



ANNUAL REPORT 2002

just everywhere...

KEY DATA EPCOS GROUP

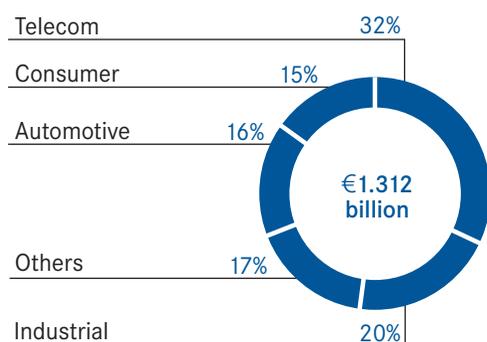
Fiscal years ended September 30

	US GAAP	2002	2001	2000	1999	1998
New orders	€ million	1 216	1 363	2 426	1 311	1 069
	% change year on year	(11)	(44)	85	23	18
Net sales	€ million	1 312	1 905	1 855	1 141	1 007
	% change year on year	(31)	3	63	13	20
EBIT*	€ million	(72)	208	336	116	109
	as % of sales	(5)	11	18	10	11
Net income (loss)	€ million	(39)	149	240	76	61
	as % of sales	(3)	8	13	7	6
Net cash flow	€ million	(45)	(49)	138	(80)	(52)
including: Net cash provided by operating activities	€ million	84	327	491	102	138
Capital expenditures	€ million	131	349	353	180	185
	as % of sales	10	18	19	16	18
	as % of depreciation	77	180	253	176	235
Research and development expenses	€ million	94	94	82	56	42
	as % of sales	7.2	4.9	4.4	4.9	4.2
Employees	at September 30	13 069	12 993	13 237	10 922	8 813
Shareholder's equity at September 30,	€ million	642	695	625	277	287
Average return on equity	%	(3)	23	53	27	21
Shares outstanding at September 30, million		65.3	65.3	65.3	62.0	-
Earnings per share	€	(0.59)	2.28	3.68	1.22	-

* Earnings before interest and tax

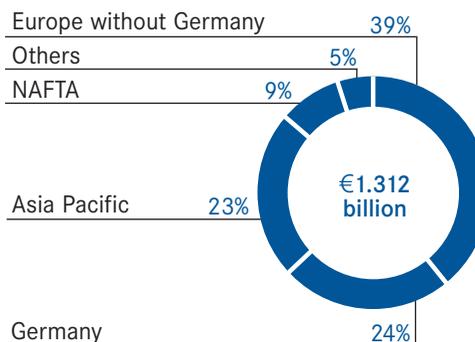
SALES BY INDUSTRIES

Fiscal 2002 in percent



SALES BY REGIONS

Fiscal 2002 in percent



CAPACITORS

		2002	2001	2000
Sales	€ million	429	642	566
	% change year on year	(33)	13	53
EBIT	€ million	(20)	102	83
	as % of sales	(5)	16	15
Capital expenditures	€ million	45	91	79
Depreciation	€ million	34	36	36
Employees	at September 30	4 500	4 500	4 600

CERAMIC COMPONENTS

		2002	2001	2000
Sales	€ million	384	557	519
	% change year on year	(31)	7	66
EBIT	€ million	(20)	84	103
	as % of sales	(5)	15	20
Capital expenditures	€ million	26	70	78
Depreciation	€ million	39	35	26
Employees	at September 30	2 800	2 800	3 000

SAW COMPONENTS

		2002	2001	2000
Sales	€ million	425	553	625
	% change year on year	(23)	(12)	78
EBIT	€ million	6	23	146
	as % of sales	1	4	23
Capital expenditures	€ million	38	161	165
Depreciation	€ million	87	111	67
Employees	at September 30	2 300	2 300	2 200

FERRITES

		2002	2001	2000
Sales	€ million	75	157	148
	% change year on year	(52)	6	36
EBIT	€ million	(38)	0.2	5
	as % of sales	(51)	0	3
Capital expenditures	€ million	13	22	27
Depreciation	€ million	10	10	10
Employees	at September 30	2 800	2 700	2 900

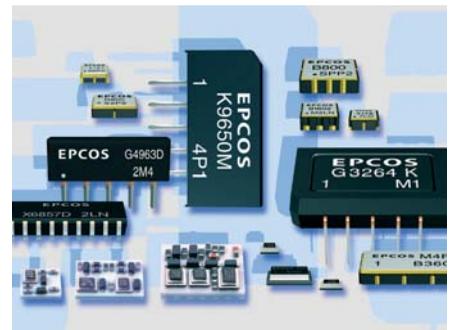
Capacitors are used throughout electrical engineering and electronics. They store electric charges to filter or regulate current and voltage in electronic circuitry. Our product portfolio covers aluminum electrolytic capacitors, tantalum capacitors, niobium capacitors, film capacitors, power capacitors and ultracapacitors. The Capacitors segment also produces components that ensure electromagnetic compatibility: they protect electronic circuitry against electromagnetic interference.



Ceramic components are indispensable in automotive and consumer electronics as well as in telecommunications. They filter electrical signals, measure physical quantities, such as temperature, and protect electronic circuitry. The product portfolio covers thermistors, sensors, varistors, multilayer ceramic capacitors, microwave ceramic filters and resonators, surge arresters, piezo actuators and LTCC modules. The last two products are major innovations. Without our integrated modules, for example, multimedia terminals that fit in a shirt pocket would be inconceivable.



Surface acoustic wave (SAW) components are key components of modern information and communications. In radio-frequency applications, they are indispensable as filters. They have a decisive impact on picture and sound quality in satellite receivers, TV, video and audio equipment, not to mention mobile phones. EPCOS' US subsidiary Crystal Technologies, Inc. is the world market leader in lithium niobate crystals and wafers, which are the raw materials for many SAW components.



Ferrites concentrate electromagnetic fields to transmit electrical signals and power. Ferrite cores are at the heart of inductive components, which are used, for example, in switch-mode power supplies for industrial and entertainment electronics as well as for information and communications. Ferrites are also key components of DSL technology for high-speed Internet access. They are taking on new applications in automotive electronics as well.





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Dear shareholders and friends of the company,

My report on the fiscal year just ended is overshadowed by the deepest recession in the history of the electronic components industry. The sluggish global economy of the past two years had a devastating impact on sales and earnings at EPCOS. The EPCOS share thus came under considerable pressure and suffered severe losses in value as the downward slide continued on the world's stock markets.

Yet there is no rational explanation why the EPCOS share plunged below its book value of a good ten euros as it did in autumn 2002. The current pessimism is just as exaggerated as the euphoria of the boom year 2000.

EPCOS can do nothing to change the present economic climate. But we can optimize conditions within the company so that it derives above-average benefit from the next upswing. In practical terms, that means continuing to cut costs, step up innovations and intensify customer orientation.

For three consecutive quarters, from fall 2001 up to spring 2002, new orders posted double-digit growth. This fueled expectations of sustained growth that failed to materialize as the year unfolded.

Some of our customers delayed launching new products, leaving us with no revenue to cover the considerable startup costs for production of the corresponding components.

In Europe, our largest regional market, the business climate continued to deteriorate. Price erosion in the second half of fiscal 2002 abated significantly less than generally expected. Some of our relocated manufacturing operations had teething troubles such as lower yields and lower productivity. Consequently, the savings anticipated could not be realized in full.

The sluggish global economy drove EPCOS' sales down 31% year on year. This decline was more or less equally caused by a lack of volume and severe price erosion precipitated by worldwide overcapacity. Despite the savings realized, the decline in volume and persistent price erosion had a massive impact on earnings.

For these reasons, we had to post a loss for the first time in ten years. I can assure you that this turn of events was just as disappointing for all of us working at EPCOS as it was for you, our shareholders.

I am well aware that this situation cannot be allowed to continue. So our paramount aim is a rapid return to sustained profitability. How does EPCOS intend to achieve



this? Customer orientation and innovation remain the twin pillars of our long-term strategy. More than ever before, however, we are emphasizing rigorous cost management.

Responding to the worsening economic climate, we launched an initial program to cut costs as early as spring 2001. This saved us about €170 million in fiscal 2002. Our purchasing offensive in conjunction with streamlining of processes and procedures throughout the EPCOS Group made a major contribution to this achievement.

But as the recession drags on, these measures alone are not enough. So in July 2002, we redoubled our efforts and launched COMPETE.

This, our second company-wide cost-cutting program, is designed to put EPCOS back in the black even if the economy remains sluggish and sales stagnate (see page 17 for details).

But our extensive reorganizational measures are also laying the foundations for solid earnings. For example, the new Inductors Division was set up, lines of divisional responsibility were redrawn, and three of our seven divisions were placed under new management during the past fiscal year.

Gerhard Pegam
President and CEO

Extensive manufacturing operations were relocated to Asia, Eastern Europe and South America. About 60% of our workforce are today employed in countries with low labor costs, and the proportion is rising: five years ago, it was only 30%.

As we expand our low-cost production base, we are also moving closer to our customers in high-growth countries. All these moves are making us more competitive.

In Asia, the world's fastest-growing region, we managed to nearly triple sales over the past five years. With the establishment of EPCOS Taiwan Co. Ltd. in 2002, we have further strengthened our international sales organization. More than 90% of our sales are now channeled through EPCOS-owned companies.

Research and development remain the foundation of future business success at EPCOS. Our intellectual property rights increased by a further 14% in fiscal 2002.

At this point, I would like to pay tribute to our employees. Their knowledge, dedication and unwavering loyalty to the company even at this time of painful cutbacks are our most valuable assets.

Despite declining sales, we did not cut back our R&D expenditure, but pushed our innovation projects in 2002. We are concentrating on opening up new business opportunities. Innovation at EPCOS focuses on customer and system-specific developments that will enable us to stand out from our competitors in the future as well: EPCOS customers do not just get products, they get complete solutions.

For example, EPCOS has scored notable successes with its piezo actuators for state-of-the-art diesel injection systems. Several million units have already been shipped. Our multilayer ceramic modules are particularly promising. Used in third-generation mobile phones, they will cause the value of passive electronic components per handset to rise sharply. So even if our many new products rolled out during 2002 did not always boost sales immediately, they still promise medium-term growth potential of about half a billion euros.

Innovations such as niobium capacitors, tantalum multianode and tantalum polymer capacitors are raising our profile in the computer industry. In addition, we are steadily winning new customers among electronic manufacturing service (EMS) providers. This segment is gaining in importance worldwide as more and more traditional equipment manufacturers outsource production. Over the past three

years, business with EMS providers and the computer industry climbed from 2% to nearly 10% of EPCOS' total sales.

Although we reduced capital expenditure to well below depreciation in fiscal 2002, EPCOS burned as much cash in the first three quarters as in entire fiscal 2001. The positive cash flow in the fourth quarter, the expected improvements in earnings and a capital expenditure budget that will again be well below depreciation will enable us to post positive figures for cash flow in 2003 as well.

In closing, it remains only for me to thank you, our shareholders, for your continuing confidence in EPCOS. The past fiscal year was indeed anything but gratifying; it demanded strong nerves and great patience on your part. But your perseverance will pay off. I am convinced that in 2003 and above all in 2004, EPCOS will again achieve growth and post respectable profits.

Sincerely,

A handwritten signature in black ink, appearing to read "Gerhard Pegam". The signature is fluid and cursive, with a large loop at the end.

Gerhard Pegam
Munich, December 2002



Share price plunges as global economy slumps

10

■ FINANCIAL DIARY Provisional dates

Information 1st quarter
February 4, 2003

Annual General Meeting
February 12, 2003

Information 2nd quarter
May 7, 2003

Information 3rd quarter
July 31, 2003

Information 4th quarter
November 18, 2003

In fiscal 2002, the worldwide economic slump precipitated an extreme decline in share prices, especially in Europe and above all in Germany. After peaking in March 2000, the DAX index of Germany's top 30 blue-chip companies lost 66% in value by the end of September 2002, falling back to the level of November 1996. The NASDAQ index with its heavier emphasis on technology stocks fared even worse, dropping 77%.

The decline in the EPCOS share price was severe and greater than average: it fell to €7.19 at the end of the fiscal year and was thus considerably below its issue price of €31 on October 15, 1999. This figure is

also significantly below book value, i.e. shareholders' equity per share, which stands at about €10.

The exaggerated fluctuations on the stock markets in both bull and bear phases stem from assessments of the future based on rigid extrapolation of the present. This practice leads to unrealistic valuations and is also evident from the ratio of share price to book value, which is based on the far more stable book value of stocks. In February 2000, the EPCOS share was thus traded at almost 20 times its book value, in September 2002 at only 0.7 times that figure.

The downward slide in share prices was mainly caused by the economic crisis and shrinking confidence in sustained growth.

Overoptimistic assessment of the economic situation in spring 2002 and the sharp decline in earnings during the fiscal year depressed our share price even further. EPCOS was particularly hit by fears that growth prospects in our business were vanishing, earnings would permanently remain unsatisfactory and EPCOS would have to use capital markets to increase capital despite the low share price.

But none of these fears is justified. This Annual Report spells out the decidedly positive prospects of the components industry and our company. Our strategy for a rapid return to profitability is presented in the letter to shareholders on pages 6 to 9.

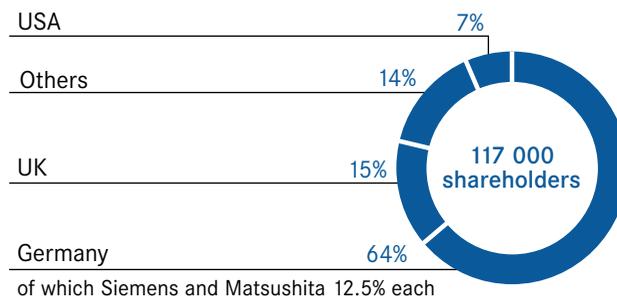
Little has changed in the regional structure of shareholders since the previous year. At 64%, the lion's share of equity is held by shareholders domiciled in Germany. Whereas the share of investors based in the United Kingdom dropped four percentage points to 15%, that of investors in the United States and other regions rose slightly. In the year under review, the proportion of private investors kept increasing and now stands at 18%. Among institutional investors, the American investment group *The Capital Group Companies, Inc.*, held just under 19% of the shares of

EPCOS AG, distributed among its affiliates worldwide, according to an announcement in April 2002.

On November 12, 2002, the Equity Indices Working Committee of *Deutsche Börse* (which combines the Frankfurt Stock Exchange, the futures and options exchange Eurex, and the clearing house Clearstream) decided to remove EPCOS from the DAX 30 index. EPCOS thus moved to the MDAX index on December 23, 2002, and will become one of the largest companies in the new TecDAX index to be launched in March 2003.

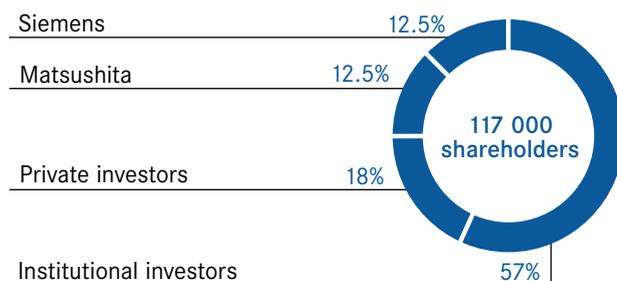
SHAREHOLDER STRUCTURE BY REGIONS

According to share register at September 30, 2002



SHAREHOLDER STRUCTURE BY GROUPS

According to share register at September 30, 2002



This decision is the result of the new fast exit rule, which sets DAX 30 members a 45th-place ranking among all listed companies in stock exchange turnover and market capitalization on certain qualifying dates as the cutoff for an interim index adjustment. EPCOS fulfilled the first criterion (23rd place) on October 31, but not the second (52nd place).

We regret this removal but would like to point out that both MDAX and TecDAX are attractive indices, in which EPCOS will be in renowned company. We will keep up our open and active investor relations information policy.

FACTS ABOUT THE EPCOS SHARE

Share price (Sept. 30, 2002)	€7.19
Average stock market turnover (shares per day)	622 000
Shares outstanding	65.3 million
Market capitalization (Sept. 30, 2002)	€469.5 million
DAX weighting	0.13%
Euro Stoxx weighting	0.02%
MSCI Germany weighting	0.12%
Share capital	€65.3 million
Security identification number	DE 0005128003
Reuters symbol	EPCGn.DE
Bloomberg symbol	EPC GR
<i>New York listing, NYSE</i>	
ADR symbol	EPC.N
Ratio	1:1

MANAGEMENT BOARD

Gerhard Pegam, *President and CEO*, Dr. Wilfried Backes, Dr. Bodo Lüttge, Josef Unterlass

BUSINESS SEGMENTS

CAPACITORS

Capacitors

Dr. Josef Gerblinger
Johann Mardo

Film Capacitors

Antonio Marsiglia
Joachim Zichlarz

Inductors

Franz Traub
Falko Steffen

CERAMIC COMPONENTS

Ceramic Components

Dr. Manas Roy
Dr. Michael Hirschler
Walter Scheiffele

Arresters

Dr. Norbert Hess
Siegfried Laurent

SAW COMPONENTS

SAW Components

Dr. Werner Faber
Augustin Baumer

FERRITES

Ferrites

Dr. Erwin Herren
Siegfried Zellmeier

CORPORATE DEPARTMENTS

WORLDWIDE SALES NETWORK

Branch offices, regional sales offices, distributors



Successfully shaping the future

The EPCOS Charter set out in our Corporate Principles provides a framework for entrepreneurship. It defines a corporate identity and code of conduct that are binding on all employees – from trainees to the Management Board. Our corporate motto “EPCOS – a company that opens up new prospects to customers, investors and employees” underlines our claim to shape the future successfully. It summarizes the four sections of the EPCOS Charter.

Our business

EPCOS develops, manufactures and markets electronic components that process electrical signals, control power supplies and protect electronic circuitry. They are indispensable to all equipment and systems in the electrical and electronics industry.

Our vision

Our aim is to provide reliable products and services of the highest quality and the greatest possible value to our customers

worldwide, making the name EPCOS synonymous with world leadership in electronic components.

Our goals

We want to generate profits and constantly increase shareholder value. We want to be a leader in every market we serve. We want to remain an innovative company that sets the pace for advances in technology, masters its processes and is geared to maximum customer benefit.

Our principles

Customer orientation

Customer satisfaction is the key to our success. Providing products and services that make our customers more competitive is our top priority.

Innovation

We create innovative products that open up new applications, provide new solutions for our customers, and help to strengthen existing or establish new business relationships. Innovations safeguard the future of our company.



Cost-consciousness

To prevail in the face of global competition, we are working hard to cut our costs.

Growth

We want to grow faster than our competitors. We recognize market trends promptly and align our product strategy accordingly. We focus on fast-growing and innovative segments of our markets.

Employees

Our employees are our most precious asset. We are committed to a corporate culture shaped by creative and dedicated employees who are willing to bear responsibility.

Corporate citizenship

We see ourselves as an integral part of the national economies that we serve and feel a strong sense of responsibility to society and the environment.

To live up to these precepts in times of growing competition and cost pressure, we launched the COMPETE program in July 2002.

Culture change with COMPETE

COMPETE covers a raft of company-wide measures. EPCOS is thus expanding and stepping up the cost-cutting program launched in fiscal 2001.

COMPETE stands for cost management, process excellence and time efficiency. It describes a change in corporate culture that pursues three goals: rapid reduction of costs, simplification and optimization of processes, and making better use of time.

We are thus embarking on a new approach to reducing our cost base further and ensuring that EPCOS remains cost-competitive in the long term. Overall coordination is in the hands of a special project group.

The first phase of COMPETE defined detailed cost-cutting

measures in all areas so that ambitious savings objectives can be reached promptly. Within the scope of COMPETE, EPCOS will realize savings in fiscal 2003 of a magnitude similar to the €170 million saved in 2002.

In the second and crucial phase of COMPETE, Six Sigma methodology will be introduced. Successfully applied for years by major companies, Six Sigma uses statistical means to increase productivity and quality globally.

Over the next 12 months, hundreds of employees will be trained in this methodology. A campaign lasting several years will drive the culture change that we envision for this company.



The COMPETE project team (from left): Ludwig Krieger, Dr. Horst Rathmann, Dr. Claudia Beckering, Roland Markgraf, Gilla Hentes



Our innovations speed up progress in dynamic markets

- Industrial electronics
- Automotive electronics
- Information and communications
- Consumer electronics

A global leader

The EPCOS product portfolio covers more than 40 000 different capacitors, filters, sensors, inductors and nonlinear resistors. The majority are application-specific or customer-specific products; standard products round off the spectrum. Our components protect sensitive semiconductors against dangerously high voltages, currents and temperatures. They store electrical energy, measure temperatures and filter radio-frequency signals to ensure optimum TV picture and sound quality, for example.

Among the top ten suppliers of passive electronic components,

who account for about half the world market, EPCOS is the only European company. In fiscal 2002, we managed to consolidate our global number two position and reduce the gap with Murata, the market leader.

EPCOS is the world market leader in SAW components, power capacitors, thermistors, varistors and surge arresters. In many other product lines we are number one in Europe. EPCOS is also the world's largest broadliner, covering virtually the entire spectrum of passive electronic components. We are one of the few companies in the industry to offer one-stop shopping for end-

to-end solutions. This gives our customers the edge in costs plus logistics and administrative benefits. Our innovations create growth potential for the future, open up new applications and make new features reality.

The estimated world market volume for passive electronic components currently tops €16 billion. Market researchers expect this figure to climb to €20 billion by 2005, equivalent to average annual growth of 7%.



Roland Stierle
Head of
Direct Sales

No electrical or electronic product can work without passive electronic components. Whatever the application – in mobile phones, direct satellite TV broadcasting, washing machines, medical engineering, wind parks, aircraft or even cars that do over 200 miles to the gallon – EPCOS products are needed just everywhere. We focus on leading-edge technology markets: automotive, industrial and consumer electronics as well as information and communications. These industries present sound prospects for medium to long-term growth.

Industries once as separate and distinct as telecommunications, entertainment electronics and computers are converging relentlessly. This convergence is

giving rise to a constant stream of innovative products, such as mobile phones with integrated cameras and Internet access.

In our traditional target markets, the proliferation and complexity of electronic control systems are fueling an insatiable demand for components. The electronics content of domestic appliances, for example, is rising by about 10% per annum as electronic controls supersede conventional electromechanical switches. Electronics drives nine out of ten innovations in the automobile industry today. And these innovations in turn drive the technologies of other industries.



Performance, reliability and safety

- **Transportation**
- **Utilities**
- **Manufacturing**
- **Lighting**

Our innovations give industrial electronics a powerful stimulus. The product lines developed by EPCOS for this segment are as many and varied as the activities of our industrial customers worldwide. The trend in industry is toward greater flexibility, safety, energy savings and productivity. Networking of production units is also significant. All these developments are inevitably fueling demand for automated solutions - and thus for electronic components.

Modern communications and network technology is making deeper inroads into power generation, for example. This industry expects capital expenditure over the next 20 years to exceed that of the entire 20th century.

As greater use is made of renewable energy sources such as wind and solar energy, demand for electronic components for the associated generators and control systems keeps rising. More and more electrical loads require their own or special power

Undisputed number one in power capacitors



Innovation

Power Capacitor Chips

Applications

Electric rail traction, production machinery of all kinds

Benefits

Space savings, low weight, ease of assembly

Even in the higher power range of several million watts, there is an unmistakable trend toward more compact components and system integration. These twin demands are met by the new Power Capacitor Chips developed by EPCOS. Thanks to this chip technology, both the volume and weight of the capacitors can be reduced by 30% in comparison with conventional solutions. Assembly is simplified and costs are reduced at the same time.

EPCOS is thus setting new standards in advanced frequency converter technology, which is now pervading machine tools, electric rail traction, food processing and packaging plants worldwide. Our

power capacitors make production machinery as well as power generation and distribution more efficient. They enable the drives of high-speed trains to use energy economically. Tried and tested power capacitors from EPCOS are also found in the Transrapid magnetic levitation system, the most advanced rail technology worldwide. One 30 km Transrapid line is under construction in Shanghai, and further maglev projects are planned in China and Germany. In the densely populated regions of Asia in particular, electric rail traction offers vast potential for mass rapid transit.



Harald Vetter
Power Capacitor
Development

supplies. These range from the compact units needed in every mobile phone, TV set or PC right up to power supplies with outputs in the megawatt range for high-speed passenger trains. Uninterruptible power supplies, long vital to medical engineering, are now needed at more and more large server farms to improve data security and availability. The lighting systems business will provide extra growth potential for components when energy-saving lamps with electronic ballasts become mandatory in the United States in 2005. Such ballasts can cut power consumption by about 80% and double lamp service life.

Controlling large amounts of energy and reliable operation with uncompromising safety are the key demands facing industrial electronics. Rugged components from EPCOS have demonstrated their superior performance in countless real-life endurance tests – in factory automation, elevators, cranes and pumps, for example.



Networks on wheels

- Safety
- Engine management
- Drive by wire
- Convenience
- Infotainment

For 40 years, the electronics content of cars has been rising. The first electronic fuel injection system was launched in the 60s. This was followed by antilock brake systems (ABS) in the 70s, mass-produced airbags in the 80s and electronic stability programs in the 90s. Automobiles of the 21st century can receive TV programs and access the Internet. They may also be equipped with tire pressure monitoring

systems, for example, that use SAW resonators from EPCOS to transmit tire data.

Today's motorists enjoy greater safety, economy and convenience. But modern engine management, heating and air conditioning, keyless entry and alarm systems, and high-intensity discharge headlamps would all be inconceivable without electronic components. Steering and braking systems are increasingly being actuated, or at least assisted,

Piezo actuators for the Car of the Year



Innovation

Piezo actuators

Applications

Fuel injection, fluid dosing

Benefits

Reduced fuel consumption, lower noise and exhaust emissions, higher engine output

Piezo actuators allow fluids to be atomized with unprecedented speed and accuracy. Peugeot, the world's largest manufacturer of diesel-powered passenger cars, is the first to use this innovative technology: cars of its new 307 series are fitted with a diesel injection system based on piezo actuators from EPCOS. The new Peugeot soon proved a best seller and was voted Car of the Year 2002 by automotive experts. There are powerful arguments for piezoelectric injection: up to 15% lower fuel consumption, reduced engine noise and significantly lower exhaust emissions that today comply with the Euro 4 exhaust standard, which does not

come into force until 2005. Thanks to mastery of multilayer ceramic technology, EPCOS is the only company in the world that can manufacture piezo actuators in volume: more than three million have been shipped to date. In future, these actuators will also be fitted to gasoline engines, where their superior switching speed will benefit fuel injection.

Further applications include equipment for precision dosing of fluids in the pharmaceutical and chemical industries.



Dr. Helmut Sommariva
Head of
Development
Piezo Technology

electronically. But none of these systems can work properly unless the various electronic control units are fully protected against both mutual and external electromagnetic interference. That's why numerous passive electronic components from EPCOS are used in each vehicle to ensure electromagnetic compatibility.

Fast lane for growth

In 2003, some 60 million motor vehicles will be manufactured worldwide. On average, electrical and electronic systems

account for about a quarter of the value of an automobile and are expected to rise to 35% by 2005. This share is already as high as 40% in today's upmarket cars. A contemporary luxury vehicle contains up to 13 000 passive electronic components, a midrange car about 5000.



Unlimited connectivity

- Mobile communications
- Wireline communications
- Internet

The innovative strength of telecommunications remains unbroken. Even though wireline business in North America and Europe is slack and large carriers have scaled back capital expenditure, all segments of the telecom industry will again experience above-average growth in the long term. The number of wireline subscribers in China, for example, is expected to nearly double to more than 300 million over the next four years.

Within just a few years, mobile phones have emerged as mass consumer products. New features and services are now

transforming mobiles into pocket-sized multimedia terminals. The new Bluetooth technology also promises high growth. Bluetooth creates short-range wireless links between mobile phones or personal digital assistants (PDAs) and PCs or notebooks. This will make work in the mobile office of the future even more flexible and efficient.

More functionality, less space

All these new functions call for more complex electronic circuitry. In mobile communications, miniaturization is a must if next-generation handsets are to be light

Ceramic modules set miniaturization record



The next generation of mobile phones will offer far greater functionality and bandwidth. Here no manufacturer can avoid higher scales of integration, because next-generation handsets put together from discrete components with conventional circuit technology would be several times larger and heavier than today's mobile phones.



Innovation

Multilayer ceramic modules

Applications

Next-generation mobile phones

Benefits

Substantial space savings, lower cost, high reliability

EPCOS has mastered this challenge. Only our multilayer ceramic technology permits complete integration of all active and passive electronic components required – and does so flexibly, at low cost and with unprecedented miniaturization. EPCOS offers the world's smallest triple-band front-end

module for mobile phones. It integrates more than 50 components in a space measuring only $6.7 \times 5.5 \times 1.8$ mm. Some 40 components, such as resistors, capacitors and inductors, are embedded in its 14 ceramic layers. Radio-frequency filters and ceramic capacitors are soldered to the surface along with several semiconductors. This design results in enormous space savings of up to 95% in comparison with discrete solutions. Our modules are also distinguished by greater reliability and lower assembly costs.



Cathryn Twohig
Product Marketing
Wireless Terminals
in the SAW Components segment

and compact. EPCOS meets this demand with a variety of tiny but indispensable components, headed by surface acoustic wave (SAW) filters. EPCOS is the undisputed world market leader in SAW technology. Our integrated modules based on multilayer ceramic technology are also shaping the future of mobile communications. And demand is particularly heavy for miniature tantalum capacitors from EPCOS.

In wireline communications, digital subscriber line (DSL) technology is emerging as the preferred broadband solution, giving even small businesses and private households high-speed, low-cost Internet

access. Here too, EPCOS ensures peak performance: innovative ferrite cores made from optimized soft magnetic material are key components of the DSL modems and line cards that speed up access to the information superhighway. A study by Merrill Lynch forecasts that the number of users accessing the Internet via ADSL will increase from 25 million today to 45 million in 2003.



Convenience and quality

- Audio
- TV and video
- Multimedia
- Appliances

Progress in electronics is the driving force behind today's multimedia environment and the key to energy-saving, user-friendly domestic appliances. Despite the current economic lull, consumer electronics remains a prime growth market. Digitization, networking, and the convergence of separate hardware and software platforms into multimedia are having a lasting impact on both the world of work and the private environment: flat screens adorn living

rooms, cable TV networks provide Internet access, music can be heard on MP3 players built into mobile phones, and phone calls can be made over the Internet.

Greater functionality and more sophisticated features have to be packed into shrinking spaces. Without our innovative product portfolio, the consumer electronics industry could not manufacture multifunctional, interactive equipment economically. Better picture and sound quality thanks to digital transmission, greater program variety in TV and radio, and new services

Niobium, polymer and multianode technologies scale new peaks



As battery-powered equipment becomes multifunctional, e.g. for multimedia applications, the demand for intelligent energy management is growing. Tantalum capacitors are vital to portable equipment. Capable of rapidly storing and discharging maximum electrical energy in a minimum of space, they ensure stable supply voltages.

sate for rapid and severe current fluctuations, thus ensuring minimum ESR and maximum current-handling capability. The two technologies can even be combined to reduce ESR by as much as 90%.



Innovation

Tantalum multianode, tantalum polymer and niobium capacitors

Applications

Entertainment electronics, multimedia, appliances

Benefits

Improved energy management, space savings

As high-end processors perform more complex calculations, their power consumption increases. Here very low equivalent series resistance (ESR) is essential to high current-handling capability. This is where our tantalum polymer and multianode capacitors come in. They reliably compen-

EPCOS has done pioneering work with a new base material: niobium. Niobium capacitors deliver up to twice the capacitance of tantalum capacitors of comparable size. This innovative technology is helping EPCOS to penetrate the large and strategically important computer industry. Niobium capacitors are just as suitable for complex control circuitry, e.g. for commercial washing machines.



Cristina Mota Caetano
Development
Tantalum Capacitors

and add-on features such as electronic program guides all promise strong growth rates.

Domestic appliances get smart

Refrigerators with built-in computers are already reality. They log milk consumption, monitor best-before dates and reorder automatically via the Internet.

Electrical appliances have become affordable for millions of consumers around the globe – and not just in industrialized

nations. Appliances are a growth market. And as consumers demand lower power consumption, longer service life, greater safety and ease of use, the electronics content of appliances is steadily rising. In fact, demand for electronic components in this segment is now growing more than twice as fast as the white goods market itself. EPCOS supplies a wide range of reliable components for this dynamic industry.



**Total competence,
global presence
boost
corporate value**

- Employees
- Research and development
- Production and quality
- Sales
- Logistics
- Locations
- Environment



EPCOS' corporate strategy is based on competence in technology. Customer orientation, cost leadership and innovative strength safeguard our prominent market position in the long term. In lasting partnerships with our customers and suppliers, we shape the trends in high-tech markets - in R&D, production and sales. Our innovative strength has brought us to the top in many fields of technology: products less than five years old account for more than 70% of our sales.

Among the broadliners, EPCOS is the world market leader. The unique breadth of our product portfolio and the superior quality of EPCOS products yield crucial advantages, especially in times of fierce market competition. They reflect and support the

trend among customers to reduce their supplier base to a few powerful partners with a global presence.

For decades, EPCOS and its predecessors have been serving markets not only in Europe, but also in the Americas and Asia. Since going public in 1999, we have stepped up our presence in Asia in particular. We are paying special attention to China. The countries of this region boast the largest electronics markets with the highest growth rates and thus the greatest growth opportunities for EPCOS. Business outside Germany now accounts for about 75% of our sales.



Commitment and creativity shape corporate culture

- Enterprise and initiative
- Individual career opportunities
- Performance-related pay
- Systematic development of young talent

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Our human resources policy focuses on evolution of a corporate culture distinguished by dedicated employees. The emphasis here is on promoting initiative and enterprise in all segments and at all levels. EPCOS offers attractive development and career opportunities for trainees and specialists, for university graduates and highly qualified managers the world over. Variable income components and remuneration systems encourage performance. Another focal point of personnel development at EPCOS is grooming younger generations for executive responsibility at all levels. This raises the motivation of employees, whose competence is indispensable to higher shareholder value in the long term.

The EPCOS Junior Circle

Fit for management responsibility

The international EPCOS Junior Circle grooms younger employees with several years of experience within the company who have shown potential for management positions. The Circle's changing membership consists of about 20 employees drawn from R&D, production, marketing, sales, and business administration. This interdisciplinary composition reflects the company's key functions and enables members to look beyond their immediate spheres of responsibility. Regular meetings at different locations provide information about EPCOS' principal business and production processes, and stimulate hands-on problem-solving in group projects. Participants can thus gain a keener understanding of the company as a whole while building up valuable contacts across divisional and national boundaries. The experience gained is not only useful for day-to-day work and projects, but also makes Junior Circle members fit for future management challenges.

PROMOTING NEW TALENT



Wafer examination under ultra clean-room conditions

Competitive edge through research

Our basic and materials research activities set the stage for future product and process innovations from a very early phase. Niobium, for example, is a low-cost but highly efficient alternative to tantalum for the anodes of capacitors. EPCOS is the first company in the world to develop niobium capacitors and manufacture them in volume. Thanks to new process technologies, we can now use layers of low-cost nickel and copper for the electrodes of ceramic components instead of costly palladium. This advance also opens up new scope for these components in the highest frequency spectra. Innovative ceramic materials increase the accuracy of our miniaturized temperature sensors and make new applications possible in automotive electronics and domestic appliances. EPCOS also makes the world's smallest surface acoustic wave filter, with a footprint of only 1.4×2 mm – a direct result of our competence in making electrode features almost 300 times finer than a human hair.

MATERIALS AND BASIC RESEARCH

Global R&D network opens up new growth potential

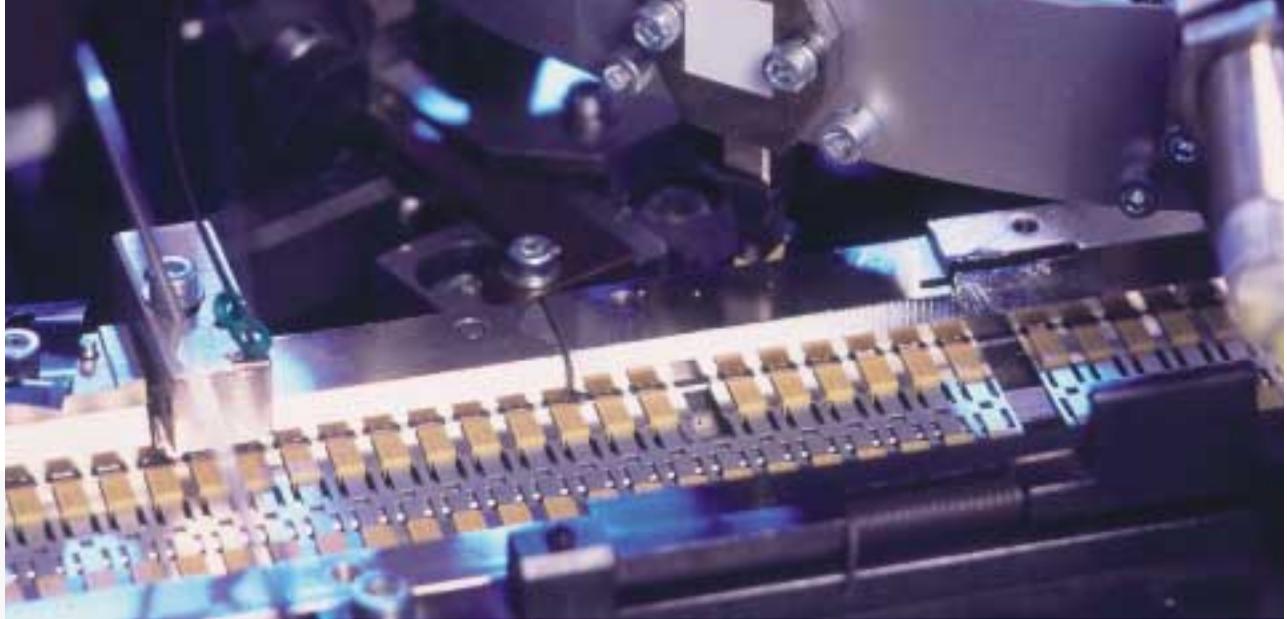
- Innovation creates new markets
- Competence in leading-edge technology
- R&D centers in key markets
- Partnership with universities and research institutes

Competence in technology and innovative

Research and development

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strength are the foundations of our company's success. For the benefit of our customers and in cooperation with them, we are developing new electronic components and modules at shorter and shorter intervals. They pack more and more performance into a smaller space and at lower cost. That's how we help our customers bring new products to market faster. Since EPCOS went public in 1999, the number of R&D staff has risen by 40%. Our global network of innovation is also being augmented by R&D departments set up at our new manufacturing facilities in Eastern Europe and Asia. This is how we are strengthening our position as a global partner and bringing EPCOS' expertise to the customer's doorstep. In basic research, our experts are closely collaborating with more than 50 renowned research establishments and universities worldwide.



Automated testing of tantalum capacitors

Manufacturing excellence

Larger than three football fields, our plant in Évora manufactures more than 100 million capacitors a month. Here, on the world's most advanced production lines for tantalum capacitors, process data is captured and monitored

online. Automatic transmission of parameters for about 1000 variants from product databases to production machinery ensures consistently high quality with maximum flexibility in manufacturing. The system data throughput of 2.5 billion bytes per month is equivalent to more than 300 000 narrowly spaced typewritten pages. Testing of the finished capacitors is also fully automated.

Progressive automation over the past four years has cut rejects by about 90%. Thanks to this quality production, EPCOS has consolidated its number one position in Europe and is now the world's third-largest manufacturer of tantalum capacitors.

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STATE-OF-THE-ART MANUFACTURING

All products and processes focus on customer benefits

- End-to-end quality management
- Flexible, modular production lines
- Automated, stable processes
- “Zero defect” target

As well as developing new products, EPCOS is driving innovative manufacturing methods. Secure mastery of processes right from the outset ensures high reproducibility, quality and yields, while a high degree of automation keeps our manufacturing operations internationally competitive. The modular structure of our production lines gives us the flexibility to respond promptly to changing customer demands. At the same time, our quality assurance system ensures that flaws are detected at an early stage and errors avoided. In all our processes – from development to shipment – quality assurance complies with ISO 9000. The QA system also meets standards QS 9000, VDA 6.1 and ISO/TS 16949 – and thus satisfies the particularly stringent demands of the automobile industry. Excellence in logistics and customer satisfaction are the yardstick of our success as we evolve into a “zero defect” company.



Permanent dialog in common language of technology

- Preferred supplier to many customers
- Early involvement in development projects
- Mutual advantages through common solutions
- Local competence, global excellence

A preferred supplier to many customers, EPCOS is highly regarded as a development and systems partner in particular. Customers turn to us at an early stage when developing new projects. Co-development drives technically and economically superior solutions and produces mutual competitive advantages. Our multinational sales force of more than 700 people ensures both local competence and global excellence. More than half of them are qualified engineers and technical experts. In Asia, where more and more of our customers have set up production, we have expanded our sales organization by setting up local companies and have more than doubled the sales force over the past five years.

The EPCOS fair stand:
An international forum

EPCOS – a highlight of *electronica 2002*

Electronics as far as the eye can see – 14 halls, 150 000 square meters of floorspace, 3000 exhibitors and 77 000 visitors – at *electronica 2002*, the world's premier trade fair for electronic components. Here EPCOS once again documented its competence as a leading manufacturer of electronic components with impressive exhibits. Held every two years in Munich, the four-day show provides an ideal platform for meeting customers and prospects, unveiling innovations and probing new business opportunities. No other event enables us to present the benefits of our innovations and our comprehensive product portfolio in such depth and breadth.

FAIR APPEARANCE



Fully automated high-bay warehouse

Migrating to more efficiency

A project entitled MOVE (Moving the Organization to a Visionary Enterprise) is completely reshaping our IT infrastructure. MOVE will make all processes in the value chain – from supplier to customer – even more efficient and transparent.

EPCOS' new IT infrastructure will yield substantial benefits: every customer anywhere in the world will receive the same advanced services, while procedures can be adapted to changing tasks quickly and economically. Order processing will also be simplified as the costs of all processes in the value chain are reduced. More efficient use of our resources will enable us to optimize capacity utilization at our plants while minimizing production costs. Lead times will be shortened, turnover factors for inventories increased.

The new IT systems have been successfully deployed in two EPCOS divisions. MOVE will be completed throughout the EPCOS Group in 2004.

Fast processes optimize value chain

- End-to-end logistics management
- Vendor-managed inventories
- Electronic data interchange
- Route optimization

Our logistics management system is distinguished by rapid availability of products and services. Delivery commitments have top priority. We respond flexibly to rapidly changing customer demands. The share of EPCOS customers using our vendor-managed inventory services on their premises has kept increasing. Our logistics service includes electronic data interchange and an early warning system for delays. A fully electronic track and trace facility enables sales offices, shipping departments and customers to check order status at any time and prevent delays. Route optimization, e.g. by concentration of more cargo volume on fewer service providers, enables us to keep logistics costs low.



Global presence brings expertise and service to the customer's doorstep

- Global sales network
- Comprehensive customer service
- Strategic relocation of production
- Speed, agility, flexibility

To manufacture components economically and close to customers in high-growth regions, EPCOS has relocated numerous production lines - to the Czech Republic, Hungary, Spain, Brazil, India and China. This enables us to take full advantage of local market potential. Since 1997, sales in Asia have almost tripled. The global nature of our business is reflected in a worldwide network that is being permanently adapted to changing market criteria. EPCOS currently operates 20 manufacturing facilities in Europe, the Americas and Asia Pacific. Our design centers in Europe, Asia and the United States, and more than 100 sales offices worldwide offer customers fast, comprehensive service. Numerous subcontractors around the world augment our production capacity. We can thus respond quickly and flexibly to changing market conditions.

China – Asia's largest growth market

Over the next few years, annual growth rates topping 20% are anticipated for the world's fastest-growing regional electronics market. With over 180 million subscribers - 30 million more than the USA - China even has the world's largest mobile phone market. By 2005, over 250 million Chinese, or a fifth of the population, are expected to be handling handsets. The prospects are just as bright for wireline telecommunications and above all the Internet as PC and modem sales soar. Finally, China is emerging as a major production location for more and more of our customers. So EPCOS has promptly stepped up its presence in this growth market. In China, we now employ more than 2000 people at four production facilities which, together with our sales offices, come under the common roof of our holding company EPCOS (China) Investment Ltd. This gives our customers in China the optimum solution for obtaining electronic components from a single source and paying for them in local currency.



High tech protects the environment:
Multistage filter plant

Biological water treatment cuts costs

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Water contaminated by production processes is treated in a bioreactor at our plant in Szombathely, Hungary. Here bacteria break down pollutants into two harmless substances, carbon dioxide and water. The pre-cleansed water then flows through a system of ultra-fine diaphragms and can finally be channeled into the sewer system. Instead of expensive transshipment and thermal disposal of pollutants, only residual amounts of sludge are now produced, which are properly removed. This advanced water treatment has significantly improved environmental conditions at the Hungarian site. It also consumes far less energy and cuts production costs.

A model of environmental protection

- Global standards
- Efficient use of resources
- Avoidance of hazardous substances
- Minimization of waste

Acknowledging its responsibility to future generations, EPCOS has implemented a global environment management system that ensures the same high standards of protection worldwide. This corporate code applies to all locations. Regular audits by independent bodies monitor compliance. The aim of our environmental management system is not merely compliance with all statutory and administrative requirements, but efficient use of precious resources. We avoid hazardous substances and minimize waste. For example, most of our products today comply with the European Union's ban on lead, which does not come into force until 2007. Another key issue is environmentally friendly disposal of waste water.



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EPCOS corporate website

The Company on the Web

EPCOS online 37

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