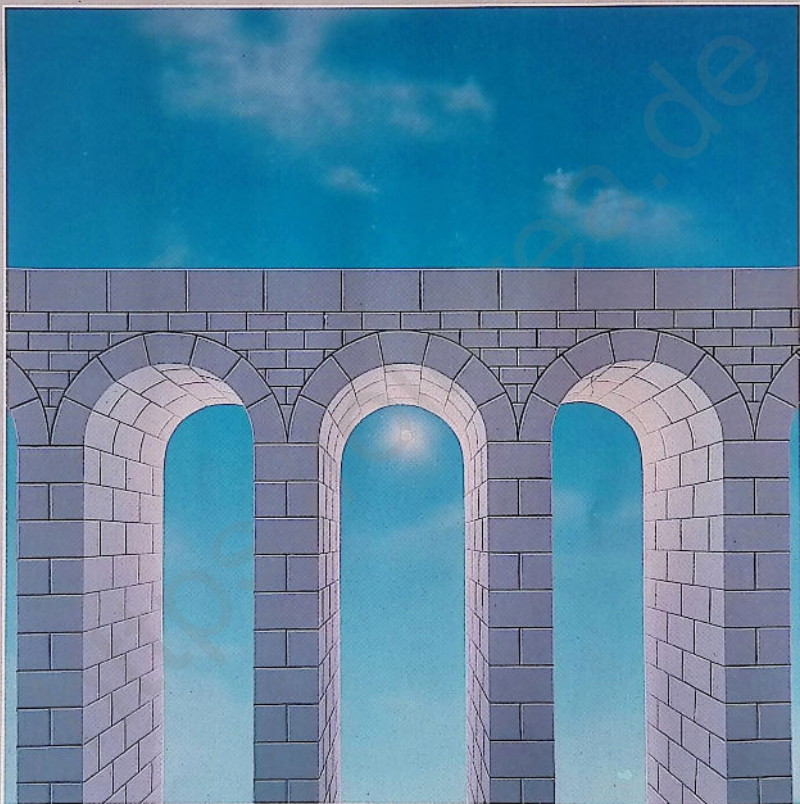


# OLIVETTI

*Open System Architecture Alive*



## Open System Architecture Alive

### Contents

Managing Open Systems  
in corporate accounts

A revolution in banking

Open Systems in public service

Open Systems in expanding  
communications markets

Open justice

Open Systems serve  
transport and retail

Open Systems meet  
the challenge



## Managing Open Systems in corporate accounts

The case studies in the following pages have been selected as typical examples from the list of our clients to show how Olivetti meets the challenge posed by the complex requirements of large organizations in focused markets worldwide.

Information technology is a major driving force behind the worldwide trend toward open, unified markets. The European single market, due to come into existence at the end of 1992, is a prime example.

Multi-national business and other large organizations realize they can meet the challenges of the 1990s only through an articulated, global presence which faces up to this emerging economic reality. They need, as a result, a strong, long-term supplier of information technology which has a solid presence in





One year ago, Olivetti announced the Open System Architecture (OSA). Since that time most leading manufacturers have claimed, with varying degrees of credibility, to support Open Systems.

Olivetti does not, however, simply pay lip service to standards — it puts them to work to solve problems.

The pages that follow reflect Olivetti's pride in the way in which it develops partnerships with its customers to implement the Open System Architecture and demonstrate clearly how OSA matches the information systems strategies of leading organizations.

As you will see in the case studies, genuine support for market standards inevitably creates a true multi-vendor computing

environment. Customers are no longer locked into the proprietary architecture of a single supplier, but are free to seek true value.

Olivetti's uncompromising support for Open Systems means that it is fully confident of the value of its products and solutions. When customers are free to choose the best we believe they will choose Olivetti.

VITTORIO CASSONI

Managing Director and Chief Operating Officer, Olivetti Group



the markets in which they operate.

Olivetti, the second largest information technology supplier in Europe, is active in every significant world market. It provides a broad range of sophisticated services in over 30 countries. Its worldwide product and services strategy provides integrated, compatible business systems tailored to, and supported in, specific markets — wherever they are.

Olivetti's uncompromising commitment to industry standards, as well as its distinctive position as a developer of both minicomputer and PC-based systems and networks, protects customers' investments and lays the groundwork for long-term partnerships.

In order to meet the needs of multinational corporate accounts more effectively, the Selected International

Account (SIA) programme has been established. This is designed to mirror the regional and international management structure of customers whose worldwide presence both warrants and requires this attention.

The case studies highlight the principal characteristics of Olivetti's approach:

- strict adherence to standards
- smooth migration paths
- advanced technology
- awareness of customer needs.

These characteristics describe the Open System Architecture (OSA) — the bridge Olivetti has created to match today's information management needs and to safeguard and connect customers' past, present and future investments. OSA is a fruitful partnership with all our customers.



# A revolution in banking

Deregulation, 1992 and technology are recasting the scenario of the financial sector throughout the world. All types of financial institutions now have the freedom to compete in geographic and business markets which were previously denied to them. Open technology makes it possible for them to take advantage of these opportunities. It gives the flexibility and homogeneity which is essential for success. The Olivetti Open System Architecture (OSA) is specifically designed to bridge the present and future needs of the financial sector.

## ABN Bank: Two branch installations a day in the Open Bank project

In 1984, ABN launched its Open Bank project, designed specifically to provide a flexible and open-ended infrastructure for the branch network of the 1990s.

The project's aim is to strengthen the bank's image and improve the quality of customer service while significantly reducing operational costs. The principal technical objective is the establishment of a wide variety of applications easily linked to and migrated from branch to branch and from older to newer equipment. Data can be shared securely throughout the network. Co-operative processing includes Line 1 and MVS/XA-based mainframes.

Extensive use is made of SNA facilities (transaction and file transmission). Network management for unattended operation in the branches at night (data and software distribution) is an important consideration.

ABN — the largest bank in the Netherlands — has more than 700 branches nationally and over 240 branches in 43 other countries, in five continents. With total assets of US\$85 billion, as at December 1987, ABN ranks as one of the top 50 international banks. It offers a broad variety of services to corporate and private clients. The bank's more than 29,000 employees are linked worldwide by a sophisticated communications network which enables the bank to supply actual information wherever it is required.

In 1986, ABN and Olivetti set up pilot schemes in three branches to give the bank, its customers and staff experience and confidence in the new technology and also to give time to experiment in bank layout and design. Main installation began with the replacement of the back-office data entry systems by Line 1 controllers, handling dumb workstations for data entry and fast printers for output.

After equipping 100 branches by early 1987, Olivetti is now installing complete front-office systems in which the Line 1 controller supports cash adaptors, pin pads, badge readers and special banking printers fully linked to the corporate mainframes. These branch systems will be progressively extended to LSX3000 controllers with PB workstations linked by LAN. In the early 1990s all Dutch branches will be adapted to the system.

ABN's main reason for choosing Olivetti as its strategic supplier was the offer of a complete software/hardware package at start-up and the very advanced facilities of the MOS operating system in networking, distributed processing and data management. One that readily fitted the existing ABN network, provided better overall performance, more cost-effective product and a smooth migration path.



## CCB: Smooth systems migration, the key to software investment

CCB has had a long association with Olivetti; it began in 1978 when CCB decided to computerize on a national scale.

CCB is a public credit institution created to support financially local authorities in their long-term investments by providing loans. Since the end of the 1970s, the scope of services it offers has widened to include the full range of facilities offered by commercial banks. In this way CCB became the second largest bank in Belgium.

Nearly 1,100 branches were equipped with S6000 between 1980 and 1986.

By 1985, technology had advanced and CCB had evolved the concept of a branch architecture based on mini-computers driving PCs — in short, an organized network structure providing local account information and local customer detail. In addition, CCB wanted to implement a complete communications network.

Olivetti was awarded the contract to meet these new requirements, all in the context of a clear migration strategy





from the existing S6000 system. It covered servers, to be placed in each branch, as well as many workstations to multiply the network access points in each branch. The network is based on Starlan with Olinet LAN and PB software to increase the PC banking applications. Also included are the management of specialized printers and readers and an encryption security device.

Three factors worked strongly in Olivetti's favour: the high quality of its after-sales service; the evolving system offer in hardware and software; and the close working relationship that it had established with CCB.

*"Olivetti gives us a high quality after-sales service and we value the working relationship we have with the company."*

FRANÇOIS NARMON  
Président Comité Direction, CCB



## IBI: New architecture, new services

IBI's choice of Olivetti has already brought big savings in maintenance, software development and hardware installation time. Investments are protected and important new customer services are being introduced.

Founded in 1918, IBI (Istituto Bancario Italiano) is one of Italy's leading clearing banks, staffed by 3,000 employees and with reserves in excess of US\$100 million. Its head office in Milan controls the 69 IBI branches, principally in northern Italy, which combine banking operations with excellent service.

In IBI's existing EDP system every process was dependent on a specific kind of hardware; software distribution was hindered by differing forms of magnetic support; and too many of the operating systems were incompatible.

In 1985, IBI decided to replace its outdated equipment. Its decision was determined by three fundamental requirements: one standard type of PC-based workstation; industry-standard software; and easy-to-use software tools powerful enough to allow development.

Olivetti came up with a solution based on OSA/PB incorporating MVS/XA, CICS and SNA/SDLC. In 21 months over 1,800 workstations have been installed in IBI branches and connected by Starlan/MS®-NET.



*"Olivetti has already brought us big savings, our investments are protected and we have been able to introduce new customer services."*

GIANPIRO CANTONI  
Presidente, IBI



## Crédit Lyonnais: Standards-based Open Architecture for banking

Crédit Lyonnais, which employs 45,000 people, has 2,428 outlets in France and branches in 70 other countries, is in the process of setting up a new data-processing system.

The functions of the new system are distributed over four levels: local, intermediate, central and national. At the individual level the workstations are connected via LANs and have real-time access to files and data throughout the system. At intermediate level fault-tolerant computers manage the data and facilitate regional links, both internally and externally. At central level the computers ensure specific processing compatibility and at national level fault-tolerant computers manage real-time communications with other banks, American Express, Visa, SWIFT, and so on.

The new installation protects the



*"Olivetti has adopted the same standards-based strategy as Crédit Lyonnais."*

PHILIPPE BLIN  
Directeur du Secteur Systèmes,  
Crédit Lyonnais

bank's investment in its existing data processing system.

The open architecture of the system is based on market standards and enables Crédit Lyonnais to maintain its multi-supplier strategy. Individual workstations, of which there will be 15,000 by 1991, connect to the data processing system. Those already installed have made it possible to introduce new services and to improve productivity.

Olivetti supplies Crédit Lyonnais with multi-tasking workstations, Starlan, fault-tolerant computers and specialist peripherals.





*"Credito Italiano follows a multi-vendor strategy: the OSA offer adheres perfectly to this strategy."*

MAURIZIO CARTOCCI

Condirettore Centrale, Credito Italiano

of 600,000 transactions on approximately 400 minicomputers and 5,000 workstations (of which 1,000 are PCs) in the branches.

The ever-growing demand for increased integration of the areas within the branches leads the bank towards more advanced solutions offered by departmental minicomputers. This indicates a further step towards decentralization through the introduction of intelligent workstations connected via LAN to minicomputers; at the same time, non-intelligent workstations are able to use their processing power for front-office operations.

Credito Italiano found the appropriate departmental minicomputer in the LSX3000 family which offers different models for the diverse needs of the branches and with enough power for future applications.

The flexibility of OSA also means that PCs already installed can be integrated into the PB environment of the LAN.

### Commerzbank: Multi-vendor strategy

Commerzbank AG is the fourth largest bank group in Germany. It has assets of more than US\$55 billion and employs more than 20,000 people. It has 40 regional head offices and 860 branches, half of which are in cities.

Commerzbank has a multi-vendor strategy for its information systems: it has 3090s in the central sites, 7550/7570s in the regional centres and two suppliers' systems in branches. All of these are connected within an SNA environment.

There are 600 Olivetti Line 1s in the branches. Initially they worked under Cosmos but, in 1986, were migrated to MOS. This migration, completed in 1987, enabled fully source-compatible COBOL across the systems, thereby reducing the cost of application software development and maintenance.

Commerzbank is now rationalizing its systems further. It is planning to install multi-functional workstations in front and back offices integrating office automation and self-service functions, based on the new technologies conforming to OSI, EDI and X/OPEN, and regionalizing computing resources.

### Credito Italiano: LSX3000 minicomputers for branch banking

In 1985 Credito Italiano, one of Italy's largest banks, decided to decentralize the EDP architecture to support a front-office reorganization, with the aim of instituting a consultancy area and of combining the roles of terminal operator and cashier.

It was decided to introduce minicomputers into the branches; the choice was Olivetti Line 1 running on MOS. This handles both front- and back-office operations, and is connected to the mainframes through an X.25 geographic network supporting an ISO/OSI services/protocol stack.

The bank has resources of more than US\$35 billion, more than 16,000 employees, 500 branches in Italy and is represented in 16 other countries. The current information system handles 1,700,000 current accounts/savings accounts which generate a daily average



*"The Olivetti Open System Architecture is committed to international standards and fully supports our multi-vendor strategy."*

RUDOLF BAUER

Leiter Organisation und Datenverarbeitung,  
Commerzbank



## OKOBANK: A flexible ATM network

OKOBANK is one of the largest banks in Finland. It is the central bank for 368 co-operative banks and has 1,222 branches. It has a 25 per cent share of the market and more than two million accounts from a population of five million. Branches vary greatly in size in order to meet local needs and include service points in shopping centres, hospitals and factories.

By 1987 OKOBANK had installed 140 ATMs. It was then decided to widen the range of its services and generally to improve the quality of facilities. The number of ATMs is substantial throughout the country and increasing rapidly. The Finnish banks are now linked by two ATM networks, and the objective is to have one common one by 1990.

Initially Olivetti won the OKOBANK contract of 200 ATMs by offering the new SST 6400 microcomputer-based ATMs which can be linked to the same LAN as the tellers' workstations, or directly through OKOBANK's private X.25 network to the mainframe.

A further 130 ATMs were ordered in early 1988 and 320 in September. By 1990, 650 Olivetti ATMs will be in service.



## Monte dei Paschi di Siena: 500 years of success

In Roman times, Siena was right off the map — many miles from the great Appian Way — but, come the Middle Ages, it was ideally placed as a thriving centre of trade, business and private banking. Monte dei Paschi di Siena has its roots in Tuscany's first publicly-controlled credit institution, established by Siena's city fathers in 1472, to help the poor and needy. The charitable purposes of the old Monte della Pietà, as it was then known, are reaffirmed in the bank's



*"Olivetti is committed to the banking market and provides fully flexible open systems based on industry-standard products. These characteristics provide a firm basis for the partnership with OKOBANK."*

RISTO ANKIO

Executive Director, Data Processing Division







## Commonwealth Bank of Australia: Celebrating 20 years' partnership

The Commonwealth Bank of Australia is one of the Big Four in Australian banking. Its computerized network spans the Australian continent.

CBA and Olivetti have recently celebrated 20 years of working together. This time covers the on-line growth of a system which encompasses 6,000 workstations in 1,271 branches, in six States and two Territories.

During this time the bank has had four generations of Olivetti workstations: 349AB, 349BI, TC800 and Line 1.

There is now a clearly defined move into PC-based systems to support the bank's front- and back-office requirements, in-house training and automated delivery systems.

During the 20 years of co-operation there have been three areas of support which have cemented the relationship between Olivetti and the bank. First, the developing nature of the products based on a commitment to the banking arena; second, the Australia-wide after-sales support; third, the evolving and consistent nature of the operating system support through MOS and now towards an Open System Architecture.



*"The adopted architecture met all the requirements with full hardware and software functional response to the project's specifications: operative simplicity and reliability."*

MARIO MALDINI

Direttore Centrale, Monte dei Paschi di Siena

tional standards improved and information flow and general management made more efficient.

In 1987, Olivetti was commissioned to provide a fully automated branch system to give the necessary technological support in front and back offices.

In the branches there are now 4,000 PC-based workstations with specialized peripherals. 300 Line 1 M70s act as SNA T2 nodes connecting the workstations, the self-service terminals, an additional 230 Line 1 M54 systems and some non-Olivetti systems. The full integration of the branch system within the SNA architecture also guarantees additional features, such as software distribution.

The use of advanced teaching methods made possible a particularly effective personnel training programme.

current charter.

Today, more than five centuries after its foundation, Monte dei Paschi di Siena is a vigorously expanding modern bank which has 500 branches. New banking systems are being developed, opera-



### Credito Commerciale: OSA, the key to personalized service

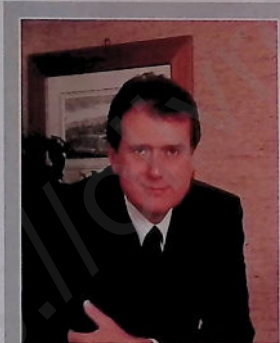
Credito Commerciale, founded in 1907, now has more than 70 branches. Its headquarters are in Milan. Traditionally, the bank's customers were businesses but it now ensures that all its customers, even the smallest of savers, receives a personalized service.

Various manufacturers' hardware is often similar and Credito Commerciale therefore based its choice of supplier on quality when choosing EDP equipment.

This means a global offer for branch automation, from front and back office to ATMs, efficient technical assistance and simplified migration from one solution to another within a well-defined architectural framework.

Olivetti offered all these characteristics which have enabled the bank to develop innovative solutions (it was one of the first banks in Italy to combine the role of terminal operator/cashier) and to facilitate migration from the TC800 systems to LSX3000 systems through three generations of hardware and two of software.

There are now more than 200 Line 1 systems installed; these are evolving in line with the architectural solutions supplied by OSA. Key points include the MOS (Multi-functional Operating System), particularly rich in banking functions; systems integration via



*"We sought a supplier who offered a clear reference architecture, complete solutions, well-defined migration paths and a trustworthy relationship. Olivetti is this supplier."*

CLAUDIO CARDOSI

Vice-Direttore Centrale, Credito Commerciale

Ethernet LAN, which guarantees back-up for files and communication servers; and integration with the host in the DSA environment.

LSX3000 systems are progressively being installed in main branches. Automation within the branches will gradually be enriched with new functions, including automatic cheque handling through magnetic readers linked to LSX3000.



### Credito Emiliano: Innovation and adaptability

A traditional Italian bank, with headquarters in Reggio Emilia in northern Italy, Credito Emiliano provides banking facilities with strong emphasis on customer service. It has over 50 branches and employs a staff of about 1,000.

The bank's information systems were based on Olivetti TC 848s connected to a host. Credito Emiliano wished to introduce multi-function workstations in branches to rationalize operations and to improve efficiency. Existing application software needed to be able to migrate to the new system. The solution needed to be able to evolve into a new system which would allow the progressive introduction of functions, such as consultancy, marketing and office automation.

Olivetti's offer met both the immediate and the long-term strategic requirements. Its innovative elements ensured maximum adaptability as branches became further automated. The solution is based on 350 PBs in Olinet/LAN, linked to an SNA/SDLC host.

Credito Emiliano's main reasons for choosing Olivetti's offer were the system's potential for hardware/software development; its flexibility of operation — tasks can easily be shared or relocated within the network; cost effectiveness, and the use of industry standard MS-DOS-based software.





## Barclays Bank: A unified service system

Barclays Bank is Britain's leading global bank and has assets of US\$168 billion. It employs around 113,000 people in 76 countries, worldwide.

In the past, computer equipment in its nearly 3,000 UK locations has been serviced by more than 250 separate organizations. Wishing to increase control, Barclays decided to unify the system and invited maintenance tenders from major national and multi-national companies.

In July, 1988, Olivetti began a three-year maintenance contract with an estimated annual value of over US\$20 million — believed to be the

largest Third Party Maintenance (TPM) contract ever in the UK. It covers PCs, minicomputers, office equipment and ATMs supplied by a wide variety of manufacturers.

To handle this operation, Olivetti has recruited staff and has set up two new service regions.

Barclays Bank has a reputation for sound management and a tradition of innovation in the marketplace. For Barclays, the reliability of equipment is essential to its business. Olivetti offered a quality service at a competitive price and won the contract because of its commitment to TPM and its ability to deliver quality service.

*"Olivetti won the Barclays Bank contract because of its commitment to Third Party Maintenance and its proven ability to deliver quality service."*



## Provident Life Insurance: Moving data

Provident Life is no stranger to innovation. Founded in 1877, it pioneered the concept of house purchase through life assurance, now commonplace as the endowment mortgage. Today, as a rapidly expanding broadly-based life office, it is introducing new flexible policies for an increasingly demanding and sophisticated market. As a hi-tech company, since 1981 part of the Winterthur Swiss Insurance Group, Provident Life is investing in the maximum computerization of its new HQ offices in Basingstoke and in its regional and area sales offices. Fully-automated systems will eliminate routine clerical work and provide the bedrock on which future developments for Provident Life depend.

Olivetti was chosen to supply each office with a PC/LAN system. Provident Life developed software to provide a quotation system for sales staff and a word-processing package.

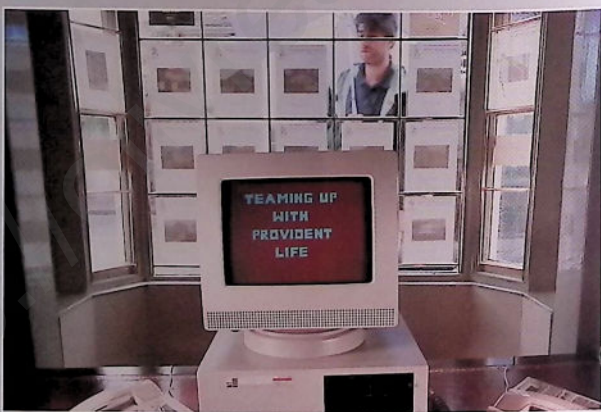
The three-phase installation programme, begun in September, 1986, was in place and operating by February, 1987.

The Financial Services Act 1986 gives banks, building societies, estate agents and insurance companies the freedom to offer competitive services in areas previously denied to them. Provident Life saw the opportunity, contacted local estate agencies country-wide, and

*"Our main reasons for using Olivetti are price performance, availability and service."*

GEOFF LORD

Information Centre Manager, Provident Life



offered to provide, free, a computerized mortgage-matching service for potential home buyers. Nearly 400 estate agencies now have such a system providing instant mortgage and pension quotations based on Provident Life products. Olivetti hardware is supported by a four-hour response maintenance contract.

During 1989 it is planned to connect each location to Provident Life's main-frame computer at Basingstoke, using 3270/SNA communications. These will provide full, up-to-the-minute information on all Provident Life products to the widest possible customer base.





### Bank of Montreal: Branch network

Bank of Montreal, which has assets of more than US\$60 billion, has more than 1,200 branches and close to 29,000 permanent employees in Canada and internationally.

Long regarded as a technology innovator, the bank is capitalizing on its branch network to provide enhanced services to its customers.

Since 1982, more than 3,500 Olivetti L1 workstations have been installed across an 8,000 km network. Operating within a digital T1 SNA backbone to a central site host, these branch teller terminals assist staff in handling increased functional requirements.

Looking ahead, Bank of Montreal is considering the adoption of Open System International standards. Both Bank of Montreal and Olivetti anticipate a continuation of their long and mutually beneficial relationship in the years to come.

### Mellon Bank: UNIX-based platform

Mellon Bank, one of the largest US commercial banks is in the process of installing the Aladdin Adtran UNIX-based Platform Automation System in its 300-plus branches. Mellon's retail operation, which spans three states and seven banks, expects to complete the platform installations by the end of 1988. It will begin converting to the Aladdin teller system using the Banktran-plus application in early 1989.

Bunker Ramo, an Olivetti company, won Mellon's business following a successful four-branch pilot in November, 1985. Since that time, Mellon has rapidly expanded the Aladdin system to encompass more branches and new software from new account opening transactions, automated document printing, customized product profiles and other selling tools to financial what-if calculations and word processing.

Mellon is now concentrating on a home-grown remote loan-processing and credit-sorting system using Aladdin's development tools and its architecture as the foundation. This system has already reduced processing time by half.

*"In our minds, the real core of the product line is the software development and distribution utilities which have enabled us to build a system which we feel is unequalled in the US."* DICK GALLARNO

Vice-President, Retail Systems Development,  
Mellon Bank

### Bank Leumi: Superior technology for the future

At the beginning of the 1980s, Bank Leumi's 300 branches were still not fully integrated in an on-line system. The bank is the largest in Israel; it has assets of US\$26 billion and 4.5 million accounts.

Israel's banking structure is sophisticated and competitive; all the other big banks in the country already had their own systems. Bank Leumi needed new equipment in order to guarantee superior technology for the future.

The biggest data processing order ever awarded in the Israeli civilian market was available to the company which could guarantee this technology in an evolving environment coupled with the capacity to service and support an extensive network of thousands of workstations all over the country. This network had to be able to handle over five million transactions, five million personal cheques and three million enquiries each month.

Olivetti was given the order. The installation of 550 Line 1 minicomputers on a master satellite architecture, 2,500 workstations, equipped with specialized banking printers and hundreds of self-service terminals, connected on SNA protocol to the central mainframes, proved to be as flexible and complete as promised.

Bank Leumi has found in Olivetti a reliable partner able to fulfil its expectations in technology and innovation and to provide solutions for its future needs while protecting the bank's investment in software.

*"We feel that Olivetti has given us all the backing and support to make our on-line system a success story."*

MOSES NADIR

Assistant General Manager, Bank Leumi



*"Knight-Ridder selected Olivetti because of its worldwide support for the industry-standard PC provided within the Olivetti SIA programme."*

PAUL TUCKER

Senior Vice-President, Technology,  
Knight-Ridder BIS Group

### **Knight-Ridder Financial Services: International account management**

Knight-Ridder Inc. is a US\$2 billion organization with 24,000 employees in over 160 subsidiaries. The Business Information Services (BIS) group, which includes the recently acquired Dialog Inc. — the world's largest database network — has over 150,000 subscribers worldwide.

The company has extensive interests in newspapers, television broadcasting, including cable TV, and business and financial services. Knight-Ridder Unicom, the international division of BIS, provides specialist financial and economic services from key business centres.

Today's volatile financial markets require fast, accurate and complete information backed up by a range of powerful easy-to-use decision aids. These are built in to the Knight-Ridder real-time information products.

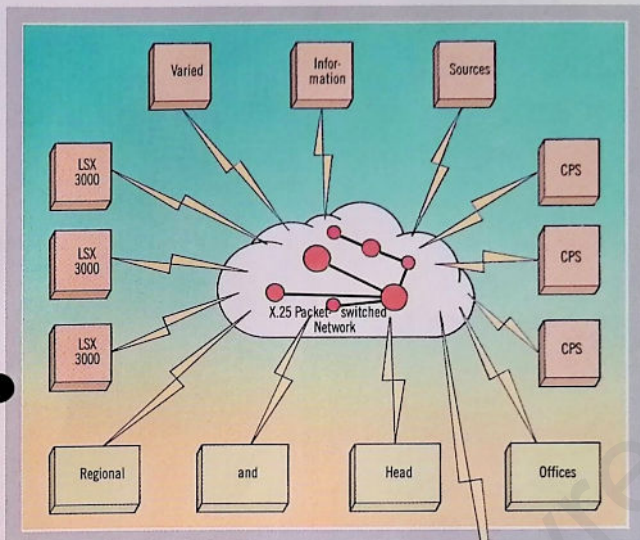
These products require a clear, reliable and economic information technology adhering to industry standards supported on a worldwide basis.

Knight-Ridder selected the Olivetti-SIA (Selected International Accounts) service because it provides the product and global support which is needed to maintain the high level of service required by Knight-Ridder's customers.

The Olivetti-manufactured MS-DOS-based PCs, which provide the necessary screen resolution, are used to deliver Knight-Ridder's real-time products.





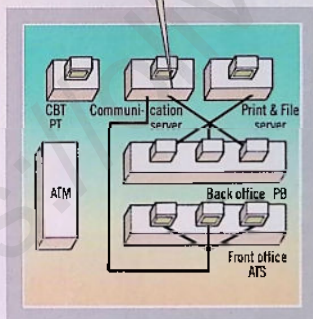


### Abbey National: A change of mission brings a commitment to open strategies

Abbey National, the UK's second-largest building society, has taken advantage of the opportunity presented by deregulation, to change dramatically the role of its 670 branches, from that of mortgage and investment centres to one of highly-motivated high street sales outlets which provide a wide range of financial services. These include current accounts, banking, life and general insurance, pensions and unsecured lending.

In order to achieve this efficiently and economically, Abbey National is implementing a system which enables any branch workstation to handle any of the major services and to access the data required from both Abbey National and outside sources.

The Olivetti PB multi-tasking PC-based workstation enables any user to access any service via the X.25 packet switching network which is being installed by Olivetti in association with Bolt Baranek and Newman. Both branch and network systems are being upgraded progressively without



interrupting business.

Abbey National chose Olivetti as its strategic supplier for branch systems and networks because of its commitment to open strategies and industry-standard products, exemplified by the Olivetti Open System Architecture. This is in line with the long-term Open Information Architecture approach which has been developed by Abbey National for its systems. This approach will not be limited by proprietary solutions or by restrictive technologies.



*"The Branch Distribution Network Project is a major strategic exercise which is vital to meet the future needs and business development of Abbey National. The architecture allows for unlimited expansion."*

BOB KNIGHTON

General Manager, Management Services,  
Abbey National

### UK building societies: Branch automation with the PB

Building societies have traditionally provided finance for house purchase and a secure haven for savings. They are now seizing the opportunities provided by deregulation and 1992 to offer a wide range of additional services to their customers.

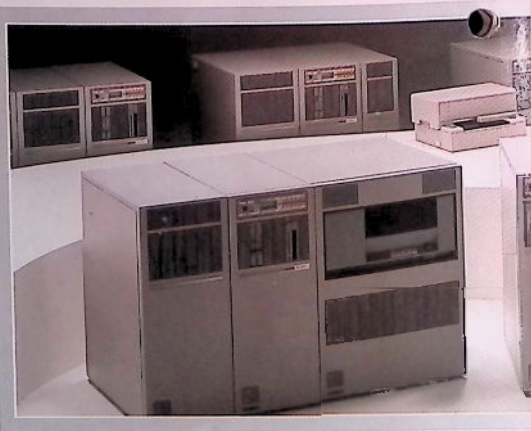
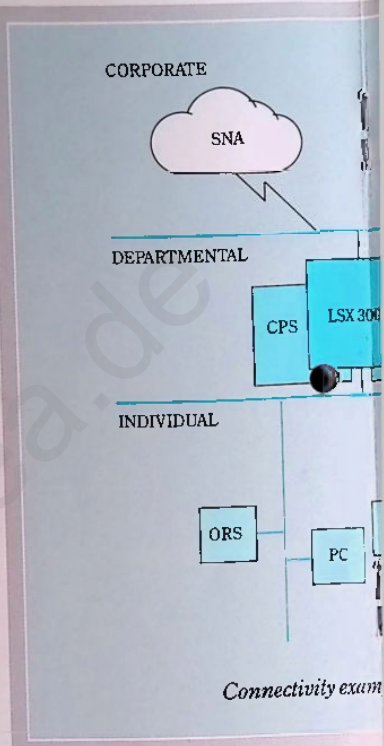
This means that users will be able to access any service required from the PB.

Olivetti, with more than 13,000 workstations, is the major supplier of branch automation and is supplying PBs to Britannia Building Society, the Leeds and Derbyshire as well as Abbey National.

# A wide range of state-of-the-art equipment supports the Olivetti Open System Architecture

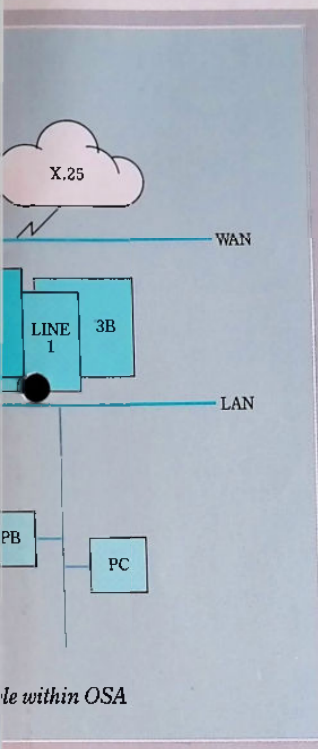


*Above, the Olivetti comprehensive offer of PCs, from portable to 386™ machines, with enhanced multi-tasking versions (PB).*



*Right, LSX3000, a complete family of 32-bit minicomputers hosting on to both UNIX System V-based and proprietary operating systems.*





le within OSA



*Above left, ORS PC-based retail systems.*



*Above right, CPS (Continuous Processing System) for fault-tolerant applications.*



# Open Systems in public service

Information is fundamental to the effective working of all types of public service, in particular government and utilities. The trend towards freedom of access to personal information calls for efficient Open Systems which are not hindered by false technical, legal or political barriers. The Olivetti Open System Architecture (OSA) is built on uncompromising support for industry standards. Olivetti is a founder member or plays an active role in the major standards organizations, such as ISO/OSI, X/Open, Posix, and so on. Olivetti products and systems are specifically designed to conform to these standards and enable government and other users, providing services to the public, to implement flexible Open Systems and to maximize the return on past, present and future customer investment.

*“Efficient information systems are the lifeblood of modern governments. Information must be able to flow freely, it must be transmitted accurately and securely, and the technology must be able to cope with the many different languages involved. Most important of all, the systems must be open and be able to communicate with one another; this means that they must be vendor-independent.”*

*The economic sense of a vendor-independent strategy which is based on standards is increasingly obvious. Expensive proprietary interface adaptations and conversions are eliminated. Competition in an open information technology market brings prices down and improves service.*

*A vendor-independent architecture must fulfil clients' needs and will evolve in response to their demands.”*

WALTER DE BACKER

Director of Informatics, European Community







*"Olivetti has an advanced R&D profile, an efficient in-house organization and total commitment."*

BØRGE KIRK  
EDP Manager, PKA



### **PKA, Danish Pension Fund: A partnership with total commitment**

PKA is the administration centre for 10 independent pension funds in Denmark, mainly in the health care sector, which have a total membership of 95,000. PKA employs over 250 people and manages funds worth about US\$2.4 billion.

In 1987, it decided to update its equipment with an integrated information system that would satisfy its widely varying needs. The new system had to be based on industry standards to ensure compatibility and flexible future development.

Olivetti supplied UNIX and MS-DOS-based systems, each covering a different application area such as funds, membership or real estate. Installation

began in November, 1987, as did training courses for employees. All hardware and the most important systems will be in operation by the end of 1988.

PKA was impressed with Olivetti's capability, advanced R&D profile, efficient in-house organization and by the intensive support offered during the period of installation and start-up. PKA chose Olivetti as an exciting partner offering total commitment.

### **Caisse Nationale des Assurances: Standards improve service**

The Caisse Nationale des Assurances Maladies des Travailleurs et Salariés (CNAM-TS) has installed 300 UNIX-based 3B2 minicomputers supplied by Olivetti.

CNAM-TS, part of the French Ministry of Social Security, refunds health payments made by monthly and weekly paid staff. It serves some 44 million beneficiaries through a network of 130 regional organizations. The systems run the highly functional AUTOMAC software, which handles all the accounting, together with GDP, a comprehensive personnel system, via more than 1,300 workstations. Starlan and the X.25 network link the mini-computers to one another and to the 3090 and DPS mainframes.

Benefits to CNAM-TS include solutions based on the industry-standard UNIX operating system. This gives supplier independence as well as improved price/performance.



### INPS, Italian Social Security: A close working relationship

INPS — (Istituto Nazionale Previdenza Sociale) is the largest social security organization in Italy with a balance sheet second only to that of the Italian State. A public body of 40,000 employees, independently managed but responsible to central Government, it operates a compulsory insurance scheme for 19 million people and 1.2 million participating companies.

Dealing with all aspects of social security, INPS handles vast quantities of data — contributions, certificates, applications, income returns — amounting to hundreds of millions of items every year. INPS first introduced automated processing in the early 1970s. Since then equipment and programmes have been continuously adapted to harness new technologies in order to cope with new needs and rising demand.

Olivetti's role since 1983 has been to respond to changing requirements by integrating new solutions with existing INPS architecture, traditionally based on the host.

In all, Olivetti's contract with INPS has provided 370 compatible mainframes; 160 minicomputers; 2,500 PCs and more than 8,000 workstations and peripherals.

Strong points of the contract have been the close working relationship with INPS, the understanding of and commitment to special departmental requirements, and Olivetti's flexible approach.

### Campania Regional Authority for Agriculture: Harnessing natural resources

It is vital to be able to predict weather patterns and to contain their effect where possible in order to harness natural resources.

In 1987, the Regional Authority for

Agriculture in Campania inaugurated a fully automated Agrometeorological service in collaboration with Olivetti, Datitalia Processing, the software company, and Irtec. The service has been created to harness natural resources and to underpin an ambitious plan for agriculture throughout the region.

The system will provide climatic maps of the region indicating what to grow and where, plant protection methods and practical guidance in frost prevention, water management and alternative energy sources.

At the heart of Campania's Agrometeorological service lies the systematic recording, collating and analysing of many thousands of information items. The Olivetti PCs are networked to automatic stations for data gathering and, via minicomputers, to the databank. Ultimately, data of a general character will be stored in a central computer while local information will be available on provincial and zonal computers. Olivetti's system is based on UNIX minicomputers with associated printers, plotters, modems and satellite receivers for Meteosat.



### Nokyo Japanese farmers' association: Systems to meet specific needs

Nokyo, the farmers' association in Japan, is a centralized association which operates through 47 local prefectures. It harmonizes agricultural production in Japan, via financial, commercial and insurance support to all of its members.

For more than 15 years Olivetti has supplied workstations to some of the prefectures and Olivetti workstations are now installed in 11 prefectures for financial and commercial applications.

Continuous innovation together with support and maintenance in local areas made Olivetti one of the best choices of partner for the Nokyo information systems. 10,000 workstations, all based on Olivetti standard products, are now installed and have been modified in order to handle Japanese characters.

In addition, Olivetti developed application software and specific hardware to comply with customer requirements.

Quality, flexibility, product range, software, services and an understanding of customers' needs are the key factors of the long working relationship between Olivetti and Nokyo.





## Hong Kong Treasury: Resilient branch configuration

The Hong Kong Treasury is a Government department which collects Government revenues. It handles 11 million receipts a year. The regular nature of these payments, and limited period during which they may be made, creates peak loads and long queues at branch offices.

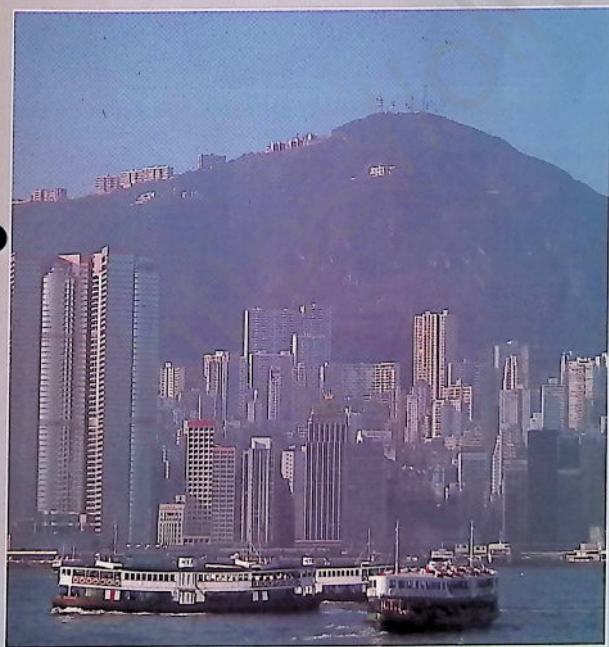
Olivetti was selected from 12 major computer manufacturers to design a system to replace the existing cash receiving system.

By automating the payment collection process, using its specialized banking printers with built-in optical character reader (OCR), Olivetti produced a system to maximize the efficiency of the collection and receiving operation.

The CREDITS (Cash Receipting, Editing, Data Input Terminal System) is based on the Olivetti PB, using industry-standard PC hardware and software, and was developed by Olivetti from Treasury specifications.

The Treasury system features Olivetti's multi-tasking MS-DOS environment, and a multi-server LAN configuration which provides resilience at the file and communications level. Olivetti PCs on the front counters of the collection centres are connected via Starlan to the more powerful branch controllers. Every collection centre, irrespective of size, has a minimum of two branch controllers connected to a mainframe via an X.25 packet switching network.

The factors which convinced the Treasury that Olivetti was to be their partner for the future, were the performance of the PB multi-tasking system, the resilience of the branch system, which provides automatic reconfiguration of file and communications servers, and the use of specialized devices such as the OCR reader/printer.



# Open Systems in expanding communications markets

Reliability and predictability are fundamental to communications. They enable innovation to reach users and create a rapid increase in services.

The sympathetic use of information technology is key to the success of this process. The Olivetti Open System Architecture (OSA) provides the structure for this and closely matches the way standards have been used so successfully to build the complex communications and postal networks. Olivetti Open Systems meet the demanding requirements of national communications and postal systems in the rapid expansion of their markets and services.

## SIP, Italian telephone service: Large-scale office automation

In Italy, SIP is responsible for the national telephone communications system. SIP has an annual turnover of about US\$12 billion and employs over 78,000 people. Subscribers are increasing at the rate of 850,000 every year. By 1991, it is estimated that these will total more than 23 million subscribers.

To support this it was necessary to give more responsibility to peripheral units; to provide a reduced connection time for new subscribers and to emphasize information systems technology.

Moreover, SIP's data transmission services are expected to need another 340,000 terminals within a few years.

While SIP regarded office automation as the fundamental instrument of innovation, special considerations had to be satisfied: a sympathetic approach to the ethos and future development of SIP; compatibility with its existing data processing system; and the use of the best available technology. Olivetti's successful solution depends on CPS fault-tolerant systems. Some 30 CPS are linked via X.25 to 2,000 PCs and terminals.

Olivetti's offer covered handling of text, data processing, electronic communication, ordering, invoicing and access to databanks.

## Telefonica, Spanish telephone service: An advanced solution for directory enquiries

Telefonica manages the Spanish telephone network. It was among the first organizations in Spain to make wide-spread use of computers and is constantly seeking to introduce new services taking advantage of the latest technologies. A major development of Telefonica is the automation of its national directory enquiry service.

Based on its wide experience of the computer industry, Telefonica chose Olivetti's solution based on the fault-tolerant CPS. So far, three CPS with 1,300 terminals have been ordered. These will be installed over the next two years.

The application software was selected after an intensive survey by Telefonica of similar applications in Europe and the USA. The Olivetti solution, which combines appropriate application software with state-of-the-art high technology hardware, was the most advanced available.

## Korean Post Office: 1.5 billion transactions a year

The Korean Post Office is managed by the Ministry of Communications. It is diversifying its services, notably in the field of banking and cheque services. It has 40,000 staff, 2,500 branches and



*"Office automation is a vital step in the improvement of internal communications."*

AUGUSTO LEGGIO  
Direttore Sistemi Informativi, SIP



*"The contract was won by KCI/Olivetti because it provided a system able to handle front- and back-office functions and the 5,000 Korean and Chinese characters."*

S. E. HONG  
President, KCI





processes 1.5 billion transactions a year.

The PTT banking operations were mechanized in 1984 with 250 workstations installed in the major branches. In 1985, it decided to extend automation to every branch, both for banking applications and for office automation.

The unique element in Olivetti's proposal was that one system could serve both functions. Olivetti tendered in conjunction with a local company, Korea Computer Incorporated (KCI), and a joint technical team was established. Its first task was to create a system to handle the 5,000 Korean and Chinese characters.

The contract was awarded to KCI/Olivetti for 1,500 PBs in the first phase to be installed in every branch, using an SNA environment; this will be followed by conversion to LAN with 286/386 servers; and, finally, the incorporation in the network of ATMs and cash dispensers.

### **Danish PTT: Faster and more secure service**

The Danish PTT has offered a postal cheque service since 1920. To date 550,000 customers generate 3.3 billion transactions each year through 1,300 offices throughout Denmark.

The new postal terminal system (PTS) being installed in 925 PTT offices has evolved from the mainframe system. PTS automates all the service functions on the post office front counter as well as supporting basic office requirements.

Customer benefits include a faster and more secure service to which new features, such as theatre ticket booking can be added in the future.

3,000 Olivetti multi-tasking PBs form the basic platform. These are run on an enhanced version of MS-DOS, forward compatible to MS-OS/2, and are linked by the standards-based Olnet Ethernet LAN and via file and communications servers to the host, using X.21 and SNA.

*"Olivetti's system has created customer benefits which include a faster and more secure service."*

NIELS BODHOLT

Section Manager, Danish PTT

### **Infoline: Malaysia's fault-tolerant information service**

Making a major purchase, booking a room or choosing a good restaurant are problems that consumers in Malaysia can now handle with a simple 'phone call from the comfort of their homes, thanks to Infoline, an electronic consumer directory service.

Information on the various business sectors taking part in the scheme is stored in an Olivetti fault-tolerant CPS. The operators on the Infoline exchange, managed by Malaysia's Dataphone Sdn Bhd, answer subscriber enquiries by accessing the CPS through one of 30 PCs running a special data management programme which provides access to the databank.

### **Minitel: Videotext**

Millions of French homes are equipped with "Minitel" terminals linked to their telephones, enabling them to access databanks and consultancy services, to perform bank transactions, to shop, to play videogames and even to find a partner through the unexpectedly successful *messagerie rose*, a "lonely hearts service".

Videotext has provided an exceptional opportunity for the 3B line. Thanks partly to the company's policy of co-operation with UNIX software houses, 3B minicomputers operate in a wide range of Videotext sectors from publishing and mass merchandising to booking systems and health services; six of the first 10 French Videotext systems use 3B minicomputers.

# Open justice

The maximum degree of local responsibility is essential within a system which must not be allowed to become overcentralized and therefore prone to manipulation and poor performance. The Olivetti Open System Architecture (OSA) provides the key to this. It encourages the development of homogeneous systems which talk to each other and enables common methods to be used throughout an organization, such as a police force. It overcomes unnecessary technical constraints and creates a regime in which the free flow of information is routine.

## Spanish Ministry of Justice: Improving administration with LSX3000 and UNIX

The Spanish Ministry of Justice is responsible for the administration of justice throughout the country. It allows its regional authorities a high degree of independence in the conduct of more than 2,000 judicial courts; 3,000 judges preside; 60,000 people are employed; 12,000 penitentiaries are maintained.

In 1983, the Ministry of Justice established the basis for the introduction of technology into the administration of the courts through the Inforius project (Judicial Courts Information System).

The installation of more than 200 Olivetti minicomputers began in 1984. In 1988 the Ministry decided to adopt a homogeneous strategy based on UNIX 32-bit minicomputers, in order to obtain a standard global solution. This second stage begins with the installation of 67 LSX3000 systems which will grow to a very large installed base conforming to X/OPEN and SVID/POSIX recommendations.

The Ministry has demonstrated its confidence in Olivetti, its partner and principal supplier since 1984, by the order for the LSX3000 minicomputers.



## Rijkspolitie, Dutch Police: Comprehensive service

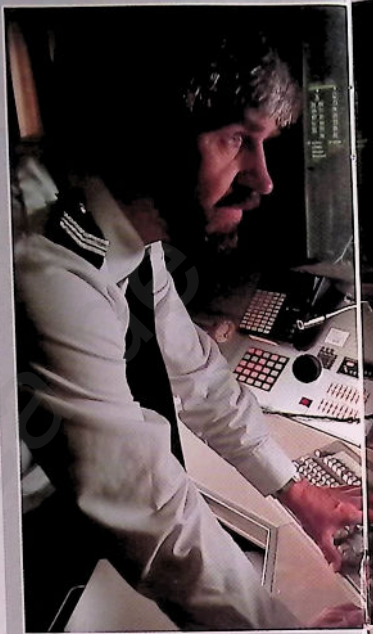
The Rijkspolitie, the Dutch state police force, is responsible for the control of all forms of traffic, as well as normal police duties. It is highly decentralized: its 14,000 members are organized into 251 groups or districts.

A two-year study showed that money would be saved and efficiency increased by the use of computers. As a result, the Rijkspolitie decided to automate throughout at group level.

Recognizing the needs of first-time users and the wide range of skills and interests involved, the Rijkspolitie planned a three-phase programme to ensure smooth installation and trouble-free start-up.

Olivetti's ability to provide a totally comprehensive service was a principal factor in winning the contract. Key elements included extensive training and support; the use of industry-standard equipment; and connectivity with the existing VAX minicomputers.

The contract was signed personally by the Minister of Justice, in recognition of its importance both to the Dutch state police force and to Olivetti.



## Lord Chancellor's Department: Continuous service for courts in England and Wales

In the UK, Olivetti plays an important role in the development of both judicial and police systems. The Lord Chancellor's Department is responsible for the administration of the Crown and County Courts throughout England and Wales.

The 270 County Courts, the busiest, employ nearly 6,000 staff and bailiffs. A major area of the County Courts' business is the issuing of summonses and the collection of debts which are accountable to the actual creditor. Olivetti Line 1 minicomputers are used to provide accounting facilities in the 150 largest courts. The software was specified by the Lord Chancellor's Department and is written and maintained by Olivetti. New facilities are being added regularly while Olivetti's four-hour call-out service ensures that the business of the courts can be continuously maintained.





## Metropolitan Police: Using human resources more efficiently

The Metropolitan Police area covers 800 square miles of Greater London and employs 40,000 people.

Computers have been used for police work for 25 years but, in order to make more efficient use of its human material resources, and to aid decision-making, the Met decided to install new systems as part of its TOPSY (Territorial Operations Systems) project.

Ninety 3B minicomputers were supplied by the systems and software company, Digitus Ltd. Software includes a "mapping suite" to provide a graphic display of crime statistics.

The new systems were designed to save a great deal of overtime and will also provide localized information for analysis by Divisions, give immediate access to essential personnel data and map criminal activity in detail.

Digitus chose to offer Olivetti's



UNIX-based systems to protect the growing investment of the Metropolitan Police in data and software by providing portability between different types of equipment.

*"The Metropolitan Police chose Olivetti's UNIX-based system to protect its growing investment in data and software."*

# Open Systems serve transport and retail

Rapid changes in the nature and type of demand are particularly endemic in all service industries. Flexible, reliable systems enable them to work smoothly and safely, interacting with one another. They need open, compatible systems to function effectively. They also call for continuously high levels of support to match their own round-the-clock service. The Olivetti Open System Architecture (OSA) matches these requirements.

## ACI, Italian Automobile Club: Vehicle tax collection

ACI, the Automobile Club of Italy, represents and protects the interests of the Italian motorist. Road safety, tourism, driving information and breakdown assistance are among its services. ACI is also responsible for the collection of motor taxes and for the Public Registry of motorists. It has 900 collecting offices throughout the country and 95 provincial offices.

With 40 million payments annually and 30 million vehicles on the road, an automated system was the only way to improve efficiency. ACI required data processing at each collecting office with local control, the rapid interchange of information throughout the network and reliable links with a central database. ACI also wished to eliminate repetitive, manual tasks and to reduce paperwork through the integration of information systems between the centre and local offices.

The Olivetti solution is tailored to the requirements of each office. For the tax collecting offices it is based on a PC LAN; for the provincial offices on SP600 and Line 1 minicomputers, connected to the mainframe with 3270 protocols.

ACI Informatica has recently examined Olivetti's proposal for the use of the LSX3000 minicomputers in the Public Registry. The proposal has been found to be efficient and coherent and in line with the philosophy chosen by ACI in designing its current information system.

## Autostrade: New services for Italian motorways

Autostrade S.p.A. manages 3,000 kms of Italian motorway, and is one of the largest supplier of services in Italy. These range from traffic control, maintenance of safety standards (alarm systems and SOS facilities) to supplying information to travellers.

To improve its internal organization and external communications, Autostrade required a fault-tolerant automated system that would gather, process and distribute information. The SIV Road Information System has to be reliable with a remote monitoring facility and full central control of the nine local units, each responsible for its own 300 km section of motorway.

SIV has also to conform with Autostrade's architectural approach, based on the use of standards: MS-DOS for PC-based workstations, ISO/OSI for WAN (it was one of the first companies in Italy to use X.25) and LAN (Ethernet and FDDI in optical fibres).

Olivetti's fault-tolerant solution provides two CPSs for the central management and one CPS for each of the nine areas. PCs are used as intelligent workstations. SIV comprises sensors with remote cameras to report motorway conditions, signalling systems and multiplexing for information points in service areas — all linked to CPS 32.

The strength of Olivetti's offer lay in the continuity of operations and easy integration through the use of standards with Autostrade's packet switching



networks and mainframe. A particularly important factor was SIV's modularity which allowed the necessary flexibility to evolve and respond to changing needs and motorway conditions.

## Swiss Railways: OSA meets demanding standards

For a land-locked, mountainous country the efficiency of the Swiss Railways system is justly famous.

In 1985, the Swiss Railways came to Olivetti for the development of a decentralized computer system to handle scheduling information, ticket sales, and related administrative procedures.

Olivetti devised a tailor-made system, based on Line 1 minicomputers. By June, 1988, plans were agreed to replace the Line 1s with LSX3000 minicomputers. The first 400 will be installed by the end of 1989 and will reach a total of 1,000 by 1992. In addition, 1,000 PBs, more than 300 LSX workstations and 1,500 printers will have been connected to the LSX systems.

It will soon be possible to buy tickets via terminals which will debit the cost to special current accounts.

All in all, a better way to run a railway and another example of the success of Olivetti's OSA, its flexible approach to problems and its compatibility with other systems.





*"Olivetti's Open Systems are flexible and compatible with other systems. They enable us to run the railways effectively."*

J. EGGER

Information Systems Manager, Swiss Railways



### Danish Railways: Decentralization with LSX3000 and UNIX

UNIX-based LSX3000 administrative and technical workshop systems are the key to the decentralization and integration of two leading railway companies operating in West Zealand, Denmark.

The objectives were to increase administrative efficiency and to transform technical workshop management.

By 1992 each railway station will be able to register every transmission, every ticket fare, every wage payment, as it happens.

### RENFE, Spanish railways: Industry-standard ticketing systems

RENFE, Spain's national railway system, covers a country of 500,000 sq kms, much of it over difficult and mountainous terrain. It carries 220 million passengers annually, over 2,000 miles of track linking Bilbao to Malaga, Barcelona to Madrid. Its famous Talgo express connects with France's SNCF.

A ticketing system for trains that run on RENFE's domestic routes was put out to tender in April, 1988. RENFE stipulated that the system should conform to industry standards, be entirely flexible in its applications, and be able to be upgraded when appropriate. Budgets were limited.

RENFE chose Olivetti to supply an initial order of 200 PC-based ticketing systems because of its offer of a fully committed back-up service covering installation, training and on-going maintenance.







### **Alitalia: PBs for the cargo system**

Last year, Alitalia, Italy's national airline, carried 13 million passengers and over 180,000 tons of air freight, worldwide.

Alitalia's automated cargo reservation and handling system (FAST) covers over 100 cities with its principal operating centres in Rome, London, New York, Tokyo and Bombay. FAST controls all aspects of cargo transportation, including marketing, cost control and revenues, sales targets, the selection of profitable traffic, and performance analysis.

The existing architecture depended on dumb terminals linked to a host, either through Alitalia's private network or through SITA, the international airlines telecommunications/information service. The Olivetti solution provides intelligent workstations which can improve efficiency, optimize communication capability and increase productivity through the use of locally stored input masks and error messages. As a result, the dumb terminals in 55 cities worldwide are being replaced by intelligent workstations, most of which will be operational in three to five years.

Olivetti is supplying and installing these systems based on PBs, for client and server, connected via Starlan and supporting ALC and PARS software.

Points that clinched the contract for Olivetti included the use of MS-DOS-based industry-standard hardware; multi-function workstations; availability of high-level language; and sophisticated data management applications — all part of a totally flexible open architecture.



### B&Q: Retail technology strategy for 1992 leadership

B&Q is the UK's leading Do-it-Yourself multiple and its fourth biggest retailer. It has over 20,000 product lines, 230 Supercentres and 12,000 staff. B&Q achieved profits of US\$100 million on a 1987 turnover of US\$1 billion. The company looks set to become Britain's largest retailer (in terms of selling space) by 1991.

B&Q needed a fast, accurate way of knowing what it was selling over a specific time and it was committed to retail information technology from the outset.

Since 1984 B&Q has been using 3680POS systems nationwide. For the next stage in its implementation of checkout scanning and automatic stock control in all its stores B&Q chose the Olivetti Retail System ORS500 which includes Olivetti POS terminals, store controllers and Starlan. It incorporates POS terminal price look-up files.



Key factors in the B&Q decision included the flexibility and resilience of the Olivetti ORS500 system. Unlike most systems, if the master PC and back-up files go down, the tills still function normally, enabling the store to go on trading indefinitely. Further, the Olivetti non-proprietary Open System approach means that B&Q can protect its investment to date and in the future without being dependent on any one supplier.

### Holiday Inn: Managing people, not paper, worldwide

The Holiday Inn hotel system manages a chain of over 1,600 high-quality hotels worldwide.

It introduced its computerized room reservation system, Holidex, in 1964, setting new standards in speed and accuracy. With foreknowledge of individual details and requirements, guests receive a friendly, personalized welcome.

In 1986, it was decided to replace the system. Essential requirements included the use of industry standards; a single source of supply and maintenance; and a worldwide support facility. Of 12 manufacturers approached, three were shortlisted. Olivetti was awarded the 10-year



contract in December, 1986 as the main supplier under the SIA (Selected International Accounts) programme.

Olivetti's solution offered a fast, reliable worldwide room reservation service — multiple bookings can be confirmed in a little over two minutes. Integrated accounting and credit validation are fully automated so that check-in and check-out times are much reduced.

Linked to the central database in Memphis, local PCs provide management with a growing bank of statistics for sales and marketing analysis and have access to up-to-the-minute



*"Olivetti offered the system that best matched our current and future requirements. It lives up to B&Q's expectations."*

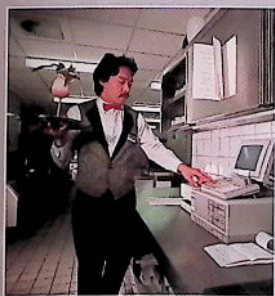
MIKE SPALDING

Director of Information Technology, B&Q





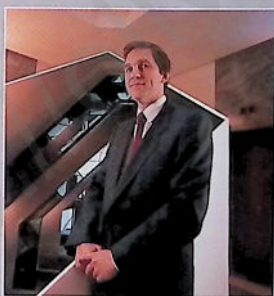
## Open Systems meet the challenge



information. The system gives each hotel more effective room management, maximum sales opportunities, tighter overall control and better liaison between front desk and back office.

Olivetti's system offered communication flexibility with X.25, 3270 SNA, TTY and TELEX, and Starlan with migration of software across architecture in C language and MS-DOS/MS OS/2.

Holiday Inn handles upwards of 33 million reservations a year. It chose Olivetti as its source for all components, recognizing Olivetti's commitment to industry standards, its integrated product line and



*"The Olivetti system's flexibility and development potential, combined with ease of installation and simple, user-friendly training, completed a highly cost-effective package."* ROBERT G. J. P. VERASDONCK

Vice-President, Holiday International

the worldwide availability of technical support and maintenance. The system's flexibility and development potential, ease of installation and user-friendly training, completed a highly cost-effective package.

These case studies show how Olivetti meets the challenge of supplying cost-effective Open System solutions to information management problems.

With OSA, it provides a strategic framework which matches the information technology policies of its customers. This leaves them free to meet changing market conditions and to adopt new technologies both quickly and economically.

All this is possible because OSA is based on a genuine commitment to standards and has the support of a comprehensive range of technologically advanced products.

The Olivetti Open System Architecture permits customers to link their information systems at every level, right across their organizations — and to do so in a way that is open to their users and to the future.

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Page 2/3, Daily Telegraph

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