ANNUAL REPORT AND ACCOUNTS 1984





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Codex Mendoza Mexico, date unknown The graphics theme of this year's Annual Report and Accounts is based upon calligraphy. A selection of images, dating from very early Mexican and Egyptian inscriptions to present day electronic graphics illustrates the considerable range of style and richness of imagery relating to the 'written word. 1

Painted wooden sarcophagus, Sopi, Egypt, ca.2000BC



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REVIEW OF THE YEAR

highly successful public flotation, continued substantial growth, and a focusing of effort in new enterprises and products marked Logica's 1984 financial year.

- FINANCIAL -

Our overall Corporate targets for the year were exceeded in all respects. Turnover for the year was £69.763 million as against £42.185 million in the previous year, a growth of 65%. Profit before taxation was £5.220 million compared with £3.346 million last year, a growth of 56%. After tax earnings were £2.856 million compared with £2.335 million, an increase of 22%. The tax charge was exceptional at 45% as against 30% last year. This higher level was due to the changes on capital allowances introduced at the last budget. Next year, and in general, we would expect the tax charge to be in the range of 35% to 40%. Total net assets rose from £13.095 million to £23.552 million, this growth reflecting both the strong profit growth and the new capital raised at the time of flotation.

The board is recommending a final dividend of 0.65p per share, which added to the interim dividend of 0.35p net paid in May 1984, makes a total for the year of 1.00p net per share. This is in line with the level indicated in the prospectus published in October 1983.

Our consultancy and systems subsidiaries in the UK and the Netherlands had outstandingly successful years of growth in all respects. Logica VTS achieved major growth in sales and output, but margins were squeezed due to the effects of the worldwide shortages in microelectronics circuits. The disappointment of the year was the USA. However, because of Logica's wide spread of operations, overall profitability objectives were exceeded.

The markets in which we operate continue to expand rapidly. Our policy remains as before; to work at the forefront of technology; to be highly international, and to be spread between consultancy, custom systems and products. We confidently believe that this spread gives the best long term prospects for Logica.

- NEW VENTURES -

Four new ventures during the year enabled Logica to address new markets and to strengthen our position in existing markets. In Hong Kong, we formed a 50:50 joint venture with Jardine Matheson and Company to set up Jardine Logica Systems Limited, which now provides computer consultancy and custom-built software and hardware systems in South-East Asia.

In Germany, Logica GmbH was established in Darmstadt in September 1983 and is now particularly active in the areas of teletext and television systems and in prospects for the oil and gas transport industry.

In December 1983 we completed the purchase of Intelligent Technologies International Corporation (ITIC) of Palo Alto, California. ITIC develops and markets communications products which enable personal computers to be linked to each other, to mainframe computers and to PABX telephone exchanges. This technology is being applied to add powerful new features to the products and systems of Logica VTS.

In May 1984 as a direct result of strong business growth in the aerospace, defence and emergency services sectors we formed a new subsidiary, Logica Space and Defence Systems Limited. This consolidates our resources in market sectors in which Logica has traditionally been very strong and focuses a new major expansion into UK and international markets.

– PROJECT TRENDS –

There was a trend towards larger projects. As an example, Logica is providing overall technical direction, design supervision and management of software development for British Telecom's major new Customer Service Systems project - one of the largest single integrated software projects of its type yet mounted in the UK. Revenues under this contract are expected to exceed £10 million over 3 years.

An excellent example of a large project in which the considerable breadth and depth of Logica's competence and experience was brought to bear was the securing of the £4.5 million contract for the computerisation of the new unified Hong Kong Stock Exchange. This contract was bid against fierce international competition. It includes total turnkey supply and management of the project including design and provision of software and custom built hardware, management of sub-contractors including mainframe suppliers, and training and support for the final installation of the system.

REVIEW OF THE YEAR •

In the aerospace and defence sectors our policy of collaborating in consortia and joint ventures with industrial partners for national and international projects is enabling us to take an influential role in the early design phases of major projects. An example is the joint venture company Airspace Management Systems (AMS), which has been successful in winning the initial studies for the NATO Air Command and Control System which have been awarded to industry. The NATO ACCS programme is planned for an expenditure of several hundreds of millions of pounds over the next 20 years.

Logica played a central role in the Clearing House Automated Payment System (CHAPS) for the UK clearing banks which went live during the year. This is now electronically clearing about 5,000 payments, to a total value of almost £3,000 million, every day, with absolute non-stop reliability.

- SYSTEM KERNELS

Logica's products include a number of 'system kernels'-common packages of software components which form the heart of a variety of specific applications. An increasingly evident trend during the year has been the extent to which Logica is now gaining international benefit from system kernels. A kernel developed in one country will find growing acceptance in other countries and contribute to the company's worldwide business development.

CONTEXT is an outstanding example. Logica assisted the British Broadcasting Corporation in developing a computer-based system for its pioneering CEEFAX service. Our own range of advanced teletext systems called CONTEXT is now in use by broadcasting authorities in 10 countries. We estimate that over eighty per cent of the television sets in the world that receive teletext get service provided by CONTEXT systems.

Another example is MASTER CONTROL,[®] which forms the basis of supervisory control and data acquisition systems for the energy and utilities sectors. Developed by both the Dutch and UK companies it is being exported to various other countries including a first sale to North America for the control of one of Canada's largest gas pipeline systems.

- RESEARCH AND DEVELOPMENT -

Total expenditure on Research and Development during the year amounted to about £4.5 million of which £1.3 million was recovered from third parties. The largest single item was the development of Kennet and Polynet, the completely new range of multifunction work stations and network products announced after year end. These advanced systems allow a growth path from the well established VTS 2200.

In the summer of 1984 we set up a specialist Technical Centre in Cambridge, England, as a focus for advanced development, both to underpin Logica's own work and as a resource to enhance our contract R&D service to clients. Initially the new centre will concentrate on the key technologies of Intelligent Knowledge Based Systems (IKBS) and the custom design of VLSI, both of which will dramatically influence the evolution of the information technology industry in the years ahead.

Logica, having contributed to the definition of the two key government R&D programmes-the Alvey Programme in the UK and the EEC's ESPRIT Programme, is now involved in many facets of the implementation of the programmes which are now fully underway.

- STAFF

Staff grew from 1475 to 1910, a 29% growth in the year. To recruit and, where necessary, train this number of new staff is a very major exercise. In the UK alone 165 graduates were recruited direct from Universities and Polytechnics, making Logica one of the largest single recruiters of new graduates in the country.

We believe that staff shareholding is extremely important. Over 900 staff are currently shareholders in Logica. To further this the board is recommending the adoption of a range of staff share option schemes.

Competition for the best people remains as always strong in all the countries in which we operate. But we are able to attract and hold the very best of staff-in large measure because of the challenge of the work undertaken. Logica owes its continuing success to the skill and dedication of its staff.

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Depictions of songs searching for dead person's soul, Panama

Torah wrapper. American



LOGICA PLC TURNOVER ANALYSIS 1983-84



5 YEAR RECORD



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OFFICE AUTOMATION

n 1984 turnover in office automation increased by 80%. A significant aspect of the year's operations was a substantial investment in research and development leading to new products.

The VTS 2200 word processing system, for which Logica received the Queen's Award for Technological Achievement in 1983, continues to be our best-selling product. Independent sources estimate that sales of the 2200, both directly by Logica and through other outlets, accounted for about 25% of the UK market for single-user word processing systems last year. This is a notable achievement for a British company; before the introduction of the 2200 this market was heavily dominated by imports. The 2200 was exported to seven countries outside the UK, with the achievement of our French distributor, Jistral SA, being particularly impressive. Towards the end of the year Jistral placed an order worth over £1 million for further systems.

Sales to original equipment manufacturers (OEMs) continued to be a major outlet for the company's products. **International Computers PLC (ICL)** has been very successful in installing the 2200 as part of its DRS product line. Shipments to ICL continued at a substantial level throughout the year. A major OEM agreement worth over £10 million was signed during the year with **British Telecom Merlin**, and shipments of multifunction workstations under this agreement began in the last two months of the year.

During the year, a pilot office system was commissioned at **Wales Gas** in Cardiff as part of the Department of Trade and Industry's Pilot Office of the Future Scheme. Although not yet developed to volume product standards, this system has proved extremely reliable in operation. This project is providing us with valuable experience in installing and managing large multifunction, multi-user office systems.

In June 1984, Logica was one of several British companies selected to provide systems and support for the **London Economic Summit** meeting. VTS 2200 word processing systems were used by the Summit press office and by several of the national delegations for the preparation, editing and production of press releases, communiques and other documents.

During the year, Logica acquired **Intelligent Technologies International Corporation (ITIC)** of Palo Alto, California, a small software and hardware design company. Its skills and products are in the area of communications between microcomputers and mainframes and minicomputers. The first ITIC product launched during the year is a hardware/software package which provides Systems Network Architecture (SNA) communications between the IBM Personal Computer (PC) and mainframe computers. The skills and experience of Intelligent Technologies complement those of Logica, and advanced communications facilities for connection to IBM mainframes will be provided in future Logica workstations.

Logica has significantly increased its investment in the development of future business over the year, including a substantial rise in research and development expenditure for new product development.

Logica's future product development plans are focused on providing advanced and sophisticated workstation products for use in business and government organisations, providing high-level, multifunction services for handling text, data and communications. These products will be aimed at the more advanced end of the market, where high quality design and performance are required. We do not intend to enter the home computer market, nor the excessively competitive, cheap microcomputer market.

After the year end, we launched two significant new product lines:

□ **The Polynet Office System**[∞], a family of networked office systems for both single user and multiple user systems. These systems provide personal computing applications, high quality text processing, and communications with external services and with minicomputers and mainframes.

□ **The Kennet** Business Computer Range, providing single-user, clustered and networked microcomputer systems with a range of industry standard operating systems including CP/M-86, Concurrent CP/M⁺⁺, MS-DOS⁺, BOS^{+**} and MS-BOS^{+**}.

From early exposure to OEMs and the feedback from early test sites, we are confident that these two product lines will be well received in the market.

SOFTWARE PRODUCTS/SYSTEM KERNELS



ogica designs and sells a range of software products and 'system kernels' that are used as components in the supply of custom-built computer systems.

- XENIX

XENIX† is an enhanced version of the ubiquitous UNIX** operating system. Logica has now consolidated its position as one of the leading suppliers of UNIXrelated services to European computer manufacturers. Working with Microsoft, Logica has brought the latest release, XENIX 3.0, to the European marketplace. This version has many new features, including support for the latest microprocessor developments and compatability with MS-DOS, the leading single-user operating system for computers based on floppy discs. XENIX 3.0 is being provided for the DEC PDP-11 range of minicomputers as well as for the Intel 8086/286, Motorola 68000 and National 32000 families of microprocessors. European computer manufacturers taking XENIX from Logica include Acorn, IMP, Plessey Microsystems, Regnecentralen, Sagem and Triumph Adler.

In order to provide additional software facilities for use with XENIX, Logica has established distributor arrangements with a number of suppliers and continued to develop and enhance its own UNIX-based Workshop product line, which provides a host/target environment for software development.

Over 300 clients have now received UNIX and related software products for use on existing systems or on systems supplied by Logica or its XENIX dealers. Among the DEC dealers offering XENIX supplied by Logica are Arrow, Compass, Dicoll and Thame Systems. Logica has also furnished copies of UNIX direct to its major accounts, including the **Chemical Bank**, the **Natural Environment Research Council, SHAPE Technical Centre** and **West Midlands County Council**.

- RAPPORT -

RAPPORT® is a relational database management system with sophisticated tools for accessing data and developing user applications. Three major enhancements to the product have been introduced during the year:

□ RAPPORT-4 provides new language interfaces which

make the product more attractive to the commercial and technical markets.

□ RAPIER[®], the RAPPORT Input Edit and Retrieval System, is a screen-based data entry package which provides excellent data validation facilities.

□ Supercomp-20* is a powerful spreadsheet package which interfaces to RAPPORT and runs on a comparable range of machines.

There are now over 250 RAPPORT installations worldwide, running on minicomputers and mainframes including Prime, VAX, IBM, ICL, Honeywell, Hewlett Packard and Data General systems. During the year a new company, Logica Database Products Inc., was established in the United States specifically to market and support RAPPORT. RAPPORT's wide variety of applications include:

□ Control Data/Whessoe Technical and Computing Services: both companies will market an integrated plant system to major oil and chemical companies. Based on RAPPORT, the system runs on DEC, CDC and Data General machines.

□ **Vital Software** in the USA: a medical billing system for the entry of patient registration, to record treatment and payments. Bills for patients, hospitals and medical insurance companies are produced together with management reports.

Citibank has built a network billing and traffic flow analysis system for its world-wide private packetswitching network. RAPPORT is used to establish and modify the network configuration.

□ **The UK Admiralty Research Establishment** has used RAPPORT as an integral component of an intelligent knowledge based system to provide advice on naval plans.

SYSTEM KERNELS

Logica's system kernels include FASTRX[®], FASTRAN[®], FASTWIRE[®], DIDS[®], CONTEXT, MASTER CONTROL, LOGOS[®] and LUCID[®].

FASTRAN is Logica's proprietary banking package. During the year we completed the installation of FASTRAN at **Comerica Bank**. Detroit, with links to the domestic US Fedwire and Bankwire networks and to the S.W.I.F.T. international network. **DIDS** is Logica's Dealer Information Display System. We are supplying a DIDS-based rates display system for **Barclays Bank International** in London. As well as providing the bank's own internal rates information, this will give up to 100 dealers an integrated system including access to Reuters and Telerate services.

FASTWIRE systems were implemented for **Citibank** and for **Kleinwort**, **Benson** in London. FASTWIRE is an automated wire-room service with interfaces to telex networks and to S.W.I.FT.

MASTER CONTROL comprises a range of industrial control and data acquisition systems. Such systems formed the basis of major new projects for **Anglian Water** (Norwich Divisional Telemetry System); the **Indian Oil Industry** (packages for offshore platforms and onshore terminals, as subcontractor to Ferranti); and **NOVA**, an Alberta corporation (a supervisory control and data acquisition system for gas pipelines). **LOGOS** is an example of our capability in the design and implementation of high performance digital hardware, a Logica activity which has expanded significantly during the year. Originally developed in collaboration with the Joint Speech Research Unit in the UK, LOGOS is a speech recognition system that can handle an active vocabulary of 200 words in continuous speech.

LUCID is an image processing package now in use at most of the major **UK MOD research establishments**. Applications range from data compression studies for video conferencing to the design of algorithms for weapon target acquisition.

CONTEXT is Logica's teletext editing and transmission system which is sold mainly to national broadcasters as the basis for their teletext service. During the year systems have been supplied to a number of countries including the West German television services, the Swiss television service and YLE, the Finnish television service.

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Opening bars of Mozart's Quartet in C major 'The Dissonance' 1785



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The following pages describe some highlights of the year in Logica's four broad categories of operations - office automation; software products and system kernels; consultancy and custom-built systems. The last two categories are grouped according to market sector.

Fragment from score for 'Electronic Etude No.2', Karlheinz Stockhausen, 1954

Musical score from Codex Squarcialupi, Florence, 15th cent.

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Example from Albrecht Dürer's treatise 'Of the Just Shaping of Letters, 1535

right Drawing by Eric Gill for Sans alphabet, Dec. 1932





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Geometric construction of capital 'Q', France. early 17th cent.

right Typographical joke based on Durer letter, Saul Steinberg, 1954



FINANCE

or the **London Stock Exchange**, Logica is providing project management assistance in implementing the Exchange's Integrated Data Network (IDN), which will support a number of services including gilts and the TOPIC share price information service.

A joint study was undertaken for the **Joint Credit Card Company (Access)** in the UK to produce a strategic design for the redevelopment of the existing computer system and the incorporation of new features. Access accepted the report and has begun implementation.

In February 1984 the **Clearing House Automated Payment System (CHAPS)** project was completed on time and went live successfully. Logica led the project from the initial design study through to the development of the common gateway software. We also provided software which enabled the **Bank of England**, **Barclays Bank** and **National Westminster Bank** to interface their own systems to CHAPS.

As part of Logica's involvement in CHAPS, the Settlement Banks (the London and Scottish Clearing Banks) and the Associations representing nonsettlement banks commissioned a study to assess the demand for a standard method of communication between non-settlement and settlement banks, based on British Telecom's Packet Switched Service (PSS).

For the **Society for Worldwide Interbank Financial Telecommunication (S.W.I.FT.)**, based in Brussels, Logica completed various consultancy projects related to the development of the second-generation S.W.I.FT. system.

We acted as consultants to **TSB Trustcard** in the UK during the setting up of its new computer operation, providing support in package evaluation, facilities management and system development.

For the **Bank of England** we completed a feasibility study to analyse requirements for a computer-based system to control maintenance of the bank's various UK properties.

Logica provided consultancy to **Morgan Guaranty** Limited on a strategy for information distribution in the company's new dealing room. We surveyed dealers' requirements, recommended an appropriate technical solution which would facilitate future expansion, and provided consultancy for the installation of new systems in the dealing room.

Logica undertook a study for **Legal and General** in the UK of the requirements for applying advanced computer technology to develop the services provided by the **Investment Management Company**. This company is managing a rapidly increasing number of funds as the planned diversification into financial services markets proceeds.

In the Netherlands, a data communications network is being developed for automated settlement of same-day payments between banks. For the **Rabobank** Organisation, Logica investigated the prospects of implementing the necessary gateway software on Tandem computers. Subsequently we were awarded the software implementation contract.

We carried out a study for **Save & Prosper** to recommend a strategy for the introduction of a Visa card facility for its bank account holders. This included a report on the modifications to existing banking systems and a review of the impact of developments in Electronic Funds Transfer at the Point of Sale (EFT/POS).

North Carolina National Bank commissioned a study from Logica to identify and evaluate options for meeting data communications requirements for its London, Charlotte (North Carolina) and Hong Kong offices.

Logica was retained by **Citibank N.A.** for consultancy on an integrated architecture for worldwide electronic banking. In the first phase of the study Logica acted as integrator of strategic plans of the four banking groups involved.

We assisted **Midland Bank** in the first stage of the bank's new systems development, enabling the Group Treasury to handle the bank's dealing operations.

For **Credit Lyonnais Bank Nederland NV** Logica was asked to carry out an infrastructure study, looking into the bank's future business plan and generating cost-effective automation strategies.

Logica was engaged by Nederlandsche

Middenstandsbank to advise on the setting up of a new department to implement a new suite of on-line banking systems. This will involve the bank in the introduction of Tandem computer equipment and Logica was specifically retained to provide the necessary technical expertise.

We continue to assist **National Westminster Bank** with modifications to the bank's payment processing system, to streamline the interface to the sources and destinations of CHAPS payments. These include domestic and international networks, S.W.I.ET. and banks using NatWest services.

Jardine Logica Systems was awarded a turnkey contract to supply the **Unified Stock Exchange of Hong Kong** with a computerised trading system. This will give over 1,000 traders a fast, efficient service for handling stock enquiries and entering details of deals. The terminals are being designed and manufactured by Logica, making extensive use of advanced teletext technology.

For Blue Cross and Blue Shield Association

in Chicago, Logica provided specifications and design services for an enhanced version of PLAN-NET, the Association's nationwide batch communications network.

We have designed and implemented specialised systems to support point-of-sale transaction

telephones in Europe for **American Express**, and have since been retained to implement further systems.

Logica was commissioned to co-ordinate the system development and operational start-up of a point-ofsale trial at petrol stations in the Netherlands which involved co-operation between all financial institutions and the major oil companies.

For a **large US company** which provides information services to the financial sector, Logica designed and implemented a delivery instruction network, providing information required by stockbrokers to complete trading transactions within the five days specified by the Securities and Exchange Commission.

Logica is developing an IBM Personal Computer wholesale banking customer terminal for a **major international bank** in New York. Terminal software will enable the bank's wholesale customers worldwide to use their PCs to communicate directly with the bank's online systems in New York for a variety of financial transactions.

Bank of America/Barclays Bank/Blue Cross and Blue Shield Association/Bank of Boston International/Bankomatcentralen/Chase Manhattan Bank N.A./Citibank N.A./Credit Lyonnais Bank Nederland NV/Comerica Bank/Committee of London Clearing Bankers/Pank of England/ Fidelity Systems/First Chicago/Harris Bank/Istituto Bancario San Paolo di Torino/Joint Credit Card Company (Access)/Legal and General/ Lloyd's of London/London Stock Exchange/Manufacturers National Bank/Midland Bank/Morgan Guaranty Limited/National Westminster Bank/Nederlandsche Middenstandsbank/North Carolina National Bank/Rabobank Organisatie/Save and Prosper/Shawmut Bank of Boston/ Society for Worldwide Interbank Financial Telecommunication (S.W.LFT.)/Swiss Bank Corporation/Stock Exchange of Hong Kong Ltd/TSB Trustcard.

Alphabets for the Blind

String alphabet

right St. John's Gospel, John Alston, Glasgow 1837



THE GOSPEL ACCORDING TO SAINT JOHN 5 E & Z. . . IN THE SECTIONING WAS THE WORD, & THE WOR WAS WITH GOD, AND THE WORD WAS GOD. 5 THE SAME WAS IN THE DECLMANC WITH COD. 5 THE THINGS WERE LADE BY HIME & WITHOUT HIM WAS NOT ANY THING WADE THAT WAS WADE 4 IN HIM WAS LIFE, & THE LIFE WAS THE LIGHT Nen Erra OF MEDITHE LIGHT CHUNETH IN DARKNESS & A THE S'AND'THE LIGHT CHUNETH IN DARKNESS & A THE SARAGAESS COMPRENDED IT NOT S'E THERE WAS A MAN SENT FROM COD, WHOSE NAME WAS DOWN 7 THE SAME CAMP FOR A WITNESS, TO DEAR WITNESS OF THE SAME CAMP FOR A WITNESS, TO DEAR WITNESS OF THE LIGHT, THAT ALL MEN THROUGH HIM MICHT S DE WAS NOT THAT LIGHT, SUT WAS SENT TO DEAT WITNESS OF THAT LIGHT, S THAT WAS THE TRUE LIGHT, WHICH LIGHTETH Y MAN THAT COMETA INTO THE WORL

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Braille invented by Dr William Moon, Brighton 1847

Origine de l'Instruction des Jeunes Aveugles, Hauy's type, Paris 1819



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POST, TELECOMMUNICATIONS AND BROADCASTING



or **Telecom Australia**, Logica conducted a survey of the market for cellular mobile telephone services in Australia.

For the major French manufacturer of PABXs, **Telic-Alcatel**, Logica assisted the company to develop a new range of PABXs based on two-layer switching. For the same client we developed a functional specification for a new voice messaging subsystem, for attachment to PABXs, and were commissioned to begin implementation.

Logica is managing a project team from the **Swedish Post Office** to specify, evaluate and procure the Post Office's next-generation data communication network. More than 10,000 online terminals will be connected to the network.

For the **Overseas Telecommunications Commission** in Australia, Logica studied the requirements for implementing a database integrating all traffic information on several overseas telecommunications services.

Logica was commissioned by **AT&T Communications** to conduct a market and product evaluation prior to the launch of an innovative new network service in the United States.

In Sweden, Logica won a contract to develop the software for a camping site reservations system that utilises Swedish Post Office branch facilities. This is a joint project between the **Swedish Post Office** and the **Swedish Camping Association**. Multiple personal computers at the major camping sites will communicate with a central Tandem computer connected to the Post Office data communications network.

Logica supplied specialised software services to the **Dutch Post Office** for the provision of test facilities to test the packet assembler disassembler for the Dutch X-25 based public packet-switched network.

Philips Telecommunicatie Industrie continued to retain Logica to assist in developing applications software that will enable users of the Nordic Data Network to use the facilities of the new teletext service. The system, being developed on behalf of the Swedish Telecommunications Authority, also features an electronic mailbox.

Several departments within **Australia Post** commissioned Logica to develop a series of accounting and statistical systems. Logica is assisting the Local Communications Services Division of **British Telecom Inland** to develop new integrated computer systems which will handle all aspects of customer service. The multi-year project is to a very tight schedule and will undertake development of information support systems to be installed in new District Offices. The system covers over 30 application areas such as customer order handling, billing, repair service, stores, accounting, line plant, work management, etc.

Plessey Telecoms, on a contract for British Telecom, has recently installed in the Edinburgh area the first of a number of pilot installations of a computerised call logging system. The system is designed to give the facilities for producing itemised telephone bills for nondigital telephone exchanges. Logica has had a significant involvement in the development of the software for the system, which is based on distributed Intel 8086 microprocessors.

Logica is assisting the Trunk Services Division of **BT** National Networks to automate the division's line and switch planning functions. We are specifying computerised tools to assist planners in producing specifications for plant for the new BT trunk digital network.

Logica was retained by the **UK Post Office** to assist in the planning for a modernised counter network involving the extensive use of new technology. The plans include the introduction of automatic teller machines for services such as dispensing cash; automated verification by counter clerks for customers withdrawing cash; counter terminals linked to computers to improve administrative efficiency.

After running a teletext trial for one year using a Logica system for a German language service, **Swiss Television** decided to implement a full service using Logica CONTEXT systems. There will be transmission systems in three centres for the three Swiss languages (French, German, Italian) and an editing system in a fourth centre.

We installed broadcast systems in three German Television stations during the year: a real-time subtitling system in **Sender Freies Berlin** and CONTEXT teletext systems in **Süddeutscher Rundfunk** and **Südwestfunk**. Logica is designing and implementing a billing and management information system for **Racal Vodafone's** Cellular Radio Service, which is due to start in early 1985. Using a proprietary database running on a Prime 750 computer, the system is essential for the successful launch of the service.

For **Reuters**, Logica has been awarded contracts to manufacture electronic hardware designed by Reuters for use in the Reuters Monitor information system. The scope of these contracts involves the manufacture to the appropriate British Standards of a wide range of units which are subsequently supplied by Reuters to its subscribers worldwide. Logica was commissioned by a **leading data** communications supplier in Belgium to design and implement software modifications for the central system of a large Network Management and Alarm Monitoring System. Work has been executed in the areas of linking the network to a large host system, testing the system and developing network diagnostics and operator facilities. Subsequently, Logica has been asked to design and implement new system features for other clients. End-users are major financial institutions.

Logica studied electronic publishing business opportunities for a **major Australian publishing** group.

AT&T Communications/Australia Post/Australia Telephone & Phonogram Officers' Association/British Post Office/British Telecom/British Telecom Inland/BT National Networks/Dutch Post Office/Intelsat/Netherlands PTT/Neve Electronics/Overseas Telecommunications Commission (Australia)/Philips Telecommunicatie Industrie/Plessey Telecoms/Racal Vodafone/Reuters/Sender Freies Berlin/STC Telecommunications Ltd/Suddeutscher Rundfunk/Sudwestfunk/Swedish Post Office/Swiss Television/TelicAlcatel/Telindus/Telecom Australia.

Messages in the street Modern graffiti





Street signs at night, Osaka, Japan, 1975

Assorted signs on Italian wall ? 100AD-1960AD



SPACE AND DEFENCE

ogica is a major supplier of consultancy and software support to the **European Space Agency's Research and Technology Centre** (ESTEC) and **Operations Centre** (ESOC).

One team is providing software for ground control and telemetry processing of data from GIOTTO, the spacecraft that will be launched to intercept and study Halley's Comet in 1986. Other programmes include the European Communications Satellite (ECS) and EXOSAT.

Under contract to **Matra**, Logica is developing on-board control software for **ESAs** HIPPARCOS star mapping satellite.

For the **UK Government**, we are conducting a study on the data management aspects of the NASA-led space station project.

For Intelsat's headquarters in Washington DC, Logica is implementing a Co-ordination and Interference Management System (CIMS) for planning communications satellite systems. A database of operational and planned satellites is used to assess radio frequency interference between satellites.

For the **UK Royal Aircraft Establishment**, Logica has installed ground processing facilities for the SARSAT/ COSPAS Search and Rescue Satellite System.

We continued to assist **Westland Helicopters** in the development of the Anti-Submarine Warfare variant of the Sea King replacement. The new helicopter, the EH 101, is being developed under a joint Anglo-Italian government programme.

Logica is a founder-member of **Airspace Management Systems (AMS)**, a joint venture company which was formed to assist **NATO** in the design, development and implementation of its Air Command and Control System (ACCS). AMS gained contracts for studies in multi-sensor integration, and database implementation with automated support tools.

Logica is providing a specialist team of communications consultants to assist in the definition of a comprehensive secure and survivable integrated digital network for the **Royal Air Force**. The work covers the specification of the developing system goal architecture, circuit switches, local network services, and commonuser data services. For **British Aerospace Dynamics Group**, Logica developed a specification of an instrumentation facility for the latest version of the Rapier air defence missile system.

We assisted **Hollandse Signaalapparaten BV** in the specification and design of an advanced artillery battery command and control system. This system will provide ballistic calculation as well as tactical decision support to artillery commanders.

Logica, in association with EASAMS, has conducted a feasibility study of Air Defence Command Information Systems (ADCIS) for the **British Army** The study will lead to the improvement of air defence command and control within the context of existing or scheduled communications facilities, and will bring greater efficiency to air space management and air defence weapons control.

Logica assisted the **UK Royal Armament Research and Development Establishment** with its studies of future battlefield operations at Divisional level. We also completed a study of the problems involved in converting software written by many authors in many languages as part of planning for the replacement of the present central computing installation.

Logica is providing consultancy to the **Royal Danish Navy** Materiel Command in systems integration for a new warship, the Standard Flex 300 class.

Logica has continued its involvement in the development of the computer-aided warship design system, GODDESS, for the **UK Ministry of Defence** (Navy). The current phase of work includes the transfer of the system to Digital VAX computers.

We are assisting the **UK Admiralty Research Establishment** in the development of a computer system to analyse the results of tests conducted on the performance of vessels and components.

For the **UK Ministry of Defence**, Logica has carried out various analyses of oceanographic data to study the temporal and spatial variability of the temperature structure of parts of the North Atlantic ocean.

Our longterm support to Marconi Underwater Systems in the development of advanced computer-controlled torpedoes continued during the year. For StingRay, a lightweight air-launched torpedo, and SpearFish, a heavy submarine-launched weapon, we provided substantial assistance in the development of tactical algorithms, on-board software simulations and trials data analysis.

Logica extended its involvement in the development of active and passive sonar data processing systems for the **UK Ministry of Defence**, using advanced signal processing techniques.

A **UK Government Department** awarded Logica a turnkey contract for the supply of two Digital VAX computer systems, incorporating Logica's RAPPORT (relational database management) system and its associated screen data entry package.

Logica's early work in the commercial application of skills in Intelligent Knowledge Based Systems (IKBS) resulted in a significant contract from the **UK Royal** Signals and Radar Establishment, for whom we are designing and implementing an intelligent computeraided instruction system.

We have continued to expand our work in the design and development of special hardware, including a number of projects for the **UK Ministry of Defence**. We are developing DIPOD, an advanced multi-processor system for use as a research machine in pattern recognition, image understanding and IKBS. The system features near real-time operation supported by a specially developed language called FITH.

For the UK Ministry of Defence Procurement

Executive, we supplied a number of local area network (LAN) systems. These are based on Logica's POLYNET product, and are used to connect a variety of computer equipment flexibly and at high speed.

British Aerospace Dynamics Group/European Space Agency/ESOC/ESTEC/Hollandse Signaalapparaten BV/Marconi Underwater Systems/ Matra/NATO/Royal Air Force/Royal Danish Navy/UK Admiralty Research Establishment/UK Government/UK Ministry of Defence Procurement Executive/UK Royal Armament Research and Development Establishment/UK Royal Signals and Radar Establishment/UK Science and Engineering Research Council/Westland Helicopters.



Working drawing in the development of the Logica logo 1969 James Sutton

Islamic calligraphy as architectural decoration

Detail from Royal Palace, Fez, Morocco





Details from Royal Palace, Fez, Morocco







Calligraphy & decoration alternating in black & white, Morocco

left Cylindrical minaret from Mosque of Mulay Idris, Morocco

Experiments in legibility

Most of the elements that make for legibility appear in the upper half of lower case letters

An experimental alphabet, designed by Brian Coe, based on this theory

Space-saving alphabet, Andrew Tuer, 1880

A single alphabet type designed by Jan Tschichold, 1920s for offect litho printing how offect litho printing

An inquiry which has just been held at Brighton once more 11iustrates the kind of leading surings in which local municipalities are kept. An inspector

fur den noren mengen eksistirt nur das glaihgeviht tsvigen natur unt gaist. Tsu jedem tsaitpurkt der fergarenhait varen ale variatsjo-

Alphabet proposal 'National Roman', with all letters of common width, by Reginald Piggott Speaking of dird life in palestine, it sight interest and supple to knos

ENERGY & UTILITIES



or **Paktank**, the world's largest independent petrochemicals storage organisation, Logica reviewed automation plans for all Dutch tank farms, and prepared an automation strategy.

Shell Pipeline Systems, a division of Shell Nederland Chemie, operates a large network of product pipelines in the southern part of the Netherlands. As a part of a modernisation plan to centralise control of all pipelines, Logica is preparing a functional specification of a replacement supervisory control system based on our Master Control 32 system kernel. We also assisted the client in reviewing proposals for the supply of telemetry equipment for the company's pipeline system.

For **BP Petroleum Development (UK)**, Logica was retained to produce a functional specification for a replacement supervisory control and data acquisition system for the Forties Field in the North Sea.

As a major extension to the national gas control system previously supplied to **NV Nederlandse Gasunie**, Logica is developing a telex communications system. Based around Logica's Master Control 32 package, the new system provides for direct communication between the operational centres of the major European gas authorities using both leased lines and the public telex network. The system allows for transmission between centres of messages containing numeric and text information of operational importance, automatically and under operator control. A connection to the Dutch Meteorological Institute (KNMI) is also provided for the receipt of weather forecast information used by another Logica system supplied for demand forecasting and predictive simulation of the gas network behaviour.

For **British Nuclear Fuels plc** Logica was awarded a consultancy contract to undertake a wide ranging audit of the organisation's extensive computing facilities.

For **Eastern Electricity** Logica assisted in the identification of new facilities to enhance the operational monitoring of the 5,000 megawatts of electrical power distributed over the UK's largest electricity network. Over the next four years Eastern Electricity intends to identify and commission replacement control room equipment. Logica was asked to study how the complex electrical network diagrams could be stored and retrieved electronically, and how to provide control engineers with advanced facilities for the optimum control of the network.

We provided consultancy to **Essochem** in studies aimed at defining the implementation of the company's telecommunications strategy.

For **Severn Trent Water Authority** Logica was commissioned to provide design services in a number of areas concerned with the Authority's development of new computer services using a corporate database.

As prime contractor, Logica supplied a supervisory control system to the **Rotterdam-Antwerp Pipeline**, for which BP International acted as engineering consultants.

Logica supplied computer hardware and specialpurpose software for a leak detection and location system for the Danish crude oil and pipeline system operated by **Dansk Olie Ror A/S (DORAS)**. In this project we were subcontractors to LICconsult.

For **Shell UK Exploration and Production**, Aberdeen, Logica provided support and maintenance for the Shell/Esso operational North Sea platform SCADA systems. In addition Logica undertook a number of studies into ways of enhancing the effectiveness of the systems.

Logica is supplying its new 'Rainfall' display system to the **Anglian Water** and **Thames Water** authorities. The system provides display and processing for weather data from the UK Meteorological Office's weather radar network.

For **Anglian Water**, Logica was awarded a £1 million contract to provide the Norwich Divisional Telemetry System. Logica has prime contractor responsibility for equipping the operations centre with the central computer system, communications equipment, and all associated building services. The software in the central control system will be based on Logica's Master Control 16 package. In addition, Logica will supply and install data gathering equipment at 200 locations: sewage works, reservoirs, water treatment works, pumping stations, river sites and tidal monitoring stations. The system will gather information eventually from over 1000 remote locations across the Division's 2000 sq miles.

Ampol Petroleum Ltd/Anglian Water/Bristol Waterworks Company/British Nuclear Fuels plc/British Petroleum Development (UK) Ltd/Dansk Olie Ror A/S (DORAS)/Eastern Electricity/Electricity Commission of NSW/Essochem/Ferranti plc/NOVA, an Alberta Corporation/Paktank/ Severn Trent Water Authority/Shell Pipeline Systems/Shell UK Ltd/Shell UK Exploration and Production/South East Queensland Electricity Board/Thames Water.

MANUFACTURING, RETAIL AND TRANSPORT



ogica completed a feasibility study for the Ford Motor Company in Europe for a teleconferencing trial, aimed at engineering problem-solving between Germany and the UK as well as for international business use.

Hilton Hotels retained Logica to study requirements and help select codecs for a public video-conferencing network between the organisation's hotels.

The Dutch Railways asked Logica to develop the functional specification of a plan to provide computercontrolled platform destination indicators.

Allstate Enterprises, a subsidiary of Sears, commissioned Logica to plan and direct the implementation of four retail banking and lending systems, to enable the Sears Deposit Taking and Consumer Lending Division to service the United States consumer market.

For Agfa Gevaert EBS in Belgium, we provided consultancy on the structure and content of documentation for Agfa's P400 high resolution printer.

Volvo Parts commissioned Logica to conduct an evaluation, design and costing study for the automation of goods-received facilities.

Logica advised Nucleus Limited, an Australian multinational medical products company, on its telecommunications requirements, and on possible networks to meet these needs.

For British Fermentation Products, Logica conducted a computing strategy study. As a result, we were asked to conduct pilot trials for a computerised depot control system, evaluate these trials, and prepare specifications for initial implementation of the strategy.

For Otosan Otomobil AS, the largest manufacturer of motor vehicles in Turkey and an associate of Ford Motor Company, we completed an information and manufacturing systems strategy study on key aspects of the company's business in the areas of materials, production and financial management.

Gist Brocades commissioned Logica to develop application software for the company's laboratory and production-scale fermentation control systems.

For Short Brothers in Northern Ireland Logica undertook a review of existing voice/data communications facilities. A long term strategy for the integration of these facilities using digital PABX and packet switching systems was developed.

Dairy Crest (the Milk Marketing Board's commercial arm) as the largest manufacturer of butter skim and milk powder in the UK, had an urgent need to monitor thousands of individual batches of product to ensure that there was no risk of delay in payment. Logica supplied a DEC PDP11/23+ microcomputer, licenced

Computer readable characters

E13B, developed for magnetic reading by the American Bankers Association, 1958

EMI Fred, developed for optical or magnetic reading



to use the XENIX operating system and, as there was no packaged programme which met Dairy Crest's needs, Logica developed software using the C language.

For **D D Lamson plc** in the UK, Logica helped to develop a supervisory and monitoring computer to control a pneumatic tube conveyor system.

For **Dunlop Limited**, General Rubber Goods Division (GRG). Logica, with Dunlop ESD, worked on a contract connected with the development of rubber mixing mill automation. Dunlop GRG has invested in a new highly automated rubber mixing facility to serve its various finishing processes. To help meet the major objectives of increased throughput, improved product consistency and tighter financial control. Logica has been involved in the development and installation of a sophisticated computer integrated manufacturing system. Information and system integration extends from order receipt through inventory management and capacity planning to shop floor automation control. The system has been implemented on a network of mini and micro computers, with interfaces to PLC's for plant automation and to minicomputers for financial control.

Logica was commissioned by **SKF** in the Netherlands to produce a microprocessor based quality conformity system for roller bearing production lines and clean rooms.

Logica completed significant milestones in the development of the replacement control system for the **Bay Area Rapid Transit** network (BART) in San Francisco. Functional specifications for the new system were completed and the hardware vendor selected. Design and implementation work on this major development continues.

Logica is designing a computer based system for the scheduling of work on the Underground for **London Regional Transport**. The system, which maintains a centralised database of works and resources, will use a dedicated DEC VAX supermini computer.

We were asked to examine information security for a **leading European commercial organisation** dealing with non-ferrous metals on international markets.

Logica was awarded a feasibility study by **GKN Technology** to investigate the application of an automatic vision inspection system to provide rapid dimensional checking of complex forgings.

Agfa Gavaert EBS/Bougainville Copper Ltd/British Fermentation Products Ltd/C.S.R. Coal Division/Dairy Crest Creameries/D D Lamson plc/ Dunlop Ltd/Dutch Railways/Ford Motor Company/Gist Brocades/GKN Technology Ltd/Hilton Hotels/International General Electric Medical Systems Ltd/Lloyds Shipping Information Services/London Transport (Railways)/Minalex Ltd/Nucleus Ltd/ Otosan Otomobil AS/Renison Goldfields Consolidation Ltd/San Francisco Bay Area Rapid Transit/Société Générale des Minerais/Union Carbide Australia Ltd/Volvo Parts/ Whitbread International Trading Ltd/Woolworth Distribution Centre.





left

CMB, sponsored by the European Computer manufacturers' Association. Each figure is constructed of 7 vertical strokes

Bar code used in optical character reading

COMPUTING AND ELECTRONICS

or **ICL European Institutions**, Logica audited and provided consultancy on the proposed design for a committee support system, using the latest international standards, which is being implemented for the Commission of the European Communities.

In the US, Logica completed a study of two of **Paradyne Corporation's** product lines with a view to producing a plan for their synergistic development. Both products have emphasis on terminal emulation, involving different host computers through a Paradyne network.

For the **Foxboro Company** in the US, Logica produced a functional specification for a data concentrator that would interface between a network of control devices and a number of display processors.

Joint Exchange Computers Pty Limited (JEC) supplies computer services to the Sydney and Melbourne Stock Exchanges, including a market information network. JEC retained Logica to define a future strategy for the company in terms of services provided and network technology.

Logica was retained by **Raytheon** to design and implement the software for an automated airline ticketing system to provide ticket printing facilities at travel agents' premises in Australia.

For **Digital Belgium**, Logica ported a proprietary database applications system on to the DEC Rainbow,

and assisted the company in implementing a comprehensive series of applications, using this system, for a point-of-sale control package.

A **major minicomputer manufacturer** needed to develop custom software to enable the company's standard office automation packages to be used within a customer's existing environment. Logica designed and implemented the necessary software.

As a first move towards the introduction of electronic funds transfer at the point-of-sale (EFT/POS) in Sweden, a field trial is to be conducted in 1984-85. Logica was awarded a contract from a **major Swedish organisation** to specify and develop the software for a centralised system which will communicate initially with about 300 point-of-sale terminals and provide credit card authorisation and switching facilities to several card issuing company computer systems.

The 1984 edition of Logica's **Telematica Service**, a multiclient study of information technology markets, was delivered to subscribers who include the leading suppliers of computing and communications equipment in Western Europe. The study provides forecasts for office products, data terminals, microcomputers and communications equipment, accompanied by a detailed discussion of trends and developments in those markets.

AutEx Systems/Computer Advisory Services Group/Data General/Digital Equipment/Dowty Electronics Ltd, RFL Systems Division/Ericsson Information Systems/Fortune Systems/Foxboro Company/International General Electric Company of New York/International Computers Ltd/ International Institutions/Joint Exchange Computers Pty Ltd/Logista/Paradyne Corporation/Raytheon International.

Computer generated typesetting

Low-resolution face

right The smallest size high resolution characters used on this page enlarged 16×







High-resolution matrix of letter 'O' produced on Flair, Logica's video graphics system



CENTRAL AND LOCAL GOVERNMENT

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or the Commission of the European

Communities, Logica was awarded a study contract to investigate aspects of Computer Integrated Manufacturing (CIM) systems as part of the European Strategic Programme of Research in Information Technology (ESPRIT) pilot programme.

Logica was engaged by the Dutch Ministry of Social Affairs and Employment to investigate a nationwide system to assist employment offices to match unemployed persons with job vacancies. We were asked to study the performance and capacity of the system with particular emphasis on the key technical and organisational issues.

We examined the manual procedures in use at the Royal Australian Mint, and related them to the introduction of data processing.

Logica was retained by the **Commission of the** European Communities to study the security requirements of the Inter-Institutional Integrated Services Information System (INSIS) programme, and to make recommendations.

Logica continued extensive study work on information systems and services for the new Parliament House (to enter service in 1988) of the Australian Parliament.

The UK Government Treasury's Central Computer and Telecommunications Agency awarded a contract to Logica to carry out the first stage of a major study into the feasibility of setting up an interdepartmental electronic mail system for Government Departments.

Logica continued its work for the UK Foreign and **Commonwealth Office**, providing technical and management support on the development of a comprehensive system offering office automation, electronic mail and information retrieval facilities to FCO's home departments.

For the Secretariat of the Council of Ministers of the European Communities, we conducted an in-depth survey of the information handling methods of the

1.700 staff of the Secretariat, and advised on options in the development of plans for the introduction of advanced office technology.

Logica assisted the Australian Wheat Board in the acquisition of major new computing facilities.

For the New South Wales Department of Main Roads. Logica provided analysis, design and implementation of a staff administation system for 3,700 employees.

For London's Metropolitan Police, Logica is providing full system support, 24 hours a day, for an advanced automated fingerprint recognition system which we designed and supplied.

Logica assisted the Commission of the European **Communities** to evaluate pilot projects in a scheme to investigate the electronic delivery of documents (known as DOCDEL).

We continued the development, for the Greater Manchester Police of a computerised criminal record and message switching system.

Logica was awarded a multi-million pound contract by a **UK Government Department** for the supply of a high performance, high reliability message handling system based on Tandem equipment. A significant design feature of this classified application is the use of FASTRX, the communications software package developed by Logica.

Logica was retained by the UK Department of Health and Social Security and a Regional Health Authority to investigate the feasibility of the computing aspects of an electronic digital Radiology Department.

The Charing Cross and Westminster Medical Schools retained Logica to investigate and specify a remote teaching system.

Logica has installed a Management Accounting System (MAS) on minicomputers for organisations including the UK Building Research Establishment and the Laboratory of the Government Chemist.

Australian Department of Defence Support/Australian Department of Immigration and Ethnic Affairs/Australian Department of Parliamentary Library/Australian Parliament/Australian National Companies and Securities Commission/Australian Wheat Board/Charing Cross Medical School/ Commission of the European Communities/Secretariat of the Council of Ministers of the European Communities/Dutch Ministry of Social Affairs and Employment/Greater Manchester Police/Health Insurance Commission/Laboratory of the Government Chemist/New Scotland Vard/ NSW Department of Attorney-General and Justice/New South Wales Department of Main Roads/Royal Australian Mint/UK Building Research Establishment/UK Department of Health and Social Security/Westminster Medical School.

35

Inscription on base of Trajan's column which

established a definitive

source for the design of

capital letters, Rome,

114 AD

Sagittarius, from an early codex





Opening of St. John's Gospel, by Eadfrith, Bishop of Lindisfarne (698-721) 42-line Bible, Johann Gutenberg, Mainz 1455

tuit. Quod cu daniel copenilet 10 ett röftinutam lege: ingreffus eft bomu fuam et feneltris apercis in cenaculo fuo contra ibrufali tribs temporibuo in die fledetat gemua fua z adorabat: röhtebaturg; corā dro huo hau et āte facere colucuerat. Diri ergo illi autiolius inquirences inuencut taniele oratem et obliceantem deu luu: 3 accont tre locuti funt regi fup toido. Rer miquid no offinifti ut oniis homo qui rogare queg de dis et hominibus ula: ab dies mininta uili te ret mittereur in lawlconu ? Ad quos ripodens me air. Verus ferno insta decretum medoru atos verlaru: od preuari= rari no licer. Tuc moodentes Dixerut coram rege. Daniel & filig capituitas tis inde non curauit de lege tua zedi do av conflicuifi: led mbus toporibs per die orat obsecatione sua. Quod webu audillet ret latis conflatus eft : et pro daniele politic cozut libera= ret eu : et ulas ad occalu folis labora bar ut erueret illu. Biri aut illi intellige tes rege dixerut et. Bato re qa les medoru elt arq; perlaru: ut onie decretu qd cofficuerit reg no liceat immutari. Luncreg prepit et addurerut daniele: et milerut eu in lacu leonu. Dixing ree danieli. Deus cuus que colis lemper: iple liberabit te. Allatulo; eft lapio unus et policus eft lup hos lacique oblignanic res anulo luo et anulo oprimatu luoru : ne quid fierre contra

Lanna unur un unurung : Orug hing rui m feruis ferm-putalite valuit m liberare a leonibs? Et Daniel regi refuñ, mis ait. Ret i eternu vine. Deus mifit angelü finim-z condulit ora leonü et non nocuccut michi: quia cora co iu-Hina inututa eff in me. Sed a coram te ret delictunon feci. Luc vehementer ret gauilus et fup to:a Daniele provit roug de lacu. Loudulg: eft daniel belaaret nulla lelio inuera eft in eo:ga redidit des fus. Jubente aut rege ad. muti fune viri illi qui acculauccut da: niclemter in laci leonu milli funt iph et filiet uxores coru:et non puenetat ula: ad panimenum laa: Donee armes rent cos icones et amnia alla cos cominucut. Tuc darius re laiplit onis urtis mits ribubus er linguis habitantibus in uniula terra. Dar uobio undtipliceur. A me conftituti eft de angun & ainimin alimna ni unun meo tremicant et paueant deu danis elis . Jule eft enim beus vineus et ette nus in faula:n reanum cius non dil fipabitur:et potellas eius ulg; in eurs num. Tpfe liberator any faluator fatt me liqua et mirabilia în celo et în terra: gliberauit Daniele De lacu leonu. Porro daniel prefeuerauit ulgs ad res anum bari regating cyri pette. . vunno primo balchazar regis ba bilonis maiel fomnium vidit. Vilione aur canicis ei? in cubili luo: et famminm frihens breui fermone

COMPANY INFORMATION

Directors

P A B Hughes (Chairman) L A Taylor (Managing) P J Coen P C Harbidge D W Mann D M K Matthews G N Olson N J Prebble C G Rowland R G Varley C J F Böttcher (non-executive director)

Secretary

R G Varley

Registered office

64 Newman Street London W1A 4SE

Registrars

Close Registrars Ltd Arthur House 803 High Road Leyton London E10 7AA

REPORT OF THE DIRECTORS

The Directors submit their report together with the accounts of the Company and its subsidiaries for the year ended 30 June 1984.

Principal activities and business review

The principal activities of Logica Companies throughout the year were designing, producing, maintaining and selling custom-built software and hardware, re-usable elements of software and a range of office automation products. In addition consultancy assignments were undertaken on many computer and communications related subjects.

A review of the year is included on pages 5 and 6.

Results and dividends

The results for the year are shown in the consolidated profit and loss account on page 42. An interim dividend of 0.35p net per share was paid on 30 April 1984 and the Directors recommended a final dividend of 0.65p net per share.

Directors

P A B Hughes, L A Taylor, P J Coen, P C Harbidge and D W Mann have been Directors of the company since 30 June 1983.

C J F Böttcher, D M K Matthews, G N Olson, N J Prebble, C G Rowland and R G Varley were appointed to the Board on 19 October 1983 and offer themselves for re-election in accordance with the Articles of Association of the Company.

The Directors who held office at 30 June 1984 had the following interests in the shares of the Company.

			I July 19	os of date of
	30 Ju	ine 1984	appoint	ment if later
	Beneficial	Non-Beneficial	Beneficial	Non-Beneficial
P A B Hughes	2,806,287	256,802	3,745,140	194,502
L A Taylor	2,007,406	298,429	2,630,712	251,580
PICoen	1,186,156	341,714	1,741,320	175,392
P C Harbidge	300,510	114,484	516,600	2,142
DW Mann	542,976	77,314	773,220	2,142
D M K Matthews	175,665	2,835	214,410	4,620
G N Olson	165.144	0	206,430	0
N I Prebble	78,960	0	98,700	0
C G Rowland	112,560	93,912	140,700	117,390
R G Varley	95,275	0	119,070	0
C I F Böttcher	65,016	0	81,720	0

None of the Directors had a material interest in any contract of significance to which the parent company or a subsidiary was a party during the financial year.

Substantial holdings

The Directors are not aware of any shareholdings in excess of 5 per cent of the called up share capital apart from the interests of the Directors disclosed above and Stichting Shell Pensioenfonds who hold 6% of the issued share capital.

Disabled persons

It is the Company's policy to give full and careful consideration to applications for employment from disabled persons, to continue wherever possible the employment of members of staff who become disabled and to ensure that training and career development are encouraged.

Employee participation

It is Company policy regularly to hold meetings with staff at group level when matters concerning them and their area of business are discussed. All staff receive the annual report and accounts.

The Directors consider that it is desirable to encourage staff to become and remain shareholders. During 1983, a special series of staff meetings were held to explain the background to the public flotation. Over £1 million was subscribed to the flotation by staff and there are now some 900 staff shareholders. Plans for worldwide staff participation by means of share option schemes will be put before the shareholders for approval.

Taxation status

The company is not a close company within the provisions of the Income and Corporation Taxes Act 1970.

Auditors

A resolution to appoint Price Waterhouse as auditors will be proposed at the forthcoming Annual General Meeting. Robson Rhodes are not seeking re-election. The Board believe the continuing growth and development of Logica's overseas interests will be better served by such a change. The Directors are grateful for the good advice and good service received from Robson Rhodes since Logica was founded.

By order of the Board

R G VARLEY Secretary

25 September 1984

CONSOLIDATED PROFIT AND LOSS ACCOUNT For Year Ended 30 June 1984

		100	14	10/	22
	Noto	£'000	£'000	£'000	£'000
	Note	£ 000	E 000	L 000	L 000
Turnover	1		69763		42185
Change in stocks of finished goods and					
work in progress			2786		_2238
Revenue			72549		44423
Raw materials and consumables		11842		4834	
Other external charges		12471		7378	
Staff costs	2	28742		19969	
Depreciation and other amounts written					
off tangible and intangible fixed assets	3	1181		884	
Other operating charges	4	12835		7925	
			67071		40990
Profit on ordinary activities			0/0/1		10000
before interest and taxation			5478	<u>E</u>	3433
Loss from related companies		(53)		0	
Interest payable (net)	5	(205)		(87)	
			(258)		(87)
Profit on ordinary activities			(200)		
before taxation			5220		3346
Taxation on profit on ordinary activities	6		(2364)		(1011)
Profit on ordinary activities					
after taxation			2856		2335
Minority interest in profit for year			(99)		(903)
Extraordinary charges	7		(728)		0
Dividends paid and proposed	8		(350)		0
and the second second	20		1670		1422
Amount set aside to reserves	20		10/9		1432
Earnings per Ordinary Share	10				
After notional taxation			8.54p		4.35p
After actual taxation			9.14p		8.86p

CONSOLIDATED BALANCE SHEET at 30 June 1984

		100	24	100	22
	Note	£'000	£'000	£'000	£'000
Fixed assets					
Intangible assets	11.1		6479		3246
Tangible assets	11.2		13725		7538
Current assets					
Stock	13	10584		5788	
Debtors	14	19555		12030	
Cash and bank balances		_4830			
Craditan		34969		18848	
amounts falling due within one year	15	23031		12704	
Net current assets			11938		6144
Total assets less current liabilities			25663		13682
Creditors					
amounts falling due after					
more than one year	16	526		188	
Provisions for liabilities and charges	17	_1585	2111	399	597
			23552		13095
Capital and reserves					
Called up share capital	18		3500		6320
Other reserves	20		2020		27
Profit and loss account	20		5325		1493
			23444		7939
Minority shareholders interest			108		5156
			23552		13095
L A TAYLOR					
R G VARLEY					
Directors					

BALANCE SHEET

at 30 June 1984

		100		100		
	Note	£'000	4 £'000	£'000	£'000	
Fixed assets	00		25.45			
Investments	23		/545		6364	
Current assets Debtors Cash and bank balances	24	8450 3513		558 0		
		11963		558		
Creditors amounts falling due within one year	25	3108		3		
Net current assets			8855		555	
Total assets less current liabilities			16400		<u>6919</u>	
Capital and reserves Called up share capital Share premium Profit and loss account	18 20 9		3500 12599 <u>301</u>		90 6329 500	
			16400		6919	

L A TAYLOR

R G VARLEY

Directors

25 September 1984

CONSOLIDATED SOURCE AND APPLICATION OF FUNDS

For Year Ended 30 June 1984

	1984	1983
	£'000 £'000	£'000 £'000
Source of funds		
Profit on ordinary activities before	and a second second second	
taxation	5220	3346
Adjustments for items not involving the		
movement of funds	1124	700
Depreciation	1134	/93
Deterred development costs	4/	(15)
From on sale of fixed assets	(0)	(13)
assets and taxation liabilities	(94)	(59)
Exchange differences on translation of the	····	,,
net investment in foreign subsidiaries	168	178
Share of related company losses	53	0
	1300	988
Funds generated by operations	6520	4334
faxation refunded	31	0
Taxation paid	(1113)	(558)
Sale of fixed assets	179	120
Purchase of fixed assets	(4178)	(2113)
	(5081) (2551)
Funds generated by the business	1439	1783
Acquisition of subsidiaries	(3205)	0
Shares issued on flotation and		
reorganisations	8498	81
Dividend paid	(123)	
	6600	
	0009	1864
(Increase)/decrease in working capital		
Stock and work in progress	(4796)	(2939)
Debtors	(6896)	(4179)
Creditors	6028	3451
	(5664)) (3667)

ACCOUNTING POLICIES

Basis of accounting and consolidation

The accounts are prepared under the historical cost convention and are the result of the consolidation of the accounts of the Company and its subsidiaries and also include the relevant share of the results of related companies.

2 Turnover

Turnover represents amounts invoiced to clients net of amounts billed in advance and excluding VAT.

3 Recognition of profits

- 3.1 Profit on contracts for the supply of professional services at pre-determined rates is taken as and when the work is billed irrespective of the duration of the contract.
- 3.2 Profit is taken on fixed price contracts whilst the contract is in progress, having regard to the proportion of the total contract which has been completed at the balance sheet date. Provision is made for any foreseeable future losses based on an estimate of the direct costs to be incurred.

Stock and work in progress

- 4.1 Physical stock and work in progress is valued at the lower of cost and net realisable value.
- 4.2 The valuation of work in progress on fixed price contracts is adjusted to take up profit to date or foreseeable losses in accordance with 3.2 above.
- 4.3 Other work in progress is valued at cost or at estimated net realisable value if lower. Cost comprises:

Professional work in progress valued at the cost of salaries and associated payroll expenses of employees engaged on assignments and a proportion of attributable overheads.

Unbilled expenses incurred and equipment purchased for clients in connection with specific contracts.

Research and development

Research costs are written off in the year in which they are incurred unless they are to be reimbursed by third parties. Development costs are also written off in the year in which they are incurred unless they are to be reimbursed by third parties or they result in the production of an identifiable, saleable product.

Goodwill

Goodwill is stated at cost and represents the excess of the cost of acquisition of subsidiaries over related net tangible assets at the dates of acquisition including losses foreseen at the time of acquisition.

ACCOUNTING POLICIES -

7 Depreciation

Depreciation is provided at rates calculated to write down the cost of all tangible fixed assets over their estimated useful lives on a straight-line basis. The annual rates of depreciation used are as follows:

Office equipment	10%
Computer equipment	20%
Motor cars	25%
Plant	20%
Tooling	50%
Leaseholds	equally over life of lease

8 Foreign currency translation

The assets, liabilities and the trading results of foreign subsidiaries are translated into sterling at the rate of exchange ruling at the date of the balance sheet.

Differences arising on restatement of the net investment in foreign subsidiaries and related **net** foreign currency borrowings are dealt with as adjustments to reserves.

All other differences on exchange arising in the year are taken to the profit and loss account.

9 Deferred taxation

Provision is made for deferred tax to take account of timing differences between the treatment of certain items for accounts purposes and their treatment for tax purposes. The provision is maintained to the extent that timing differences are not expected with reasonable probability to continue into the foreseeable future.

10 Finance lease income

Income from finance leases is taken to profit and loss account based on a constant periodic rate of return on the net cash investment in each lease.

11 Effect of changing prices

Current cost principles are adopted to reflect the effect of changing prices on the accounts. The details are included in note 26 to the accounts.

NOTES TO THE ACCOUNTS

	1984	1983
	£'000	£'000
1 Turnover		2000
The turnover for the year ended		
30 June 1984 was as follows		
United Kingdom	43202	26252
Rest of Europe	11400	7878
USA	8643	5181
Rest of World	6518	2874
	69763	42185
A geographic analysis of profit is not provided due to th	e complex pattern of inter	national
trading.		
2 Staff		
2.1 Staff numbers		
The average number of neonle employed		
during the year and their geographic		
location was as follows		
location was as lonows	Number	Number
United Kingdom	1265	1006
Rest of Europe	164	138
USA	210	158
Australia	92	74
	1731	1376
2.2 Staff costs	£'000	£'000
Wages and salaries	25857	17884
Social security costs	2384	1709
Other pension costs	501	376
	28742	19969
There are voluntary pension schemes in the UK Nethe	rlands and Australia funde	ed by fixed
percentage and voluntary contributions. There are no t	infunded liabilities in these	e schemes.
Personage and remain I connected on the rest		9-5155 157.07550
2.3 Directors	£	£
	and the second sec	
Directors' emoluments including employer's		
pension contributions and benefits in kind	437264	369229
Chairman's emoluments	46588	41767
		State of the second

42797

Highest paid director's emoluments 54272

The table below shows the number director, and higher paid employees pension contributions were within t Di	of directors, other than s in the United Kingdom he bands stated: irectors	the chairman and the l whose remuneration Higher paid e	highest paid excluding employees
1984	1983	1984	1983
£ 0-£ 5000 1 £20001-£25000 0 £25001-£30000 1	1 1 2		
£20001 £35000 3	3		0
E30001-E35000 5	3		
£35001-£40000 1	4	1	0
£40001-£45000 1	0	0	Q
£45001-£50000 1	0	0	Ũ
£50001-£55000 1	0	. 0	0
3 Depreciation and other amounts written off tangible and intangible fixed assets		£'000	£.000
Short leaseholds		133	105
Office equipment		191	140
Computer equipment		487	315
Motor cars		217	209
Plant and tooling		106	24
Thank and tooming		1134	793
Development costs		47	91
Development costs		1191	884
4 Other operating charges			
Included in the other operating char	rges are the following:		
Auditors' remuneration and expense	es	123	90
Hire of plant and machinery		209	116
5 Interest			
Receivable		282	162
Payable		(487)	(249)
		(205)	(87)

NOTES TO THE ACCOUNTS -

	1984	1983
	£'000	£'000
6 Taxation		
UK corporation tax of 48.75% (1983 - 52%) on		
profits for the year	1554	461
Overseas taxation	48	15
Foreign tax in respect of overseas subsidiaries	371	570
Relief for overseas taxation	(48)	(5)
Deferred taxation	409	2
	2334	1043
Underprovision in respect of prior years	30	(32)
	2304	1011
The taxable income for UK corporation tax is reduced by $\mathcal{E}_{230,000}$ (1983 – £133,000).	stock relief of approxim	ately
The taxable income for UK corporation tax is reduced by £230,000 (1983 - £133,000). 7 Extraordinary charges Deferred taxation provided for prior years	stock relief of approxim	ately
The taxable income for UK corporation tax is reduced by £230,000 (1983 - £133,000) 7 Extraordinary charges Deferred taxation provided for prior years	stock relief of approxim	ately0
The taxable income for UK corporation tax is reduced by £230,000 (1983 - £133,000). 7 Extraordinary charges Deferred taxation provided for prior years 8 Dividende	stock relief of approxim	ately0
 The taxable income for UK corporation tax is reduced by £230,000 (1983 - £133,000). 7 Extraordinary charges Deferred taxation provided for prior years 8 Dividends Interim dividend paid of 0.35p net per share	stock relief of approxim	ately0
 The taxable income for UK corporation tax is reduced by £230,000 (1983 - £133,000). 7 Extraordinary charges Deferred taxation provided for prior years 8 Dividends Interim dividend paid of 0.35p net per share Final dividend proposed of 0.65p net per share 	stock relief of approxim 728 123 227	ately0 0 0
 The taxable income for UK corporation tax is reduced by £230,000 (1983 - £133,000). 7 Extraordinary charges Deferred taxation provided for prior years 8 Dividends Interim dividend paid of 0.35p net per share Final dividend proposed of 0.65p net per share 	123 227 350	ately
 The taxable income for UK corporation tax is reduced by £230,000 (1983 - £133,000). 7 Extraordinary charges Deferred taxation provided for prior years 8 Dividends Interim dividend paid of 0.35p net per share Final dividend proposed of 0.65p net per share	728 123 227 350	ately
 The taxable income for UK corporation tax is reduced by £230,000 (1983 - £133,000). 7 Extraordinary charges Deferred taxation provided for prior years 8 Dividends Interim dividend paid of 0.35p net per share Final dividend proposed of 0.65p net per share 9. Profit attributable to members of the holding composition of the start of	728 123 227 350	ately
 The taxable income for UK corporation tax is reduced by £230,000 (1983 - £133,000). 7 Extraordinary charges Deferred taxation provided for prior years 8 Dividends Interim dividend paid of 0.35p net per share Final dividend proposed of 0.65p net per share 9. Profit attributable to members of the holding comp Dealt with in the accounts of the company	123 227 350 2169)	0 0 0 0 0 500
 The taxable income for UK corporation tax is reduced by £230,000 (1983 - £133,000). 7 Extraordinary charges Deferred taxation provided for prior years 8 Dividends Interim dividend paid of 0.35p net per share Final dividend proposed of 0.65p net per share 9. Profit attributable to members of the holding comp Dealt with in the accounts of the company Retained by subsidiary companies 	123 227 350 169) 1901	0 0 0 0 500 932

The company has taken advantage of the exemption from presenting its own profit and loss account.

10 Earnings per share

10.1 After notional taxation

The calculation of earnings per ordinary share is based on profit after notional taxation of 48.75% (1983 - 52%), before extraordinary items and after deducting minority interests, which amounts to £2,576,000 (1983 - \pounds 703,000) and on 30,162,228 (1983 - 16,153,263) ordinary shares, the weighted average number of ordinary shares in issue and ranking for dividend during the year. The weighted number of shares in 1983 has been adjusted for the bonus issue in the current year.

10.2 After actual taxation

The calculation of earnings per ordinary share is based on profit after actual taxation, before extraordinary items and after deducting minority interests, which amounts to £2,757,000 (1983 – £1,432,000) and on the same number of shares as set out in note 10.1

11 Fixed assets

11.1 Intangible assets			
3	Goodwill	Development	Total
	<i>E</i> '000	£'000	£'000
Cost			
1 July 1983	3199	138	3337
Gain on translation	67	0	67
Arising in the year	3213	0	3213
30 June 1984	6479	138	6617
Amounts written off			
1 July 1983	0	91	91
Provided	0	47	47
30 June 1984	0	138	138
Net book value			
30 June 1984	6479	0	6479
1 July 1983	3199	47	3246

The cost of acquiring the issued share capital of Intelligent Technologies International Corporation was £945,165 and this forms part of the total goodwill arising on that acquisition of £3,203,662.

11,2 Tangible assets	Short	Office	Computer	Motor	Plant &	Total
	Leaseholds	Equipment	Equipment	Cars	Tooling	
	£'000	£'000	£'000	£'000	£'000	£'000
Cost						
1 July 1983	2135	1599	2457	886	266	7343
Gain on translation	37	39	33	5	0	114
Additions	510	636	995	323	1215	3679
Disposals	(72)	(88)	(27)	(289)	0	(476)
Own work capitalised	0	0	405	0	0	405
In respect of new						
subsidiary	1	11	98	0	0	110
30 June 1984	2611	2197	3961	925	1481	11175
Depreciation						
1 July 1983	739	537	1172	408	195	3051
Loss on translation	11	9	12	1	0	- 33
Provided	133	191	487	217	106	1134
Released on disposals	(44)	(42)	(10)	(209)	0	(305)
In respect of new						
subsidiary	0	2	14	0	0	16
30 June 1984	839	697	_1675	417		3929
Net book value						
30 June 1984	1772	1500	2286	508	1180	7246
1 July 1983	1396	1062	1285	478	71	4292

51

	1984 £'000	1983 £'000
12 Capital commitments		
Capital expenditure authorised and contracted	1172	243
Capital expenditure authorised but not contracted	10	37
13 Stocks		
15 SIOCKS		
Work in progress	21216	15767
Progress payments on account	14700	11349
	6516	4418
Finished goods and goods for resale	990	192
	7506	4610
Raw materials and consumables	3078	1178
	10584	5788

Work in progress includes attributable profit on substantially completed long term contracts of approximately £1,313,000. The inclusion of this attributable profit supersedes the statutory valuation rules for current assets to enable the accounts to give a true and fair view.

14 Debtors

Trade debtors	14676	10026
Amounts owed by related companies	77	0
Other debtors	628	768
Investment in finance leases		
due within one year	78	43
due after more than one year	220	294
Prepayments and accrued income	3235	859
Loans to employees to acquire shares		
in ultimate holding company	13	40
Taxation recoverable	505	0
Advance corporation tax	123	0
	19555	12030

NOTES TO THE ACCOUNTS -

	1984	1983
	£'000	£'000
15 Creditors	1000	2000
Amounts falling due within one year		
Bank loans and overdrafts	5688	2833
Payments received on account	1091	985
Trade creditors	5631	3455
Other creditors	2741	1211
Taxation and other state creditors	3788	2274
Advance corporation tax	175	0
Accruals and deferred income	3690	1946
Dividends proposed	227	0
	23031	12704

Bank overdrafts of subsidiaries amounting to $\pounds4,100,975$ (1983- $\pounds2,833,190$) are secured by floating charges on their assets and guarantees from the Company.

16 Creditors

Amounts due after more than one year

Hire purchase liabilities	145	168
Other creditors	381	20
	526	188

17 Provisions for liabilities and charges

Provision for deferred taxation in the accounts and the full potential liability is as follows:

	Potential	Provision	Potential	Provision
	Liability		Liability	
	£'000	£'000	£'000	£'000
Accelerated capital allowances	1722	1722	1548	175
Other short term timing differences:	(154)	(154)	(178)	70
Foreign subsidiaries	17	17	192	154
	1585	1585	1562	399
1 July 1983		399		366
Translation loss		19		36
Provision in respect of current year		409		2
Underprovision for prior years		30		0
Extraordinary item		728		0
In respect of new subsidiary		0		(5)
30 June 1984		1585		399

As a result of the Finance Act 1984 the Directors consider it prudent to provide in full for deferred taxation relating to accelerated capital allowances. The amount of this provision which relates to timing differences arising in prior years has been treated as an extraordinary item.

NOTES TO THE ACCOUNTS -

1984 £'000	1983 £'000
3750	100
<u>3500</u> 3500	90
	1984 £'000 3750 3750 3500 3500

19 Reorganisation

On 2 November 1983 the Company's ordinary shares were admitted to the Stock Exchange Official Lists. The following changes were necessary in order to achieve this.

On 17 October 1983 the Authorised Share Capital was increased to 37,500,000 Ordinary Shares of 10p each.

Also on 17 October 1983 a bonus issue of 18,040,000 Ordinary Shares of 10p each fully paid was made by way of capitalising reserves.

On 20 October 1983 11,813,193 Ordinary Shares of 10p each were issued as fully paid in exchange for the Ordinary Shares in Logica Holdings Limited held by the minority shareholders.

Also on 20 October 1983 4,244,807 Ordinary Shares of 10p each were offered for subscription by tender.

The change in the minorities share of profit and retained earnings primarily results from the reorganisation prior to flotation which involved the elimination of minority shareholders in Logica Holdings Limited.

NOTES TO THE ACCOUNT -

20 Share premium account a	ind reserves
----------------------------	--------------

	Share premium account £'000	Other reserves £'000	Profit and loss account £'000	
At 1 July 1983	6329	27	1493	
Acquired from Minority on merger Translation gain (loss) on re-statement of net investment in foreign subsidiaries, and related foreign currency	0	1954	2019	
borrowings	0	5	168	
Reserves capitalised on Bonus Issue	(1804)	0	0	
Premium, net of expenses, on allotment during year	8074	Q	0	
Retained profit for year	0	0	1679	
Transfer to Other Reserves	0	34	(34)	
30 June 1984	12599	2020	5325	

21 Contingent liabilities

21.1 Subsidiaries have provided indemnities to their bankers in support of performance bonds and guarantees amounting to £1,018,575.

21.2 A subsidiary has given guarantees and indemnified its bankers in respect of the lease, rental and hire purchase obligations of certain of its subsidiaries.

22 Principal operating subsidiaries and related companies

Logica UK Limited (Great Britain) Logica Space and Defence Systems Limited (Great Britain) Logica VTS Limited (Great Britain) Logica BV (Netherlands) Logica SA (Belgium) Logica GmbH (West Germany) Logica Svenska AB (Sweden) Logica Inc (USA) Intelligent Technologies International Corporation (USA) Logica Pty Limited (Australia) Jardine Logica Systems Limited (Hong Kong)

At 30 June 1984 the companies were all wholly owned, with the exception of Logica Inc and Jardine Logica Systems Limited.

Changes in corporate structure

Following dealings during the year with minority shareholders, Logica Nederland BV held 79.4% (1983-79.9%) of the issued share capital of Logica Inc.

During the year, Logica VTS Inc was incorporated in Delaware, United States of America, as a wholly owned subsidiary of Logica Nederland BV. It operates as an intermediate holding company.

With effect from 1 January 1984, Logica VTS Inc acquired the whole issued share capital of Intelligent Technologies International Corporation.

Related companies

During the year, the Company formed a joint venture company, known as Jardine Logica Systems Limited, with Jardine Matheson and Co Limited, based in Hong Kong and operating throughout South-East Asia. The Company owns 50% of the issued share capital.

23 Fixed assets	1984 £'000	1983 £'000
Investment in subsidiaries at cost 1 July 1983 Additions 30 June 1984	6364 1181 7545	0 6364 6364
24 Debtors Amounts due within one year Amounts owed by subsidiary companies Other debtors Advance corporation tax Dividends receivable	7818 9 123 500 8450	58 0 500 558
25 Creditors Amounts due within one year Bank loans and overdrafts Amounts owing to subsidiary companies Other creditors Taxation and other state creditors Advance corporation tax Dividends proposed	1587 918 68 133 175 227 3108	0 2 1 0 0 3

NOTES TO THE ACCOUNTS -

26 Effects of changing prices	1984 £'000	1983 £'000
Cost of sales adjustment	162	(35)
Monetary working capital adjustment	226	56
Depreciation adjustment	320	351
Adjustment on disposal of fixed assets	20	13
Adjustment to Ioss in related company	(6)	0
Gearing adjustment Amount of profit on ordinary activities after taxation required to meet current cost adjustments Adjustment to minority interest Amount of profit for the financial year required to be retained to meet the effects of changing prices	722 (62) 660 (68) 592	385 (48) 337 (142) <u>195</u>
Gross current cost of fixed assets	13557	9732
Accumulated current cost depreciation	4593	<u>4117</u>
Net current cost of fixed assets	<u>8964</u>	<u>5615</u>
Current cost of stocks	10587	<u>5814</u>

The cost of sales and the monetary working capital adjustments, and the current replacement cost of stocks have been calculated using internally generated indices.

The replacement cost of tangible fixed assets has been calculated by applying the relevant price indices to their original cost. The difference between depreciation based on the replacement cost and the historic cost is represented by the depreciation adjustment.

Goodwill has been adjusted for the revaluation surplus at the date of acquisition of a subsidiary. The remaining Intangible Fixed Assets are included at directors' estimate.

The gearing adjustment represents that part of the other current cost adjustments that is associated with items deemed to be financed by net borrowings.

The group's share of the results of the related company has been restated in accordance with the current cost accounting policies used by the Company.

REPORT OF THE AUDITORS

To the members of Logica plc

We have audited the financial statements on pages 40 to 57 in accordance with approved Auditing Standards.

In our opinion the financial statements give a true and fair view of the state of affairs of the Group and the Company at 30 June 1984 and of the consolidated profit and source and applications of funds for the year ended on that date and comply with the Companies Acts 1948 to 1981.

Robson Rhodes

Chartered Accountants 186 City Road London EC1V 2NU

25 September 1984



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