position and income. Operational leasing agreements of significant importance refer mainly to lease agreements.

#### Costs for technology and product development and warranty costs

Costs for technology and product development are written-off as they arise. Estimated costs for product warranty are charged to operating expenses on sale of the product.

#### Fixed assets

Tangible and intangible fixed assets are depreciated systematically over their anticipated economic life. The following depreciation periods are applied:

Goodwill	5-10 years	10-20%
Office buildings	50 years	2%
Industrial buildings	25 years	4%
Land improvements	25 years	4%
Machinery and other technical plant	2-10 years	10-50%
Equipment, tools and fittings	3-5 years	20-33%

#### Cash flow analysis

The cash flow analysis is prepared in accordance with the indirect method. The reported cash flow comprises only transactions which involve deposits or payments.

As liquid funds are classified, in addition to cash and bank holdings, short-term financial investments which are subject to only insignificant risks for fluctuations in value and

- are traded on the open market at known amounts
- have a remaining maturity of less than three months from date of acquisition.

#### Exchange rates

The following exchange rates have been applied on translation of the statements of income and balance sheets of foreign subsidiaries.

Statements of income (average rate during	the year) 1999	1998
USD	8.27	7.94
DEM	450.33 4	51.80
GBP	13.37	13.20
FRF	<b>134.27</b> 1	34.78
BRL	4.68	6.74
FIM	148.13 1	48.73
JPY	0.07	0.06
Balance sheets (closing day rate)	1999	1998
USD	8.52	8.06
DEM	437.84 4	82.95
GBP	13.79	13.52
FRF	<b>130.54</b> 1	44.00
BRL	4.73	6.57
FIM	<b>144.02</b> 1	58.85
JPY	0.08	0.07

### Note 2 Distribution of net sales on operations and geographic markets

Net sales distributed		Grou	p		
by operating area	1999	Share	1998	Share	Change
System	1,145.6	54%	937.9	54%	+22
Mobile Communications	990.0	46%	787.3	46%	+26
Total	2,135.6		1,725.2		+24
Net sales distributed		Grou	D		
by geographic market	1999	Share	1998	Share	Change
North and South America	990.7	46%	769.4	45%	+29
Europe	503.1	24%	478.9	28%	+ 5
Rest of the world	641.8	30%	476.9	27%	+35
Total	2,135.6		1,725.2		+24

#### Note 3

Wages, salaries, other remuneration and social security expenses

#### Wages, salaries, other remuneration and social security expenses

100	3	1330		
V	lages, salaries and other remuneration	Social security exp. (of which pension expenses)	Wages, salaries and other remuneration	Social security exp. (of which pension expenses)
Parent Company	: 19.2	7.8	12.3	6.0
		(2.0)		(1.4)
Subsidiaries:	334.6	114.7	246.5	93.4
		(22.7)		(16.4)
Total Group	353.8	122.5	258.8	99.4
		(24.7)		(17.8)

#### Senior Executives' terms, remunerations, etc

Of the Parent Company's pension expenses, SEK 0.4 million (0.6) relate to the Board of Directors and President. The corresponding amount for the Group is SEK 1.0 million (0.8).

In addition to wages, salaries, other remuneration and social security expenses in the table above, costs for bonus and staff foundation of SEK 1.0 million (0.2) for the Parent Company and SEK 5.3 million (2.9) for the Group are included in total personnel expenses. For neither 1998 nor 1999 was any appropriation made to the staff foundation as the conditions for this were not attained.

The Chairman received a Directors' fee of SEK 0.2 million (0.2). The other Board Members each received Directors' fees of 0.1 million (0.1). In addition, some Board Members were reimbursed for costs. A pension commitment exists for the former President and CEO, Per Wejke, who is now a Board Member. The commitment amounts to SEK 1.2 million (1.6) and is reported under the item Provision for pensions.

The former President and CEO, Torsten Körsell, received a salary and other benefits of SEK 2.0 million with a right to reallocate salary to pension.

An agreement exists with the President and CEO for severance pay of up to one annual salary in addition to a period of notice of one year on the Company giving notice.

Agreements for severance pay, which are similar to the above, exist for other members of the Corporate Management.

Customary pension commitments exist for all employees within the framework of a general pension plan.

#### Share of pension surplus from SPP

Allgon has been informed by SPP, (Swedish Staff Pension), that the Group's share of SPP's allocation is expected to amount to SEK 33 million. The amount refers to overpaid pension premiums in previous years. Date and terms for utilization have not yet been finalized and the amount has therefore not been taken into consideration in the 1999 Accounts.

### Wages, salaries and other remuneration distributed by country and between the Board Members, etc, and other employees

		1999	1998		
line s	Directors and President of which bonus, etc	Other employees	Directors and President of which bonus, etc	Other employees	
Parent Company:					
Sweden	4.8 (0.7)	14.4	2.3 (0.2)	10.0	
Total Parent Company	4.8	14.4	2.3	10.0	
Subsidiaries:					
Sweden	3.0	254.4	3.5	207.3	
	(0.3)		(-)		
Germany	_	1.4	-	1.4	
USA	1.6	57.3		31.6	
	(0.2)		(-)		
Other countries	1.6	15.3		2.7	
Total subsidiaries	6.2	328.4	3.5	243.0	
Total Group	11.0	342.8	5.8	253.0	
	(1.2)		(0.2)		

### Note 4 Depreciation of tangible fixed assets according to plan distributed by function

	Gro	Group		Company
	1999	1998	1999	1998
Cost of goods sold	58.3	46.6	_	_
Selling expenses	2.7	1.0	_	-
Administrative expenses Research and	14.8	9.1	10.0	7.7
development expenses	10.2	11.2	_	-
Total	86.0	67.9	10.0	7.7

### Note 5 Remuneration to the Auditors

	Group		Parent Company	
	1999	1998	1999	1998
Audit	5000			
PricewaterhouseCoopers	1.3	1.1	0.3	0.3
Assignments other than the audit				
PricewaterhouseCoopers	1.2	8.0	0.2	0.2
Total	2.5	1.9	0.5	0.5

### Note 6 Other operating income and other operating expenses

expenses

Operating income includes exchange rate differences relating to operating receivables and operating liabilities as follows:

	Group		Parent Compa	
	1999	1998	1999	1998
Exchange gains	15.3	9.0		_
Exchange losses	-22.7	-27.3	-16.8	-22.5
Other operating income and expenses	-0.8	0.4	-	0.4
Total	-8.2	-17.9	-16.8	-22.1

#### Operational leasing agreements Note 7

Leasing charges paid during the year relating to operational leasing agreements amount to SEK 27.9 million in the Group and to SEK 0.0 million in the Parent Company.

The nominal value of agreed future leasing charges relating to agreements in which the  $\,$ remaining maturity exceeds one year is distributed as follows in the Group.

Matures for payment in 2000	24.2
Matures for payment in 2001	
or later	69.0

#### Note 8

#### Result of participations in subsidiaries

	Parent Company	
	1999	1998
Dividends from subsidiaries	3.7	4.7
Total	3.7	Δ7

#### Note 9

#### Interest income and similar income items

	Group		Parent Company	
	1999	1998	1999	1998
Interest income	4.8	7.5	16.1	15.9
Exchange rate differences	27.7	21.5	24.4	20.4
Other financial income	1.8	-	-	-
Total	34.3	29.0	40.5	36.3

#### Note 10

#### Interest expenses and similar loss items

	Group		Parent Company	
	1999	1998	1999	1998
Interest expenses	-12.6	-2.6	-18.7	-3.4
Exchange rate differences	-19.0	-29.5	-16.6	-27.5
Total	-31 6	_32 1	-35.3	_30.9

### Note 11 Appropriations

	Parent Company	
	1999	1998
Difference between book depreciation		
and depreciation according to plan	1.8	1.7
Reversal from tax allocation reserve		_
Total	1.8	1.7

#### Note 12 Tax on net income for the year

NOTE 12	Group		Parent Company	
	1999	1998	1999	1998
Paid tax	-21.4	-0.8	4-5	-0.7
Foreign tax	-13.2	-2.8	_	_
Tax effect of Group contributions	-	_	7.7	-8.9
Deferred tax	-9.7	-27.6		-
Total	-44.3	-31.2	7.7	-9.6

#### Note 12 Minority interest

NOTE 15	Group		
	1999	1998	
Minority interest in:		1971194	Value -
Result after financial items	-1.7	-2.8	
Taxes	0.0	0.0	
Total	-1.7	-2.8	

#### Note 14

#### Intangible fixed assets

Grand Land	Gro	oup	
Goodwill	1999	1998	
Acquisition value brought forward	26.2	13.4	
Expenditure capitalized			
during the year	73.1	12.8	
Accumulated acquisition	-		
values carried forward	99.3	26.2	
Amortization brought forward	-3.5	-0.4	
Amortization for the year	-5.2	-3.1	
Accumulated amortization			
carried forward	-8.7	-3.5	
Planned residual value			
carried forward	90.6	22.7	

value carried forward

#### Note 15 Tangible fixed assets

	Gro	oup	Parent (	Company
Buildings and land	1999	1998	1999	1998
Acquisition value brought forward	42.5	17.0		17.0
Purchases	_	42.5		-
Reclassifications	2.2	_	_	-
Sales and disposals	-	-17.0	-	-17.0
Accumulated acquisition	1.00			
values carried forward	44.7	42.5	_	1
Depreciation brought forward	0	-5.6		-5.6
Sales and disposals		5.6	_	5.6
Reclassifications	-1.2		-1	-
Accumulated depreciation			100	
carried forward	-1.2	0		-
Planned residual				
value carried forward	43.5	42.5		-
Tax assessment values on real				
estate in Sweden	0	0	_	-
Machinery and other	Gro	oup	Parent (	Company
technical plant	1999	1998	1999	1998
Acquisition value brought forward	153.4	113.4	_	_
Purchases	89.1	51.1	_	-
Reclassifications	-26.2	-	-	-
Sales and disposals	-3.9	-11.1		-
Accumulated acquisition				
values carried forward	212.4	153.4	-	-
Depreciation brought forward	-89.9	-50.9		_
Sales and disposal	4.3	4.6	_	-
Reclassifications	23.7		-	-
Depreciation for the year	-49.5	-43.6	_	-
Translation difference	0.6			-
Accumulated depreciation carried forward	-110.8	-89.9		
Planned residual				

101.6

63.5

Equipment, tools	Gr	Group		Parent Company	
and installations	1999	1998	1999	1998	
Acquisition value brought forward	150.0	103.4	42.0	28.2	
Purchases	58.2	46.9	15.3	14.1	
Sales and disposals	-1.3	-0.3	-6.2	-0.3	
Reclassifications	24.0	-	-	_	
Accumulated acquisition					
values carried forward	230.9	150.0	51.1	42.0	
Depreciation brought forward	-77.0	-52.9	-22.6	-15.2	
Sales and disposals	0.8	0.2	3.7	0.3	
Reclassifications	-22.5	_	- 1	_	
Depreciation for the year	-36.5	-24.3	-10.0	-7.7	
Translation differences	0.5	-		_	
Accumulated depreciation					
carried forward	-134.7	-77.0	-28.9	-22.6	
Planned residual					
value carried forward	96.2	73.0	22.2	19.4	

	Group		Parent Company	
New construction in progress	1999	1998	1999	1998
Balance brought forward	11.0	11.0	-	-
Costs accrued during the year	148.6	_	-	_
Balance brought forward	159.6	11.0	_	

#### Note 16

#### Financial fixed assets

	Parent (	Company
Participations in subsidiaries	1999	1998
Acquisition value brought forward	43.7	27.8
Purchases	81.3	15.9
Sales	(a) 1 1 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	-
Book value	125.0	43.7
Receivables from subsidiaries	1999	1998
Receivable brought forward	17.3	12.3
Increase in liability	0.2	5.0
Book value	17.5	17.3

#### Note 17

#### Participations in subsidiaries

	Number of shares	Share of capital*	Book value 1999	Book value 1998
Allgon Mobile				
Communications AB	145 000	100%	0.0	0.0
Allgon System AB	31 500	100%	0.0	0.0
Allgon Microwave AB				
(formerly Allgon TA AB)	100	100%	10.0	10.0
Allgon Antennspecialisten AB	750	100%	0.9	0.9
Allgon Innovation AB	1 500	60%	0.1	0.1
Allgon Enterprises Inc.	50	100%	0.0	0.0
Allgon System Handels GmbH	_	100%	2.2	2.2
Allgon WestCom AB	800	80%	0.1	0.1
West Plating AB	1 000	100%	1.4	1.4
Wireless Solutions Sweden AB	127 000	100%	69.8	_
Allgon System Oy	9 170	70%	15.6	14.5
3C Scotland Ltd.	1 000	100%	12.3	12.3
Allgon Telecom K.K.	200	100%	0.6	0.6
Allgon Telecom Ltda.	2 500	100%	8.2	1.6
Allgon Telecom Wuxi Company Ltd	_	100%	3.8	_
Allgon HK Ltd	100	100%	0.0	-
Total			125.0	43.7

<sup>\*</sup> Share of votes corresponds with share of capital.

#### Information about corporate identification numbers and registered offices of subsidiaries

Corp	orate ID number		Reg. office
Allgon Mobile Communications AB	556052-7813	Åkersbe	erga, Sweden
Allgon System AB	556241-9902		Täby, Sweden
Allgon Microwave AB (formerly Allgon TA AB)	556499-6436	Götel	org, Sweden
Allgon Antennspecialisten AB	556021-6730	Åkersbe	erga, Sweden
Allgon Innovation AB	556301-3696	Si	olna, Sweden
Allgon WestCom AB	556534-6185	Götel	org, Sweden
West Plating AB	556552-3437	Munke	edal, Sweden
Wireless Solutions Sweden AB	556543-0799	Sundbyl	oerg, Sweden
Allgon Enterprises Inc.		Fo	rt Worth, USA
Allgon System Handels GmbH		Hambi	irg, Germany
Allgon System Oy		Patt	ijoki, Finland
3C Scotland Ltd.		Dunc	lee, Scotland
Allgon Telecom K.K.			Tokyo, Japan
Allgon Telecom Ltda.		São	Paulo, Brazil
Allgon Telecom Wuxi Company Ltd			Wuxi, China
Allgon HK Ltd		Hong	Kong, China
	Share of	Book value	Book value
Subsidiary holdings	capital	1999	1998

Subsidiary holdings	capital	1999	1998
ND Norsk Data AB	100%	12.3	12.3
Total		12.3	12.3

#### Group companies' corporate identification

numbers and registered offices

	Corporate ID number	Reg. office
ND Norsk Data AB	556190-5059	Åkersberga, Sweden

#### Note 18

#### Change in equity

Group	Share capital	Restricted reserves	Non-restricted reserves	Total
Amount at start of year	57.6	97.0	424.5	579.1
New share issue	-	57.5	* _	57.5
Change in translation difference	-	-2.8	0.9	-1.9
Transfers between restricted				
and non-restricted equity	-	41.8	-41.8	0
Dividend	-		-21.6	-21.6
Net income for the year	-	-	80.7	80.7
Amount at year-end	57.6	193.5	442.7	693.8

Parent Company	Share capital	Restricted 1 reserves	Non-restricted reserves	Total
Amount at start of year	57.6	49.7	217.2	324.5
New share issue	-	57.5 *		57.5
Group contributions received	-	_	27.6	27.6
Group contributions paid	-	1 2	-0.3	-0.3
Tax effect of Group contributions		-	-7.7	-7.7
Dividend		_	-21.6	-21.6
Net income for the year	_		-16.9	-16.9
Amount at year-end	57.6	107.2	198.3	363.1

The number of shares in the Parent Company amounts to 28,800,000 with a par value of SEK 2 each. The shares are represented by 1,014,760~A shares and 27,785,240~B shares.

### Note 19 Untaxed reserves

11010 12	Parent Company	
	1999	1998
Accumulated difference between		
book depreciation		
and accelerated depreciation	_	1.8
Tax allocation reserve	11.1	11.1
Total	11.1	12.9

<sup>\*</sup> As restricted reserves is reported SEK 57.5 million referring to newly-issued shares (under registration) for the acquisition of Wireless Solutions Sweden AB.

#### Note 20

#### Deferred tax

Deferred tax liability in the Group amounts to SEK 60.7 million (54.6). Of the Group's deferred tax liability, SEK 22.8 million (6.7) refers to tax on untaxed reserves.

#### Note 21

#### Bank overdraft facility

Granted amount on bank overdraft facility amounts to SEK 30.0 million (30.0) in the Group and to SEK 30.0 million (30.0) in the Parent Company.

### Note 22

#### Accrued expenses and prepaid income

	Group		Parent Compa	
	1999	1998	1999	1998
Accrued vacation reserve and other				
payroll-related reserves	42.5	53.6	3.9	3.7
Accrued commissions	9.4	7.1	-	_
Accrued interest expenses	1.3	0.1	0.7	0.7
Other items	80.1	36.7	18.4	7.8
Total	133.3	97.5	23.0	12.2

### Note 23 Contingent liabilities

10.0 20	Group		Parent Company	
	1999	1998	1999	1998
Guarantee commitments	15.8	14.0	0	1.5
Sureties given	8.0	0.4	87.3	0.4
Total	23.8	14.4	87.3	1.9

#### Note 24

#### Purchases and sales between Group companies

The figures below indicate the share of the year's purchases and sales which relates to other companies in the Allgon Group.

	Parent	Company
	1999	1998
Purchases	0%	0%
Sales	100%	100%

#### Note 25

#### Average number of employees

	19	999	1998		
Average number of employees	Number of employees	Of whom women	Number of employees	Of whom women	
Parent Company	29	16	25	13	
Subsidiaries in Sweden	853	193	739	175	
Subsidiaries outside Sweden	171	53	101	31	
Total Group	1 053	262	865	219	

#### Note 26

#### Acquisition of subsidiary

During the fourth quarter, Wireless Solutions Sweden AB which develops products and systems for wireless communication was acquired. In the Accounts at December 31, 1999, the purchase price was estimated at SEK 75.0 million, of which SEK 5.2 million referred to an acquired convertible subordinated loan.

57.5
17.5

Under certain conditions a supplementary purchase price could be paid during the period up to and including 2003. The acquisition has not influenced the Consolidated Statement of Income and has influenced the Consolidated Balance Sheet only marginally.

### Note 27 Liquid funds

	Group		Parent Compa	
	1999	1998	1999	1998
Short-term investments	0	60.0	0	60.0
Cash and bank	56.5	158.3	36.9	129.6
Total	56.5	218.3	36.9	189.6

Short-term investments consist of financial instruments with a maturity of up to three months.

## Appropriation of profit

#### Group

Non-restricted reserves in the Group amount to SEK 442.7 million after net income for the year of SEK 80.7 million. No allocation to restricted reserves is required.

#### Allgon AB (publ)

The following amount is at the disposal of the AGM, SEK:

The Board of Directors and the President propose that these funds be

appropriated as follows:

- profit brought forward from the previous year 215,255,127 - dividend to the shareholders of SEK 0.85 per share

24,805,842\*)

- net income for the year

-16,873,727

- to be carried forward

173,575,558

Total 198,381,400 Total

198,381,400

Åkersberga, January 28, 2000

Jonas Kämpe

**Senad Catovic** 

Sven Grip

<sup>\*)</sup> The dividend proposal also comprises 383,343 newly-issued B shares, relating to the acquisition of Wireless Solutions Sweden AB, which are under registration.

### **Audit Report**

#### To the Annual General Meeting of Allgon Aktiebolag (publ)

Corporate identity number 556088-4966

We have audited the Parent Company and the consolidated financial statements, the accounts and administration of the Board of Directors and the President of Allgon AB (publ) for 1999. These accounts and the administration of the Company are the responsibility of the Board of Directors and the President. Our responsibility is to express an opinion on the annual financial statements and the administration on the basis of our audit.

The audit has been carried out in accordance with generally-accepted auditing standards in Sweden. Those standards require that we plan and perform the audit to obtain reasonable assurance that 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. An audit also includes assessing the accounting principles used and their application by the Board of Directors and the President, as well as evaluating the overall presentation of

information in the financial statements. We examined significant decisions, actions taken and circumstances of the Company in order to be able to assess the possible liability to the Company of any Board Member or the President or whether they have in some way acted in contravention of the Companies Act, the Annual Accounts Act or the Articles of Association. We believe that our audit provides a reasonable basis for our opinion set out below.

In our opinion, the Parent Company and the consolidated financial statements have been prepared in accordance with the Annual Accounts Act and therefore give a true and fair picture of the Company the consolidated Group's results and position in accordance with generally-accepted auditing standards in Sweden.

We recommend that the Annual General Meeting adopt the Statement of Income and the Balance Sheet for the Parent Company and for the Group, appropriate the profit in the Parent Company in accordance with the recommendation in the Directors' Report and discharge the Members of the Board of Directors and the President be discharged from liability for the fiscal year.

Stockholm, February 4, 2000

**Bertil Johanson**Authorized Public Accountant

Lennart Danielsson Authorized Public Accountant

### Key figures

	1995	1996	1997	1998	1999
Equity ratio, %	59.4	59.0	63.2	61.7	50.4
Debt/equity ratio	0.2	0.0	0.0	0.0	0.0
Risk capital ratio, %	59.5	59.5	67.1	67.5	54.8
Interest coverage ratio	6.0	14.9	5.4	5.4	5.0
Capital turnover ratio	2.3	2.3	2.3	2.0	1.8
Return on total capital, %	17.4	19.3	22.5	20.0	13.6
Return on capital employed, %	21.9	29.9	36.7	31.2	20.9
Return on operating capital, %	25.1	27.9	40.1	41.0	20.0
Return on equity, %	20.6	24.3	25.0	20.0	12.7
Operating margin, %	6.5	7.0	8.2	8.3	5.8
Profit margin, %	6.3	7.9	8.0	8.1	5.9
Net margin, %	5.1	6.3	6.8	6.2	3.8
Market value, SEK million	1,325	2,369	3,082	2,174	4,696
Employees					
Number of employees at period-end	672	714	809	901	1,249
Average number of employees	615	684	764	865	1,053
Net sales per employee, SEK million	1.91	2.00	2.15	1.99	2.03
Capital expenditure					
Capital expenditure in buildings and land, SEK million	_		_	53.5	148.6
Capital expenditure in machinery and equipment, SEK million	58.8	33.5	72.4	98.0	147.3
Capital expenditure as a percentage of net sales	5.0	2.4	4.4	8.8	13.9

### **Definitions**

#### Capital turnover ratio

Net sales in relation to average total assets.

#### Cash flow per share

Cash flow divided by number of shares.

#### Debt/equity ratio

Interest-bearing liabilities divided by shareholders' equity.

#### Dividend pay-out ratio

Dividend per share as a percentage of earnings per share.

#### Earnings per share

Net income for the year divided by number of shares.

#### Fauity ratio

Shareholders' equity + minority interest as a percentage of total assets.

#### Gross margin

Gross income as a percentage of net sales.

#### Interest coverage ratio

Income after financial items plus financial expenses divided by financial expenses.

#### Net asset value per share

Shareholders' equity + hidden reserves in assets which have "objective" market values after deduction of deferred tax at the current tax rate.

#### **Net liquid funds**

Liquid funds less interest-bearing liabilities.

#### Net margin

Net income for the year as a percentage of net sales.

#### Net sales per employee

Net sales divided by average number of full-time employees.

#### Operating margin

Operating income after depreciation as a percentage of net sales.

#### P/E ratio

Share price divided by earnings per share.

#### Price/equity ratio

Market price as a percentage of shareholders' equity per share.

#### Profit margin

Income after financial items as a percentage of net sales.

#### Return on capital employed

Income after financial items plus financial expenses as a percentage of average total assets less non-interest-bearing liabilities including deferred tax liabilities.

#### Return on operating capital

Operating income as a percentage of average total assets less liquid funds and other interest-bearing assets as well as non-interest-bearing liabilities.

#### Return on shareholders' equity

Net income for the year according to the Statement of Income as a percentage of average shareholders' equity.

#### Return on total capital

Income after financial items plus financial expenses as a percentage of total average assets.

#### Risk capital ratio

Total of shareholders' equity and deferred tax liabilities (including minority) as a percentage of total assets.

#### Shareholders' equity

Shareholders' equity reported in accordance with recommendation R1 of the Swedish Financial Accounting Standard Council concerning consolidated financial statements which means that 72 per cent of untaxed reserves has been transferred to shareholders' equity.

#### Value-added per employee

Operating income plus payroll overheads divided by average number of full-time employees.

#### Yield

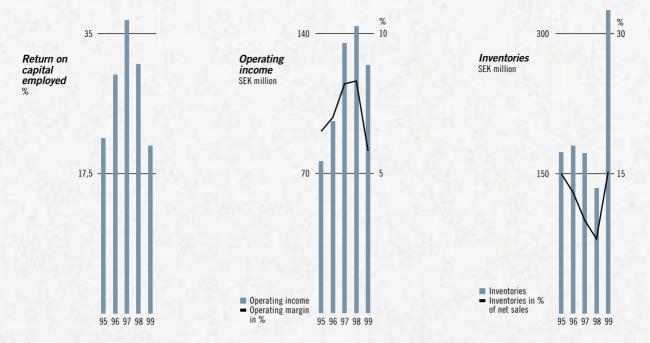
Dividend per share as a percentage of market price.

## Five-year summary

Statements of Income SEK million	1995	1996	1997	1998	1999
Net sales	1,174.5	1,369.1	1,639.3	1,725.2	2,135.6
Gross income	347.4	405.5	593.0	677.4	795.8
Operating income	76.0	96.0	134.6	143.7	124.0
Income after financial items	73.9	108.6	131.7	140.6	126.7
Taxes	-13.2	-21.3	-20.1	-31.2	-44.3
Minority interest in income	-0.2	-0.7	-0.9	-2.8	-1.7
Net income for the year	60.5	86.6	110.7	106.6	80.7

Balance Sheets	1005	1006	1007	1000	1000
SEK million	1995	1996	1997	1998	1999
ASSETS					
Fixed assets					
Shares, participations, etc	3.9	0.2	1 - 8 - 13		_
Goodwill	2.8	_	13.0	22.7	90.6
Machinery and equipment	81.7	81.7	113.0	136.5	197.8
Buildings, land and land improvements	23.3	17.5	11.4	42.5	43.5
New construction in progress		-	_	11.0	159.6
Other	J_V. 37	- I	A TOTAL		0.3
Current assets					
Liquid assets	32.8	52.7	184.2	218.3	56.5
Other current assets	393.0	509.5	458.6	513.1	832.4
Total assets	537.5	661.6	780.2	944.1	1,380.7
EQUITY AND LIABILITIES					
Shareholders' equity	319.0	393.4	491.0	579.1	693.8
Minority interest	0.2	1.0	2.3	3.3	2.6
Provisions	24.2	42.9	37.2	59.8	63.5
Long-term liabilities					
- non-interest-bearing		_		)	_
- interest-bearing	14.6	1.5	4.8	11.3	91.6
Current liabilities					
- non-interest-bearing	144.5	212.8	241.1	282.9	401.9
- interest-bearing	35.0	10.0	3.8	7.7	127.3
Total equity and liabilities	537.5	661.6	780.2	944.1	1,380.7

Cash flow analysis SEK million	1995	1996	1997	1998	1999
Change in working capital	-31.1	-33.7	72.6	10.1	-202.8
Cash flow from business operations	54.9	91.5	227.0	190.4	-29.8
Cash flow after investments	-5.0	70.2	147.6	44.1	-338.1
Change in liquid funds	-20.7	19.9	131.5	34.1	-161.9



### ANALYSIS OF FIVE-YEAR SUMMARY Sales

During the five-year period 1995-99, Allgon strengthened its market position as one of the world's leading companies in wave propagation for mobile telephony. Sales increased by 13 percent per annum on average, from SEK 1,174 million in 1995 to SEK 2,136 million in 1999.

#### **Business Area System**

During the mid-1990s, automatically tuned combiners were Allgon's clearly predominant product for mobile telephone networks. However, their great importance for Allgon decreased gradually and in 1998 sales of the combiner fell significantly. In 1999, expansion of the North American mobile telephone networks and the launch of new combiner products had the effect that sales again increased. During 1999, total sales of combiners rose by 45 percent, whereas other system products increased by 12 percent. In 1994, development started of repeater systems which from 1997 account for an increasingly large invoicing volume. Towards the end of 1996, development started of a new product range which was completely new for Allgon: microwave radio products. The first mass deliveries were made at the end of 1999.

#### **Business Area Mobile Communications**

At the end of 1993, development started of terminal antennas which have since showed very strong growth. In 1998 and 1999, Allgon's world market was just under 40 percent. In 1999 the first built-in telephone antennas were delivered. Towards the end of the 1980s and at the beginning of the 1990s, sales of vehicle antennas and related products were clearly predominant in Allgon. During 1995-99, these came to play an eversmaller role, in step with the stagnation of the market and development of

other product families. In 1999, the vehicle product range accounted for less than 10 percent of Group net sales.

During 1997, development started on antennas for satellite telephones. The first deliveries were made during 1999.

#### **Acquisitions**

Allgon acquired two small development companies during 1997 and 1998 with the aim of raising the tempo of the development of new products and to raise development expertise in the Company. At the end of 1999, Allgon acquired a company which concentrates on wireless applications within industry, office and home.

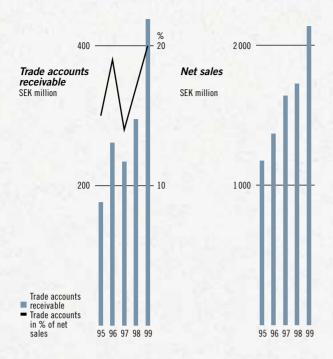
#### COSTS

#### Costs for product development

The investment in product development brought about an increase in development costs from SEK 109 million in 1995 to SEK 297 million in 1999, equivalent to 9 and 14 percent of net sales, respectively.

#### Costs for marketing and sales

In recent years, Allgon has steadily increased its international presence. Manufacturing of base station antennas therefore started in the USA during 1997, and manufacturing of terminal antennas a year later. During 1998, a company was established in Brazil and Allgon's presence in Asia was strengthened through an increase in the workforce in Hong Kong and Beijing. In 1999, operations started in the Japanese company in order to get closer to the Japanese mobile telephone manufacturers and follow the development of new technologies from close quarters. During 1999, Allgon started manufacturing base station antennas in Brazil and decided to begin production of base station antennas in China. In 1995,



costs for sales and marketing amounted to 9 percent of net sales whereas in 1999 they were 11 percent which is equivalent to an annual increase of 19 percent.

#### Costs for administration

A new enterprise resource planning (ERP) system was installed in the two Business Areas during 1995–96. This, in combination with close collaboration with large customers and suppliers, has made possible efficient control of the materials flows. A high degree of IT maturity within the Group has also contributed to making it possible to reduce the administrative expenses as a percentage of net sales from 7 percent in 1995 to 6 percent in 1999.

#### Cost development

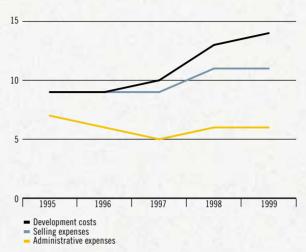
SEK m	1995	1996	1997	1998	1999
Development costs	109	117	162	224	297
in % of invoicing	9%	9%	10%	13%	14%
Selling expenses	101	119	141	186	244
in % of invoicing	9%	9%	9%	11%	11%
Administrative expenses	78	88	81	105	122
in % of invoicing	7%	6%	5%	6%	6%

#### **RESULTS AND MARGINS**

During the entire five-year period the industry and thus also Allgon was subject to continuous price pressure which, however, was extensively compensated by more efficient production processes and updating of the products, as well as higher demands on the Company's subcontractors.

When evaluating the margin development, the dependence on the USD should be taken into account. However, the dependence has varied and been influenced by fluctuations in demand on the American market as well as a higher proportion of costs in USD due to, among other things, the loca-

#### Cost development in % of net sales



tion of manufacturing to the USA. During the five-year period, payment flows were hedged for up to ten months which meant that changed currency rates affected Allgon with a time delay. In addition, forward cover affected financial income/expense due to interest rate differences between the SEK and the USD.

Operating income increased from SEK 76 million in 1995 to SEK 124 million in 1999, equivalent to an annual increase of 10 percent. During the five-year period, operating margin fluctuated between 5.8 and 8.3 percent.

#### Total assets

The Balance Sheet was characterized by shrinking inventories and, during the first part of the period, stable trade accounts receivable, which were equivalent to approximately two months' invoicing. In some years, capital expenditure increased significantly which, among other things, was due to the high level of automation in the manufacturing of terminal antennas. In 1999 capital expenditure was higher than in any other year which was mainly due to the construction of a new facility for Business Area System. The five-year period was mainly characterized by positive cash flows. At 1999 year-end interest-bearing loans amounted to SEK 219 million. These were required for financing the year's large capital expenditures.

During the entire period, return on capital employed exceeded 20 percent, which is shown in the diagram on page 50.

### The Allgon share

The Allgon B share was introduced on the OTC list of the OM Stockholm Exchange on May 27, 1988. The share was quoted on the A list on February 15, 1994. The A share, which carries more votes, is not listed.

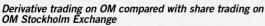
#### Share structure

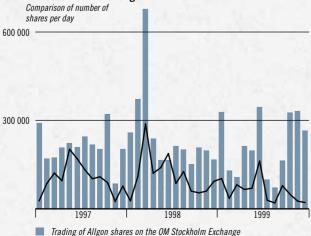
At the 1999 year-end, Allgon's share capital amounted to SEK 57.6 million represented by 28,800,000 shares with a par value of SEK 2 each, as shown in table on page 53. A new issue of 383,343 B shares is under registration and following registration, the total number of shares will amount to 29,183,343, equivalent to a share capital of SEK 58.4 million. A possible supplementary purchase price relating to the acquisition of Wireless Solutions Sweden AB could be paid via a new issue of up to 533,333 B shares during the period until 2003 inclusive.

#### Price development and trading

From 1995 to 1999, the price of Allgon's share rose by 19 percent per annum on average compared with the Affärsvärlden General Index which rose by 30 percent per annum. During the same period, Carnegie Small Cap Index rose by 23 percent per annum on average.

In 1999, the price of the Allgon share rose by 124 percent from SEK 75.50 to SEK 169. During the same period, the Affärsvärlden General Index rose by 61 percent. Carnegie Small Cap Index rose by 59 percent. At 1999 year-end, Allgon's market value amounted to SEK 4,696 million, calculated on latest price paid. Trading in Allgon shares amounted to 186 percent during 1999 compared with 94 percent for OM Stockholm Exchange. Since January 28, 1997, OM Stockholm Exchange has been quoting call and put options, forward contracts and share loans relating to Allgon B. Swedbank and Warburg Dillon Read have issued warrants for Allgon B shares.





Trading of Allgon shares on the OM Stockholm Exchange
 Trading of Allgon warrants on the OM Stockholm Exchange, corresponding number of shares

Source: OM Stockholm Exchange

Warrant	Duration	Exercise price
Swedbank	November 24, 1999–June 8, 2001	SEK 150
Warburg Dillon Read	February 20, 1998-June 16, 2000	SEK 150
Warburg Dillon Read	June 17, 1998-June 16, 2000	SEK 110
Warburg Dillon Read	October 5, 1999-June 15, 2001	SEK 110
Warburg Dillon Read	October 5, 1999–June 15, 2001	SEK 150

#### Dividend policy

For fiscal 1999, a dividend is proposed of SEK 0.85 (0.75) per share, equivalent to 30 percent of net income after tax. The long-term objective is that Allgon's dividend should amount to at least 15 percent of net income after tax.

#### Beta value

At December 31, 1999 the Allgon B share had a Beta value of 1.6. The Beta value is based on historic values of the price paid for the share on the last stockmarket day in each of the latest 60 months. The same measuring is made on the Affärsvärlden General Index. The Beta value states how much the price of a share fluctuates in relation to stockmarket index. If the share has the same price variation as the stockmarket index, the share's Beta value is 1.0. If the share has larger price fluctuations, the value is higher than 1.0 and vice versa.

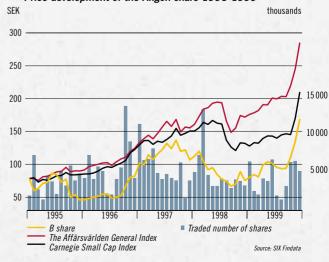
#### Allgon is analyzed by:

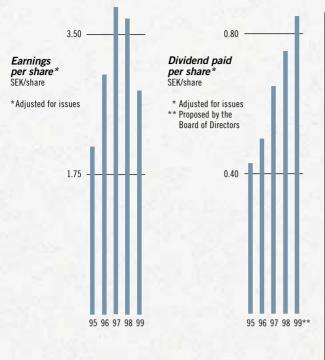
ABG Securities
Alfred Berg Fondkommission
Aros Securities
Chevreux de Virieu Nordic
D. Carnegie
Deutsche Bank
Enskilda Securities

Erik Penser Fondkommission Goldman Sachs Hagströmer & Qviberg Fondkommission Matteus Fondkommission MeritaNordbanken Merrill Lynch

SkandiaBanken Svenska Handelsbanken Swedbank Warburg Dillon Read Öhman Fondkommission

#### Price development of the Allgon share 1995-1999





Share structure at December 31,	1999
---------------------------------	------

Class of Share	Number of shares	Number of votes	Share of capital, %	Share of votes, %
A 10 votes	1,014,760	10,147,600	3.5	26.8
B 1 vote	27,785,240	27,785,240	96.5	73.2
Total	28,800,000	37,932,840	100.0	100.0

#### Market prices for the Allgon share, SEK/share

Allgon B	High		Low		Dec 31
1995	89.00		41.50		46.00
1996	83.00		41.00		82.25
1997	144.50		78.75		107.00
1998	127.50		47.00		75.50
1999	171.50		75.00		169.00
Trading rate*, %					
SEK m	1995	1996	1997	1998	1999

\* Source: SIX Findata \*\* Number of traded B share/total number of B shares \*\*\* Total trading in terms of value on the stockmarket/average market value

<b>Develop</b> Year	ment of share capital	Number of shares	Share capital, SEK m
1988		A 600,000	
		B 1,000,000	
		Total 1,600,000	3.2
1993	Stock dividend 1:1	A 600,000	
	Split 2:1	B 2,600,000	
		Total 3,200,000	6.4
1993	Reclassification of	A 300,000	
	300,000 A shares	B 2,900,000	
		Total 3,200,000	6.4
1993	New issue 1:2	A 300,000	
		B 4,500,000	
		Total 4,800,000	9.6
1994	Stock dividend 2:1	A 900,000	
	Split 3:1	B 13,500,000	
		Total 14,400,000	28.8
1994	Reclassification of	A 750,000	
	150,000 A shares	B 13,650,000	
		Total 14,400,000	28.8
1995	Reclassification of	A 650,000	
	100,000 A shares	B 13,750,000	
		Total 14,400,000	28.8
1997	Stock dividend 1:1	A 1,300,000	
	Split 2:1	B 27,500,000	
		Total 28,800,000	57.6
1999	Reclassification of	A 1,014,760	
	285,240 A shares	B 27,785,240	
		Total 28,800,000	57.6
2000	New issue of		
	383,343 B shares under reg	istration	58.4

<b>Issues</b> Date	Туре	Terms	Adjustment factor
930701	Stock dividend	1:1	2
	Split	2:1	
931202	New issue	1:2	1.36162
940609	Stock dividend	2:1	3
	Split	3:1	
970514	Stock dividend	1:1	2
	Split	2:1	

Data per share (adjusted for issues)	1995	1996	1997	1998	1999
Earnings per share, SEK	2.10	3.01	3.84	3.70	2.80
Earnings per share**, SEK	2.07	2.97	3.79	3.65	2.77
Earnings per share***, SEK	2.04	2.91	3.72	3.59	2.72
Dividend per share, SEK	0.43	0.50	0.65	0.75	0.85 *
Equity per share, SEK	11.08	13.65	17.05	20.11	23.78****
Equity per share**, SEK	10.93	13.48	16.82	19.84	23.78
Equity per share***, SEK	10.73	13.24	16.52	19.49	23.35
Net asset value per share, SEK	11.08	13.65	17.05	20.11	23.78****
Net asset value per share**, SEK	10.93	13.48	16.82	19.84	23.78
Net asset value per share***, SEK	10.73	13.24	16.52	19.49	23.35
Market value at year-end, SEK	46.00	82.25	107.00	75.50	169.00
Cash flow per share, SEK	-0.72	0.69	4.57	1.18	-5.62
P/E ratio, times	22	27	28	20	60
Yield, %	0.9	0.6	0.6	1.0	0.5
Dividend pay-out ratio, %	20	17	17	20	30
Price/equity, %	415	603	628	375	701

Allgon B\*\*

OM Stockholm Exchange\*\*\*

<sup>\*</sup> Proposed dividend
\*\* Following registration of 383,343 newly-issued B shares
\*\*\* Following registration of 383,343 newly-issued B shares and possible supplementary purchase price relating to the acquisition of Wireless Solutions up to a maximum of 533,333 B shares
\*\*\*\* Equity/net asset value including SEK 57.5 million relating to the acquisition of Wireless Solutions. The number of shares includes 383,343 newly-issued B shares

### Allgon's owners

At 1999 year-end, Allgon had 12,755 shareholders, of whom 1,302 were institutional investors. On the same date, the 25 largest shareholders represented 65 percent of votes and 54 percent of capital. Institutional investors held 72 percent of votes and 77 percent of capital. The number of owners domiciled outside Sweden amounted to 282. Owners outside Sweden represented 16 percent of votes equivalent to 20 percent of capital. At the turn of the year, Allgon's Board Members represented 27 percent of votes and 4 percent of capital.

#### Ownership statistics at December 31, 1999\*

Size	Number of shareholders	Number of shares, 000	Share of capital, %
1–100	4 767	272	1,0
101-1 000	6 446	2 803	9,7
1 001-5 000	1 126	2 604	9,0
5 001-20 000	261	2 680	9,3
20 001-100 000	106	4 832	16,8
100 001-	49	15 609	54,2
Total	12 755	28 800	100,0

<sup>\*</sup>Source: VPC AB. Direct and nominee-registered.

Ownership distribution*	% of votes	% of capital	
Sweden	84	80	
USA	5	7	
United Kingdom	4	5	
Luxembourg	3	3	
Denmark	1	1	
Switzerland	1	1	
France	1	1	
Other countries	1	2	
Total	100	100	

<sup>\*</sup>Source: VPC AB. Direct and nominee-registered. The VPC statistics, which form the basis for the table, are based on information regarding the country, in which the respective institution and private individual pay tax.

Ownership categories*	% of votes	% of capital
Swedish institutions	58	60
Swedish private individuals	28	22
Non-Swedish institutions	14	17
Non-Swedish private individuals	0	1
Total	100	100

\*Source: VPC AB. Direct and nominee-registered. The VPC statistics which form the basis for the table are based on corporate identity number and personal identity number which means that a Swedish personal identity number leads to registration as a Swedish individual although the individual in question may be domiciled abroad.

#### Allgon's 25 largest shareholders at December 31, 1999\*

Ranked according to votes	A shares	B shares	% of votes	% of capital
Gunnar Bark	520,000	36,000	13.8	1.9
Ulf Saldell	380,000	72,600	10.2	1.6
SEB**		3,302,038	8.7	11.5
Skandia		1,747,389	4.6	6.1
Per Wejke	100,000		2.6	0.3
SPP		953,700	2.5	3.3
Fidelity		721,600	1.9	2.5
Telias Pension fund		711,200	1.9	2.5
Banco		641,600	1.7	2.2
D. Carnegie		625,950	1.7	2.2
UBS		542,170	1.4	1.9
Chase Manhattan Bank		539,947	1.4	1.9
AMF		459,300	1.2	1.6
Didner & Gerge Equity fund		455,000	1.2	1.6
State Street Bank and Trust Co		439,439	1.2	1.5
MeritaNordbanken		412,900	1.1	1.4
Swedish Foundation for Strate	gic Research	367,650	1.0	1.3
Svenska Handelsbanken		359,112	0.9	1.2
Robert Fleming and Co. Ltd.		344,710	0.9	1.2
Paribas		336,000	0.9	1.2
Foundation for Knowledge				
and Competence Develop	oment	325,000	0.9	1.1
FSO, The Swedish Pension Insu	irance			
Society for Government E	mployees	300,000	0.8	1.0
Bengt Nilsson		267,000	0.7	0.9
Carlson Investment Manageme	ent	264,310	0.7	0.9
Federated Investors		214,800	0.6	0.7
Total	1,000,000	14,439,415	64.5	53.5

\*Source: VPC AB. Direct and nominee-registered. In the table of Allgon's largest 25 share-holders, an ownership information item can be an amalgamation of several items in VPC's statistics. The amalgamation is aimed at showing the total ownership in Allgon of an institution or private individual. This amalgamation has not been made in the other tables on this page and the information may therefore appear to differ.

\*\* Including SEB Fonder and SEB TryggLiv.

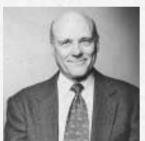
### **Board of Directors**



Gunnar Bark, Chairman
Elected in 1988, born in 1939
Chairman of Autoliv and Calix.
Honorary Doctorate, Chalmers
Institute of Technology
Shares in Allgon: 520,000 A, 36,000 B



Jan Edhäll Elected in 1999, born in 1950 President of Allgon Master of Engineering, Chalmers Institute of Technology Shares in Allgon: 14,760 A



Jonas Kämpe Elected in 1970, born in 1945 Board Member of Finnveden Master of Political Science, Business Administration Shares in Allgon: 0



Mats Ljunggren
Elected in 1998, born in 1943
Board Member of Doro, Invit Fonder,
Kipling, Senea and
Sivers IMA. Deputy Board Member
of Svanströms.
Master of Engineering,
Chalmers Institute of Technology
Shares in Allgon: 6,200 B



Ulf Saldell
Elected in 1991, born in 1940
Telecom expert and active asset
management
Board Member of My Space
Master of Engineering,
Royal Institute of Technology
Shares in Allgon: 380,000 A, 72,600 B



Per Wejke
Elected in 1992, born in 1937
Chairman of Binär Electronik,
IDA Systems, PartnerTech and Teligent,
Board Member of Fondex, Provider IT
Adviser, Safeplus, TenFour and Telia
MegaCom. Master of Engineering,
Royal Institute of Technology,
Master of Business Administration,
Stockholm School of Economics
Shares in Allgon: 100,000 A



Per Welin
Elected in 1994, born in 1936
Chairman of Lundbergföretagen,
Board Member of Autoliv,
MoDo, NCC and Östgöta Enskilda Bank.
Licentiate of Technology,
Chalmers Institute of Technology
Master of Business Administration,
Gothenburg School of Economics
Shares in Allgon: 10,000 B



Senad Catovic
Elected in 1999, born 1973
Employee Representative of the Swedish
Metal Workers' Union,
Mechanic - Allgon System
Four-year technical secondary
school education.
Shares in Allgon: 0



Sven Grip
Elected in 1999, born in 1963
Employee Representative of the
Swedish Association of Graduate Engineers/Swedish Union of Clerical and
Technical Employees in Industry.
Project Manager, Allgon System
Master of Engineering,
Royal Institute of Technology
Shares in Allgon: 0

Shareholding comprises direct ownership, ownership via related parties and via companies at December 31, 1999.

Nomination Committee Gunnar Bark, Chairman, Jonas Kämpe, Per Wejke

**Auditors Bertil Johanson,** born in 1949, Auditor of the Company since 1981, Öhrlings PricewaterhouseCoopers **Lennart Danielsson,** born in 1959, Auditor of the Company since 1998, Öhrlings PricewaterhouseCoopers

**Deputy Auditors** Ingvar Pramhäll, born in 1942, Deputy Auditor of the Company since 1986, Öhrlings PricewaterhouseCoopers
Anni Fuhr, born in 1957, Deputy Auditor of the Company since 1999, Öhrlings PricewaterhouseCoopers

## Allgon's Management Group



Allgon's Management Group outside the new premises in Stockholm.

#### Jan Edhäll

President and CEO Master of Engineering, Chalmers Institute of Technology Employed in 1999, born in 1950 Shares in Allgon: 14,760 A

#### Bengt Broman

Head of Business Area System Master of Engineering, Royal Institute of Technology, Employed in 1997, born in 1953 Shares in Allgon: 2,000 B

#### Björn Berndtsson

Head of Business Area Mobile Communications Master of Engineering, Royal Institute of Technology, Employed in 1998, born in 1961 Shares in Allgon: 0

#### Claes Silfverstolpe

Chief Financial Officer Master of Business Administration, Stockholm School of Economics Employed in 1994, born in 1948 Shares in Allgon: 5,000 B

#### Thord Hansson Rivedal

Senior Vice President Human Resources Graduate in Social Studies, University of Stockholm Employed in 1994, born in 1952 Shares in Allgon: 1,000 B

From February 21, 2000 the Management Group also includes

#### **Stefan Wellenstam** Head of Business Area

Microwave Master of Engineering, Chalmers Institute of Technology Employed in 2000, born in 1958 Shares in Allgon: 0



# Annual General Meeting

#### Time

The Annual General Meeting will be held on Wednesday, March 15, 2000 at 6pm. Registration for the AGM begins at 5.30pm.

#### Location

Täby Park Hotel, Kemistvägen 30, Täby.

#### Right to participate

To be entitled to vote at the AGM, shareholders must

- -be entered in the share register and
- -have notified the Company of their intention to attend.

#### Registration in the share register

Shareholders must be recorded in the share register maintained by the Swedish Securities Register Center (Värdepapperscentralen VPC AB) not later than Friday, March 3, 2000. Shareholders whose shares are nominee-registered must temporarily register their shares in their own name with VPC. Shareholders who wish to register their shares must notify the trustees in advance of March 3, 2000.

#### Notification

Shareholders wishing to participate in the AGM must notify the Company in writing not later than Monday March 13, 2000 at 4pm at the following address:

Allgon AB (publ)

Box 500

SE-184 25 Åkersberga

Sweder

or by telephoning: +46 8 540 822 35, or by fax: +46 8 540 833 50 or e-mail: info@allgon.se

#### Dividend

Monday March 20, 2000 is proposed as the record date. Provided that the Annual General Meeting adopts the Board's proposal, it is expected that the dividend will be remitted on Friday March 24, 2000.

#### Nomination Committee

Shareholders who wish to propose candidates for the Board of Directors prior to the AGM may contact:

Gunnar Bark, Chairman, tel +46 8 587 206 60

Per Wejke, Board Member, tel +46 8 661 34 36, or +46 708 42 33 73 Jonas Kämpe, Board Member, tel +377 97 77 80 33 or +46 705 92 82 00

#### Future information dates

March 15, 2000 Annual General Meeting 2000

April 13, 2000 Three-months Interim Report 2000

July 13, 2000 Six-months Interim Report 2000

October 17, 2000 Nine-months Interim Report 2000

The financial information is sent to shareholders who have requested it. It can also be requested from Allgon AB. All financial reports and news releases are available on Allgon's home page www.allgon.com.

### Addresses



#### **SWEDEN**

#### Allgon AB (publ)

Box 500, SE-184 25 Åkersberga From April 1, 2000: SE-187 80 Täby Tel: +46 8 540 822 00 Fax: +46 8 540 824 91

info@allgon.se

#### Allgon Mobile Communications AB

Box 500, SE-184 25 Åkersberga Tel: +46 8 540 822 00 Fax: +46 8 540 824 80 amc@allgon.se

#### Allgon System AB

SE -187 80 Täby Tel: +46 8 540 822 00 Fax: +46 8 540 834 80 system@allgon.se

#### Allgon Microwave AB

Kruthusgatan 17 P.O. Box 1044 SE-405 22 Gothenburg Tel: +46 31 771 79 00 Fax: +46 31 771 79 30 microwave@allgon.se

#### Wireless Solutions Sweden AB

Rissneleden 138 P.O. Box 2043 SE-174 02 Sundbyberg Tel: +46 8 564 200 20 Fax: +46 8 564 200 21 info@wireless.se

#### BRAZIL

#### Allgon Telecom Ltda

Rua Alexandre Dumas 2220 conj. 42 Chacara Santo Antonio 04717-004 São Paulo-SP Tel: +55 11 5181 1088 Fax: +55 11 5181 4002

#### FINLAND

#### Allgon System OY

Järvitie 4 SF-921 40 Pattijoki Tel: +358 8 2659 400 Fax: +358 8 2659 444

#### JAPAN

#### Allgon Telecom K.K.

info@allgon.co.jp

Surunga Roppongi Bldg 4-2-14 Roppongi, Minato-ku Tokyo 106-0032 Tel: +81 3 3560 3070 Fax: +81 3 3560 3071

#### CHINA

#### Allgon System AB Beijing Repr. Office

Room 1823, Tower 2 Bright China Chang An Building No. 7, Jianguomen Nei Avenue 100005 Beijing Tel: +86 10 6510 2018 Fax: +86 10 6510 2017 allgon@ht.rol.cn.net

#### Allgon (HK) Limited

23/F, Tai Yau Building 181 Johnston Road Wachai, Hongkong Tel: +852 2512 6123 Fax: +852 2575 4860 saleshk@allgon.com

#### UNITED KINGDOM Allgon System UK

#### Allgon System UK Unit 2, Clayfield Close

Moulton Park Industrial Estate Northampton NN3 6QF Tel: +44 1604 494 132 Fax: +44 1604 790 484 stuarthepburn@allgon-systems-uk.com

#### 3C Scotland Ltd.

Block 6 Arrol Road Wester Gourdie Industrial Estate Dundee DD2 4TH Tel: +44 1382 622 969 Fax: +44 1382 622 699

#### **GERMANY**

#### Allgon System Handels GmbH

Gewerbestrasse 29, DE-212 79 Hollenstedt Tel: +49 4165 2197 0 Fax: +49 4165 2197 90 system@allgon.de

#### USA

#### Allgon Telecom Ltd.

7317 Jack Newell Boulevard North Fort Worth, Texas 761 18 Tel: +1 817 595 59 99 Fax: +1 817 595 79 99 sales@allgon.com

### Glossary

#### AMPS - Advanced Mobile Phone Service

Analog mobile telephone system according to U.S. standard in the frequency range 800 MHz.

#### Analog systems

Mobile telephone systems in which signal transmission employs analog signals.

#### ATC - Automatically Tuned Combiner

Cavity combiner that automatically follows the base station's frequency.

#### Base station

Transmits and receives radio signals from mobile telephones

#### Bluetooth

System for wireless communication between appliances at a distance of 1–10 meters.

#### CDMA - Code Division Multiple Access

Digital mobile telephone system according to U.S. standard IS 95 in the frequency range 1900 MHz.

#### Cell

Area covered by a base station.

#### Cellular mobile telephone systems

Systems where each geographic area is covered by a base station, which is usually centrally located. Each telephone in the cell can communicate with this base station. If the telephone moves to another cell, the call is automatically transferred to the base station in the new cell. The mobile telephone can be called regardless of the cell it is in.

#### Combiner

Makes it possible to transmit several outgoing calls simultaneously from the same base station antenna.

#### DAMPS - Digital AMPS

Digital mobile telephone system according to U.S. standard developed from AMPS in the frequency ranges 800 and 1900 MHz

#### DCS 1800 - Digital Cellular System

System standard for personal telephony in Europe based on the GSM standard in the frequency range 1800 MHz. Also called PCN.

#### Digital systems

Mobile telephone systems in which signal transmission employs digital signals.

#### Directional antenna

Base station antenna with a directional beam that is used, among other things, to relay radio traffic between a base station and repeater.

#### Donor antenna

Donates a signal that the repeater has picked up and donates it to a base station.

#### Dual band antenna

Antenna that can be used in two different frequency ranges.

#### EDGE — Enhanced Rates for GSM Evaluation Mabile telephony system with 400 kbit per second trans

Mobile telephony system with 400 kbit per second transmission speed.

### ETSI – European Telecommunications Standard Institute.

#### Filter

Suppresses unwanted disruptive radio signals in both receiver and transmitter frequencies.

#### Front end system

Includes a number of components, such as filters, multicouplers, combiners and Tower Top Amplifiers, which are combined into a subsystem.

#### GPRS - Global Packet Radio Service

Packet based technology for GSM that supports wireless transfer of data. (Up to 100 kbit per second.)

#### GPS - Global Positioning System

System for showing geographic position.

#### GSM – Global System for Mobile Telecommunications

Digital mobile telephone system in the frequency ranges 800, 900, 1800 and 1900 MHz.

#### Hybrid combiner

Wide hand combiner

#### Microwave radio

Makes it possible to connect wirelessly a base station to telephone switches and other units in an infrastructure.

#### Monitoring equipment (RASU and PMU)

Monitors the base stations transmitting and receiving antennas and feeder cables, and signals an alarm in the event of a malfunction.

#### Multicoupler

Makes it possible to receive several calls simultaneously at the same base station antenna.

#### NMT 450, NMT 900 – Nordic Mobile Telephone System

Analog mobile telephone system according to Nordic standard in the frequency ranges 450 and 900 MHz.

#### NT

Analog mobile telephone system according to Nippon Telegraph & Telephone Corporation's standard in the frequency ranges 800 and 1500 MHz.

#### OEM customer

Original Equipment Manufacturer who assembles systems or end-products from components which it manufactures itself and purchases from other manufacturers.

#### Omni antenna

Base station antenna that is omnidirectional, i.e. covers 360 degrees.

#### **Operator**

minal

Company that operates a mobile telephone network

### **PCN – Personal Communication Networks**Designation for mobile telephony in the frequency range

around 1800 MHz in Europe. Also called DCS 1800.

PCS — Personal Communications Systems

Designation for mobile telephony in the frequency range

#### around 1900 MHz in the U.S.

PDA – Personal Digital Administrators
Integrated telephone, calendar, computer and e-mail ter-

#### \_\_\_\_

**PDC** — **Personal Digital Cellular**Digital mobile telephone system according to Japanese standard in the frequency ranges 800 and 1500 MHz.

#### PDH – Plesio synchronous Digital Hierarchy

Category of microwave radio which is used for microwave radio products with the capacity of up to 34 Mbit per second (European standard) and up to 45 Mbit per second (American standard).

#### Penetration ratio

Number of subscribers in relation to the total population.

#### PHS - Personal Handyphone System

Mobile telephone system with lower output effect than ordinary mobile telephone systems and therefore shorter range. Found in, among other countries, Japan.

#### Point-to-point communication

Communication from one point to another.

#### Repeate

Receives radio signals from the base station. They are then amplified and re-transmitted to areas where radio shadow occurs. Repeaters also work in the opposite direction, i.e. receiving radio signals from mobile telephones, then amplifying and re-transmitting them to the base station.

#### Roaming

Moving between different local systems.

#### Satellite telephone antenna

Antenna that transmits and receives signals from satellites

#### SDH - Synchronous Digital Hierarchy

Category of microwave radio which is used for microwave radio products with the capacity of over 34 Mbit per second (European standard) or over 45 Mbit per second (American standard).

#### Sector antenna

Base station antenna that covers a specific area. Normally, nine sector antennas are placed together in groups of three to cover 360 degrees.

#### Signal booster

Compensates for the loss of effect (the weakening of the signal in coaxial cable) between the outer antenna and the telephone. Applies to both incoming and outgoing signals.

#### System manufacturer

Company active in wireless telecommunications that supplies turnkey mobile telephone systems.

### TACS – Total Access Communications System Analog mobile telephone system according to British stan-

Analog mobile telephone system according to British standard in the frequency range 900 MHz.

#### TDMA - Time Division Multiple Access

Technology for digital signal transmission in mobile telephone systems.

#### Telemetry

Wireless communication between machines and appliances, reading of electricity and water meters, alarm, monitoring of wear on machines. Telemetry systems can be based on technologies such as GSM and Bluetooth.

#### Terminal antenna

Antenna on a mobile telephone.

#### Transmission network

Communication network for transfer of digital information, e.g. telephony, data, and video.

#### TTA - Tower Top Amplifier

Improves call quality by strengthening the relatively weak signal from a mobile telephone to the base station's receiver antenna.

#### TTPA - Tower Top Power Amplifier.

See TTA

#### UMTS – Universal Mobile Telephone System

Standard for the third generation of mobile telephone systems scheduled to be put into operation in the next decade.

#### Wave propagation products

Propagate the radio signal from the transmitter to the receiver in mobile telephony – e.g. base station antennas, base station equipment, repeaters, terminal antennas and vehicle antennas.

#### W-CDMA - Wideband-Code Division Multiple Access

Third generation mobile telephone system which is able to handle video, speech, data, fax and Internet traffic with transmission speed of up to 2 Mbit per second.

#### W-LAN - Wireless Local Area Network

Technology that offers high data speeds in wireless network within limited and local areas.

#### WAP - Wireless Application Protocol

A collection of industrial standards which makes possible Internet based mobile communication

#### WBC - Wide Band Combiner

See hybrid combiner.

