

TELECOMMUNICATIONS SYSTEMS

The telecommunications industry continues to evolve with the rapid growth of Internet usage, such as e-commerce and network businesses, both of which are becoming an intrinsic part of our daily lives. Telecommunications traffic is shifting from fixed-line/voice networks to mobile and IP networks. As customers start procuring equipment worldwide, manufacturers are faced with the task of developing "global" products and are required to expand their operations internationally to remain competitive. In the future, companies will spend less on infrastructure, investing more in software and services. Corporate demand for proposals for total network solutions will also expand.

In the public network market, fierce competition has companies facing off to see which firm can offer superior new services and provide better savings to customers. General market trends are seeing more users switching to multimedia-ready systems that can offer a variety of other options. We have begun shipping our NS8000 series nodes that accommodate integrated services digital network (ISDN), and we are also scheduled to deliver analog and leased circuit models. We have also begun supplying various carriers with set-rate IP services, Internet telephone services and inter-network connections. We launched sales of the Asynchronous Transfer Mode-Passive Optical Network (ATM-PON) system, which is best suited for fiber-to-the-home (FTTH), a high-speed access system for the global market. This system was jointly developed with Nippon Telegraph and Telephone Corporation (NTT) and Lucent Technologies, Inc., and is based on the Full Service Access Network (FSAN) specification/ITU-T standard.

The private network market is accelerating its shift to IP networks. New network systems are capable of transferring voice and data over these networks. In addition, companies are looking to lower their telecommunications and operations costs, at the same time demanding greater operating efficiency. Reflecting these trends and market needs, we developed the Discovery<sup>®</sup> 2000 Type S multimedia integrated communications node, which incorporates a built-in VoIP function. We are also developing high-added-value solutions for offices, such as groupware using data transmission by Japan's Personal Handyphone System (PHS).

Computer telephony integration (CTI) is radically transforming communications. During the period, we introduced our latest product using IP technology, CTstage<sup>®</sup> V3.0, which greatly improves communications. We also introduced IPstage<sup>™</sup>, an IP-PBX that incorporates MoIP technology, and the BV1250 Internet Voice Gateway, which connects telephone systems to IP networks. We are a recognized frontrunner in the CTI and MoIP fields, and we are involved in handling network solutions mainly for components in these two areas. We expanded our YS-3000 series of Moving Picture Experts Group 2 (MPEG-2) systems, which offers high-speed digital video compression with systems that transmit broadcast-quality video over IP networks.

In the mobile communications market, we are teaming up with leading overseas manufacturers to provide solutions for wireless equipment that facilitates IP.



Demands for high-speed and large-capacity telecommunications services are increasing along with rapid growth of the Internet and video transfer traffic. Oki's ATM-PON system provides an optimum solution for such demands with minimum cost.



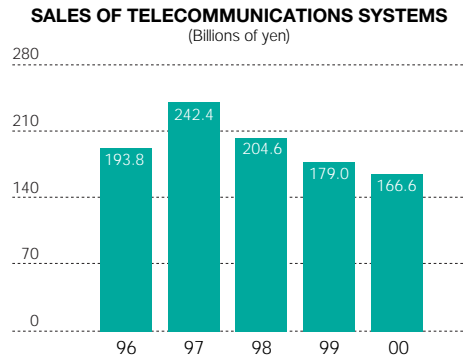
The Discovery<sup>®</sup> 2000 Type S incorporates IP functions within a PBX and is capable of building private networks of any scale as it uses IP network control signals. For this reason, it is a suitable network solution for all next-generation businesses.



IPstage<sup>™</sup> provides a communications environment befitting the 21st-century office owing to its ability to integrate and transmit voice, data, facsimile functions and image media over IP networks. The integration of the communication network environment, separated by media, allows for drastic cost reduction. It provides many solutions, including those for CTI services.



Successor to the BS1200, which was nominated "best choice" by eight organizations in its first year on the market, the BV1250 Internet Voice Gateway easily connects to existing telephone systems for sending voice data over IP networks and makes calling cheaper. This VoIP product complies with international standards, delivering natural sound and high-quality real-time facsimile transmissions.



## INFORMATION SYSTEMS

In the dynamic information systems environment, our system solutions operations provide IT solutions, mainly to software and service businesses. The motto for these operations is "creating customer value."

Financial institutions, travel agents, airlines, railways, automobile and other manufacturers, telecommunications carriers, government and public agencies are the main users of the systems solutions. Not only are these industries aiming to boost their operating efficiency, most are experiencing structural changes reflecting the growth of the Internet and IT systems, as well as networks.

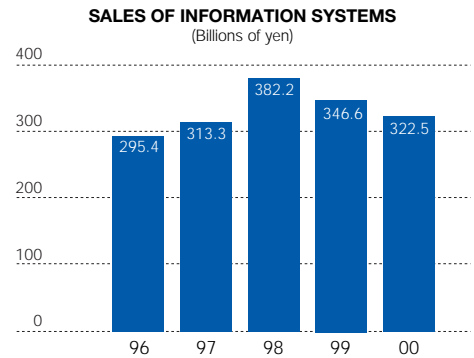
We launched sales of OnDelivery/FSS, our flagship system solution for 21st-century retail banking services. This solution, based on a next-generation distributed processing architecture, comprises a delivery channel solutions group for front office customer service and back office solutions for support. Three hallmark systems were launched in the delivery channel solutions category during fiscal 2000. The ATM 21B series is one of the first ATMs (automated teller machines) capable of handling the new ¥2,000 bills. The RT-400VII remote branch terminal system for unmanned branches is equipped with advanced functions, allowing customers to open new accounts and have access to other consultation services. The CX-220 cash terminal significantly increases cash handling efficiency. In an industry first, we introduced the ComStage distributed application platform, middleware that conforms to Windows DNA architecture developed by Microsoft Corp.

In the e-commerce market, we introduced Smart Payment, a next-generation payment solution supporting multiple payment methods, such as debit/credit cards and point systems. This system, already in use by members of a business association in Tokyo, was released in tandem with the full-scale launch of debit card services in Japan from March 2000.

We combined our highly acclaimed CTstage® CTI system with a mobile telephone and global positioning system (GPS) to create the GPCTI navigational service solution. The system provides a wide range of services, from automobile and personnel tracking services to location-related information services.

As part of our enterprise resource planning (ERP) systems business, we started SCM business using Baan SCS products with Baan Co., N.V., of the Netherlands. We have also formed a partnership with Komatsu Soft Ltd. and SSJ K.K., to expand the scope of our ERP systems business using Baan's product. Under this partnership we unveiled software that interlocks Baan ERP products developed by Baan, and SuperStream, an accounting software developed by SSJ K.K.

Our system solutions business is a major systems supplier for the central government and local municipalities. It provides ETC systems, and systems for tunnel hazard prevention, airport control, marine traffic and other traffic information. In addition, we are helping government and regional administrations in Japan to become "electronic" by supplying them with electronic official document exchange and information systems. We also deliver oceanographic monitoring systems to record and analyze global marine phenomena. In R&D, we are working on new "electronic government" and "super electronic government" systems, along with ITS and airport control systems for the public sector.



The ATM 21B boasts better economical service for users than previous models and handles the new ¥2,000 bill. These ATMs (automated teller machines) include an image reader for processing applications or forms and a multipurpose printer, allowing them to serve as multifaceted customer service tools.

The GPCTI system combines a global positioning system with a mobile telephone and the acclaimed Oki CTI server, CTstage®. The first in the industry to employ the dual tone multiplexed frequency (DTMF) (push-button signal) protocol, it can handle data from various sources, such as mobile telephones, e-mail and faxes, to provide useful tracking and communications services for mobile workers and remote dispatchers.



Smart Payment is an extremely economic, scalable payment system solution that permits debit/credit cards, electronic money and points systems to be added in stages. Our standard system solution includes consulting, system integration and servicing. Outsourcing service from our OCA Operations Center is available as an option.

## ELECTRONIC DEVICES

Our decision to concentrate on logic and system LSIs and non-PC memories, along with a recovery by the semiconductor market, contributed to a strong surge in revenue and earnings in this segment. In addition to basing production of logic and system LSIs around our SPA strategy, we have developed the timesaving  $\mu$ PLAT<sup>®</sup> integrated platform for system LSI devices. The core hardware of the  $\mu$ PLAT<sup>®</sup> is a central processing unit (CPU) licensed by Advanced RISC Machines Ltd. (ARM), which is powered by a software and a support platform. These platforms provide a total system development environment for delivering responsive customer support and short lead times.

To further streamline SPA product development, we joined Pittsburgh Digital Greenhouse, a cooperative with major companies such as Sony Corp. and Cadence Design Systems, Inc., and including three Pennsylvania universities and the Commonwealth of Pennsylvania. The corporate unit will set up an Internet-based semiconductor intellectual property development environment in the area.

The SPA process yielded two noteworthy results this period. The first is the MS87V1021 voice recorder incorporating a 2-megabit built-in DRAM, a microcontroller, voice recording and playback functions, and an analog circuit all integrated onto a single chip that will have numerous applications as a system LSI. The second product line consists of the ML673000 and the ML67Q3001 microcontrollers for ETC systems used in road traffic control and featuring dedicated short-range communication control circuits integrated on a single chip with an ARM CPU core.

For the telecommunications market, we devised the ML7023 data transmission microcontroller for personal digital cellular telephones. It supports asynchronous serial, parallel and AT commands to facilitate high-speed data transmissions.

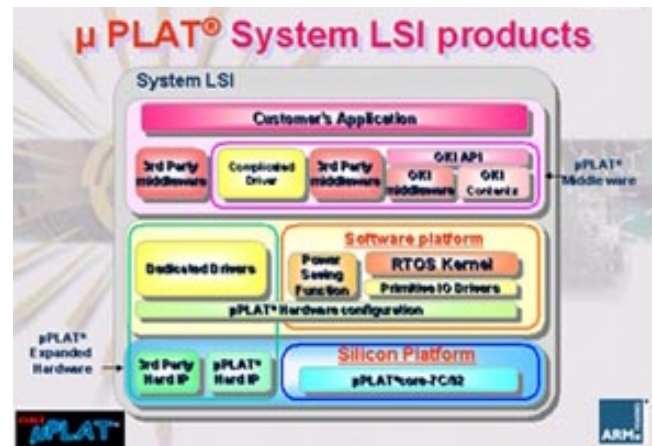
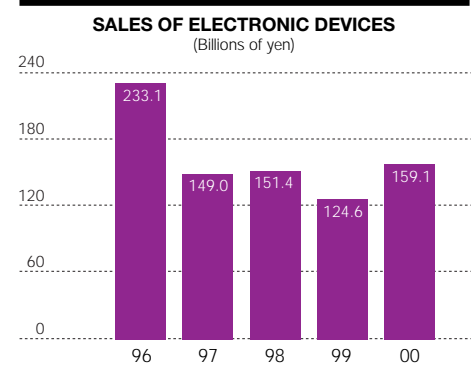
We made significant progress in refining SOI process technologies to create 0.35-micron line widths with power consumption significantly lower than that of conventional wafers. We have already begun to supply customers with samples.

To boost our packaged product operations, we formed Integrated Electronics and Packaging Technologies, Inc., with Casio Computer Co., Ltd. This joint venture will develop next-generation chip-size packaging labelled the Wafer-level Chip Size Package (WCSP). The goal is to produce low-cost and ultimately small, die-size packages for mobile information products that are more compact and functional.

On April 1, 2000, we reorganized under the "in-house company" system and established the Silicon Solutions Company. The move will allow us to be more responsive to customer needs.

In our components divisions, gallium arsenide (GaAs) chipsets for ultra-compact transmitter/transceiver modules used in optical transmission systems and optical modules for trunk system monitoring recorded favorable sales in the optical fiber network market, particularly in North America, where continued rapid growth is expected. During the period, we entered new markets, introducing a 5-volt, single power source analog integrated circuit (IC) and 2-volt, single power source, low-power consumption digital IC featuring 16:1 Multiplexer (MUX)/1:16 Demultiplexer (DEMUX) capabilities for use in 10-gigabit-per-second optical transmission systems.

Over the next fiscal year, we will be seeking to expand our share of the optical module market. Furthermore, we will launch new products in the gigabit ether market, such as surface mounted optical modules and 10-12.5 gigabit-per-second GaAs chipsets, as growth is projected in the subscriber and data transmission markets. Accordingly, we anticipate sales to increase by approximately 80%, to around ¥13 billion.



The  $\mu$ PLAT<sup>®</sup> consists of the three basic 'Silicon', 'Soft ware' and 'Support' platforms. The core CPU is an ARM processor.



The MS87V1021 voice recorder incorporates a 2-megabit DRAM, Micro Controller Unit (MCU) and analog circuit.



The ML673000 and ML67Q3001 are single-chip MCUs for ETC future traffic control systems, which integrate with ARM.