

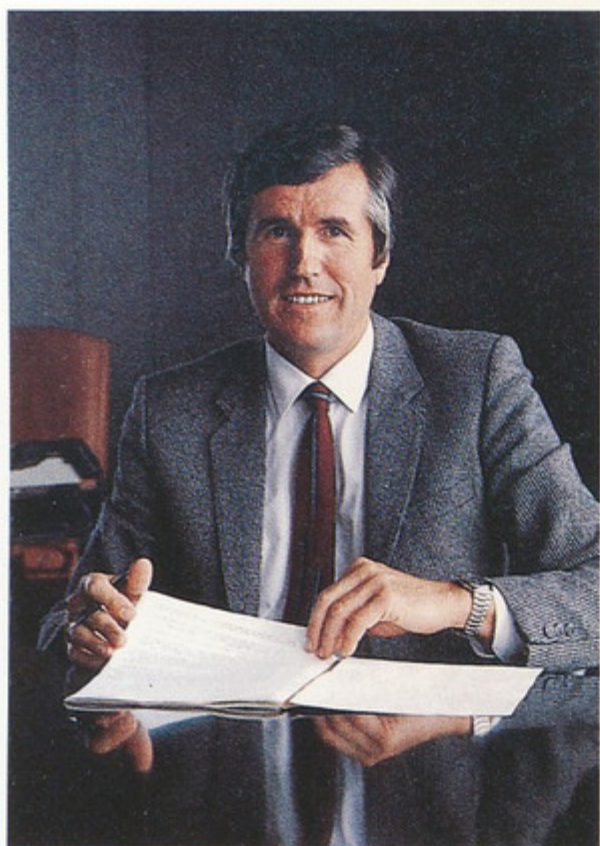
ANNUAL REPORT '86

Iskra



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In 1986 Iskra achieved relatively good business results, particularly in view of the continuing unfavourable economic conditions in the country. Our total income was more than double that of the previous year. The same applied to accumulation. Despite serious difficulties in the foreign exchange system, we managed to retain our exports at the 1985 level – 236 million dollars, and this also applies to the hard-currency sector. Imports decreased, and this

considerably improved our import/export balance. However, despite the extremely depressed export conditions in our economy, Iskra's companies sustained no significant losses.

In 1986 we proceeded with our planned business activities, and also initiated new ones at home and abroad. Special mention should be made of our further penetration into the Chinese market. Here, Iskra is implementing important projects involving a wide range of Iskra products, from components to complex systems, with different forms of co-operation and joint ventures.

In the same way Iskra is making progress in numerous other countries, where the increasing product emphasis is on complex equipment and systems. Our products incorporate many of our own technological innovations.

The SI 2000 system of telecommunication exchanges is already in full production, the plant having been finished only last year. We also completed the development of new teleprocessing transmission equipment, new state-of-the-art components, computer assemblies, and measuring and automation equipment. We expanded the production of ferrite inductive components and of special automotive electrical products. Some strategically important investments are still being implemented, or will be started this year, including optoelectronics, public digital teleinformation exchanges and new computer production.

In the forthcoming year Iskra will follow its strategy of further increasing exports and keeping pace with world technological developments. It will continue to introduce high technology and make more investment in research and development. In various ways it will meet the interests of both domestic and foreign partners. With these goals in mind, we will continue the ongoing reorganisation of Iskra in 1987. This in turn will further enhance the adaptability of the system to the rapid development of electronics applications internationally.

Franc Šifkovič
President of the Business Managing Board

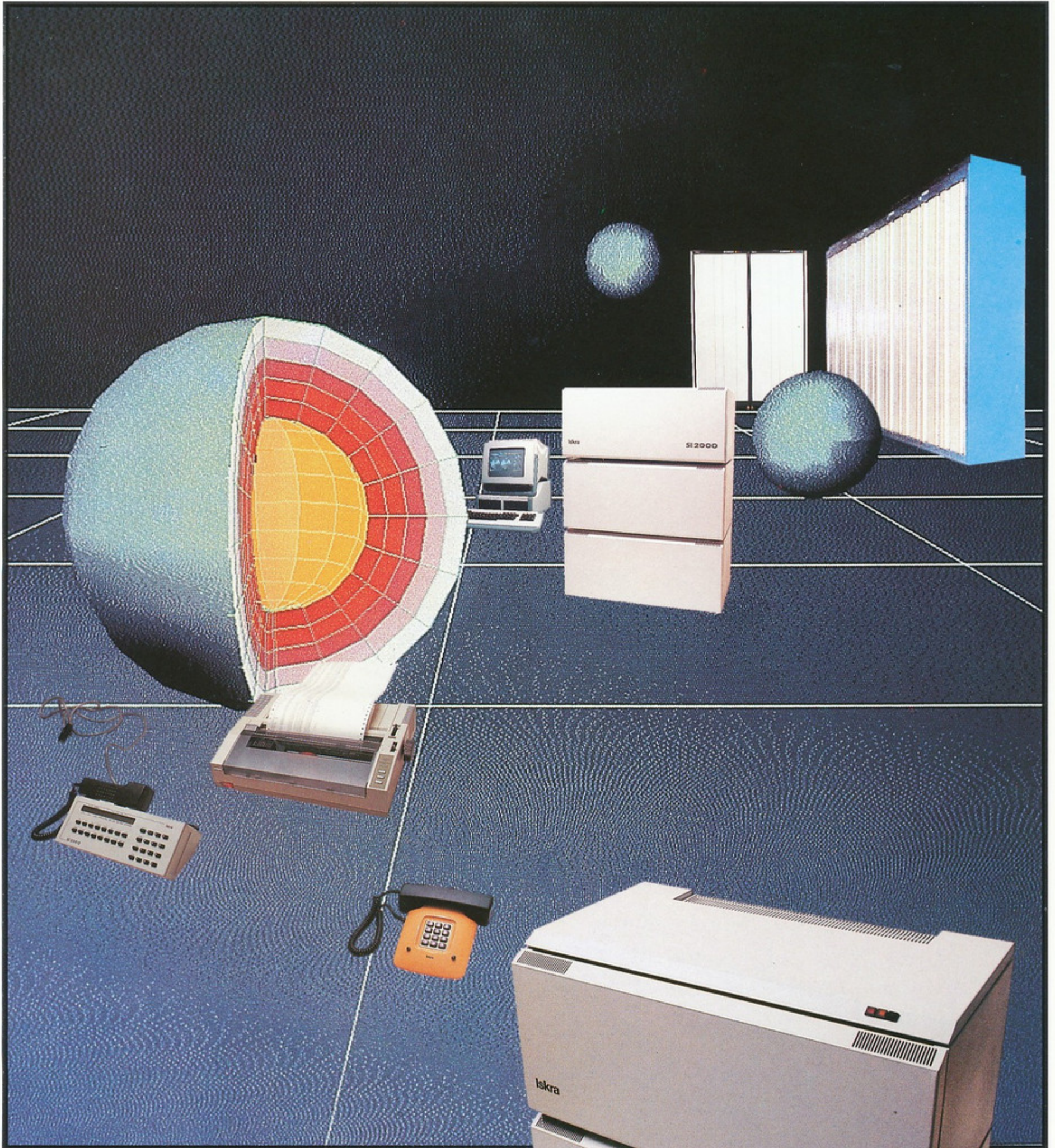
COMPANY PROFILE

Iskra is the largest company in Slovenia and the leading electronic and electrical manufacturer in Yugoslavia. In 1986 its 35,000 employees created a total income of 535 thousand million dinars and 236 million dollars worth of exports, of which 150 million dollars came from hard-currency markets. Iskra generates 10% of the exports from Slovenia and about 2% of the national total, ranking as the third largest exporter.

The Iskra organisation is made up of 18 production divisions and seven administration divisions. These latter perform functions of common importance in areas such as commerce, finance, organisation, along with other activities vital to the smooth running of a large system.

Iskra Commerce, which is the common regional marketing organisation, contains a network of 25 foreign representative offices, retail shops and plants, all over the world. In Yugoslavia, Iskra has developed a network of subsidiaries, business and servicing centres.

Iskra has the highest level of investment in research and development in this sector of industry in Yugoslavia. Through such investment and through intensive co-operation with other technological research resources at home and abroad, Iskra keeps pace with the most advanced trends in electronics, telecommunications and computing, as well as in state-of-the-art electronic and electromechanical components and assemblies. To achieve this goal, Iskra gives priority to investment, not only in materials but also in personnel and their training.



PRODUCTION

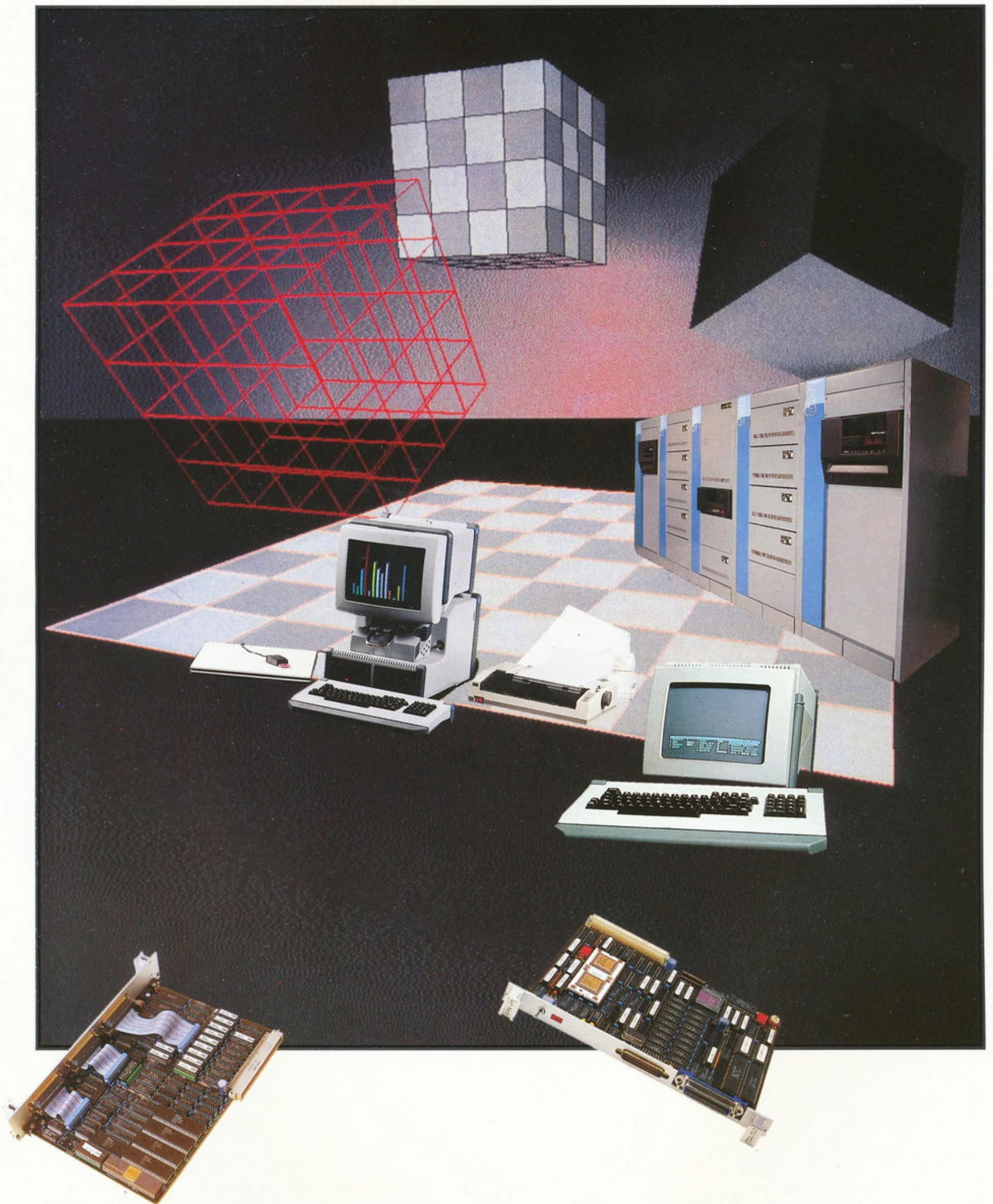
Iskra's main activities comprise the production and distribution of advanced electronic and electromechanical components, assemblies, devices and systems in telecommunications, computers, optoelectronics, automation, measurement and control, cybernetics and robotics, automotive electrical equipment and consumer products.

In all these market sectors Iskra is supported by its proven expertise in specific technologies, particularly in the field of microelectronics. With this broad range capability Iskra is active in all forms of international trade and technical co-operation.

Microcomputer-based technology is the basis not only of successful development in industry, social activities, defence and education, but also in culture and entertainment. In this area, constant growth of several per cent per year in the domestic and foreign markets is characteristic. Iskra's products are cost competitive with regard to energy and material investment, sophistication and quality.

The global electronics market has seen rapid technological development, and two factors are significant. First, the swift penetration of electronic devices and systems into increasingly specialised application areas, and second, the increasingly strong technological integration of modern systems with other technical disciplines in other fields.

Iskra's key advantage is that it combines different types of manufacturing and technological expertise, ranging from individual components to highly complex systems, from mass production to custom design and engineering activities. Iskra is also active in key production fields where



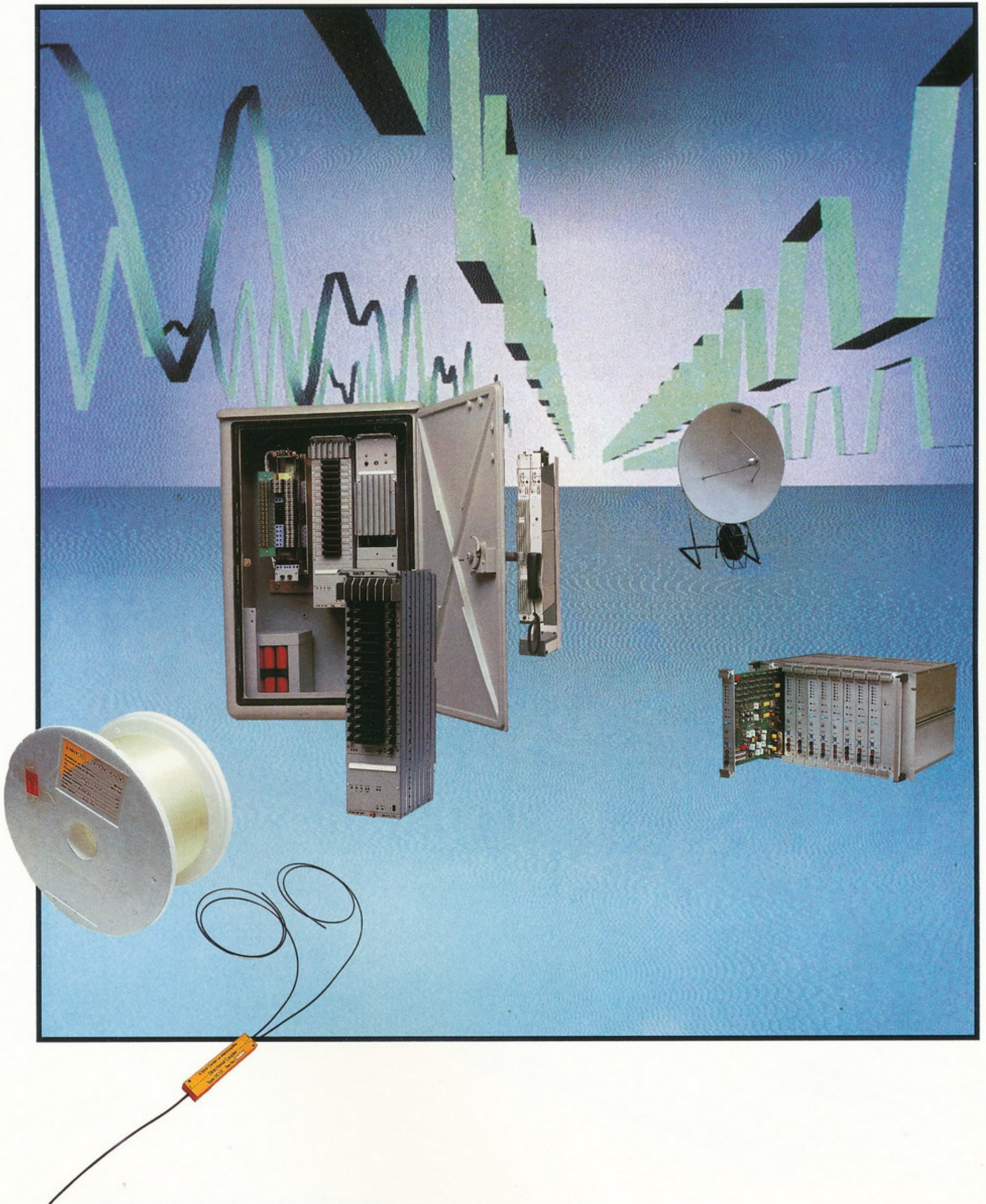
the highest standards are required to meet the exacting demands of advanced data processing and other systems. This development and production capability in vertical as well as horizontal links, is the basis for Iskra's further successful development, and for continued product advancement.

Iskra's main product ranges cover the following fields:

Telecommunications and Data Processing

TELECOMMUNICATIONS

- Public and private telephone exchanges of classical crossbar type,
- public and private telephone exchanges with stored program control and classical speech circuits,
- public and private telephone exchanges in state-of-the-art digital technique, with capacities of several tens of thousands of subscribers,
- custom designed PABXs and manual switchboards,
- electronic intercom exchanges and stations,
- telephone sets with dial or keyboard, with MFC or tone dialling,
- pay telephones and a range of electronic telephone key systems,
- multichannel telephone systems with FDM line equipment,
- multichannel telephone systems with PCM line or cable equipment,
- power line carrier equipment,
- conference equipment, public address equipment, switchboards, mixing consoles and other sound distribution equipment,
- radio-relay transmission equipment, fixed and mobile,
- radio transceivers, fixed, mobile and portable,
- professional antennas,
- navigation equipment,
- thermovision equipment,
- laser light detectors,
- laser fire control systems,
- optical fibres,
- optical fibre jointing devices,
- optical fibre testing equipment,
- modems for the transmission of computer data at various transmission rates,



- fibre optic line equipment for the transmission of digital telephone signals, TV signals and computer data,
- school lasers.

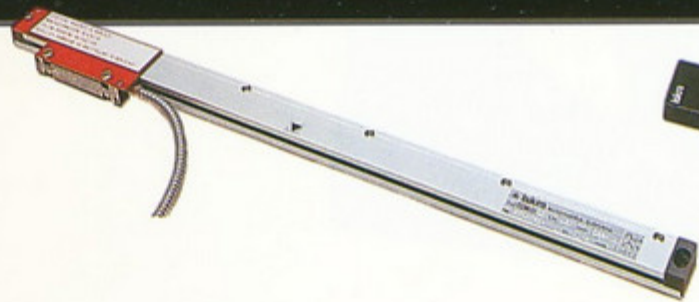
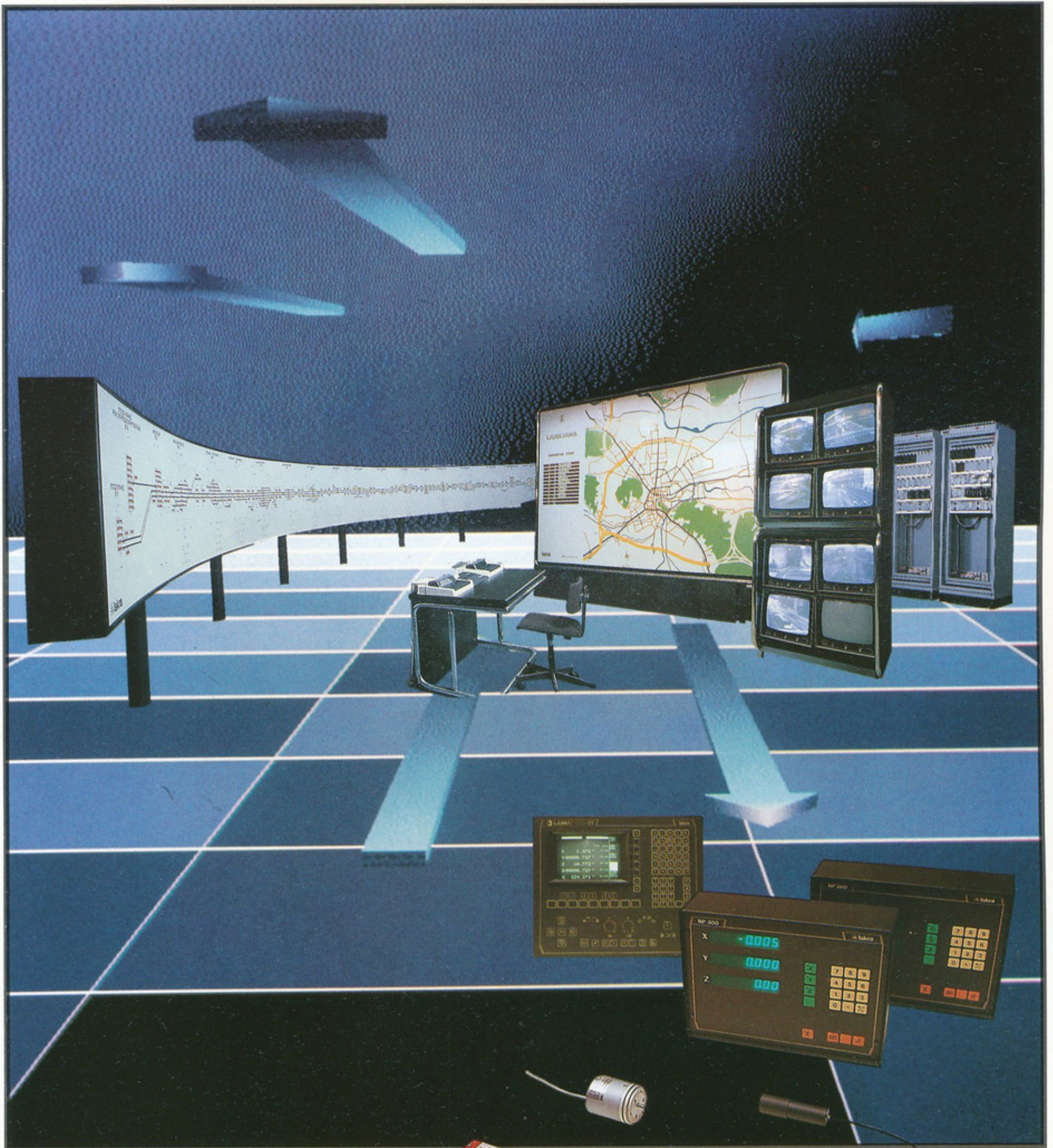
COMPUTERS

- Business computer systems with the corresponding problem oriented software,
- process computer systems with the corresponding problem oriented software,
- standardized and parametrized software packages,
- program generators,
- distributed data processing and networking,
- computer systems for special applications,
- computer components and peripherals,
- design, installation and maintenance of computer hardware and software,
- custom designed software,
- computer networks.

Automation, Measurement and Control

MEASUREMENT AND CONTROL

- Measuring instruments, pointer types,
- analogue and digital electronic measuring instruments,
- measuring transducers of electrical and non-electrical quantities,
- components and devices for cybernetics,
- electrical power meters,
- etalonic error meters,
- instruments for calibration of meters,
- data recording devices in power engineering and traffic,
- digital scope multimeters,
- programmable control systems,
- distributed control systems,
- network control receivers,
- clocks and time control equipment,
- mechanisms for meters,
- timers and recorders,



- ultrasonic equipment for industry and medicine,
- optical and glass-blown devices and components,
- laser measuring equipment,
- equipment for measurement and testing in telecommunications,
- laboratory and field ecological measurement equipment,
- equipment for classrooms, school cabinets and laboratories,
- diagnostic equipment for car service workshops.

AUTOMATION

Components, devices and systems for:

- automation, measurement and control of technological processes in industry,
- automatic feeding and robotization of technological processes,
- automation and mechanization of welding,
- automation of railway and road traffic,
- automation, protection, measurement and control in power engineering,
- electrical power factor correction,
- power supply of equipment and facilities,
- fire and burglar protection,
- telemechanics,
- synoptics,
- laser treatment of materials and other industrial applications of lasers,
- use of lasers in medicine.

Components

ELECTRONIC ACTIVE COMPONENTS

- Design and manufacture of microelectronic integrated circuits in monolithic MOS and hybrid technologies (thin- and thick-film types),
- special integrated circuits for telecommunications and data processing,
- electronic subassemblies,
- low-current and power silicon diodes,
- silicon and selenium stacks,
- silicon monocrystals and wafers,
- liquid-crystal displays,



- electronic switches,
- solar cells and panels,
- consumer batteries,
- special batteries,
- battery lamps and flashing lamps.

ELECTRONIC PASSIVE COMPONENTS

- Fixed resistors and potentiometers (carbon-film and metal-film, thick-film and thin-film, wired versions),
- resistor circuits,
- non-linear resistors (thermistors, posistors, varistors),
- ceramic capacitors,
- foil capacitors used in electronics (polyester, polycarbonate, polypropylene, polystyrene),
- radio interference suppression components,
- electrolytic capacitors,
- ferrites,
- inductive components,
- wound transformer cores,
- small transformers,
- magnets,
- technical ceramics,
- power factor correction capacitors,
- motor capacitors,
- capacitors for fluorescent lamps,
- special components and materials.

ELECTROMECHANICAL COMPONENTS

- Commutator electric motors, universal and permanent-magnet types,
- asynchronous electric motors, single-phase, with R or C auxiliary phase, with shaded poles,
- asynchronous electric motors for incorporation in refrigeration systems,
- synchronous electric motors,
- stepping electric motors, permanent-magnet and hybrid types,
- electric motor assemblies: suction units, sirens, fans – axial, radial, compact – pumps,
- electric motor drives: DC and with electronic commutation, with stepping motors,



- electromechanical, reed and telephone relays, miniature relays,
- thermal and time relays,
- sensors,
- industrial and installation switches,
- keys and keyboards,
- selector switches,
- parts and accessories for the construction of electronic equipment, plug-in panels, cabinets, consoles,
- connectors, connecting circuits,
- printed circuits and units,
- loudspeakers,
- laboratory products.

Consumer Goods

AUTOMOTIVE ELECTRICAL AND ELECTRONIC EQUIPMENT

- Starters,
- alternators and dynamos,
- ignition coils,
- magnetic ignitors,
- voltage regulators,
- ignition programmers,
- blinkers,
- lamps for motor vehicles,
- DC electric motors for hydraulic and other applications,
- electrical equipment of diesel engines,
- autonomous electric generators.

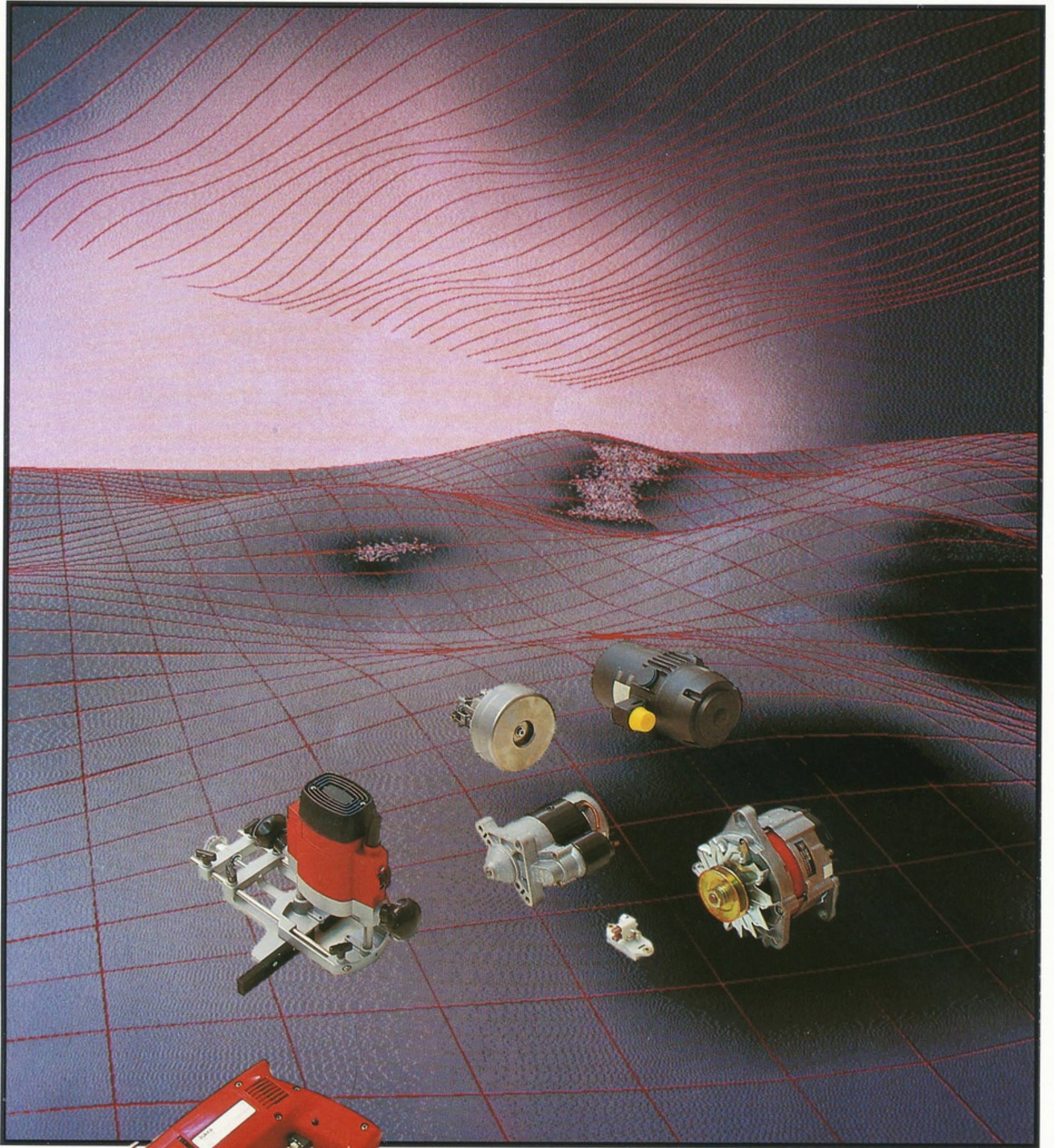
ELECTRONIC ENTERTAINMENT PRODUCTS

- Colour and black-and-white TV receivers, stationary and portable types,
- sound boxes,
- radio and TV antennas with accessories,
- sound distribution systems.

HOUSEHOLD APPLIANCES

- Electrical food preparation appliances (cookers, multi-purpose food

Automotive electrical equipment,
electromechanical components and
power tools

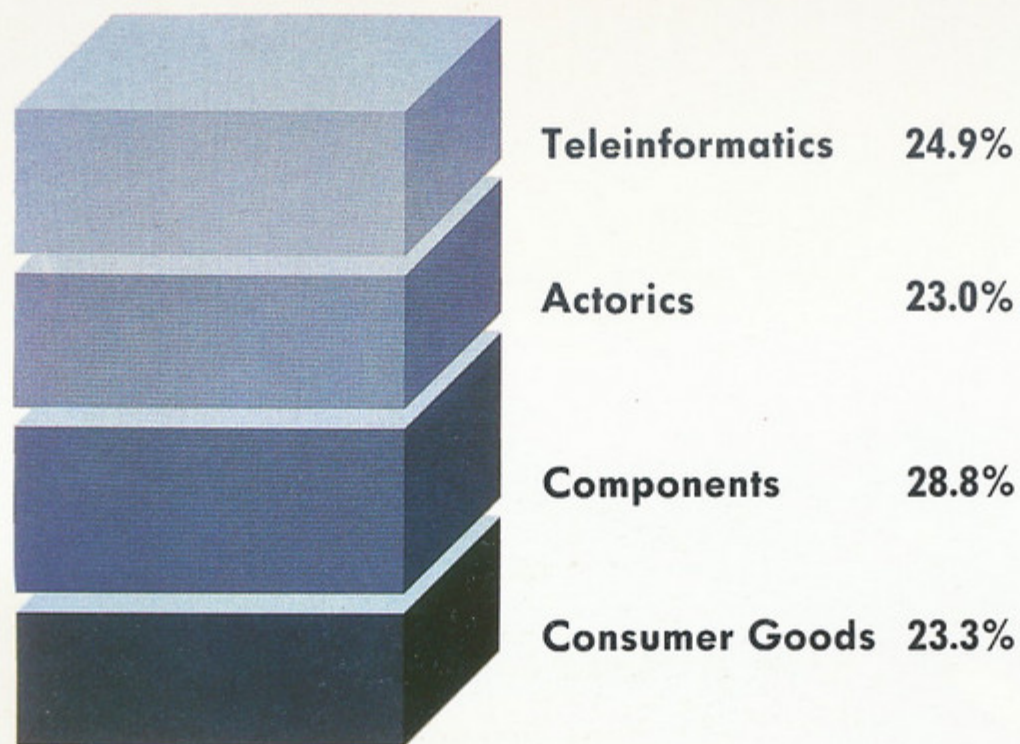


- processors, mixers, juicers, coffee mills, toasters, . . .),
- electrical personal care appliances (shavers, waterpicks, hairdryers, massage devices, . . .),
- electrical heating appliances (gas and fan heaters),
- electrical cleaning appliances (vacuum cleaners).

ELECTRIC POWER TOOLS

- Hobby tools (drills and accessories),
- professional tools (high-capacity drills, electric hammers, grinders, jig saws, circular saws, . . .),
- soldering irons.

For the majority of these products Iskra offers engineering services, consultancy, training, servicing, maintenance, etc., as well as the corresponding know-how and technology transfer, with joint-venture possibility.



Consumer products



RESEARCH & DEVELOPMENT

In 1986 Iskra made important investments in research and development, with the aim of maintaining and improving its share of the market, and its technological status in Yugoslavia and abroad. Investment in this sector reached 27.7 thousand million dinars, which represents 5.2% of the total income. Around 2800 research and development specialists are employed in this sector.

Iskra is in contact with a number of important research institutions and universities in the country, whose staff collaborate with Iskra specialists in numerous research projects.

In 1986 Iskra's research and development endeavours were focused on new electronic components, microelectronics, measuring and automation equipment and systems, telecommunication systems, and on new, sophisticated devices in the field of electronics and electromechanics.

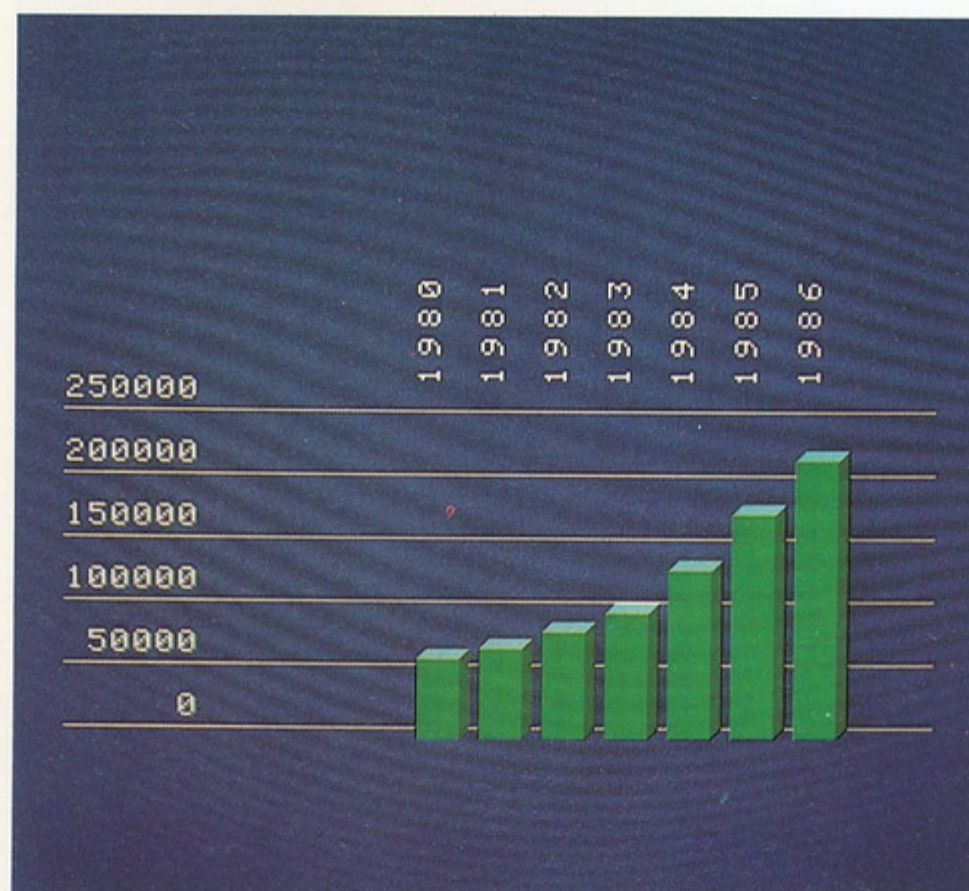
Major new developments in 1986 were in the following product areas:

New IS 9000-compatible resistor and potentiometer families, in SMD form, new electrolytic, ceramic and metallised capacitors, inductive components – transformers, transducers and filters, monolithic and hybrid circuits, thermistors and resistors, alkaline and lithium batteries, new families of miniature switching relays, multimode optical fibre, LCDs, new kW/hr meters, new electronic measuring instruments, new types of overhead projectors, new TV receivers, new automotive alternators, motor drives with electronic commutated servo motors, new hybrid stepping motors and controllers, an extended range of microcomputers and minicomputers, new, improved software for the commercial sector, a teleinformation system for traffic control, electro-optical transmission equipment, floppy disk drives, a second generation of SI 2000 digital telephone exchanges, the POREG family of power engineering automation equipment, new industry automation equipment, and programmable controllers, heavy-duty gas and plasma welding

equipment, assembly and welding robotics, systems driven by stepping motors, surface mounting components, equipment for the automated production of electronic and electromechanical components.

Product quality and reliability is a priority in research and development. Along with the research and development units and quality control departments within individual product divisions, a specialised research organisation – the Iskra Institute for Quality Tests and Metrology – performs comprehensive performance tests to ensure products conform to declared standards. It researches measuring and test methods and procedures.

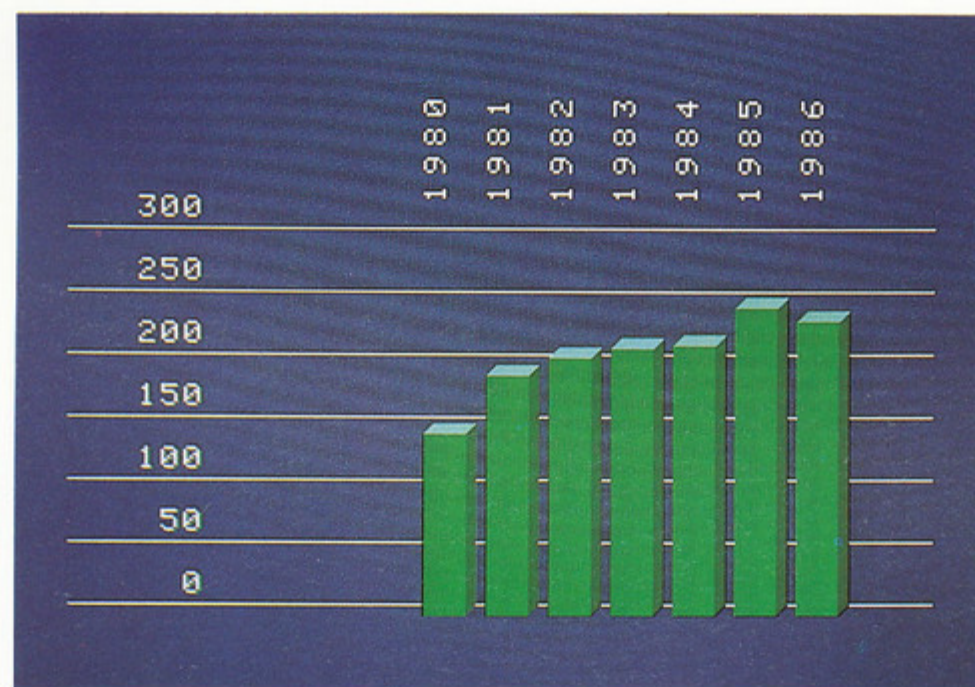
As a metrological centre, the Institute establishes the uniformity of its standards with national and international standards. In accordance with the authorisations granted by the relevant Yugoslav authorities, the Institute verifies, tests and issues certificates and other documents based on this monitoring function. Iskra is also linked with international quality control systems, its IS 9000 being fully compatible with the IECQ system.



Investments in R&D in Yu Din Million (based on current prices)

MARKETING

Iskra's overseas dealings in 1986 were adversely affected by several factors. These included rapid technological change, unstable economic conditions at home and abroad, the heavy debts of developing countries, and the closing of markets in certain countries. However, we managed to increase our exports to the OECD countries by 5%, an achievement of considerable importance as these are the countries from which we import most of our raw materials and equipment. Exports to the developing countries have not increased according to our plans, mainly because of their payment difficulties. Iskra was nevertheless successful in selling to these countries equipment for power engineering, telecommunications, traffic control, and

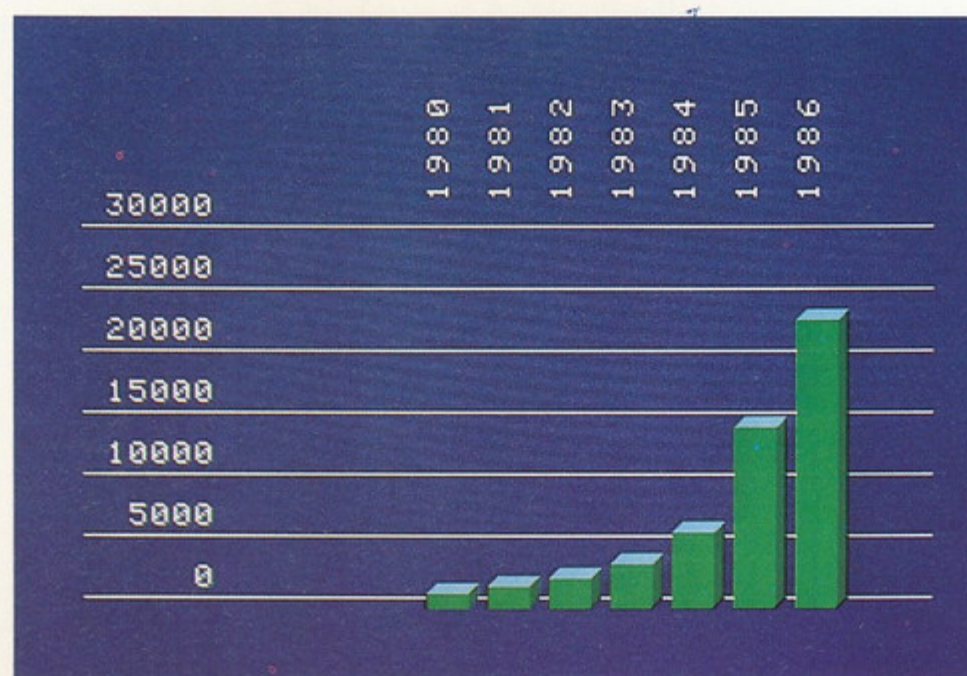


Exports in US\$ Million

measurement, and also in establishing the technology for the production of individual Iskra product ranges. Despite the prevailing difficulties, scope for expansion in this area is considerable and prospects are good. Although there has not been an increase in exports to COMECON countries, the product profile is changing, with a greater emphasis on higher quality equipment and production co-operation.

A further increase in exports based on international co-operation took place in 1986. An important improvement in this area has been achieved with those products which meet international standards, and for which Iskra is also capable of offering technology transfer. These products include electricity meters, electronic and electromechanical components, telecommunications equipment and systems, electro-optical equipment, automated traffic control systems and machine tool control systems.

The basic role in our foreign exchange was again played by our foreign marketing network. Over 90% of our exports go to countries where we have established subsidiaries or representative offices. In OECD countries, this network is boosting the large-scale distribution of our products, and the purchase of raw materials and equipment to meet these manufacturing requirements. Imports of raw materials amounted to 129 million dollars, which is about the level of the previous year. Imports of equipment amounted to 23 million dollars, and this will speed up the modernisation of Iskra's products and production techniques.



Production Growth in Yu Din Million (based on permanent prices)

CONSOLIDATED BALANCE SHEET OF SOZD ISKRA AS AT 31st DECEMBER 1986

ASSETS	1985 Din million	1986 Din million
Current assets	197.159	365.672
Cash	16.213	22.487
Accounts Receivable	112.785	201.748
Inventory	68.161	141.437
Net fixed assets	54.238	125.712
Long term receivables, investments and other	24.034	46.660
Managed funds	19.482	37.458
Total assets	294.913	575.502

LIABILITIES AND FUNDS	1985 Din million	1986 Din million
Current liabilities	156.852	290.787
Notes payable	5.561	6.971
Accounts payable	86.501	151.310
Other current liabilities	64.790	132.506
Gross long term loans	46.482	86.081
Pooled funds	6.011	11.242
Managed funds	14.424	28.480
Equity	71.144	158.912
Business fund	66.074	149.934
Reserve fund	5.070	8.978
Total liabilities and funds	294.913	575.502

CONSOLIDATED INCOME STATEMENT OF SOZD ISKRA FOR THE YEAR ENDED
31st DECEMBER 1986

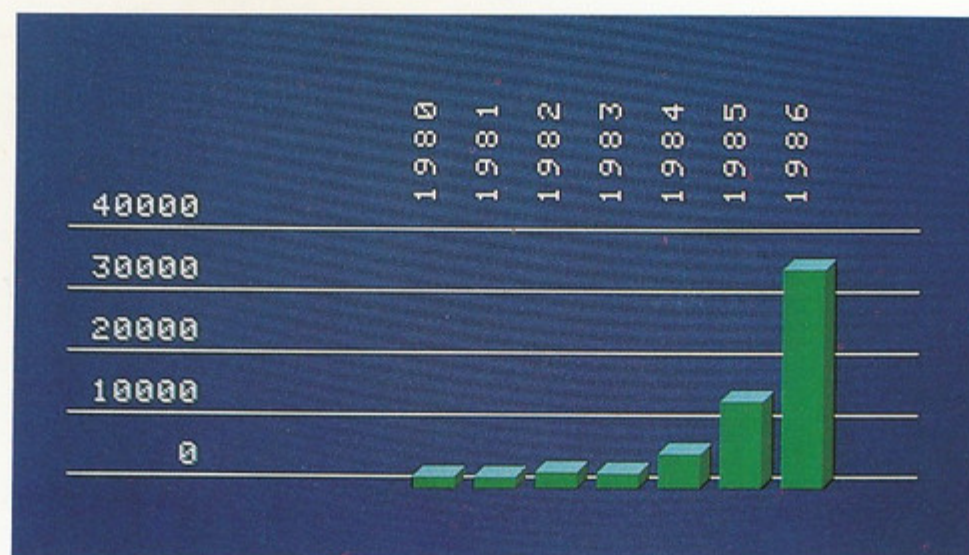
	1985 Din million	1986 Din million
Total income	206.755	375.688
Net income	12.708	26.155

INVESTMENTS

Of the total 33.5 thousand million dinars invested in 1986, 31.9 thousand million went into production. In comparison with the 1979–1983 period, when investment was poor due to various restrictions, this figure shows an encouraging trend of growth, which will make a major contribution to our continuing programme of improving production methods by the introduction of new technology.

Not all of our investment targets have been reached, the reason being the general unfavourable situation, which is reflected in formal restrictions regarding the import of equipment, and problems associated with foreign currency allocation.

However, several important investments have been implemented, among them the new plant for SI 2000 digital PABXs. Several further strategic investments are planned, such as special investments in public digital telecommunication systems, in the production of computer systems, state-of-the-art automotive electrical assemblies, power supply equipment, measuring instruments, and in new-generation solid-state components – especially high-density integrated circuits.

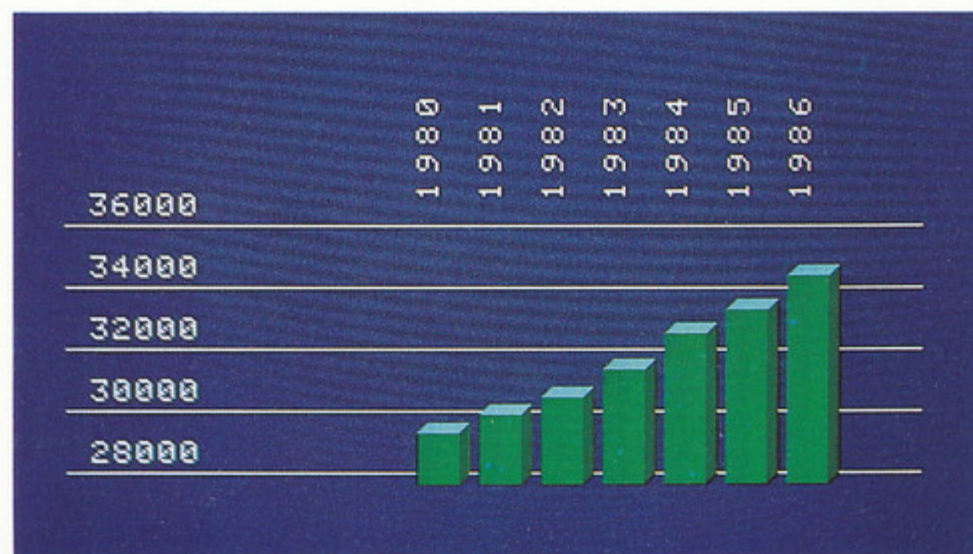


Investments in Yu Din Million (based on current prices)

PERSONNEL

Iskra has 35,000 employees, which is one fifth of the total employed by the Yugoslav electrical/electronic industry. Our production strategy demands knowledge and top expertise. Today, Iskra employs over 2000 university graduates, mainly in the electrotechnical, engineering, physics and mathematics branches, as well as in economics and social science. The main source of personnel is scholarship holders, since Iskra grants scholarships to over 1000 students per year. Young experts are made members of scholarship holders' clubs and an innovators' club, where they early acquire a knowledge of work and life in Iskra. Their bachelor's and master's degree dissertations dealing with problems in Iskra's production range, get special awards from Iskra.

Iskra pays special attention to the development and improvement of the expertise of the entire collective. 600 employees are directed into professional training every year, while over 5000 attend additional training courses to improve their professional knowledge. Professional training and education for the performance of the most demanding tasks in foreign trade, research and development, quality and reliability fields is organised within the scope of the Iskra Training Centre, which works in close collaboration with the university. Together with the Faculty of Electrical Engineering in Ljubljana Iskra organises post-graduate studies in electronics. Along with these facilities, the education departments within individual sections organise specific training for their staff, so that over 15 per cent of the personnel yearly take part in courses.



Number of Employees

ISKRA IN YUGOSLAVIA

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Iskra

