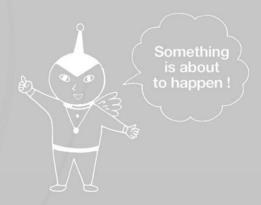


# **Ubiquitous DNP**



C Tag/RFID



**DNP Annual Report 2003** 

Year ended March 31, 2003



Shueisha, the predecessor of today's Dai Nippon Printing Co., Ltd. (DNP), was founded in 1876 as Japan's first full-scale printing company.

The Company got its start in publication printing but has since diversified its operations to include commercial printing, business forms, packaging, decorative materials, electronics and information media supplies.

Today, the DNP Group of companies has approximately 35,000 employees and is the world's largest corporate group with comprehensive printing operations. In Japan, the DNP Group maintains 22 division offices, 52 sales offices and 33 plants in major cities, as well as 15 sales offices and eight plants overseas.

Amid growing demand for information, the DNP Group, backed by its position of **leadership** in Japan's information industry, is continuing to expand its businesses by exploring new **technological** and marketing **possibilities** in the world of printing.

#### Contents

Financial Highlights	8
Message to Our Shareholders	9
DNP @ a Glance	14
Products	14
DNP Business Solutions	18
Ubiquitous DNP	20
Interview with the President	20
Smart Cards	24
Electronic Form	26
IC Tags/RFID	28
Information Distribution	30
Hots Off the Press	32
Information Communication	32
Lifestyle and Industrial Supplies	42
Electronics	44
Governance	48
Improving Corporate Governance	48
Boad of Directors	49
Major Subsidiaries and Affiliates	50
Financial Section	52
Management's Discussion and Analysis	53
Selected Financial Data	66
Consolidated Financial Statements	68
Notes to Consolidated Financial Statements	73
Report of Independent Certified Public Accountants	86
Investor Information	87

Welcome to the world of ubiquitous networking, where people, things, everything in space and space itself become information terminals.

It is a world brought close together through a network that keeps people connected, along with the things we use and the space in which we live.

It is not too much to say that in this world, people communicate with things, and the space around us carries messages to us.

Ubiquitous networking is always accessible, and everywhere in this world is DNP.

The keyword, here, is "individuation."

With DNP, you hold the key to the world of ubiquitous networking.



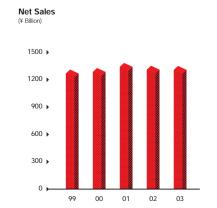


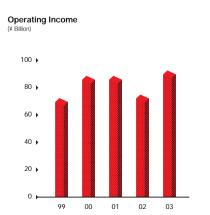
# **Financial Highlights**

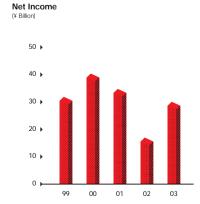
Dai Nippon Printing Co., Ltd. and Consolidated Subsidiaries

Years ended March 31, 2003 and 2002

	Y	en in millions excep			thousands except	% change
		2003		2002	2003	2003/2002
FOR THE YEAR						
Net sales	¥	1,309,002	¥ 1,3	311,934	\$ 10,908,350	-0.2 %
Operating income		89,881		72,242	749,008	24.4
Income before income taxes		42,244		26,150	352,033	61.5
Net income		28,774		15,609	239,783	84.3
Per share data:						
Net income						
Primary	¥	37.80	¥	20.31	\$ 0.32	86.1 %
Fully diluted		37.67		20.28	0.31	85.7
Cash dividends		19.00		18.00	0.16	5.6
AT YEAR-END						
Total stockholders' equity	¥	942,083	¥	946,998	\$ 7,850,692	-0.52 %
Total assets		1,450,027	1,4	132,458	12,083,558	1.23







# Message to Our Shareholders

#### A New World

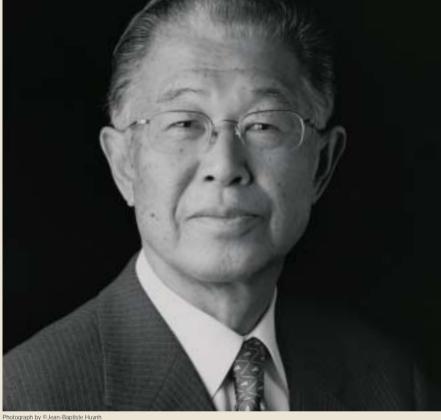
Today, ubiquitous computing is about to change the ways of our world.

It is a new world in which the ability to gather and dispatch information is available wherever, whenever, to whomever, without people even having to think about computers. It is an era in which people can use networks to connect computers, information appliances, car navigation systems, automatic vending machines, game machines and a host of other devices, and use a mere mobile phone to operate such things remotely. Until recently, this kind of society existed only in people's dreams, but now it is about to become reality. The society we live in is moving forward in a wave of changes.

In the business world, too, innovative minds have begun to make moves in anticipation of the ubiquitous networking society. Computers, telecommunications, electric appliances, finance, automobiles, distribution, and apparel...just about any business in Japan, in fact, has seized business opportunities in its own way, and has begun to benefit from ubiquitous computing.

It may surprise you to hear that DNP, which until now has grown through the application of world-class printing technologies, also has a unique, inimitable position when it comes to ubiquitous computing. DNP's roots lie in printing on paper – a technology that revolutionized the world at the time of its invention for delivering information on pieces of ubiquitous paper. Thus, the businesses related to the upcoming ubiquitous networking society are completely in line with what DNP has always been doing.

Now that information is often presented in digital formats, DNP has added information technologies for texts, images and sounds to its traditional technologies centered on the physical aspects of printing. In this way we have succeeded in rapidly expanding our business into new dimensions. We have now accumulated expertise and built up a track record related to fields such as data mining, data processing, as well as security and software development from the standpoint of conducting information transactions.



Yoshitoshi Kitajima

Chairman of the Board President and Chief Executive Officer

<sup>1.</sup> U.S. dollar amounts have been translated from yen, for convenience only, at the rate of ¥120=U.S.\$1, the approximate Tokyo foreign exchange market rate as of March 31, 2003.

#### **Ubiquitous DNP**

I believe that in the 21st century society, there will be mutual stimulation among individuals, and between individuals and society, and that this will generate new values. In other words, it will be a society marked by "emergent evolution." What will make the realization of such a society possible is the ability to freely exchange opinions between individuals, and between individuals and society - an ability made possible through ubiquity.

In October 2001, in celebrating the 125th anniversary of DNP's founding, we formulated a 21st-century Vision aimed at expanding our corporate value over the long term. Under the slogan concept phrase, "DNP: P&I Solutions Provider," we have undertaken a variety of business strategies in which "P" stands for printing technology and "I" stands for information technology. DNP aims to blend these two technologies, which are our core competencies, and provide solutions that only we can offer our customers. By doing so, we hope to contribute to a society that benefits from emergent evolution. Indeed, the term "DNP: P&I Solutions Provider" is also the key to DNP's participation in the ubiquitous networking society.

Perhaps the easiest way to explain this is to use the example of IC tags, also known as Radio Frequency Identification Devices (RFID). These tags are said to be the bar codes of the future, and have attracted attention because of their ubiquitous nature. IC tags are attached to products or other objects to be controled. Given that DNP has worked with bar codes in the past, they definitely fall within the parameters of our business. There are developments underway that will allow the functions of IC tags to be printed directly onto products in the future. In addition, by applying printing technologies that we have already developed, we can make these tags in various formats such as cards, adhesive labels and plastic formations, depending on the purpose for which they are to be used. This is DNP's forte. Thanks to our experience in designing antennae for contactless smart cards and our etching technology used for shadowmasks and other products that require extreme care, we are able to design and manufacture antennae for IC tags in the shapes that our clients desire. While we have simply extended our printing technology up to this point, we will expand our IC tag

business through the fusion of printing technology and information technology.

Ever since our founding, we have always been a custom-oriented business: We ask our clients what they want and make entirely different products for each client. The way we have grown is by listening to our customers' wishes, trans-coding customers' information according to their desired methods or even better methods, and proposing information solutions with high added value. Through such proposals, we were able to understand clients' supply chains from one end to the other and established ourselves in a position to make various proposals for every phase of the business flow. This position is a strong one when it comes time to introduce IC tags; it allows us to display our prowess in consulting that is on target from the client's point of view.

Based on the fusion of P&I. DNP provides total client support starting with IC tag design and manufacturing, consulting about IC tag introduction, and even with the effective use of collected data in marketing applications. The integration of these two technologies makes it possible for DNP to propose solutions that produce the maximum benefits. No other company can propose such effective solutions.

The phrase "P&I Solutions" means integrating the technologies and know-how that already exist within DNP and providing them to clients in a comprehensive form. For DNP, the advent of a ubiquitous society gives us an opportunity to show off the effectiveness of our P&I Solutions. It is a golden opportunity to take a giant step into the next dimension for our company.

It may surprise you to hear that **DNP**, which until now has grown through the application of world-class printing technologies, also has a unique, inimitable position when it comes to ubiquitous computing.

#### Performance of This Fiscal Year

Japan's prolonged recession has been hard on the domestic printing industry; growth has been negative every year starting with 1998. Recently announced industrial statistics reveal that shipments for the fiscal year ended March 2002 were 7,970.7 billion yen, down 2.1% from the previous year. The picture remained bleak in the fiscal year ended March 2003, due to such factors as sluggish demand for printing, intensified competition, dropping order unit prices and higher paper costs. Resuming growth would have been difficult.

Under these conditions, we at the DNP Group aimed to realize our Vision for the 21st century. We strengthened our existing printing operations and expanded our electronics division, while engaging in group-wide costcutting efforts and succeeding in greatly reducing costs. As a result, although consolidated sales declined 0.2% year-on-year to 1,309 billion yen, operating income surged 24.4% to 89.8 billion yen, and net income soared 84.3% to 28.7 billion yen.

Below is a breakdown of results by division. As of this fiscal year, in order to improve our disclosure practices and deliver timely, appropriate, and accurate information to our shareholders, we have separated our business into four new divisions: Information Communications, Lifestyle and Industrial Supplies, Electronics and Beverages.

Looking first at what used to be called the Information Media division - which consisted of Books and Magazines, Commercial Printing, and Business Forms – we have changed the name of this division to Information Communications as we intend to further expand the scope of our business to everything related to communication.

This division is central to the promotion of solutionoriented business aimed at fulfilling our Vision for the 21st century. In addition to strengthening our systems for planning and developing for all types of media, we also strengthened technological development and manufacturing systems with a focus on such areas as strategic products, including smart cards and IPS (information processing service) operations that process and output individual pieces of information.

In the smart cards sector, DNP developed an original operating system that gave us an edge and helped firmly establish our company as the number one player in Japan, particularly for financial applications such as credit cards. In addition, we developed a reader-writer specifically for small smart cards, called "Ubinetpass." It combines a variety of functions such as personal individuation, account settlement and downloading of ticket information.

Concerning IC tags, which are expected to play an important role in a ubiquitous computing world, DNP was an active participant at centers such as the Auto-ID Center program at MIT (Massachusetts Institute of Technology) in the United States, and the Ubiquitous ID Center in Japan. The centers are working on solving issues to standardize IC tag protocols so that the tags may be ready for applications in all types of industries.

DNP has also worked hard to improve the support frameworks for network security and convenience. We developed a system for encoding moving picture and sound files so they can be safely distributed over the Internet without being subject to illicit copying or illicit distribution. DNP also developed a system that allows consumers to use the Internet to conveniently view and search various kinds of information that were generally sent by mail, such as phone usage statements and product catalogs. Using this system, we have started a service called Dpost.

We are also working on obtaining the Privacy Mark from a third-party certifying body in order to strengthen our security systems and give better protection to the personal data that we handle. In addition to our Business Forms and IPS sections which have already obtained Privacy Marks, this fiscal year, the Communication & Information Operations became the first planning division to get the Mark.

DNP reorganized its Lifestyle and Industrial Supplies
Division, adding new industrial products – such as
information media supplies that share converting
technology, optical film for displays, and electrode material
for lithium ion rechargeable batteries – to existing
packaging and decorative materials products. This division
focused on developing products with improved functioning
or a high degree of environment-friendliness. The industrial
supplies field is expected to grow rapidly in the near future,
so we made this sector an independent business division.
We also founded DNP Advanced Industrial Supplies Inc. to
handle the manufacturing side, thus boosting not only the
business system but also the manufacturing system.

In the packaging field, our anti-bacterial aseptic technology has won strong praise. Five beverage manufacturers have adopted our PET bottle-filling system. In this system, DNP delivers PET bottles in a preformed (semiformed) state. Beverage makers then use the in-line forming sterilized filling system developed and sold by DNP to finish forming the bottles and fill them. Not only does this system enable clients to offer a safe and high-quality product, it also lessens the burden on the environment.

In the building materials area, DNP strove to expand sales of its non-polyvinyl chloride cosmetic sheet for residential interiors, Ecostandard WS Safmare, which was the first product to bear DNP's own ECO mark. The DNP Group established the in-house environmental standard this fiscal year based on ISO 14021.

DNP's electronics sector consists of display products and semiconductor products. From the standpoint of using micro processing as our core technology to provide everything from components to devices, we developed cutting-edge technology and improved our supply systems. At the same time, we carefully assessed market

trends to narrow our product lines and scale back production systems involving products with little added value.

Color filters for liquid crystal displays are one of the main products of this division. In anticipation of increased demand for liquid crystal televisions, we developed a color filter that delivers the same level of brightness and picture quality as televisions with cathode-ray tubes. We beefed up our manufacturing framework so that we can keep pace with surging demand. In addition to expanding our OEM manufacturing capabilities in Taiwan through Sintek Corp... to which we provided manufacturing technology, we also acquired 80% of shares in Advanced Colortech Inc., a joint venture between Asahi Glass Co. and Mitsubishi Chemical Corp. The venture is the number three producer of color filters in Japan. These moves have increased the DNP Group's supply capacity by 1.3 million units to 3.1 million per month, an enormous leap in production capacity. This has contributed to growth in sales.

Meanwhile, in our photomask business, we tied up with Intel Corp. of the United States and other semiconductor makers to jointly develop cutting-edge technologies, and succeeded in mass-producing photomasks for 90-nanometer chips. We also agreed with Hoya Corp. to jointly develop photomask blanks for next-generation semiconductors, and speeded the pace of our technological development. On the manufacturing side, we boosted capacity at our Kyoto plant and last May we formed a strategic alliance with STMicroelectronics for the overall development and supply of photomasks. As part of the alliance, we founded DNP Photomask Europe S.p.A. in Agrate, a suburb of Milan, Italy as a supply base in Europe.

On the other hand, we responded to sudden changes in the markets for shadowmasks and lead frames last fiscal year by sharply reducing our equipment and narrowing our product lines. Nevertheless, we did well at capturing demand for shadowmasks for use in household televisions this fiscal year, and succeeded in boosting income by specializing in hyperfine processing of lead frames.

In our Beverages Division, Hokkaido Coca-Cola Bottling Co. continued to face a challenging business environment. This time it was hard-hit by a drop in demand resulting from cool weather during the summer, which should have been the company's peak sales time. In order to cut costs, Hokkaido Coca-Cola implemented such measures as tying up with other bottlers for purchasing, consolidating distribution bases, and cutting

its labor force by about 100 employees through early retirement incentives. Still, with increased sales promotion expenses coming on top of floundering sales volumes, both sales and income declined.

#### Our Strategic Emphasis

In order to realize stable growth in the 21st century, the DNP Group continues to work on operational structural reform and cost structure reform.

In terms of operational structure, we will strengthen the printing business that has its roots in manufacturing, while at the same time moving ahead with the "select and focus" process from the standpoint of boosting asset efficiency to deal with unprofitable sectors and products with little added value. In addition, we will strive to expand our solutions-oriented business based on our Vision for the 21st century.

"DNP: P&I Solutions Provider" is the catchphrase concept phrase underlying our solutions-oriented business. At the DNP Group, we will combine the printing technology that we cultivated since the company's founding with the information technology that we have accumulated since we began digitizing in the early 1970s, and offer unique solutions to both corporate clients and consumers. We hope that this fusion of technologies will generate new values and profits.

In addition to the basic printing business that is the DNP Group's foundation, we will make the most of our comprehensive strengths and capacity for coordination to provide broad-based support for our clients' business processes. Furthermore, we will use our expertise from the printing business and our information technologies to propose new business models and systems for our customers.

In our Research & Development sector, to aptly respond to changes in the market environment, we will strengthen technical development systems in cutting-edge fields and strive to be quick to commercialize new businesses and products.

The DNP Group will establish new business domains by expanding its solutions-oriented business and developing new businesses and products. At the same time, we will elicit synergistic effects from our existing printing business and shift toward a business structure that generates even more added value.

In order to thoroughly cut costs in our manufacturing

sector, in April of 2002 we launched "Production 21" activities and improved yields, reduced lead time and decreased inventories. Regarding capital investment, our top priority in existing fields is to make efficient use of our assets while we concentrate investment in strategic areas. In that way, we can reduce our total capital spending and contain depreciation costs. In terms of labor costs, we will strive to use information technology to increase operational efficiency in indirect departments, strictly limit new hiring, and allow natural attrition through mandatory retirement to streamline our workforce. In these and other ways, we will work to raise management efficiency and boost our cost competitiveness.

#### DNP's Future as a P&I Solutions Provider

Ever since its founding, DNP has continued to generate new value by using its research and development capabilities to respond to people's needs through changing times. In fact, the company-wide reforms that we are vigorously undertaking today are aimed at carrying over this very tradition, fostered by DNP throughout its 125 year history, into the 21st century so that we may continue to create new value for the public as we generate shareholder and corporate values for DNP.

As was mentioned earlier, we have expressed our basic business concept in the phrase "DNP: P&I Solutions

Based on this concept, we aim to guide DNP into new business dimensions that fit in the 21st century and continue to generate value for individuals, society, shareholders, our business partners and employees, and for all stakeholders who are involved in our company, so that we may continue to be an essential company for all parts of society.

We appreciate the confidence that you have continued to place in us, and the commitment you all continue to make to DNP. Your confidence and commitment are major driving forces that allow DNP, in partnership with all of you, to create value for a new society.

Joshitali Stajima
Yoshitoshi Kitajima

Chairman of the Board President and Chief Executive Officer

## **DNP** @ a Glance **Products**

DNP's principle business consists of three consolidated segments: Information Communication, Lifestyle and Industrial Supplies and Electronics. Together, they constitute 94.5% of net sales. As this is the first year we started compiling financial data for these segments on a consolidated basis, and Information Media Supplies were moved from Electronics (formerly Electronic Components & Information Media Supplies) to Lifestyle and Industrial Supplies (formerly Lifestyle Products), we do not have historical data for these segments. For comparison purposes, however, last year's figures are provided below on the same accounting base as this year. In addition to these three segments, we have another segment, Beverages, which accounts for 5.5% of our net sales. This segment is not included here but discussed in the Management's Discussion and Analysis section.

## **Information Communication**

Sales related to books and publications decreased due to the prolonged harsh business environment of the publishing market.

Commercial printing also declined in sales as companies produced fewer POPs, catalogs and fliers due to their reduced advertisement budgets.

In business forms, we saw a remarkable increase in smart cards and IPS products, such as personalized mail, though other business forms decreased.

Sales: 619.9 billion yen

Sales: 420.2 billion yen

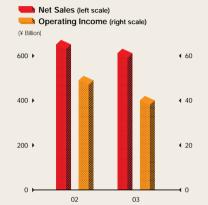
Change: 2.2%

Operating income: 28.6 billion yen

Change: 43.3%

Operating income: 40.1 billion yen Change: -18.3%

Change: -6.0%



















## Lifestyle and Industrial Supplies

Our marketing activities for large-aseptic filling systems for PET (polyethylene terephthalate) bottles boosted the sales of our packaging products, despite a decline in the sales of paper containers and packages. Performance increased greatly with soft packaging also higher than the previous year.

Meanwhile, despite strong exports to the United States, sales of decorative materials decreased overall domestically.

Among Industrial Supplies, sales of ink-ribbons for facsimiles and color printers both decreased while sales of optical films for LCD films, such as polarizing plates, and electrode materials for lithium-ion rechargeable batteries increased sharply.

Net Sales (left scale)









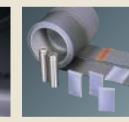










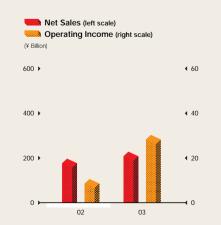


## **Electronics**

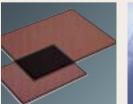
Sales of photomasks were strong overseas especially in high-end products, while sales of liquid crystal color filters increased as demand for the filters for use in PC monitors expanded. Overseas demand for projection TV screens was strong, resulting in sharp growth in sales. Sales of shadowmasks also rose due to increased sales of large TV sets.

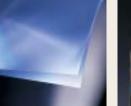
Sales: 208.4 billion yen Change: 17.8%

Operating income: 28.3 billion yen Change: 229.7%



















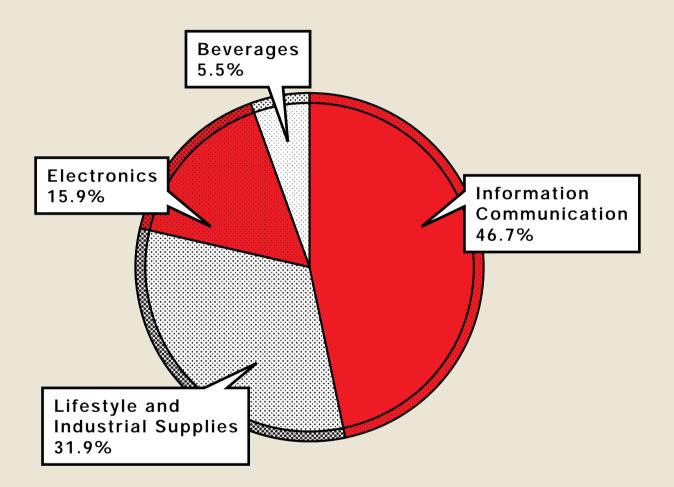






DNP @ a Glance

**Net Sales by Consolidated Segments** 



## **Business Solutions**

Solutions for Different Types of Businesses and Industries

## **Information Communication** Books and Magazines, Commercial Printing, Business Forms

DNP is involved not only in engineering information using new media but also in the entire process of information communication, from planning projects and creating content to delivering the products. In addition, DNP proposes effective information marketing strategies for the network age, reducing the load of customers in all industries, and providing prompt support for distributing information to individuals. Moreover, DNP also provides security solutions using a smart-card-based system to meet the needs in today's information

society to protect private and corporate information with a solid security sys-

Editorial Supporting System Custom Flyer System

## **Lifestyle and Industrial Supplies**

Packaging, Decorative Materials, Information Media Supplies

DNP has applied its printing technologies to develop products that have become a part of people's lives and products that have become essential items in industries. In these fields, DNP has developed a wide variety of solutions to make the world a more convenient and safer place — including solutions for environmental needs, product development, product design, machinery design, systems engineering and sales promotion — founded on DNP's solid manufacturing technologies.

Package Designing Systems Food Traceability Systems

#### **Electronics**

#### Display, Electronics Devices

The Virtual Plant provides customers the virtual use of DNP's manufacturing division as their own plant, allowing them to take advantage of DNP's worldleading, sub-micron-level electronics processing technology. It is a system with which the entire process of the manufacturer's business can be checked, from ordering to delivery. DNP also offers high-added-value service in addition to manufacturing, such as the turn-key business that allows the consistent manufacturing of products from the circuit design of semiconductors to the final package.

**Network and Database Solutions** 

**Business Efficiency Solutions** 

**Solutions for Organizational Management** 

Support for intellectual property rights

Materials procurement system

Issuing and managing IDs

Internal electronic form system

**Solutions for Public Relations** 

Corporate communications support Corporate information archive

IR solutions

**Solutions for Studying and Training** 

Network training program

Support for producing training materials

Curriculum information

**Solutions for Sales Promotion** 

Marketing and research

Proposing promotion strategies

Efficient production of sales promotion tools

Tools for presentation support Customer data management

Solutions for Production and Logistics

Creating product information databases

Management system for production lines

Delivery and logistics system

Bill collecting systems

#### **Providing Functions to Web Sites**

Electronic applications and issuing electronic statements Web performance and function measurement service Recommendation system Payment functions

#### **Content Sale Functions**

Distribution platform System for preventing the illegal distribution of contents Issuing content IDs Payment systems

#### Database/CRM Solutions

CRM support for point cards

## Targeting Promotion Program

## **Operating Information Web Sites**

Selling digital content Map information Shopping web sites for mobile phones Incentive marketing web sites

**Smart Card Solutions** 

#### Consultations and Support for Introducing Smart Cards

#### **Issuing Smart Cards**

DNP @ a Glance

Contactless, contact, hybrid, dual-access and SIM cards

#### **Developing Smart Card Software**

For IC Chip implementation: MULTOS/Java/MultiPocket For PCs Information management and security

Middle Ware

Sales of Smart Card Peripherals Card printers

Smart card reader/writer

#### IC Tag Solutions

#### **Developing Applications**

Product distribution management Conference/concert entrance/exist tracking system Loyalty point system

Developing smart package systems

#### **Sales of Smart Card Peripherals**

Smart card reader/writer

#### Security Solutions

Back-end support Internet Data Center Database Management

Hosting Service

## Project Management

Marketing and research, communications planning, product development

#### Agency Functions Creative Support

Graphic designing, digital archiving, event planning, video and still image produciton

#### Fulfillment Support

Order centers, customer centers, logistics, payment collection, campaign office

LSI Designing Turn-key Business

# **Ubiquitous DNP Key Concepts**

## Our "individuation" technology holds the key to ubiquitous computing.

At DNP, our business started with our printing technology to display information on ubiquitous pieces of paper. Having since been involved in the business of putting information on a variety of media, we make a seamless advancement into ubiquitous computing.

#### Keyword: individuation

DNP is a printing company. How did it come to be involved in ubiquitous computing?

I understand why it would seem that DNP, which originally started as a printing company, would have nothing to do with ubiquitous computing or related businesses. The fact is that our business potentials are all the more numerous because we are a printing company. This, I believe, is primarily due to our business having originated with the printing technology, which put information on a ubiquitous medium during the Middle Ages, known as paper. Since then, the printing technology has revolutionized society, and in the 20th century, DNP used it as a starting point to expand into various media. At DNP, our corporate culture centered on printing technology seamlessly expands beyond conventional businesses to new areas. From that viewpoint, it is only natural for us to be a key operator in the 21st century where information can be utilized anytime in a variety of forms through ubiquitous computers. Thanks to our experience handling information in many forms, we can make innovative businesses happen. DNP already has the infrastructure to handle information in a variety of new ways because almost all information handled by a printing company today is electronically processed. This makes it ready for a ubiquitous network.

As ubiquitous computing becomes the way of the world, one of the keywords in our belief in our ability to provide core technologies in the new era is "individuation."

## What exactly is "individuation"?

Imagine a world where ubiquitous computing has allowed a high volume of people and information to connect on a network at the same time. Due to the tremendous volume of information being exchanged, there needs to be a mechanism to identify each piece of information as to the sender, time and place. We call such a system to accurately identify and individualize each piece of information "individuation."

# How is DNP, a printing company, involved in this individuation system?

Printed materials are ubiquitous in our lives in many places you may not be aware of. In addition to books and magazines, printed products include posters, calendars, food packaging, beverage cartons, plastic drink bottles, wood-grain flooring materials and wallpaper, bills and credit cards. Today, most of these products are processed electronically as they are manufactured. In addition, they are electronically managed during distribution through the use of barcodes and other means after they are delivered to clients and are subsequently purchased by consumers. It is the printing company's job to attach barcodes to each and every product. It has always been the printing company's job as the card vendor to equip conventional magnetic cards with magnetic stripes. When such information contained in the barcodes or magnetic stripes needed to be linked to each product, again, it was the printing company who built up the expertise on the required encoding for such linkage.

As you can see, no one is better equipped than DNP to code every ubiquitously existing item for identification.

# Having adopted "individuation" as your keyword, how are you going to relate it to your businesses?

It is not DNP's aim to monopolize its involvement with products and services in a specific field in ubiquitous computing. On the other hand, I believe that there is great potential for our business if we were to be a partner for our clients by taking care of crucial elements in their flow of business, such as the service we provide in

developing our smart-card business.

We intend to be a business partner and provide solutions for our corporate clients who engage in businesses involving different spaces and areas such as the office, medicine, traffic organizations and the inside of cars and homes.

## DNP's advantages: huge customer base, customized solutions, security technology, corporate culture and exceptional ability to develop technology

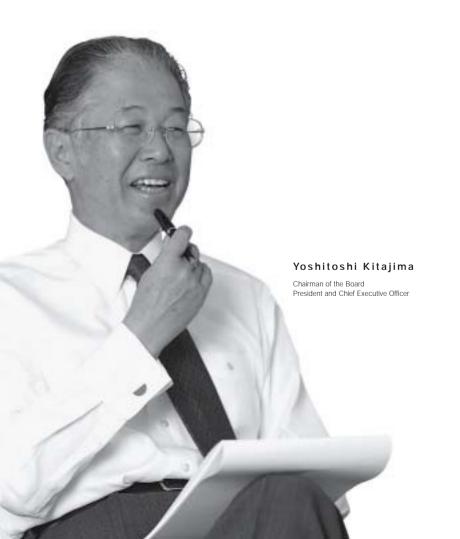
# What are DNP's strengths in businesses related to ubiquitous computing?

Here again, we have the fact that we are basically a company that started as a printer, as well as four advantages founded on our corporate culture.

First, we are advantaged for the fact that we already provide printing services and solutions to a vast number of clients in the field of information communications. We already have these clients' huge product data and content in the DNP computer. When a client switches its information medium from paper to the Internet for example, or implements updates or revisions, a significant amount of time and effort will be needed to make the moves. For the client, it certainly makes sense to let DNP handle everything as DNP already has the client's data and can get the job done much faster, easier and cheaper. As you can see, customer loyalty is very strong in this business. It is our very valuable asset.

Our second advantage is the expertise we have gained by being a customized solution provider for more than 125 years. That is, as an organization, we are perfectly suited to and fully competent in developing personalized solutions. While most manufacturers focus on making profits by producing standardized products in large numbers, DNP, having dealt with printing – which is after all a business of customization – is culturally structured to propose and provide customized solutions best suited for its clients.

Our third advantage is the information security technologies that we have fostered to date, and the high morale among the staff when it comes to keeping



confidentiality. DNP is very sensitive about information security. Sometimes, several automakers' catalog data are stored in our computers before the cars are publicly introduced. Our daily work involves frequently exchanging such data with our clients. For this reason, assigning identifications to data and content, creating databases and encrypting data to prevent outsiders from accessing clients' data or systems have always been part of our job. In the case of paper media as well, we have always had strict standards in the morals of each of our employees from sales to plants to keep our clients' confidentiality amid the high volume of confidential data we have on paper in our company.

Our fourth advantage, without a doubt, is our research and development ability. Every year, we allocate over 20 billion yen for research and development. We are sure that few printing companies in the world can match our annual research and development expenses. Our emphasis on research and development began in the late 1950s when Japan first developed color TV.

Inside color TV is a component called shadowmask that controls the colors on the screen. When it was learned that printing technology was used to manufacture this shadowmask in the United States, we, who already had a research facility at the time, were contacted, and succeeded in manufacturing it. The key in manufacturing shadowmasks, we found, was to apply our plate-making technology used in printing. This success became our springboard into the world of electronics, where we have grown to be a world-class manufacturer of photomasks that serve as the original plate for ultra LSI (large-scale integration) today. As such, it was DNP that provided a core technology for producing TV sets, which, at first glance, seemed to have nothing to do with printing technology. Since then, we have always led the world in printing technologies and their applied technologies.

Another important advantage of DNP is its corporate culture to continuously develop new technologies based on its solid, traditional technologies.

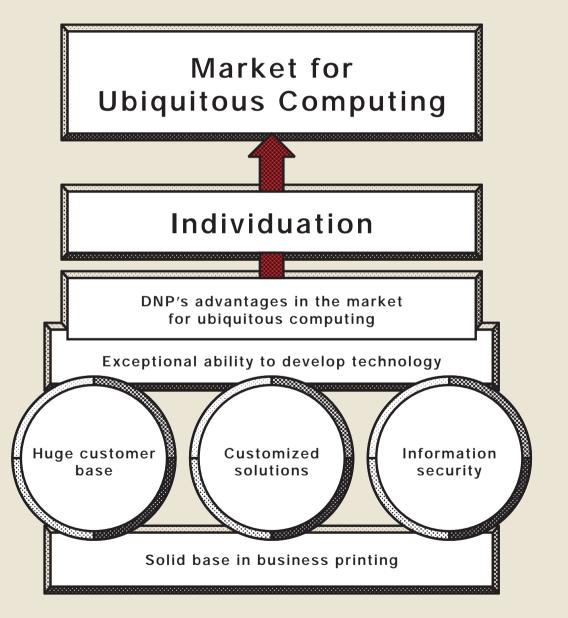
As you can see from DNP's advantages, we are already building businesses with companies in a wide range of fields. This puts us in an excellent position also from the standpoint of working together with other companies, which is considered key to success in a world of ubiquitous computing.

We believe that by working together as partners with our clients in businesses involving ubiquitous computing, we will both be gaining profit.

Lastly, what are some businesses related to ubiquitous computing that you already handle?

As I mentioned earlier, there are many business potentials when "individuation" is the keyword. Some of the businesses we already handle include smart cards, electronic forms, IC tags/RFID and information distribution.

DNP and the market for ubiquitous computing



## **Smart Cards**

## Leading the fast-growing market of smart cards.

Having issued the majority of magnetic-stripe cards in Japan, it was only natural for DNP to assume the job of developing smart cards for the next step in solutions. Our dominance in this industry is firmly founded on our ability to develop original operation systems and our highly advanced security system.

# We dominate the market in the sales of smart cards.

# Why did you got involved in the smart-card business in the first place?

At DNP, we have a long history of handling printing materials related to money, such as bankbooks, securities and gift certificates. As new media were introduced, we continued to serve our clients by manufacturing and developing magnetic-stripe cards such as debit and credit cards. These security products require foresight and advanced technologies, as well as security-control expertise during the manufacturing process. At DNP, we are armed with technologies and know-how fostered by years of manufacturing and developing security products. At the core of our smart-card business is security.

Having gained a major market share of magneticstripe cards issued in Japan, our involvement with cards held by the individual goes deep. It was about 20 years ago that we began our research and development of smart cards, which are slated to become the card solution of the next-generation. Smart cards are embedded with a microcomputer, and require not only conventional manufacturing and processing technologies but also software technology for operating computers. DNP has worked on software technology since it initially began developing smart cards, and its technologies have advanced to the top of the world. Ten years ago, we established a joint-venture company called SPOM Japan with France's Bull, which holds many patents including basic patents for smart cards. Having thus promoted smart cards in Japan, DNP currently dominates the smart card market in Japan: While 28 Japanese credit-card companies issue, or plan to issue, smart cards, 26 chose to adopt cards made by DNP.

# What are DNP's strengths and business domains in the field of smart cards?

DNP's strength is in software technology as it expands its smart-card business with security at its core. We have some of the best technologies and expertise in the world with which to develop platform operation systems such as the leading MULTOS and JavaCard, operating systems for next-generation mobile phones, operating systems for dual-interface cards, software for issuing smart cards, driver software for controlling smart cards, and security software, among others. Our desktop security system, featuring functions such as smart-card logon, screen lock, application startup control, encryption of important files and user restriction, is fit to be used as an enhancement to an information security management system. For solutions to prevent spoofing, hacking and leaks in today's information network society, we provide comprehensive PKI (public key infrastructure) services and products, including smart cards for PKI, PKI applets to be embedded in MULTOS and JavaCards, PKI drivers, services to handle a bulk order of digital certificates, and small-number card printers with a function to issue PKI-compatible smart cards, all of which were developed by DNP.

Introducing smart cards requires significantly more knowledge and complex work than are required for magnetic-stripe cards. At DNP, we provide consulting and project management services through our DNP Chip Migration Program, which features a menu our customers can choose from. Taking advantage of our expertise and experience in software development and project handling, our smart-card introduction consulting services meet the diversified needs of our customers who are considering using smart cards in their business, or are looking into smart card services.

While most smart cards in use today were adopted for their security or convenience, smart cards also offer potential for new services as they are loaded with functions such as domain lease (in which a single card can be shared by several service providers), digital certification (identification on network), electronic payment and digital data storage (customized data storage). DNP is offering solutions with the aim of creating business models that utilize the smart cards' potential. One such solution is the smart-card data center. The center will manage the lifecycle of smart cards that are becoming even more complex due to the card's many functions and advances post-issuance, which is the distribution of applications to cardholders. In addition, the center will serve as a platform for new smartcard solutions that will be an essential part of the card issuer's customer service strategy, and generate valueadded services for smart-card issuers and service providers. The smart-card data center is packed with DNP's expertise, including its expertise in consulting services, platform operation systems, next-generation mobile-phone operation systems, security software and software for issuing smart cards.

In a ubiquitous networking society where all types of computers are connected via a network and anyone can access information anywhere at anytime, risk of spoofing, hacking and information leaks increases. To fully enjoy the services ubiquitous networking has to offer, it is crucial for everyone to be able to join the network safely and securely. For that reason, the smart card has become an essential tool for identification. DNP's smart-card technology, backed by many years of experience, will support the safety, reliability and convenience of a ubiquitous networking society.

# It seems the popularization of smart cards is a little behind schedule. What is your view?

For credit cards, the switchover to smart cards began in 2001, and is rapidly spreading. In 2003, as many as 40 million smart credit cards are expected to be issued. In addition to credit cards, public transportation cards, electronic-toll collection cards, digital broadcasting cards, Basic Resident Register cards, employee ID cards and student ID cards are also being made with smart cards. Smart terminals for credit cards are being installed starting this year. In the metropolitan areas of Tokyo and Osaka, public transportation cards are about to be introduced. Starting next year, public authentication services will be launched, in which smart cards will be used for electronic applications under the e-Government concept. Once the service spreads in the market, homes will have the infrastructure for smart cards, paving the way for a full-scale utilization of smart cards in a network environment.



## **Electronic Forms**

## Perfecting network security for digital payments and agreements.

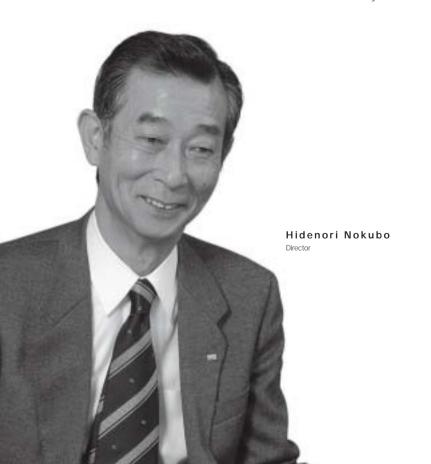
DNP provides printing and information technologies (P&I) as strategic solutions for the 21st century. One solution is electronic forms that verify payments and agreements made in a ubiquitous networking society.

Making the 9 million existing application and request forms available in a network environment.

## What are electronic forms?

Electronic forms are an element of the information system; they provide solutions to ensure and secure applications and filings in a network environment.

Ubiquitous computing allows information on numerous products and systems to be exchanged via a network, but reviewing information is not an end in itself. In the end, purchases or applications are made based on the information. While such entries were conventionally made on



paper in the form of applications and agreements, at DNP, we became the first in the industry to help corporate clients digitize their various forms.

Electronic forms are not simply an interface on the Web for users to enter information. It is a program with a variety of functions to make the viewing and entering of information easy for the user. Even users with low IT literacy can be assured of accurately entering their data. Once the electronic form is archived in a database, it can be downloaded using the Web, or sent using e-mail to the user. The content of the applications and procedures entered in the obtained form may be sent back as digital data to the original sender, or printed locally by the user. The form can thus be signed and mailed like any other printed material, or be kept as evidence.

In Japan, there are said to be about 9 million types of application forms. As a printing company in Japan, DNP naturally has accumulated the knowledge and skills to produce such application and other forms. We handle everything from designing electronic forms to developing programs, as well as sending and managing electronic form files on our customers' behalf.

In addition, as an extension of our electronic form business, we are aiming to establish a business to provide support with procedures involving forms. More specifically, we plan to target contents that are often used by the individual and digitize them into electronic forms. We will then build and operate a safe and convenient platform where content users will visit.

For example, moving one's residence is a process that may require dozens of applications and change-of-address notices to the municipal offices, public institutions, utility services, banks and other entities. After the forms are obtained from each entity, they must be filled and submitted properly. At DNP, we aim to build a platform business that will provide a service model for a one-stop shop that takes care of everything from obtaining the necessary documents to completing the procedures.

Along with the personal identification
function of smart cards, electronic forms
are said to hold the key to network
security. What is your view on this?

One of the advantages of DNP's electronic forms is that they can be linked to identification devices such as smart cards.

While the electronic forms provide easy data entry and viewing for convenient, fully digital applications and procedures, data distribution over the Net still poses challenges in terms of security. To prevent such security risks, the industry has been eying PKI, or public key infrastructure. PKI provides security for electronic information by using public key cryptography, which is used for digital signatures and individuation. Together with the powerful tool, smart card, form and data individuation functions that are built in as modules on electronic forms play an important role in PKI.

Currently, DNP is developing electronic forms as independent program modules equipped with various intelligent functions. We believe that the tool that will guarantee the validity of data entered by the electronic forms is the smart card. By opening the application and downloading document forms, a user can receive guidance and run an error check. At the time of filing the application, the smart card can be used to attach a digital signature – the digital alternative to the physical signature – to the electronic form to prevent data alteration and to conduct personal identification. What's more, the user can even be selective in extracting information from the smart card, and choose to fill out just his name and address on the form.

The switchover from paper to electronic forms may be a long-term process. DNP, however, will be able to support the process all the way through as the electronic forms can be operated both in digital and paper formats as previously mentioned.

# What are DNP's strengths in this field, and what is its future business potential?

At DNP, we provide electronic-form solutions by integrating our know-how and track record of having manufactured conventional printed forms with our knowhow of network solutions. We already have an established record of digitizing forms in a diversity of fields including financial, communications, manufacturing and government fields. In our efforts to provide not just user interface but comprehensive solutions, we have built alliances with powerful partners that include electronic-form venders, system venders and content venders. The business of electronic forms includes sales from custom-designing forms, loyalty on peripheral programs and applications, licensing, and transaction fees in accordance with the number of times the electronic forms are transmitted. Our intellectual property in the range of electronic-form technological elements and business models includes more than 100 patent applications.

The market capacity of electronic forms is big, but we will need more time for the entire public to be able to enter data using electronic forms. By 2007, the market may reach 8 billion yen, if that. By 2010, however, I believe that the number will change significantly.

Currently, the infrastructure for ubiquitous networking is being built in many fields. Electronic forms, which are mostly handled on PCs today, will soon be multi-device friendly. For example, what I hold promising are new input media such as terrestrial-digital broadcasting and electronic pens. The business model using an electronic pen is a solution that we can provide taking full advantage of DNP's strengths, integrating our electronic forms with our expertise in the designing and manufacturing of conventional printed forms. Although information technology has not spread widely among the older population with more disposable income, ubiquitous computing will suddenly take off when TVs become an IT tool and electronic pens become popular. There is also a new business opportunity when IT services are added to conventional TVs: New services inevitably mean new charges and payments, and security solutions will be needed for the monetary transaction. I believe this is another area in which we at DNP can make use of our long-held expertise in electronic forms and security.

## IC Tags/RFID

## Issuing the source of ubiquitous computing that will revolutionize distribution.

IC tags are seen as the device to revolutionize distribution in a ubiquitous networking society. The ID business, which replaces barcodes, falls perfectly into DNP's domain.

Customization is a printing company's business, which is convenient when attaching IDs to all material things.

# Why is DNP, a printing company, leading the IC tag development in Japan?

Printing companies have always printed barcodes on products according to customer demand. The percentage of products on which we print barcodes at our plants has increased every year, with about 98% of food packaging products bearing the barcode today. In the future when IC tags are attached to products, it will be the printing company's social obligation, as well as the public's expectation of us, to take care of this process. One of the biggest purposes of our having joined a consortium at an early stage to conduct demonstrative experiments and industry standardization was to share information with companies that were shaping the way of the world's IC-tag business.

When mounting IC tags on various media, the ability to freely customize becomes crucial. The job of a printing company is to create a customized plate according to a client's order, make reproductions (or prints), and deliver them. So even if attempts to attach IC tags on some products fail due to problems in shape or size, a printing company has the ability to attach them to any package and product, using IC tags that are customized in every way – the design of the antenna, size and shape. In that sense, our creative thinking as a printing company plays a vital role in the future when IC tags complement, and eventually replace, barcodes.

Another ability that comes into play is our ability to respond to the need to cut costs. The key for all products to adopt IC tags is to reduce the cost of the tags. I have no doubt that the infrastructure built by a printing company to produce a high volume of products at high speed will serve as the base for low-cost mounting of the tags. What's more, it is said that the next-generation IC tags will be

made using an entirely new manufacturing method, one in which printing technology is applied. For example, the antennas, which are currently being made using an etching technology, are about to be made by printing. In the end, part of the electronic circuit may be replaced by printed circuits, which is obviously a core business for a printing company. As such, we are developing technologies eying the future. Perhaps in a few years, printing companies may start making computers, which include IC tags.

Recently, I have begun visualizing the concept of ubiquitous computing with the word, "visibility." This is because the IC tag, equipped with a wireless antenna, will make everything a network terminal once the tags are attached to all things. We will be able to find where everything is. It will be a world where we will be able to see something we want to see, without being there. I believe the role of the printing company is steadily increasing to realize such a world.

# What is DNP's business domain in the field of IC tags?

At DNP, we are improving the foundations of all of our operations in preparation for the development of IC tags in the future. Potential businesses include software development, reader/writer development and management of the enormous amount of information that will be generated by IC tags, such as information on production and shipment.

This business field called data mining will be an important key in the future to streamline and optimize overall supply-chain management, allowing DNP to use IC tags to provide back-end support in the distribution system. Furthermore, a look at the database from the standpoint of individuation reveals business opportunities to provide reliable network delivery services to deliver necessary information to only those who are authorized to access such information, or to provide traffic control for data transmitted over a network. Such opportunities will

expand DNP's business domain as a solution provider.

Because DNP is there at the beginning of the product supply chain, we will be processing smart cards upon issuing them as we have with barcodes. For example, for IC tags that will be attached to the final product such as packages and groceries, we will encode them with designated IDs and provide linkage to a variety of databases. We may also provide encode processing services at our customers' plants, making use of our experience building filling and packaging systems. This will be another area in which DNP's creative thinking and expertise for customized products will be fully utilized.

In dealing with the IC tag itself, we will be sure to respond to every market and application that will be created as the cost of the tags decreases. One example of a field soon to be opened to IC tag application is the management of pallets and reusable transport cases used in logistics. In this field, we will strive to secure appropriate suppliers and obtain the know-how by building an alliance with businesses overseas. In regards to IC tags of the next-generation and beyond, we will be flexible in building partnerships with other companies so that we may develop methods to mount IC tags on different high-priced products and all products. In that way, we will be able to provide solutions for every new application.

# What is the IC tag's market potential?

Which came first: the chicken or the egg? This rhetorical question was often heard when discussing the IC tag market. Fortunately, I believe that we are coming out of a situation in which the prohibitive cost of IC tags prevented the market from being created. More and more applications for IC tags are being developed that are feasible at what the tags currently cost. For example, they are beginning to be used in the fashion industry, where the product unit prices are relatively high and the product cycle is short. By using IC tags to manage production and shipment information, sales information in terms of product model numbers, sizes and colors can be visually managed on a computer screen, allowing prompt replacement of out-of-stock items and increasing customer satisfaction.

There are also movements to begin using IC tags along the supply chain of general consumables. Specifically, the tags are being attached to pallets for transporting merchandise to retailers. This is useful for inventory management, as I believe more and more mass merchandisers will begin managing inventory visually, using pallets and reusable transport cases with IC tags attached to them.

# Which field do you think will be the biggest market?

The grocery business, of course. It is plausible that by 2005 or 2006, IC tags will be attached to every cosmetic and drug product. Under the current distribution system, it is easy to be overstocked or out of stock when the whereabouts of inventory items are completely blocked from view during the transitory stage of distribution, such as at the wholesalers, in backyards, or on trucks. Also, I hear that a vast amount of products are returned or discarded when a new product is introduced, replacing an old one. When the corporate participants of the Auto ID Center calculated the number of packages they ship annually, the combined total was an astonishing several trillions of items. Even at DNP alone, I suspect the number of packages we manufacture is at least several billion a year. One day, all of them will have IC tags.

By mounting IC tags on every product, each product will carry its own information such as production and shipment information. This will revolutionize supply chain management, marketing and customer relationship management.



## DNP makes ubiquitous networking seamless.

Working in the information distribution field has made DNP naturally good at developing solutions. DNP leads the world of information distribution in every way, including technology, culture and performance.

Proposing information solutions of a higher dimension, based on solutions we have provided to our many customers over the years.

# What are DNP's strengths in the information distribution field?

To expand in the information distribution business, a company needs to have competencies in three areas. The first two are competencies DNP has always held as a printing company: ability to edit and process information, or what we call transcoding, and the ability to store and archive information for retrieval anytime. The third is the ability to distribute information to anyone or any space through appropriate media. We have also expanded our technologies, knowledge and expertise in this third area starting with our abilities cultivated handling paper media and, through the operation of our Internet hosting service,

MEDIAGALAXY<sup>TM</sup> and other network media. Only by combining competencies in the areas of editing, storing and

distribution – each backed by advanced technology, knowledge and expertise – can a company provide high-quality information-distribution services.

Behind the success of DNP in the information distribution business, which may be considered a new field for a printing company, is its unique corporate culture. It is in our nature to develop solutions by actively applying the technologies, knowledge and expertise we have cultivated as a printing company to new media.

Another nature of ours is to be creative in planning solutions for our customers' diversified communication needs. The two qualities serve as strong supports in

Kunikazu Akishige

building this new business domain.

# What is DNP's business domain in the field of information distribution?

Generally, the flow of information exchanged between businesses can be categorized into the following: "Logistics" involving product delivery, "Commerce" involving negotiation and agreement, "Finance" involving payment, and "Meta information" that controls or complements all of the above. At DNP, we have been involved in all four types of information flow in the many years we have worked with the paper media. Today, the flow is being replaced by digital media, which, most importantly, serve as a foundation to seamlessly integrate the different types of flow. At DNP, we are responding to such changes as we expand our business in all four areas in the digital era.

First, in the digital world, where content itself is distributed over networks, "Logistics" is no longer physical but digital. In such a field of digital-content distribution, we have started a business called DPlats™-AnyStyle™ to distribute and sell digital content over networks. DPlats™ is the name of the overall business and AnyStyle™ is the Net shop set up in DPlats™- it is like a retail consignment store that provides content holders with a place to sell their goods.

For flows involving "Commerce" we are making use of our expertise gained by developing and operating business forms and electronic payment systems to prepare the way for seamlessly digitizing electronic payment, invoices and receipts involved in business transactions. For example, while currently, mobile phone statements are already being switched over to network-based distribution, at DNP, we are developing an electronic bill presentation and payment (EBPP) business that links Dpost™, which will be a platform for sending invoices and statements such as those of banks, utility and communication services, and Order Line™, which is an electronic payment system.

In dealing with the flow of "Finance," we are focusing on a variety of network-based electronic money and

payment systems. Recently, more and more customers have been introducing point cards and electronic coupons for their businesses. At DNP, we already offer a variety of solutions to meet such demands. Points and electronic coupons can be viewed as information with electronic "value" in much the same way as electronic money has value. In the near future, we can expect such different values to be mutually exchanged and to gain currency. I believe therein lies a new business in which we can utilize our technologies, knowledge and expertise gained in our businesses to date.

Finally, in the flow of "Meta information," a type of information that complements the "Finance" and "Commerce" flows is sales promotion information. Today, we are beginning to build a foundation for distributing information on products and sales promotion. Specifically, it is a business to store, manage and distribute product and sales promotion information on behalf of our customers, using a platform called DYNAGALAXYTM. Our server serves as a library of sales promotion information where we store product information and image data for use by customers in the form they want, when they want it. We already have a number of customers using this service.

What is important is that the four different areas of business develop together, seamlessly combined, and that the paper media and digital media be used effectively according to time, place and occurrence. For example, when payment is made upon the sale of a digital content, a paper receipt sometimes becomes necessary. At DNP, we can provide solutions that make use of our strengths as a printing company in every field, and combine them to provide original services no competitor can copy, in a form our customer wants, whether by being an ASP (application service provider), system provider or by meeting the customers' BPO (business process outsourcing) needs.

# Are there any other new possibilities in the field of information distribution?

Today, the integration of broadcasting and communications has begun. The launching of digital terrestrial broadcasting by the end of the year will further speed up the integration process. The fusion of communications content as represented by the Internet and broadcasting content as represented by TV will provide viewers with more advanced, appealing contents. For sometime now,

DNP has been producing interactive content for data broadcasting and other media. By combining that expertise with our network-content producing technologies, knowledge and expertise gained from our work with the aforementioned MEDIAGALAXY<sup>TM</sup>, we will be able to provide high-quality, appealing content as never before made possible. For example, in the future, a viewer watching a TV program may at the same time browse information on the outfit and jewelry worn by the TV personality, and order them for purchase.

We are already providing localized digital flyers called Orikomio! via Internet TV, which has already been introduced for sale. Viewers can now use a household TV to easily view localized flyers. In the future, we will be able to provide advanced services by interactively coordinating the content with TV programs.

# What will be DNP's major project when the ubiquitous networking society goes into the next phase?

We are betting on the many potentials of the electronic paper. The electronic paper gets as close as electronically possible to your ordinary piece of paper, reproducing a still image – not the flickering image on the ordinary display. In the future, the electronic paper will be able to display full-color, and even video images.

Our focus is on how big a change the introduction of this electronic paper can make in what field. For example, at kiosks and in bookstores, we will one day be able to extract only the information one wants from newspapers and magazines and have it downloaded on electronic paper, using wireless communication functions and making an electronic payment. Such a mechanism may greatly shift the nature of publishing into an on-demand, personalized business. The electronic paper may also be used as advertisements typically hung inside trains, whose content may be programmed to change according to different hours of the day, and may even be video. You can be sure that such functions will significantly increase the ad's appeal, and lead to great changes in the field of sales promotion.

We anticipate that in the coming future, DNP will be playing a very important role in editing, storing and distributing a variety of appealing content for viewing on electronic paper.

## Information Communication

When we celebrated DNP's 125 years in business, we established our 21st Century Vision. Our corporate philosophy is to be a company that contributes to society undergoing emergent evolution. Such a society, we believe, will see an unprecedented surge in demand for info-communication, along with continued media diversification.

While DNP's Information Media grew this far with its media-oriented business, we realize that we cannot develop further in a market that has little room for growth. We have thus expanded into the Information Communication business that covers the entire mechanism of info-communication.

By taking advantage of DNP's information technology, planning ability and manufacturing technology, we can provide solutions for our customers and create the very mechanism of business. As we develop such new business fields, we will also introduce our customers to the products we offer through our existing manufacturing business.

DNP's media solutions provide support for new systems and diverse modes of information distribution.

At DNP's Information Communication
Department, our mission is to deliver
necessary information to the target, with
precision. Our trans-coding technology
gives us at an advantage as media
become more and more diversified – from
the Internet and the mobile phone to CS
digital broadcasting. Because we know
each medium as our own, we are able to
develop and offer solutions from a
variety of angles, featuring just the
perfect interface for efficiency, security
and desired functions

#### Creating and managing content

In May 2002, together with Nihon Tsushin Kyoiku Renmei, Inc., we introduced Silk Road, which follows Buddha Statue's Prayers as the two companies' second joint high-definition visual content production. Shooting for the content took 18 months along the Silk Road, from Xian, China to Buddha Gaya, India, accumulating 130 hours of high-definition footage that captured the region's scenery, towns, people and invaluable cultural relics. Much, including the high-definition images of the Tomb of Qin Shi Huangdi and terra cotta soldiers, have never been released before. We plan to promote a wide variety of content applications, including printed materials, packaged media (VHS, DVD), TV broadcasting, BS (Broadcasting Satellite) broadcasting, broadband content, various events and TV commercials. A video series has already been released, and a special BS digital high-vision





program was aired to commemorate the 30th anniversary of normalized diplomatic ties between China and Japan.

Another type of program that we, together with our wholly owned subsidiary DNP Digital.com Co., Ltd., are producing is storable data programs tailored to the ep services that were launched in July 2002. The ep services are broadcast via a communications satellite (CS), which seamlessly integrates digital broadcasting, data storage and Internet access. The ep station is a BS digital/110 CS digital broadcasting tuner. We have acquired a stake in ep Corporation when ep increased its capital back in March of 2002, and will support it in all operation aspects, including copyright management, content provision, and the development of interactive programs.

With DNP Media Create Kansai Co., Ltd., a wholly owned subsidiary of DNP, we launched West Gate, a virtual mobile-Internet shopping mall that offers consumers products and services from the Kansai region. In Japan, the surge in mobile Internet popularity has created a new mobile commerce market, which is estimated to grow to more than 2 trillion yen by 2005. West Gate will allow the 10.36 million J-Sky mobile Internet subscribers to purchase, in a highly secure environment, selected products and services provided by a wide range of Kansai-based companies and retailers. Affiliate stores will also be able to apply West Gate to increase sales by combining conventional tools such as catalogs and leaflets while allowing customers to order and make payments using their mobile phones.

Also in Kansai, women now have access to a fashionable site that fits in the palm of their hands. Called Oshare Life, the first official J-Sky mobile Web site to target women in the Kansai region was launched by DNP and DNP Media Create Kansai Co., Ltd., providing a wide range of information on fashion, cosmetics, gourmet restaurants and electronic coupons. The J-Phone service is especially popular among women in their teens and 20s, and the company has consistently aimed to enrich its content for its female users. In addition, to provide women with information from a woman's perspective, DNP Media Create Kansai has selected an all-woman team to plan and manage the Oshare Life service. It is also affiliated with West Gate to enable trendy Kansai women to purchase fashion goods and brand-name products in their region.

We also sell "electronic books" through our Web Shosai e-commerce site (http://www.shosai.ne.jp). This

year, we enhanced the product data format at our online content publishing site not only to allow the use of existing PDF data with Adobe® Acrobat® eBook Reader™ but also to provide a high-security function for copyright protection. Moreover, in addition to some 1,700 titles we have already sold in two product formats – On-demand Books that are manufactured and shipped to order from a single volume, and Electronic Books that can be downloaded via the Internet in the form of digitalized publishing content – we are now introducing some 400 book titles from the publisher, Chuo Koron Shinsha, and three study-software titles from Soiku Co., Ltd. We plan to increase our titles of new and existing books each month.

# Support system for creating materials efficiently

To support franchise stores producing original marketing tools for their specific regions or clientele, DNP Information Systems Co., Ltd., a wholly owned subsidiary of DNP, launched Self-Print (http://www.self-print.com/). The ASP service also includes a workflow management function that fully integrates branch offices and franchise stores with their headquarters by processing order requests and tracking costs. Self-Print allows stores to produce ads, pamphlets, direct mail materials and coupons tailored to their own region and clientele without the prohibitive cost, while still appealing to the public with franchise brand names by using pre-approved templates to maintain a franchise conformity. Because real-time information is shared between headquarters, franchise stores, offices and sales agencies, the resulting customized market tools continue to be centrally

We also collaborated with DNP Digitalcom Co., Ltd. to develop a new system for leaflet production and online order management. Introduced in July 2002 to some 140 Enedo! stores that retail gas products for Toho Gas Co.,

Ltd., the DNP Custom Document Service allows each store to produce leaflet data and send leaflet orders to a printing company over the Internet. Gone are the days when all Enedo! stores used identical promotional leaflets, only to have the product prices corrected at each store. Now each store can utilize a database of about 400 Toho Gas products to produce its original leaflets, using pre-produced templates for easy customization. We plan to expand functions of the new system to support the production of marketing tools such as POP, direct mail and envelopes, as well as area marketing and CRM development.

In addition to leaflets, DNP, in conjunction with DNP Media Create, has developed a fully digitized production system for catalogs and other commercial printed materials. The system includes services such as digital photographing to the color management of products, the configuration of product databases, and facilitating production of printing materials in the optimal location for maximum efficiency by transferring product data, and DTP data to remote locations.

To provide support for the DTP editing of catalogs, we developed and marketed the DG Catalog Supporter for DTP. The software designed to facilitate smooth pagination and page layout design operations aims to cut lead time and simplify the overall catalog production process by adopting DNP's DynaGalaxy, our successful merchandise information database system, and taking advantage of our catalog production know-how. We aim to continue aiding client sales-promotion activities by developing systems to simplify listing production, which constitute the heaviest workload in the entire catalogue production process, and providing data-based oriented solutions.

And, to keep the history of businesses that benefit from such services in order, our wholly owned subsidiary, DNP Corporate History Center Co., Ltd., launched



DualChives Corporate History Archives in April 2002. The ASP service will manage corporate historical materials through digitization and database construction to dramatically improve the business use of corporate information assets. As we have already provided comprehensive support in archiving corporate history and materials for about 1,500 companies, we now provide DualChives Corporate History Archives to a number of companies not only as an Intranet system, but as an ASP service by adding systems structuring in an Internet environment. The new service will allow users to easily utilize the database without added new equipment costs, and will greatly simplify the integration of a corporation's internal information while improving efficiency in information archiving. In addition, the service ensures advanced security with server installation within our own Internet Data Center (IDC) and the use of Secure Sockets Layer (SSL) protocols.

Providing service not only to the corporate world, we, along with Optimum Systems Co., Ltd. jointly developed a system that automatically converts university course syllabus data into XML format. Such converted information can be applied to multiple media, including the Internet, CD-ROM and printed materials. Already in use at the Jikei University School of Medicine, the new system helps distribute the syllabi – including annual course schedules, references and grading policies – through the university's Intranet and CD-ROM. As the Ministry of Education, Culture, Sports, Science and Technology promotes the active use of university syllabi for education reform, the new system will also support the anticipated diffusion of an inter-university credit exchange system.

When college students need a little break from their studies, we also help provide comic relief. In March 2003, in conjunction with our wholly owned subsidiary Dai Nippon Uni Process, we succeeded in constructing a fully digital production system for comic books compatible with a full array of client production environments, including various data formats, production software and fonts. As a result, we are now able to switch the entire production of comic books to a digital format, as well as construct a pre-press system with a capacity double that of existing systems in response to orders for new issues of comics, in either magazine or book-form. The fully digital production will help meet the growing demand for secondary use of comicbook contents for overseas versions and electronic media.

# Developing Internet features for the consumer for proposal to our clients

In May 2002, we introduced Dpost, a total solution service that allows the online viewing of phone, credit and other statements, as well as of investment reports by financial institutions. What is unique about our service is that the electronic document is prepared in the same format as the printed version familiar to the consumer. In addition, the online version can easily be enhanced with an electronic leaflet that differs for each consumer, without the difficulty involved in doing the same for the printed version. Dpost also offers different applications suited for the corporate sales person or customer service centers.

We, together with the U.S.-based Object Publishing Software, Inc. and KGT Inc., also launched a new Webbased service that produces and distributes customized catalogs. Businesses will now be able to target, personalize and produce catalogs over the Internet prior to distribution. Once product data are uploaded to the data storage available with our service, branch stores and offices will be able to use the service from any Internet-ready location. The service will also be extremely scalable, allowing businesses to execute large quantity printing and individual catalog production alike. Three companies have varying roles in providing the service, with OPS providing "Object Publisher," a system that produces and distributes customized catalogs over the Internet, KGT providing technical support, system structuring and management, Web screen designs and rule editing, and DNP structuring and managing all product information databases.

During the Christmas Season, we introduced a presentcampaign system utilizing contactless IC tags and mobile phones. Developed with the cooperation of Direkt Planet, the system enables the application, registration and datadistribution of gift campaigns through giveaway contactless IC tags that attach in the form of a strap to consumers' mobile phones. Adopted by Tokyo FM Broadcasting Co. Ltd. in a high-profile radio campaign held at a popular plaza in Tokyo's Shibuya Mark City where a Christmas Tree stood next to a reception terminal embedded with a reader-writer unit for the contactless IC tag, the system allowed the campaign registration and distribution process to go on efficiently. The system works by sending immediate e-mail responses to consumers' mobile phone, which then becomes a marketing tool for our clients as well as a tool for notifying the campaign winners.

# Developing systems to enhance our clients' business efficiency

Introduced in June 2002 and commercialized in March 2003, our AD-POWERs (Autonomous Decentralized communication protocol based Platform for Omnipresent Workers without Expensive Resources) is a distributed computing platform we developed to exploit idle PC clients to perform at the speed of supercomputers or dedicated PC clusters. While supercomputers and dedicated PC clusters require large investments, high maintenance costs and MPI engineers for application development, as well as have problems with scalability during processing, AD-POWERs requires minimum investments to improve total computation processing speed by dividing large tasks into many smaller tasks, all of which are disseminated to the many computers running simultaneously on a network. After the tasks are processed, the data is transmitted back to a central server, which assembles the results. The application can be developed using C language, and can be distributed in the DLL (Dynamic Linking Library) protocol to MasterWorker, a central server that disseminates tasks and assembles the results, and SlaveWorker, a network of PCs that processes tasks. DNP's distributed computing software is implemented by installing the software onto multiple hard disks. When active, a dedicated screen saver appears on the screen.

In August 2002, we jointly launched InterCat, a credit settlement ASP for mail order businesses, with Japan Card Network Co., Ltd. Developed by applying our experience of running the OrderLine operation, the InterCat service targets all mail order services, online shopping sites, and companies providing membership services. InterCat greatly improves credit settlement efficiency by enabling Webbased credit settlement without Credit Authorization Terminals or a dedicated line, saving time and effort in credit referencing and eliminating manual procedures in processing sales transactions, and allowing the use of the





CSV format when uploading data to the InterCat server.

Joining hands with SAS Institute Japan Ltd., we launched statistical analysis and data mining services in an effort to provide Customer Relationship Management and Database Marketing solutions that optimize client-marketing activities. We aim to expand our businesses by combining SAS's advanced data mining and analysis technologies with our marketing knowledge and customer base of about 30,000 businesses. The new partnership allows the efficient structuring of a CRM environment as we also join the SAS Alliance to become a vendor of SAS products and related services. It also offers an effective solution for SAS clients, as well as increasing profitability for clients that implement our CRM/DBM solutions that embed SAS's advanced analysis technologies.

In October 2002, we launched Network Learning, an ASP service for "e-learning" that enables employees to undertake company training and education via the Internet or intranet. Adopted by Kyoiku Shuppan Co., Ltd., it increases the study effect and reduces costs as employees receive training and education on their own schedules and the training administrators' workload is reduced. Clients are able to adopt e-learning with a short lead time and at low cost, as there is no need to purchase a server, and/or administration software. Because we undertake the actual operation as per consultations with the client, the system will free the training administrator to devote more time to monitoring students' progress. Numerous companies have expressed interest in adopting the system, and the market is expected to grow to around 200 billion yen by 2005.

To meet the increased need for companies to construct merchandise information data bases that can distribute information not only in the form of printed catalogs and pamphlets but also over the Internet, in CD-ROM and DVD-ROM, we are now offering a rental service for such a system. Called DGSmart, the system consists of the main functions we already provide in DynaGalaxy. The new rental system allows the database to be constructed and operated at a higher speed and lower cost. We expect the package rental for the basic set over

36 months to be 80,000 yen per month, excluding initial costs, and are looking to conduct aggressive sales promotions of DGSmart to foodstuff makers, convenience goods makers, small and medium-sized manufacturers, and individual divisions at major companies.

In December, together with DNP Digitalcom Co., Ltd., we commenced our Web Performance Survey Service to support the steady operation of our clients' Web sites. The new consultant service conducts performance tests, analysis and evaluations on Web sites that have now become part of the corporate basic infrastructure. In addition, we provide content and campaigns that can be effectively employed on those sites. The Web Performance Survey Service is a new menu item for DNP's comprehensive Internet site Media Galaxy

(http://info.mediagalaxy.co.jp/) and Web sites using our Internet Data Center.

To help our clients show appreciation for their shareholders, we, in conjunction with three companies from the Isola Group - Isola Communications Co., Ltd., Isola Barrier Free Co., Ltd. and Advanced Intelli Space – jointly developed a shareholder perks system utilizing IC tags and the Internet. In February 2003, it was first adopted by Tokyo Theatres Co., Inc. Companies adopting the system forward the Shareholder Perks Card, equipped with an inbuilt IC tag and bearing the shareholder's name and card number, to their shareholders to whom points are allotted in proportion to the number of shares they hold. Shareholders can use their points for various services on offer by the company, where card readers are installed and points are automatically deducted from the server when used. To check the status of the points on the Shareholder Perks Card and other information, the shareholder need only check the Web site. With the development of the shareholder perks system, companies will be able to increase the levels of convenience provided to shareholders while making use of usage-data from the Shareholder Perks Card in their marketing activities.



# Developing security solutions essential for supporting network businesses

As high speed and high volume are rapidly becoming the standard in Internet connection, the broadband market has created problems of its own. One is the security of video and audio content distributed over the Internet as businesses face the increased risk of redistribution through illegal copying. Others are the added expense in copyright protection services and the difficulty in introducing compatible encryption software. To address such issues, we have collaborated with DNP Digitalcom Co., Ltd. to initiate an evaluation test of real-time content data encryption through BB Galaxy, a streaming video and audio distribution service that is part of DNP's Media Galaxy. The test service was developed by incorporating IPCypher, developed by the Seattle, Washington-based Widevine Technologies, in which we have an investment. The system prevents illegal copying on a network or client PC by encrypting data in real-time and eliminating the need for secure data processing before data streaming. Users are able to use the system by installing the plug-in software. The new evaluation test will further structure DNP's copyright management business of video and audio data streaming.

Security is also a concern in using e-mail, now the preferred mode of communication for many. Focusing primarily on e-mail marketing, which in Japan has been plagued with problems of personal information leaks, our wholly owned subsidiary CP Design Consulting Co., Ltd., and Current, Inc. have agreed to jointly launch a consultation business for protecting personal information in e-mail marketing. Current, which has obtained the Privacy Mark two years ago, will combine its expertise with that of CP Design Consulting, which has a solid reputation in providing consultations and education on protecting personal information. As our first joint project, we held a seminar titled, "Current Status and the System of Protecting Personal Information in E-Mail Marketing" in October 2002.

Businesses Involving Smart Card, an Essential Tool for Today's Ubiquitous Computing

At DNP, we have been involved in the development of smart cards at a very early stage, and succeeded in Japan's first smart card experiment in 1984. Having developed our own OS and designed our own IC-chip modulation and smart-card issuing processes, we do much more than simply manufacture the cards. We provide smart-card solutions for our clients by getting involved from the initial development of our clients' system. Being the only card vendor in the world to offer three OS versions of smart debit cards - MULTOS, JavaCard and Native - we have the resources to create the perfect smart card for any client.

#### Developing software and applications

In collaboration with Hitachi, Ltd., we developed two new MULTOS cards in April 2002: 32K MULTOS Card equipped with a robust EEPROM (Electrically erasable programmable read-only memory) memory capacity and 2Way MULTOS Card incorporating contact/contactless interface on a single chip. The new cards boast a 16 bit CPU core for high-speed processing and over 32KB of EEPROM – more than 2 times the conventional MULTOS card – and provide sufficient storage for multiple and large memory consuming applications. The new cards will further expand applications and possibilities of multifunctional MULTOS cards. For example, a person who purchases an electronic ticket on the Internet (data is stored with contact interface for ensured security) can enter a concert hall by holding the smart card in close proximity to a card reader. The additions of 32K MULTOS Card and 2Way MULTOS Card allow DNP to provide wider solutions that meet varying customer needs.

To increase efficiency in the development of PC software that utilizes smart cards, we developed middleware called Formericc Library for OEM sales aimed at system integrator firms. The middleware is a collection of program

parts used to process PC data on smart cards that can be called up from software developed by the Microsoft® VisualBasic® development system and Microsoft® VisualC++® development system. Because Formericc Library allows programmers with little knowledge of smart cards to develop software that utilizes smart cards, the middleware is useful when switching company ID cards and student ID cards to smart cards, introducing membership smart cards for use with points systems at specific shopping malls, and adopting smart cards for authentication purposes in e-Government. We believe the adoption of Formericc Library will lead to a more rapid diffusion of smart cards.

And, as smart cards become more popular, security issues also arise. To prevent illicit use by third parties, we have developed DNP Standard-9 Advance-FP, a smart card capable of authenticating fingerprints inside its IC chip. While smart card functions are normally restricted, requiring a PIN code input from a PC keyboard, there is no stopping illicit use once the PIN code is obtained. Existing fingerprint authentication processes also face the risk of the fingerprint features being leaked when the IC-chip-stored features are read and verified on terminals. DNP Standard-9 Advance-FP eliminates such fears by having the fingerprint features read by the fingerprint sensor and processed on PCs or terminals for import into the chip, where they are verified. The fingerprint features cannot be extracted from the tamper-proof smart card, and the leakage of the fingerprint features via wiretapping and other means is totally prevented. We have been granted an exclusive domestic license covering the internal IC chip fingerprint verification system utilizing the Minutia type algorithm from Technoimagia Co., Ltd.

Corporate data leaks seen in recent years are not so much due to an external attack on the network as they are to the illicit removal of data by insiders. Addressing such problems requires an enhancement in internal corporate security administration systems. Having introduced TranC'ert as a desktop security software aimed exclusively



at SI companies, utilizing Standard-9, the general-purpose smart card produced by DNP, we have now developed FeliCa-compatible TranC'ert for use with Windows® PCs, using the FeliCa contactless smart card technology developed by Sony Corporation. FeliCa, which can be used to control access to specific areas or when adopting a cashless system at company kiosks and cafeterias, is being increasingly adopted by companies as a corporate ID card. We have thus added the new FeliCa-compatible TranC'ert to our TranC'ert series in response to expressed needs, and plan to market it starting June 2003.

Other FeliCa-compatible network security software we developed include a PKCS#11 driver and CSP. In the case of the application software on Windows® PCs, either a PKCS#11 driver or CSP is necessary to select and utilize the private key or electronic certification stored in the smart card, encrypt the SSL two-way authentication or electronic mail, and attach an electronic signature. Such a PKCS#11 driver or CSP, however, were not available for FeliCa – a problem that will be solved when our products become available in the summer of 2003.

#### Card-manufacturing technology

In March 2003, we developed a FeliCa-compatible contactless smart card that allows as many as four lines of text and numbers to be embossed over. Currently, only we at DNP have that technology. Embossing that many lines – typical for a credit card – was considered difficult on a smart card without the risk of damaging the built-in IC chip or antenna for wireless communication. We have applied unique antenna design technology and simulation technology to develop a new antenna to produce a FeliCa card that loses none of its functionality or performance even when embossed over four-lines. Manufacturing smart cards that are completely compatible with the embossing specifications of international brand-name credit cards is now made possible by DNP.



# Developing peripheral equipment and systems

#### Printers

We launched a new series of smart card issuing systems, using our just-released CX210 full-color card printer as a platform. The new series will support three contact card specifications (Standard9, MULTOS™ Card, and Java Car) and three contactless card specifications (Mifare®, Type-B, and FeliCa), making DNP the first in Japan to develop a series of issuing systems that supports six major smart card specifications. The card printer will print pictures, photos and letters, while data processing the smart cards. Incorporating both contact and contactless functions will allow the issuing of hybrid smart cards. By developing this smart card issuing platform, we aim to accelerate customer needs in issuing employee ID smart cards. The system will be sold for approximately 4 million yen, and we forecast sales of 2,700 units in the next three years.

In addition, we developed a card-issuing software for CX210. While most of the existing, expensive ID-card issuing software require complicated operations to handle many functions, the combination of the software and CX210 will allow ID-card issuing systems to be built easily at a reasonable price. The system we offer will be the lowest priced in Japan for an IC-card issuing system utilizing a dye sublimation re-transfer printer for high-quality prints, at a total price of less than 2 million yen for the software, CX210, PC and flatbed scanner. We expect demand for our system as companies and schools switch to issuing ID cards inhouse rather than ordering them from the outside.

#### Reader-writer

Many companies have adopted network security measures utilizing PKI (Public Key Infrastructure) in such areas as file encryption, network access control and PC activation control, and store electronic certification and





personal data on corporate IDs integrated into a smart card. While using a separate reader-writer independent of the PC as connecting the cables with each use can become cumbersome, DNP and Jujo Electronics have developed a small, stick-type smart card reader-writer to facilitate convenience in the use of smart cards. Our smart reader-writer is only 58x17x8.5mm in size, and at about 9 grams, can be dangled from the neck by a strap. Also, the low-cost reader-writer has become exceptionally easy to use as there is no need for a cable, and as it is recognized merely by connecting it to a USB port even when away from one's desk. We have supplied security solutions, combining smart cards, the reader-writer and related software to many clients, and are looking to market these as a security solution, mainly to domestic users and SI companies involved in network security solutions.

Again with Jujo Electronics, we developed a reader-writer for micro-sized smart cards, this time mounted with wireless communication functions. The superior USB reader-writer is compact and light – 67x21x11mm and 13 grams – and is used with an internally stored GSM/3GPP standard UIM size smart card (15x25x0.8mm). The system with a built-in antenna for wireless communication is configured so that the antenna connects with reserved terminals (C4, C8) stored within the smart card – enabling the use of the smart card merely by passing it over the reader-writer. We will market these systems mainly to domestic Japanese users and to SI companies while Jujo Electronics will mainly market the systems in China.

We have also developed a concept model for a mobile, multi-function UIM-smart card reader-writer with an internally stored GSM/3GPP standard UIM size smart card. It will be the latest model in our UbiNetPass (Ubiquitous Network Passport) TM series of UIM-size equipment for smart cards. Featuring a USB connector, wireless communication adapter, liquid crystal display and a fingerprint sensor, the concept model combines existing devices and is slightly larger than a credit card. The actual





product for sale, however, will be nearly as small as the current UbiNetPass TM after we develop devices specifically for the model.

Our smart-card technology is also applied to entertainment as in the case of electronic tickets for concerts and sports events. DNP, together with Tamura Electric Works Ltd., developed a contactless reader system for eTRON, which is a micro card for installment in domestic information appliances and mobile data terminals using T-engine architecture. eTRON undertakes such security operations as performing two-way authentication between machines, shutting-out unauthorized control and making charges for the use of paid-for contents. It also carries a function allowing for the safe and sure transfer of value-data, such as electronic tickets and electronic money between different eTRONs. As one concrete application, we envisage the use of mobile data terminals to access ticket sales sites, download electronic tickets for concerts or sports events, and store them in eTRON before extracting them for use at the event venue.

Archives of world history and cultures made possible by the highest digital information processing technology

DNP's archiving business promotes more than just the storage of image information. We promote the effective use of copyrights, act as an agent for copyright licensing and provide consultations. It is our goal to develop products and utilize online services to share our world's cultural assets on a global scale, fit for the digital era.

DNP Archives.com Co., Ltd. is our wholly owned subsidiary that specializes in digital content. In April 2002, it



launched the Pushkin State Museum Image Archives to lend positive films, digital data and reference materials of cultural properties held by the Russian museum. DNP Archives.com will also promote its digital archiving business in collaboration with the museum. The new business is based on an October 2001 agreement between DNP and the Pushkin State Museum, and aims to structure digital archives and promote effective applications of the museum's assets. DNP archives.com is now engaged in licensing and rental services with approximately 250 images (positive films and digital data) from the museum.

Our archive business also includes developing and selling a digital learning tool for art classes in Japan's elementary, junior high and high school. Called Miru Art, the CD-ROM contains digital images of artworks held by famous museums such as the Louvre and Musee d'Orsay, and are distributed by Japan's largest publisher of art textbooks, Nihon Bunkyo Shuppan Inc. We developed Miru Art by integrating a digital database of 300 world-famous paintings held by France's Reunion des Musees Nationaux (RMN). The learning tool applies a user-friendly format, in which students can search images by genre and keywords, enlarge images for up-close viewing, compare different artworks, bookmark, and upload student artworks in the program. We plan to aggressively market Miru Art to nationwide schools to sales of 20 million yen in the initial year.

In July 2002, DNP Archives.com Co., Ltd., in collaboration with RMN and the Louvre Museum, launched The Louvre Museum Streaming Gallery, a service that distributes high-definition still images. The service consists of 20 titles and illustrates the reflection of artworks to the changing times. Images and audio commentary on 165 artworks and 47 reference items will allow users to enjoy the collections held by the Louvre Museum. While digital Hi-Vision (1,920 x 1,035 pixels) content also supports high-definition large-screen displays and BS digital broadcasting, the images are converted into 960 x 518



pixels for full PC screen viewing. We plan to provide the content to educational organizations and Internet providers, and the contents will also be sold by Rakuchu Rakugai (http:// www.anystyle.jp/rakuchu/), an on-line store within our content marketing Web site, AnyStyle (www.anystyle.jp).

DNP and DNP Archives.com Co., Ltd. have developed an image-licensing business overseas in an aim to promote the efficient use of global cultural assets that have been digitized by DNP in collaboration with various content holders. We will initially provide digital content of artworks held by RMN to the Chinese market. Digital Image Data & Publishing Center of Chinese Cultural Relics was established by DNP in 1999 to promote exposure of Chinese antiquities, and in 2002, our Chinese Antiquities Image Archives began lending positive films, digital data, videos and reference materials of Chinese calligraphic works, paintings, artworks and excavations. We plan to develop our image licensing business overseas, which was made possible by years of our experience in the image archiving business and solid relationships with content holders.

Finally, with the support of the Direction des Musées de France (DMF), and in partnership with the most prestigious organization Reunion des Musées Nationaux (RMN), we have successfully opened Maison des Musées de France(MMF) in Tokyo's Ginza District. MMF aims at introducing and promoting French art galleries and museums, as well as providing broad-based information on French fine arts. The first business development dealing in French cultural assets set up outside France will be managed by our new, wholly owned subsidiary, Maison de DNP Ginza.





# Lifestyle and Industrial Supplies

Today, the individual doesn't simply look to fulfill his or her needs for food, shelter and clothing, but pursues true fulfillment in ensuring that materials are environmentally friendly and people-friendly. To realize an emergent evolution and fulfillment in society, we at DNP are always working with our technologies built on the art of printing to provide environmentally friendly products and services for the individual's better health, safety and comfort. Along the way, high-precision film products associated with information, communication and electronics were added to our line of Lifestyle Products. The former business field of packaging and decorative materials is now referred to as Lifestyle and Industrial Supplies.

# The keywords in packaging are "environment" and "universal design." DNP develops technologies to meet consumer needs with precision.

In Japan, where many types of food such as curry and pasta sauce come in ready-to-heat retort pouches, consumers had long wished that they could microwave the pouches directly instead of having to heat them in boiling water or empty the contents into another container for microwaving. Because these retort pouches were generally made using aluminum, however, they were not suitable for microwaving for fear of generating sparks. At DNP, we have finally found the solution in the form of Un-touch Thru Wing Retort Pouch. Despite using see-through, non-aluminum materials, our new pouch protects the contents to retain their freshness and quality for a long period. What's more, the pouch is designed with a special wing-shaped seal that retreats when heated to reveal a vent for steam. In addition to curry and pasta sauces, the pouch can be used to pack stew, shark's fin soup, egg flower soup and other liquid food as well. Demand for such food in a microwavable retort pouch is growing along with the number of working women in Japan. We aim to expand the sales of Un-Touch Thru Wing Retort Pouch to 300 million yen a year.

For foods such as candy, sugar, grains and flour that generally are not microwaved, there is another problem: pests that get into the food by penetrating the packaging or after the consumer opens the package. In conjunction with Meiho Art, we also solved this issue by developing a food package that is harmless to the human body but repels pests. Unlike insecticides that can be harmful to humans or conventional repellents that have a strong odor, our newly developed Bioprint uses a volatile repellent based on natural food additives and envelopes them in hollow porous micro-capsules made from silica. The effect lasts for about six months as the insect repellent is gradually secreted from micro-capsules, which suppress the odors of the repelling food additives. DNP's printing technology was fully utilized to disperse Bioprint by way of printing ink and surface coating agents. We are also working to develop a repellent that lasts longer, from the time the food is in distribution to the time it sits in the pantry at home.

In October, we added two items to our family of zippered packaging products: V-zip System, the first packaging and filling machine made in Japan that attaches zippers inline, and Kochakku Pouch, a uniquely shaped zippered packaging. V-zip System was built domestically applying our original technology, based on a license granted by U.S.-based Zip-Pak. Aimed at food manufacturers hoping to cut costs by taking on more of the packaging process at their own plants, the V-zip System is expected to generate 350 million yen in sales revenue over the next three years. Kocchaku Pouch, on the other hand, is a pouch with a zippered spout that can be filled using general filling machines at food manufacturers. We expect Kochakku Pouch to bring in 600 million yen in sales

over the next five years.

As a step toward further enhancing our packaging operation, we acquired Ace Package Co., Ltd., a wholly owned subsidiary of Ajinomoto Co., Inc., in March 2003. The addition of Ace Package into the DNP family secures packaging manufacturing facilities for gravure printing, along with highly skilled technical-staff.

#### In addition to addressing building-relatedillness concerns and environmental issues, our Decorative Materials business promotes unique designs and ideas.

In Japan where interior designs are typically monochrome with no colorful patterns, we, together with DNP Archivecom, succeeded in developing and marketing wallpaper and curtains bearing works of art by Pissarro, Renoir, Monet and Seurat, laid out in digital-design patterning. The housing materials, called Artist Touch, feature the portion of world-famous works of art that most fully represents the artist's unique touch. They are now available at Penta-kun Home Department Store, a home-improvement store managed by Painthouse Co., Ltd. By introducing Artist Touch, which fully exploits DNP's decorative materials, printing technology and expertise and DNP Archivecom's featured artworks, we hope to add a little more color and design to Japanese homes.

# Our film processing technology has now expanded to a new business field: Industrial Supplies.

As demand for big-screen LCD TVs and PDP TVs is expected to surge, we have developed a new type of low-cost anti-reflective film for such screens. Until now, the anti-reflective film used in big-screen high-definition TVs and PC monitors consisted of several layers of film, using dry coating over the base film which in turn was hard-coated to prevent scratches. The complexity of the entire process made the finished product expensive. To address this issue, we extended our gravure printing technology to fine technology, developed original ink and established the revolutionary wet-coating process to accomplish the difficult feat of creating a high-performance anti-reflective film at about one-third the cost of existing film. We expect sales of 2 billion yen for the first year of marketing this film, followed by 8 billion yen for the fiscal year ending 2006.





## **Electronics**

In a society undergoing emergent evolution, the information electronics industry provides the hardware for growing info-communication needs. At DNP, we have mastered the field of display and semiconductor products and taken it to a new height by taking advantage of our microfabrication technology fostered through our printing business. In the field of semiconductors, we provide high-performance, newfunction products using our nano-patterning technology. Our aim is to create a new market through technology synergy. In the field of display products, we keep a close watch on the market, responding quickly and accurately to the rapidly diversifying product usage.

We respond to the rapid changes in the semiconductor product market through a select-and-prioritize process.

# In our photomask business, we have secured corporate partners that are leaders in their fields.

In May 2002, we formed a strategic alliance with Geneva-based STMicroelectronics for the development and supply of leading-edge and high-end photomasks, which are critical components in the manufacture of silicon integrated circuits. Through this agreement, we will be creating a new company called DNP Photomask Europe in Italy. In addition, we will be STMicroelectronics' primary photomask supplier, developing new photomasks that will be seamlessly integrated into ST's wafer fabrication processes. The alliance will also greatly strengthen our presence in the worldwide photomask market. The new plant will be DNP's first photomask production site outside Japan and it will not only optimize delivery of photomasks to ST production sites in France and Italy, but will also position DNP to better serve Europe's high-end photomask market.

Domestically, we have formed a partnership with Hoya Corporation to develop photomask blanks for next-generation semiconductors. The partnership allows DNP, the world's largest photomask maker, to establish a system that provides the global semiconductor market with photomasks that have incorporated leading-edge mask blanks from Hoya. We plan to provide photomasks according to Hoya's technology roadmap, and expand our leading-edge photomask business in a market set to rapidly expand.

#### We aim to expand our existing printedcircuit business by modularizing the boards, and create new markets through new technologies.

A new essential item at DNP in the semiconductor circuit business is the ultra-thin high-density buildup substrate for cutting-edge semiconductor packages. Despite featuring an even higher-density circuit, the substrate we developed is less than 1/5 the thickness of existing buildup substrates, making it a perfect candidate for semiconductor package interposers. We were able to realize the significant reduction in board thickness by adopting a unique coreless structure in which only the buildup layers were used, after removing the metal boards on which they were initially formed. We will continue developing even thinner substrates as mobile devices that adopt semiconductors require more chips and pins in smaller spaces.

Two technologies we developed in the past year include patterning technologies, both of which utilize photocatalytic characteristics to decompose organic matters. Thanks to these technologies, micro-detailed patterns can now be formed on glass circuit boards in a short period, exposing it to ultraviolet ray using a photomask. There is a wide range of applications for these technologies, including color filters and micro lenses, as well as DNA and chemical chips that are expected to drop in prices in the near future.





We keep a close eye on the market trend of Display Products. Our response is quick and accurate as reflected in our equipment adaptation and new technology developments.

#### Rear-projection TV Screens

In July 2002, DNP Electronics America's new California plant began operating at full-scale to produce rear-projection TV screens. Demand for rear-projection TV screens is rapidly growing at a global scale, including not only in North America but also China, South Korea and other Asian regions except for Japan. The addition of our American plant to our screen plants in Japan and Denmark brings our total annual production capacity to more than 3 million screens. This will allow us to further increase our share of the world's rear-projection TV market, which currently stands at 60%.

#### Color Filters

We succeeded in developing a new LCD color filter that can accurately reproduce all 928 colors prescribed in ISO12642. By enabling color reproduction on LCD screens at levels equivalent to printed matter, the new color filter can expand the market in fields using high resolution displays, such as e-commerce, content production support, digital archives, remote health-care and education. Apart from being able to reproduce existing natural shades, the new color filter also makes it possible to faithfully reproduce the kind of synthesized hues often seen in computer graphics. We are proud to have cooperated with Stanley Electric Co., Ltd., a maker of backlights, to incorporate its technology on color and optical control with DNP color design and pigment distribution technology. Collaborating on our common technology in color and light design, we were able to develop an epoch making color filter in answer to the need for across-theboard color reproduction.





We also developed a color filter that significantly boosts the brightness and image-quality of liquid crystal displays. This was achieved after much trial and error. In order to achieve purer color, it was originally necessary to increase the thickness of the color filter's color film. However, this produced the problem of reduced contrast and brightness. We have successfully overcome these conflicting problems by developing a revolutionary color material from scratch - the pigments. The merits of using the new color filters that employ the purer spectral color material include achieving a 100% reproduction of the color range established by National Television System Committee, 10% improvement in brightness and 20% improvement in contrast when compared to our existing color filters. The sample shipments of the color filters using the new color material began in spring 2003.

Another color filter we successfully developed is one with high elastic deformation columnar spacers, compatible for use in the large LCD panel assembly process called the one-drop-fill process, which has made panel-manufacturing lines highly efficient. The new color filter has high elastic deformation columnar spacers with improved properties, realizing the ideal, rigid yet elastic spacer. In fact, the elastic deformation rate of the new spacer is 1.4 times higher than existing spacers while its plastic deformation is limited to less than 1/4 the existing ones. In addition, the new color filter is significantly more reliable with liquid-crystal materials and is compatible with high-speed-response liquid-crystal materials. We have applied for patents in Japan and abroad for the new color filter.

In October 2002, we agreed to make an 80% investment in Advanced Colortech Inc. (ACTI), the third largest company in the LCD color filter manufacturing and sales industry. ACTI's original color-filter manufacturing technology is the most promising technology in the industry, where products continue to increase in size. By making our investment, we have added ACTI to our corporate family, in the process becoming the company with the highest manufacturing capacity of 3.5 generation or later large color filters. The investment also has put us at a technological advantage in developing newer generations of color filters. We aim to be a leading company in the industry by expediting technological developments for larger and high-performance LCD color filters.

The collaboration of DNP's worldleading hologram technology and information communication technology has set the stage for the next generation in presentations.

Hologram screens, displayed on clear, glass surfaces, have recently become the projection system of choice for many when giving presentations and in showrooms, simply for the elaborate, mysterious image it creates with the illusion of floating in mid-air. To add even more of a distinguished air to the hologram images, we at DNP developed the Holo-Screen System with Sensor. Using our system, a presenter can interactively "touch" the holographic image – using a reflector panel discreetly attached to the fingertip or a pointer – as if there were a touch panel in mid-air to operate the images. This is break-through technology as existing hologram screens use a short-distance sensor that required a frame around the screen to interact with the images, which, of course, take away the feeling of the image floating in mid-air. Consisting of a hologram screen, a long-distance sensor utilizing infrared-light-emitting diode, a PC for control and a projector, the Holo-Screen System with Sensor is scheduled to be priced at 6 million yen for a 60-inch screen and equipment

Naturally, after the hologram screen, we took holograms to the next dimension: 3D. We developed the world's first technology for recording computer-generated three-dimensional graphics in a three-dimensional hologram format. Branded VirtualGram, the holograms created in this process have been marketed since April 2003. Unlike existing holograms that use dedicated graphic equipment to optically film three-dimensional objects and create a negative, VirtualGram is a three-dimensional image created using computer graphics, which enables the hologram recordings of three-dimensional objects with complicated figurations or





positioning that cannot possibly exist in real space. VirtualGram is perfect as a counterfeit-prevention tool for cash vouchers, credit cards, ID cards and certificates, in addition to being an anti-piracy measure for brand products, and an enhancement in the branding of game software, CDs and printed materials.

## Improving Corporate Governance

We believe improving corporate governance is a management priority in order for the DNP Group to act in accordance with the law and social ethics, contribute to society as a good corporate citizen and realize our management philosophy.

Our board of directors consists of 36 directors, including an outside director. In addition to making executive decisions on key business issues, the board oversees the status of duties as executed by each director, and meets once a month in principle.

Our board of auditors consists of four auditors, including two outside auditors. Auditors are present at every meeting of the board of directors. Neither the outside director nor the outside auditors have an interest in our company.

Our committees such as the Corporate Ethics Action Committee, Environmental Committee, Product Safety Committee, Information Security and Privacy Protection Promotion Committee respond to their respective issues in our aim to become a company trusted by the public. In addition, the committees are involved in providing DNP employees with group training and network-based compliance education to drive home the virtues of legal compliance.

This fiscal year, as part of our commitment to establish a system in which we proactively incorporate outside views in the management of our business, we elected an outside adviser for the first time, in addition to electing an outside director. In June 2002, we revised our Dai Nippon Printing Group Action Charter formulated in 1992 to reflect the contents of our 21st Century Vision, and renamed it the DNP Group Action Charter. Furthermore, in our aim to improve our legal compliance system, in October 2002, we established the Open Door Room to encourage our employees to discuss issues.

## Board of Directors (as of July 1, 2003)



Yoshitoshi Kitajima Chairman of the Board President and Chief Executive



Ryozo Kitami ior Managing Director



Kenichi Nakamura



Taira Takahashi



Koichi Takanami



Satoshi Saruwatari



Masayoshi Yamada



Mitsuhiko Hakii



Masakazu Sato Managing Director



Kuniaki Kamei Managing Director



Osamu Tsuchida Managing Director



Noriaki Nakamura Managing Director



Teruomi Yoshino

Hironori Kato

Toshio Kawada

Hidenori Nokubo

Tadashi Okubo



Hiromitsu Ikeda Managing Director





Kosaku Mori Managing Director

Masahiko Wada

Tetsuji Morino

Yukio Togano Jyunjiro Inoue

Kazumasa Hiroki Takashi Toida

Yujiro Kuroda Tatsuo Komaki Tatsuya Nishimura

Shigeru Kashiwabara







Yoshinari Kitajima

Chugen Kakuno

Yoshiyuki Nakagawa

Itsuo Totsuka

Kunikazu Akishige

#### Tadao Tsukada Director, outside of the company Meiji University, School of Science & Technology Professor

Jitsuo Okauchi Standing Statutory Auditor

Kenzo Isumi

Minoru Yoneda

Standing Statutory Auditor, outside of the company The Dai-Ichi Mutual Life Insurance Company Corporate Planning Department General Manager

#### Yasuchika Negoro

Statutory Auditor, outside of the company Tokyo High Public Prosecutor's Office Former Superintending Prosecutor The Fair Trade Commission

Printing		Capital (Millions of yen)	Ownership ra (%)
Dai Nippon Art Co., Ltd.	Production of drafts for photoengraving	80	100.0
DNP Graphica Co., Ltd.	Printing and bookbinding	100	100.0
Dai Nippon Cup Co., Ltd.	Molding and processing of paper containers	80	100.0
Dai Nippon Ellio Co., Ltd.	Printing and processing of steel and other metal plates	300	50.0
Dai Nippon Hoso Co., Ltd.	Filling and processing of packages	80	100.0
DNP Information Systems Co., Ltd.*	Planning, designing, development, management, and operation of information systems	100	100.0
Dainippon Jushi Co., Ltd.	Production and processing of composite resins	380	100.0
Dai Nippon Kaihatsu Co., Ltd.	Real estate sales	250	100.0
Dai Nippon LSI Design Co., Ltd.	Logical circuit designs for ICs and LSIs and layout designs	100	100.0
DNP Data Techno Co., Ltd.	Production and sales of plastic cards with magnetic stripes, IC chips and others	100	100.0
Dai Nippon Offset Co., Ltd.	Offset printing	200	100.0
Dai Nippon Polymer Co., Ltd.	Molding, processing and printing of plastic containers	100	100.0
Dai Nippon Printing Accounting System Co., Ltd.*	Accounting and consulting services	30	100.0
Dai Nippon Printing Fine Electronics Co., Ltd.	Production of high-precision components	300	100.0
Dai Nippon Printing Precision Device Co., Ltd.	Production of high-precision components	300	100.0
D.T. Fine Electronics Co., Ltd.	Production and sales of semiconductor related components	490	65.0
D.T. Circuit Technology Co., Ltd.	Development and production of semiconductor related components	1,000	50.0
Advanced Colortech, Inc	Production and sales of color filters for LCDs	5,000	80.0
DAP Technology Co., Ltd.	Production and sales of PDP back plates	3,000	50.0
ONP Corporate History Center Co., Ltd.*	Planning and production of corporate hisotory archives	50	100.0
Dai Nippon Printing Technopack Co., Ltd.	Photoengraving and production of packaging	300	100.0
Dai Nippon Printing Technopack Kansai Co., Ltd.	Photoengraving and production of packaging	200	100.0
Dai Nippon Printing Technopack Yokohama Co., Ltd.	Photoengraving and production of packaging	200	100.0
ONP Technopack Tokai Co., Ltd.	Photoengraving and production of packaging	430	100.0
Dai Nippon Seihon Co., Ltd.	Bookbinding	200	100.0
ONP Facility Service Co., Ltd.	Management and operations of buildings and welfare facilities	100	100.0
DNP Trading Co., Ltd.	Sales of paper and other products	100	94.3
Dai Nippon Techtas Ichigaya Co., Ltd.	Bookbinding	80	100.0
Dai Nippon Total Process BF Co., Ltd.	Photoengraving and machine plate activities	80	100.0
Dai Nippon Total Process Ichigaya Co., Ltd.	Photoengraving	100	100.0
Dai Nippon Uni Process Co., Ltd.	Photoengraving	80	100.0
DNP Logistics Co., Ltd.	Packaging, shipping operations and warehouse management	626	100.0
Direc Co., Ltd.	Sales of publishing and educational equipment	96	55.0
D.N.K. Co., Ltd.	Manufacturing and sales of printing equipment and machine tools	100	100.0
ONP AV Center Co., Ltd.*	Planning, production, editing and sales of movies	100	100.0
DNP Digitalcom Co., Ltd.	Planning and production of digital media contents	100	100.0
DNP Human Service Co., Ltd.*	Planning, management and data processing activities related to personnel plans	90	100.0
DNP Media Create Co., Ltd.	Planning, production, photoengraving and machine plate activities	100	100.0
DNP Media Create Kansai Co., Ltd.	Planning, production, photoengraving and machine plate activities	200	100.0
DNP Space Design Co., Ltd.*	Planning, design and creation of shops, exhibition booths and other commercial spaces	100	100.0
DNP Techno Research Co., Ltd.*	Studies related to patents and the preparation of contracts	20	100.0
MyPoint.com Japan Co., Ltd.	Marketing system planning and operations for Internet advertisements	1,520	85.6

Printing		Capital (Millions of yen)	Ownership ration (%)
Dai Nippon Printing Kenzai Co., Ltd.	Photoengraving, printing and processing	200	100.0
I.M.S. Dai Nippon Co., Ltd.	Printing of TTRs and ST materials	100	100.0
DNP Advanced Industrial Supplies Co.,Ltd.	Production and sales of optical films for displays	100	100.0
Kyoiku Shuppan Co., Ltd.	Publishing	60	48.3
Hokkaido Dai Nippon Printing Co., Ltd.	Photoengraving, printing, bookbinding and production related to packaging	93	99.5
Tohoku Dai Nippon Printing Co., Ltd.	Photoengraving, printing, bookbinding and production related to packaging	82	99.7
Tokai Dai Nippon Printing Co., Ltd.	Photoengraving, printing, bookbinding and production related to packaging	120	100.0
Kyushu Dai Nippon Printing Co., Ltd.	Photoengraving, printing, bookbinding and production related to packaging	380	100.0
Shikoku Dai Nippon Printing Co., Ltd.	Photoengraving, printing and production related to packaging	50	97.0
Multi Print Co., Ltd.	Photoengraving, printing and bookbinding	100	100.0
Sagami Yoki Co., Ltd.	Production of laminated tubes	200	90.0
SP Dai Nippon Co., Ltd.	Planning and production of promotional materials	80	100.0
NexantiS Corporation*	Sales of security related software and products	25	100.0
The Inctec Inc.	Production and sales of ink, varnish, pigments and dyes	2,000	83.3
Trans Art Inc.*	Procurement and sales of art objects	50	100.0
DNP Archives.com Co., Ltd.*	Planning, producing and sales of art objects and contents	200	100.0
Maison de DNP Ginza Co., Ltd.*	Sales of Maison des Musées de France art products	60	100.0
Uzumine Country Club Co., Ltd.*	Management of golf courses	33	88.8
Shiobara Green Village Co., Ltd.*	Management of leisure facilities	200	99.6
DNP Holding (USA) Corporation	Holding company	(US\$1,000) 100	(100.0) 100.0
DNP Corporation USA	Holding company	(US\$1,000) 33,581	(13.3) 100.0
DNP America, LLC	Sales of publications and precision electronic components, decorative interiors	(US\$1,000) 100	(100.0) 100.0
Dai Nippon IMS (America) Corp.	Processing of TTRs	(US\$1,000) 20,000	(100.0) 100.0
DNP Electronics America, LLC.	Manufacturing and sales of precision electronic components	(US\$1,000) 15,045	(100.0) 100.0
DNP Denmark A/S	Manufacturing and sales of precision electronic components	(DKr1,000) 135,000	100.0
DNP Photomask Europe S.p.A.	Production and sales of hi-precision components	(Euro1,000) 25,000	81.0
Dai Nippon Printing Co. (Hong Kong) Ltd.	Photoengraving, printing and bookbinding	(HK\$1,000) 225,000	(2.4) 99.5
Dai Nippon Printing (Taiwan) Co., Ltd.	Sales of display and semiconductor related components	(NT\$1,000) 10,000	100.0
P.T. Dai Nippon Printing Indonesia	Photoengraving, printing, bookbinding and production related to packaging and sales	(US\$1,000) 26,000	51.0
Tien Wah Press (Pte.) Ltd.	Photoengraving, printing and bookbinding	(S\$1,000) 4,140	(6.0) 100.0

Beverages			
Hokkaido Coca-Cola Bottling Co., Ltd.	Manufacturing and sales of soft drinks		(3.2)
		2,935	58.6

\*Non-consolidated subsidiary or affiliate

# NP Annual Report 2003

# Management's Discussion and Analysis

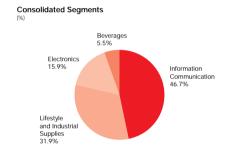
## Financial Section

#### INTRODUCTION

#### General

DNP is a comprehensive provider of solutions that uses printing and information technologies. We offer products and services in a wide range of areas including printing, information media, industrial supplies and electronic components. With them, we serve customers far and wide, from Japan to the rest of the world. Currently, we are the world's No. 1 comprehensive printing company in terms of sales, and a leader in a variety of fields that use printing technology, such as electronics and security.

The following are DNP's three consolidated segments in the printing business, as well as its beverages business.



#### [Printing]

Information Communication: In this segment, we provide services in printing, digital media and content production, or in combinations of the three. No matter what the medium, we offer the most effective and efficient solution for our clients to deliver information to their customers.

Lifestyle and Industrial Supplies: DNP has the talent to develop superior technologies. In this segment, we apply that talent to make and sell decorative materials and lifestyle products that are environmentally friendly. This is another field where DNP has gained acclaim for helping to enrich people's lifestyles today and into the future. We produce a diversified line of products including printer ribbons and optical films for liquid-crystal displays, and have the world's top market share for many of these products.

**Electronics:** DNP in this segment applies the world's most advanced micro-fabrication technology to make and sell a variety of electronic products, including photomasks, which are a key component in semiconductor manufacturing, and color filters for liquid-crystal displays.

#### [Beverages]

We engage in the business of the Hokkaido Coca-Cola Bottling Co., Ltd.

In this Management's Discussion and Analysis section, "DNP" refers to our entire Group consisting of Dai Nippon Printing Co., Ltd., 72 consolidated subsidiaries and 8 affiliated companies included in this annual report. "We," "us" and "our" refer to DNP or the DNP management.

#### Forward-looking Statements

Words used in this annual report such as "believe," "anticipates," "estimates," "expects" and variations of these words or similar expressions, as well as all numbers for future earnings, are forward-looking statements that make use of all information available to the management at the time of the creation of this annual report and management's best judgment. The statements are not historical facts. Our actual earnings in the future may differ greatly from these estimates and forecasts due to uncertainties in the environment and various risks that are mentioned later in this annual report.

These forward-looking statements were deemed reasonable by the management at the time of the creation of this report; sufficient caution must be exercised in making investment decisions on the basis of these statements. In addition, we have no legal requirement to update information relating to these forward-looking statements in the future with the newest information or to publicly announce revisions.

#### Our Principles

The goal of the management is to guide DNP into long-term growth and strategically increase cash flow to raise DNP's corporate and shareholder values.

This goal cannot be met without creating new customer values so that we can constantly generate values for our society and all DNP stakeholders. Above all, we believe that the goal can be achieved by developing outstanding technology that is useful to society, providing original products and services, and aiming to contribute to social prosperity and the happiness of all people with whom we are involved.

However, for DNP to experience further growth in the dramatically changing world of the 21st century, we also need new business strategies fit for the times. We need to make a company-wide resolution to embrace diversity and

use different values to help us grow. This is why we, the DNP management, believe in the fusion of the two technologies that we have cultivated and lead the world in – printing and information. We will build technologies that others can only dream of, and provide our customers with a wide array of solutions.

#### **RESULTS OF OPERATIONS**

#### **Business Environment**

The Japanese economy this fiscal year remained in a harsh condition with no signs of a recovery. In addition to the sluggish consumer spending and reduced capital investment, deflation continued to advance.

In the business of printing, our strategic operation, which consists of information communication, lifestyle and industrial supplies, and electronics, the business environment continued to be a challenging one due to a drop in overall printing demand and declines in unit prices.

#### Overview

			2003.3		2002.3		2001.3
Net Sa	les (in millions)	¥ 1	,309,002	¥ 1	,311,934	¥ 1	1,342,035
Gross	Profit Margin		20.39	6	18.49	6	18.7%
Operat	ting Income Margin		6.99	6	5.59	6	6.4%
	e Before Income (in millions)	¥	42,244	¥	26,150	¥	69,116
Net Inc	come (in millions)		28,774		15,609		33,409
EPS	Primary	¥	37.80	¥	20.55	¥	43.99
	Fully diluted		37.67		20.53		43.45

We view the 21st century as an era of "Emergent Evolution" in which people with diversified values stimulate each other in an energizing process to create new values. To build a corporate culture of emergent evolution, we have formulated the DNP Group's Vision for the 21st Century to clearly define our business vision and action guidelines, and continued to further reform our business and structures.

We applied two types of solutions — production solution and business design solution — to reform our business structure with the aim of expanding our business field and providing new values and profits for our customers. The solutions were based on the DNP Group's Vision for the 21st Century to create a new form of business that tactfully offers goods and services demanded by the

market by focusing each company's resources in its areas of strength and by cultivating an environment that encourages alliances between the companies.

Last fiscal year, the DNP management established "DNP: P (Printing Technology) & I (Information Technology) Solutions" as the phrase that conceptualizes the DNP Group's Vision for the 21st Century. We are clearly defining our future as one that can be achieved through a switchover into the business of providing solutions.

Meanwhile, we began implementing emergency cost-reduction measures beginning in the latter half of the previous fiscal year. This fiscal year, despite being affected by 800 million yen due to a 10% increase in the prices of raw materials for printing paper, we were able to achieve a cost reduction total of 34.2 billion yen consisting of 5.6 billion yen in depreciation costs, 1.9 billion yen in labor costs, 4.3 billion yen in personnel expenses and 22.4 billion yen in manufacturing costs, far exceeding our annual projected reduction of 27.5 billion yen.

As for capital investment, while we aggressively invested in our strategic fields such as equipment for photomasks and projection TV screens, as a rule, we only invested to renew equipment as we promoted the use of existing equipment in other fields. As a result, we were able to reduce capital investment significantly.

Our capital investment this fiscal year amounted to 73.7 billion yen, down 11.3 billion yen from the previous year. In addition, our depreciation costs also dropped by 5.6 billion yen to 89.2 billion yen.

In continuing on our staff reduction plan launched last year, we do not encourage early retirement but reduce staff naturally by putting a hold on new hires and through age-based mandatory retirement.

Although the number of our employees on a consolidated base increased by 314 from the previous year due to an alliance with another company in the electronics field and a newly established Internet-business company, the number of staff in our existing fields dropped by 975, meeting our goal.

Our target for staff reduction was 2,000 by March 2003 from the September 2001 figure of 34,089. We were able to reduce a total of 2,118 employees from our existing fields by March 2003, having reduced 1,143 by March 2002 and 975 by March 2003. This resulted in a cost reduction of 1.9 billion yen this fiscal year.

Our overhead costs were reduced by 4.3 billion yen due to our continued efforts at work efficiency using

information technology, and cutting back on variable expenses through enhanced budget management.

Our achievement in reducing manufacturing costs was especially remarkable this fiscal year. Due to our commitment to our Action of Production 21st launched by the entire DNP Group last April to reduce unutilized materials, work in progress, inventory and time spent on arrangements and adjustments, as well as to our improved production efficiency accomplished by downscaling production facilities for decorative materials and electronics such as shadowmasks, we were able to reduce 22.4 billion yen in manufacturing costs.

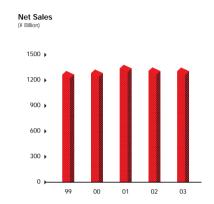
As a result, our operating income margin increased 1.4 points to 6.9%.

#### **Net Sales**

This fiscal year, due to weakened demand and a drop in unit order prices caused by intense competition, our net sales decreased 2.9 billion yen, or 0.2%, from the previous year to 1,309 billion yen.

Despite a significant increase in the sales of smart cards and IPS (information processing service) such as personalized direct mail and bills, net sales this fiscal year for our information communication segment decreased 6.0% from the previous year due to a decline in the sales of periodical magazines, points of purchase for companies, catalogs, flyers, pamphlets and forms. In our lifestyle and industrial supplies segment, however, sales increased by 2.2% over the previous year despite the lackluster sales of paper containers and cups, ink ribbons and decorative materials for domestic shipment. Those that contributed to the sales increase for the segment were decorative materials for export, large sterile filling system for beverages, pre-forms for manufacturing PET (polyethylene telephthalate) bottles, soft packaging materials, optical films for liquid-crystal displays such as films for deflecting plates and electrodes for lithium-ion rechargeable batteries. Sales increased 17.8% over the previous year in our electronics segment due to photomasks, liquid-crystal color filters, projection screens and shadowmasks being in good demand. In our beverages segment, sales decreased by 1.7% from the previous year due to unfavorable weather in Hokkaido during the high-demand season.

As a result of this significant increase, overall net sales at DNP remained at about the same level, decreasing ever so slightly from the previous year.



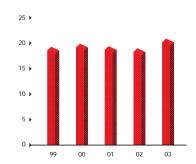
#### Cost of Sales

Cost of sales this fiscal year decreased 27.7 billion yen, or 2.6%, to 1,043.5 billion yen. Cost of sales to net sales also decreased, from the previous year's 81.6% to 79.7%.

Reasons for the decrease include the reduction in depreciation costs and manufacturing costs, as mentioned earlier. Launched this fiscal year to reform our cost structure, The Action of Production 21st raised the awareness of those engaged in manufacturing to make profits and to avoid waste.

The Action pushed to improve production technology through a joint effort between the research center and each manufacturing division to implement a drastic cost reduction.

#### Gross Profit Margin



Through this Action, we not only improved our production yield and cut down on lead time, but also reduced inventory of products and inventory assets to raise our competitiveness.

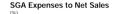
For decorative materials, we shut down one plant out of the three and consolidated production at the remaining

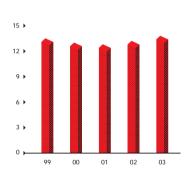
two plants. In our electronics segment, we scaled back the facilities for shadowmasks and lead frames to improve production efficiency.

A look by segment reveals that the lifestyle and industrial supplies segment was able to dramatically reduce costs while the electronics segment increased earnings. Overall, DNP was able to cut manufacturing costs by 22.4 billion yen, which directly reflected on our cost of sales.

#### Selling, General and Administrative Expenses

Selling, general and administrative expenses this fiscal year increased 7.1 billion yen, or 4.2%, over the previous year to 175.7 billion yen. This was due to the increase in labor cost as affected by the retirement benefit accounting, and to the 700 million yen increase in research and development expenses, to 24 billion yen.

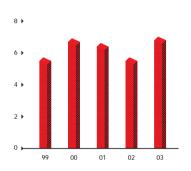




#### **Operating Income**

Our operating income this fiscal year increased 17.6 billion yen, or 24.4%, over the previous year to 89.9 billion yen due to the recovery of our profitable electronics segment and the cost of sales reduction achieved through our cost-cutting measures which absorbed our selling, general and administrative expenses increase. As such, our operating income margin recovered significantly, from the previous year's 5.5% to 6.9% this fiscal year.

#### Operating Income Margin



#### Other Income and Expenses

This fiscal year, we recorded net other expenses of 47.6 billion yen. The amount of expenses increased 1.5 billion yen, or 3.4%, over the previous year.

Primary reasons for this fiscal year's increased other expenses include the 29.9 billion yen in devaluation losses in investment securities posted as part of the mark-down process of the listed stocks we own. The devaluation losses, however, decreased by 890 million yen, or 2.9%, from the previous year. The extraordinary loss was the devaluation losses in the investment securities of four major banks. Meanwhile, our 7.3 billion yen loss on sales and retirement of fixed assets posted as equipment retirement expenses decreased by 3.9 billion yen, or 34.6%, from the previous year. This fiscal year which was the third of a five-year amortization of the transitional obligation of the retirement benefit accounting introduced in the fiscal year ended March 2001, was 6 billion yen. Employees' special retirement benefits this fiscal year were 1.7 billion yen mainly because of the preferred early retirement system we set up at Hokkaido Coca-Cola to balance out the age disparity among the employees and to establish a staff of an appropriate number.

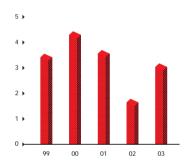
Our income before income taxes this fiscal year increased a significant 61.5% over the previous year to 42.2 billion yen due to the amount of losses in other income and expenses only increased slightly when compared with our growth in operating income.

#### **Net Income**

As a result of the above, our net income increased 84.3% from the previous year to 28.8 billion yen. This also led to an increase in our return on equity, from 1.65% to 3.02%.

Our net income per share also increased from 20.55 yen in the previous fiscal year to 37.80 yen, and diluted net income per share also jumped, from 20.53 yen to 37.67 yen.

#### ROE



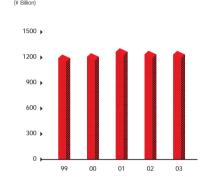
#### SEGMENT INFORMATION

Previously, we had two consolidated segments: the printing operation in which we conduct printing and contingent businesses, as well as manufacture printing technology application products, and the soft-drinks manufacturing operation in which we manufacture and sell soft drinks in Hokkaido in northern Japan. Starting this fiscal year, however, we have further divided our printing operation into three consolidated segments.

The three segments are information communication, which consists of books, publications, commercial printing, business forms and their related products; lifestyle and industrial supplies, which consists of packaging products, decorative materials and industrial materials; and electronics, which consists of displays, electronic components and their related products. Industrial materials such as ink ribbons and other recording materials, as well as optical-function films, are included in the lifestyle and industrial supplies segment due to their sharing packing, decorative materials and coating technologies with lifestyle and industrial supplies.

Our beverages segment remains the same with our business at Hokkaido Coca-Cola Bottling Co., Ltd.

#### Sales in Printing Operation



#### Information Communication

Information Communication	2003.3	2002.3
Net Sales	¥ 619,924	¥ 659,241
Operating Income	40,073	49,050
Operating Income Margin	6.5%	7.4%
		(von in millions)

Net sales in our information communication segment decreased 6.0% to 619.9 billion yen. Operating income also decreased, by 18.3% to 40.1 billion yen. The operating income margin declined from 7.4% to 6.5%.

Sales were weak in publishing, commercial printing and business forms. As a result, overall net sales for the segment decreased by 39.3 billion yen, and operating income decreased by 9 billion yen.

#### **Books and Publications**

This fiscal year, the Japanese publishing industry experienced its sixth consecutive year of shrinking sales when sales dropped 0.6% from the previous year. While book sales increased 0.4%, the actual number of books issued declined by 1.3%. Likewise, magazine sales decreased by 1.3% while the actual number of magazines issued declined by 2.1%.

Reasons behind the sales decline include the low birthrate, increased selling and buying at the "new" used book market, more library use, and changes in the way people gather information, such as via the Internet and mobile phones.

While sales of books remained at about the same level, our sales of books and publications decreased 3% from the previous year due to the decline in the number of publications issued.

Solution-type businesses we engaged in this fiscal year include building customer databases for publishers, building Internet sites and licensing character designs for

Of the 201 newly published magazines this fiscal year, 55 orders were placed with us. Thus, the number of new orders remain roughly the same as the previous year. Meanwhile, the number of discontinued magazines was 145, of which 47 were our accounts. This was fewer than last year's 55.

#### **Commercial Printing**

Advertising expenses in Japan this fiscal year decreased 5.9% from the previous year to 5,703.2 billion yen.

Our commercial printing, including flyers, catalogs, pamphlets, points of purchase and premiums did not do well overall due to fierce competition for orders.

As a result, sales from orders placed with us decreased 8% from the previous year.

Solution-type businesses we promoted this fiscal year included catalog production and web site production by building a product database, and a licensing business using character designs.

#### **Business Forms**

This fiscal year, sales of IPS and smart cards surged while sales of forms decreased, resulting in an overall decrease in sales.

We recorded a significant increase this fiscal year in the sales of IPS, including the issuance of bills for mobile phones, issuance of non-life insurance certificates for nonlife insurance companies, investment reports by banks. bills for credit-card companies, direct mail for educational organizations and the shipment and processing of catalogs and direct mail that are effective sales promotion tools for our customers.

Although smart cards are not yet widely used as bankissued ATM cards, their number is steadily increasing among credit cards. Our share of the smart cards in Japan is about 50% in terms of sales. Among high-function cards for financial institutions, our share is even higher, at about 65%.

With our original MULTOS operation system, other application software developments and information processing as our strengths, we are aggressively marketing ourselves in highly profitable areas other than card manufacturing, such as software licensing fees and issueprocessing businesses, and are steadily increasing sales.

Our electronic forms that promise growth were employed to good results when communication-business application forms and bills turned electronic.

#### Lifestyle and Industrial Supplies

Lifestyle and Industrial Supplies	2003.3	2002.3
Net Sales	¥ 420,167	¥ 410,940
Operating Income	28,595	19,949
Operating Income Margin	6.8%	4.9%
		(yen in millions)

Despite a decline in the sales of decorative materials, our lifestyle and industrial supplies segment saw increased sales overall to 420.2 billion yen, which was a 9.2 billion yen, or 2.2%, increase over the previous year due to bigger sales of packaging and industrial materials. Operating income also increased by 8.6 billion yen, or 43.3%, while operating income margin improved from the previous year's 4.9% to 6.8% thanks to our cost-cutting

Despite slow consumer spending and a drop in the sales of paper containers and paper cups, sales of packaging increased overall by 2% due to the increased sales of soft packaging and the sales of our sterile filling system

We received orders from three cola bottlers and two soft-drinks makers for five large sterile filling systems for PET bottles. Along with the sales of these systems came an increase in the sales of pre-forms that are used in manufacturing PET bottles.

We received orders for environmentally friendly products such as the disposable retort-pouch we developed to replace pet-food cans, and the insulated paper cup we offered to replace plastic cups for miso soup and other products.

Sales of our PVC-free barrier film (product name: IB Film) that provides a perfect solution for dioxin problems also grew.

Some solution-type businesses we are promoting include "unique number campaigns" in which applicants use a mobile phone and a unique number printed on a product package to enter a contest, and sales promotion sites on the Internet.

#### **Decorative Materials**

Although housing starts in Japan continued to drop this fiscal year, signs of recovery were also apparent with increased imports. In the end, sales of decorative materials decreased 2%.

Sales of exports were strong thanks to the newly added pattern designs and improved functions.

Our original, Woody Series of wallpapers for condominiums enjoyed a 14% increase in sales due to the public's heightened awareness for environmental issues. Non-PVC housing materials also increased in sales, by 11%.

#### **Industrial Supplies**

This fiscal year, sales of industrial supplies increased 4% over the previous year despite a decrease in sales of ink ribbons overall. Ink ribbons for color printers, however, grew in sales by 1%.

Sales of electrodes for lithium-ion rechargeable batteries and optical films for liquid-crystal displays, including films for deflecting plates, increased more than 50%.

#### **Electronics**

Electronics	2003.3	2002.3
Net Sales	¥ 208,380	¥ 176,914
Operating Income	28,317	8,590
Operating Income Margin	13.6%	4.9%
		(yen in millions)

#### Electronics

This fiscal year among our display products, sales of shadowmasks that struggled in the previous year increased by over double digits in the latter half of the year. In the end, sales recovered to a 5% increase over the previous year. Sales of color filters and projection screens also increased considerably. Among semiconductorrelated products, sales of lead frames remained the same as the previous year while the sales of photomasks notched a double-digit increase. Due to such factors, the segment as a whole saw a sales increase of 17.8%, or 31.5 billion yen, over the previous year to 208.4 billion yen.

Due not only to the increased sales but also to the cutback in fixed expenses implemented through the consolidation of production plants for shadowmasks and lead frames, as well as to the strong sales of highly profitable, cutting-edge photomasks, our operating income this fiscal year increased 19.7 billion yen to 28.3 billion yen.

Operating income margin also recovered substantially from the previous year's 4.9% to 13.6%.

In the area of displays, sales of shadowmasks increased 5% over the previous year due to our efforts such as the retirement of production facilities and the consolidation of production at the Mihara Plant, and the shift from providing shadowmasks for PCs to shadowmasks for consumer TVs. Thanks to the steady securement of production volume, we were able to reduce fixed expenses and increase our operation rate, which led to a significant improvement in our income.

While liquid-crystal color filters had to withstand a 10% drop in unit prices, the increase in demand caused by the drop in the price of liquid-crystal panels coupled with the additional sales at ACTI, which we acquired from Asahi Glass and Mitsubishi Chemical, resulted in a 30% increase in sales.

Sales projection screens increased by a big 35% due to the expansion of the projection screen TV market in South Korea and China in addition to the main market, the United States

In the area of semiconductors, sales of our photomasks increased 15% due to more orders being placed for our highly profitable cutting-edge products, which raised our average unit price by about 10% and our sales volume by 5%.

Sale of lead frames, meanwhile, remained at the same level as the previous year despite more being sold for use in small packages. This was due to the drop in unit prices.

#### **Beverages**

Beverages	2003.3	2002.3
Net sales	¥ 71,835	¥ 73,099
Operating Income	(166)	575
Operating Income margin	-	0.8%
		(yen in millions)

Our beverage operation this fiscal year continued to experience extremely harsh market conditions, not only with the decline in sales volume in the entire soft-drinks industry but also with the unfavorable weather in Hokkaido during the high-season, which led to a decline in demand.

Sales decreased 1.3 billion yen to 71.8 billion yen, and operating income fell 741 million yen to an operating loss of 166 million yen.

Despite implementing measures such as taking part in a joint-procurement system for bottlers to cut costs,

consolidating distribution bases, establishing a multi-story automated warehouse at the headquarters plant, and reducing staff by 98 employees through a preferred early retirement system, the downturn in both sales and income was the result of slow sales volume growth and an increase in sales promotion expenses.

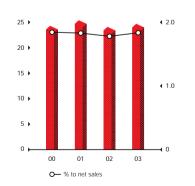
#### LIQUIDITY AND CAPITAL RESOURCES

We believe that the foundation of our financial strength and an important factor in enhancing our value as a corporation is our ability to generate cash from our operating activities to enable us to continue investing in growth areas. We, the management, remain convinced that in the fiscal year ending March 2004, we will continue to secure sufficient liquidity needed for DNP to maintain and expand its business.

#### Cash Flows

Free cash flow is cash flow that we can invest freely in fields that contribute to DNP's advancement. It is also a source of corporate value. This fiscal year, we were able to generate a free cash flow of 133.2 billion yen.

Research and Development Expenditures

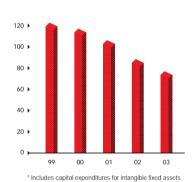


	2003.3	2002.3	2001.3
Cash Flows Provided by Operations	¥ 197,413	¥ 133,830	¥ 116,728
Business Reinvestment	(64,223)	(97,955)	(72,879)
Free Cash Flow	133,190	35,875	43,849
			(yen in millions)

This fiscal year, cash flows from operating activities increased 47.5% over the previous fiscal year to 197.4 billion yen. Factors for this increase include the 16.1 billion yen increase in income before income taxes and minority interests, and the 13 billion yen more in decrease in trade receivables, which means that we had less accounts receivable.

Cash and cash equivalents we used in our investing activities increased 9.8% to 87.4 billion yen. This increase was due primarily to the reduction in the net decrease in short-term investments, as well as to the reduction of payments for purchases of property, plant and equipment.

Capital Expenditure



Meanwhile, cash flows we used in our financial activities this fiscal year increased 142.8% over the previous year to 62.1 billion yen.

This increase was due primarily to the 10.2 billion yen increase in repayments of long-term debt, the 19.2 billion yen increase in redemption of convertible debentures and the 21.6 billion yen increase in payments for the purchases of treasury stocks. The treasury stocks were purchased on February 18, 2003 at 1,230 yen a share for a total of 20.9 billion yen, or 17 million shares.

We believe that this purchase of treasury stocks is an effective means to return profit to our shareholders.

Because of the 47.3 billion yen increase in cash and cash equivalents due to these activities and the 2 billion yen in cash from the newly consolidated subsidiaries, our cash and cash equivalents at the end of the fiscal year increased by 26.0% to 238.9 billion yen.

We, the management, make certain we maintain sufficient liquidity to implement our business strategies in a

flexible manner and to respond to changes in our business environment. As a rule of thumb, we take care to retain cash at hand for the amount equivalent to about two months of our monthly sales. We are aware that maintaining liquidity is particularly important in light of the instability of today's financial institutions and the trend of the primary market of corporate bonds.

#### The Balance Sheet

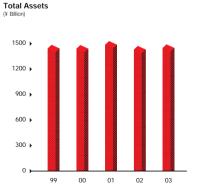
So that DNP could increase its corporate value, we always keep in mind arranging our capital composition to suit the business environment and to minimize our cost of capital

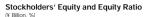
	2003.3	2002.3	2001.3
Total Assets	¥ 1,450,027 ¥	1,432,458 ¥	1,489,871
Current Ratio	1.71x	1.81x	1.65x
Working Capital-to-Net Sales	0.23x	0.23x	0.21x
Debt-to-Equity Ratio	0.06x	0.07x	0.08x
Leverage Ratio	1.54x	1.51x	1.59x
Book Value per Share (yen)	¥ 1270.81 ¥	1246.99 ¥	1236.96

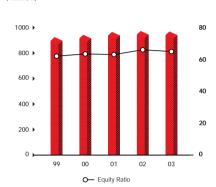
(ven in millions, except BPS)

DNP's total assets at the end of this fiscal year increased 1.2% over the previous year to 1,450 billion yen.

Among current assets, cash and cash equivalents increased 25.8%, or 49.1 billion yen, to 239 billion yen while trade receivables decreased 6.7%, or 27.8 billion yen, to 383.6 billion yen. Inventory assets also decreased, by 2.2% to 74.7 billion yen. As a result, current assets increased 3.7% to 715.5 billion yen.







In investments and advances, deferred tax assets increased 18.2 billion yen this fiscal year due primarily to investment securities write-downs and provisions for retirement benefits which were not recognized as losses for tax purposes. Meanwhile, due to a total of 29.9 billion yen in investment securities valuation losses, our investment securities at the end of this fiscal year decreased by 23.5%, or 29.8 billion yen, to 97.1 billion yen. As a result, our investments and advances this fiscal year decreased 6.5% to 164.9 billion yen.

Property, plant and equipment decreased 0.6% to 540.9 billion yen due to the 2.2% decrease in capital investment such as machinery, equipment and vehicles as a result of our holding back on such investments.

Meanwhile, among liabilities, our current liabilities at the end of this fiscal year increased by 9.5% to 417.8 billion yen. This was caused partly by the 723.5% increase in our current portion of long-term debt, which includes the 54.6% increase in convertible debentures redeemable in a year, as well as by the 100.9% increase in income taxes payable and the 2.3% increase in trade payables.

Our long-term liabilities decreased 15.4% this fiscal year to 66.8 billion yen. This was due primarily to the entire 29.7 billion yen in convertible debentures being transferred to the convertible debentures redeemable in a year as part of current liabilities.

As a result of the above, our total liabilities at the end of this fiscal year increased by 5.2% to 484.6 billion yen.

Meanwhile, our stockholders' equity at the end of this fiscal year decreased by 0.5% to 942.1 billion yen due to the increase in our treasury stocks.

③ R&D costs are the total costs incurred by our 11 R&D centers (10 in fiscal 2000 and 2001) in the development of environmentally sound products and manufacturing equipment.

# RISK MANAGEMENT

We are exposed to various market risks arising from fluctuations in foreign exchange rates, interest rates and stock markets. To eliminate or reduce some of the risks from foreign exchange rates, we mainly use forward exchange contracts.

This fiscal year, about 14% of our net sales consisted of overseas sales, and to that extent, we were exposed to the risks of currency market fluctuation. To eliminate or reduce some of these risks, we use forward exchange contracts

We do not enter into derivative transactions for purposes other than to avoid such risks. Thus, these transactions are not at all for investment purposes or short-term trading purposes. We also maintain a strict control system in which it is necessary to obtain our assigned company director's prior approval to engage in transactions of the said instruments. Our Accounting Division controls and executes methods and limits of transactions related to all our derivative transactions within the range set forth in our internal rules.

All forward exchange contracts that we engage in are over-the-counter transactions, thus they are accompanied by the credit risks of the counter-party banks. However, as they are with banks of high credit standing, we are assuming that we run a negligible risk of bearing losses from such credit risks.

For interest risks arising from our investing and day-today cash management activities, we do not enter into transactions that offset interest risks as these risks have only a minor impact on the balance sheet of the DNP Group.

Also, we are exposed to stock price fluctuation risks as we hold various listed and unlisted stocks for strategic holding and investment purposes.

Besides these risks, we may be exposed to nonfinancial or imponderable risks during our day-to-day operations. These risks include country risks, credit risks and legal risks. Because they are unpredictable, we did not describe them in this Annual Report. As for legal actions, we did not have any pending as of the end of the fiscal year under review.

Our retirement benefit system, meanwhile, is experiencing a fund shortage due to the worsening investment environment. Of the above, the substitute portion of the

employees' pension fund is expected to be exempt from our future payment obligations to the Health, Labour and Welfare Minister when our application is accepted on June 1, 2003. The amount affected by the above is specified in the Subsequent Event in our financial statements.

#### PROTECTING THE ENVIRONMENT

At DNP, under our environmental declaration to preserve the global environment and to effectively use resources to protect the prosperity and future of mankind, we put in company-wide efforts to address global environmental issues. In 1995, we received recognition with the Global Environmental Grand Prize awarded by the Minister of International Trade and Industry.

In 1993, we introduced our unique eco-management system, the Eco Report System, as part of our efforts to preserve the environment. In 1999, we employed environmental accounting, which compiles capital investment on environmental equipment, the energy consumption amount and value, waste discharge volume, the cost of consigning waste disposal and the value of recyclable resources sold. The accounting helps us evaluate and verify the effectiveness of environmental management, and determine the priority of issues we need to address. We made these accounting statements public by the end of 2001

Currently, we are in the process of obtaining ISO14001 certification, having already been certified at five of our locations. We plan to continue staying abreast of all environmental standards, and believe that such activities will not have a significant negative impact on our financial position.

## **Environmental Accounting**

DNP practices environmental accounting, a highly effective tool for promoting and evaluating the effects of environmental conservation activities

#### **Objectives**

## 1. Environmental accounting as an environmental manage-

- (1) Environmental accounting produces a breakdown of environmental conservation costs as that can be used as a reference for determining the effectiveness of environmental conservation
- (2) Environmental accounting data is used to determine the cost of individual environmental facilities, the Group's overall budget for environmental conservation, and the amount of investment in environmental activities.
- (3) Environmental accounting is used to monitor and evaluate the effects and achievements of activities performed throughout the year in order to ensure continual improvement in our environmental performance.

#### 2. Environmental accounting as a tool for communicating with society

- (1) Environmental accounting provides the means for public release of our environmental conservation efforts and their
- (2) The reception of our environmental accounting reports by shareholders, clients, and local communities is used as a reference for improving our approach to environmental conser-

#### Basis for the calculation of environmental accounting information

#### (1) Period covered

April 1, 2002 through March 31, 2003 (Environmental conservation facilities are those considered as of March 31, 2002)

#### (2) Scope of coverage

Environmental accounting was applied to the companies designated for consolidated accounting purposes, including the group's domestic manufacturing companies (43 companies and 54 sites), one distribution company and one meal catering company, but excluding ten other companies, including those related to trading, real estate sales, teaching material sales and software development. Furthermore, we excluded one company that has yet to begin production and two other companies purchased during the term, as the system for collecting data and the companies is still under preparation and the companies are deemed to be insignificant at this stage. The two companies will be included in our environmental accounting report next fiscal year. (Please refer to pages 4 and 5).

#### (3) Monetary unit

All monetary figures are expressed in millions of yen, rounded off to the nearest million.

#### (4) Announcement format

The format for presentation this fiscal year is the Comprehensive Benefits Comparison Format as set forth in the Ministry of the Environment's "Environmental Accounting Guidelines, Fiscal 2002." Environmental conservation equipment and sales of environmentally sound products are also shown

#### (5) Basis for the calculation of costs of environmental conservation activities

- ① The environmental conservation costs include depreciation expenses for investments. Depreciation is applied in accordance with corporate tax law regulations.
- 2 Personnel costs for full-time workers were calculated at the average labor costs per person, while personnel costs for workers holding two or more posts were calculated at 1/10 or 1/5 the average personnel cost per person, depending on the worker's assigned duty.

#### (6) Basis for the calculation of benefits of environmental conservation activities

- ① DNP uses consumption per added-value as an indicator for the volume of resources (energy and water) spent on business activities, as well as for the volume of waste materials and CO<sub>2</sub> emissions. Furthermore, the DNP Group uses the added-value total of the company concerned as an indicator of the volume of business activities, given that companies within the group perform product transactions. The added-value amount is calculated pursuant to the "Management Analysis of Japanese Corporations" issued by the Ministry of the Economy, Trade and Industry.
- ② The recycle rate of waste materials represents the percentage of the weight of unwanted plant-generated materials that were recycled on- and off-site.
- 3 Benefits of up/downstream costs are the effects of reduced CO<sub>2</sub> emissions when disposing of containers or packaging.
- Benefits of environmental impact of transportation are the benefits of reduced CO<sub>2</sub> emissions during the transportation of products by the distribution companies included in DNP's consolidated accounting.

#### (7) Basis for the calculation of economic benefits of environmental conservation measures

- ① We have calculated the benefits of energy- and resourcesaving efforts using the following formula: (Energy consumption per added-value amount or waste processing cost per added value of benchmark period – those of this period) x value-added amount
- ② Calculation of the business activity amount was made using the added-value amount indicated in (6)①
- 3 For unit consumption, we used energy costs/the addedvalue amount and waste disposal costs/the added value
- For the benchmark period, the consumption or cost per value is the overall average of the three years prior to this fiscal year. In calculating unit consumptions for the benchmark period, however, the energy cost was adjusted to this fiscal year's price level due to dramatic price fluctuations.

# (1) Business area costs

Total

Environmental conservation cost

Details of major efforts Category Year 2001\* Year 2002\* Year 2001\* Year 2002\* Pollution prevention ¥ 1,313 ¥ 2,267 ¥ 2,267 Changing fuel (to LPG), adding deodorizing equipment and waste treatment facilities costs Global environmental Controlling room temperature and lighting, adding inverters to electrical equipment and 256 1.000 1 332 924 conservation costs Resource recycling 79 382 3,163 3,076 Sort-and-recycle; zero-emission (to RPF as cement material) Use of recycled water costs (Total business area 1,648 2,377 6,343 6.354 (2) Up/downstream Designing environmentally friendly products; bearing container and packaging recycle 195 194 costs Cost of ISO14001 audit and registration fees; environmental measurement costs; cost of (3) Administration costs 2,044 2,014 preparing environmental reports (4) R&D costs 1,704 1,872 Research and development of environmentally friendly products and production methods Planting trees and landscape gardening outside the plant site; supporting activities of 12 14 (5) Social activity costs (6) Environmental remediation costs 0 0 None

(\*Years ended March 31)

#### Environmental conservation costs to total costs ratio

¥ 1,648

¥2,377

¥10,309

¥10,437

(¥ millions)

(¥ millions)

Category	Consolidated total costs	Environmental conservation costs	Percentage of environmental conservation costs	Details of major environmental conservation costs
Amount invested during the said period	¥ 73,789	¥ 2,377	3.22%	Co-generation system, solvent and exhaust gas recovery and refining equipment, water recycling system, etc.
R&D costs during the said period	24,097	1,872	7.78%	Non-vinyl chloride decorative sheets, de-chlorinating barrier film, biodegrad- able plastic, non-aluminum packaging materials, water-based ink, etc.

## Evaluation of environmental accounting performance data for fiscal

#### Environmental conservation costs and measures

- ① Year-on-vear investments in environmental conservation equipment increased by 44.2%, or ¥729 million. New large-scale facilities included a water-recycling system and a co-generation system, both of which accounted for 60% of this amount.
- @ Regarding environmental conservation costs while environmental product R&D costs stood at ¥168 million, a year-on-year increase of 9.9%. Upstream/downstream costs stood at ¥194 million, of which ¥190 was paid to the Japan Container & Packaging Recycling Association in recycling fees.

#### Environmental benefits of environmental conservation activities

- ① In fiscal 2001, we made a ¥1.3 billion investment in solvents recovery and removal facilities, which resulted in a 1,594t reduction in the atmospheric release of substances subject to the PRTR Law.
- ② SOx emissions were reduced by 24.2% following our conversion to LNG
- $\ensuremath{\mathfrak{B}}$  All benefits related to supplied resources such as energy, water and main raw materials improved.
- materials fell by 13,300t, waste fell by 8,200t, and waste fell by 25kg for every million yen in added value.

#### Economic benefits of environmental conservation activities

- ① Sales of environmentally friendly products increased 34.6% greatly exceeding the target increase of 10%.
- $\ensuremath{\mathfrak{D}}$  Year-on-year income from recycling unwanted materials increased by \$161
- ® Benefits of cost reduction are calculated according to "(7) Basis for calculation of economic benefits of environmental conservation measures" on the preceding page.

In fiscal 2002, the added-value amount increased 6.0% from the benchmark period (Average for three-years between fiscal 1999 and fiscal 2001). Furthermore, we achieved substantial cost reductions due to reductions in energy consumption and waste emissions as well as an improvement in the unit consumption. It should be noted, however, that the savings in waste treatment expenditure were lower as the improvement in unit consumption for the benchmark period was less than the previous year.

#### Future issues

- ① In order to reduce the atmospheric emissions of toluene to 500t/year or less, it will be necessary to implement solvent recovery and removal eauipment.
- © Further improve the eco-efficiency by conducting "Production 21" activities, which bring about the overall optimization to the production line.

#### Environmental benefits of environmental conservation activities

			Index value		5
etails of benefits	Category of index showing benefits	FY 2001	FY 2002	Year on year Difference	Remarks
	ncurred at the area of business				
Benefits arising from	supplied resources				All and the second seco
Supplied	Energy consumption (TJ)	18,119	18,069	-50	All consumed energy was converted into average value in calories.
energy	Added-value unit consumption for the above (TJ/100 million yen)	4.08	3.94	-0.14	Energy reduced by 0.14TJ per 100 million yen in added value.
Supplied water	Water usage (in thousands of tons)	14,343	13,486	-857	Year-on-year reduction of 6.0%
Supplied Water	Added-value unit consumption for the above (1,000 ton/100 million yen)	3.23	2.94	-0.29	Water reduced by 290m³ per 100 million yen.
Supplied main raw materials	Supplied amount (in thousands of tons)	2,465	2,473	8	Total weight of paper, plastic, ink and metals
(paper, plastic, metal, etc.)	Amount of unwanted materials generated/supplied amount (%)	15.4	15.1	-0.3	Ratio of unwanted materials that are main raw materials
mprovements in en	vironmental impacts				
Emissions to	SOx emission (tons)	74.5	56.5	-18.0	Calculated from fuel used
the atmosphere	NOx emission (tons)	620.4	626.7	6.3	Calculated from fuel used
aunospileie	Emissions of negative environmental impact substances (354 PRTR substances) (t)	5,115	3,521	-1,594	Total of 10 substances subject to be reported by la
Discharges to	COD discharge (ton)	32.3	41.1	8.8	Calculated from the amount of discharged water an average concentration
water areas	Discharges of environmentally hazardous substances (354 PRTR substances) (t)	9.6	0	-9.6	One substance discharged in fiscal 2001 (Hydrazin
	Generated unwanted materials (in thousands of tons)	519.4	506.1	-13.3	Including unwanted materials other than main raw materials
Disabassas	Discharged waste materials (in thousands of tons)	105.0	96.8	-8.2	Total waste subcontracted to waste disposal company
Discharges of waste materials	Added-value unit consumption for the above (1,000 ton/1 million yen)	0.236	0.211	-0.025	Waste materials reduced by 25kg per million yen in added value.
materials	Recycle rate (%)	74.2	77.6	3.4	Including heat recovered on site
	Amount of pollutants transferred or released (of 354 substances subject to PRTR Law) (tons)	2,400	2,290	-110	Total for 21 substances reported by law
Emissions of	Emissions of greenhouse- gasses (1,000 tons - CO <sub>2</sub> )	850	843	-7.0	Including amounts emitted by waste incinerators a drying furnaces.
greenhouse- gasses	Added-value unit consumption for the above (Ton/100 million yen)	191.3	183.6	-7.7	7.7 tons of emissions reduced per 100 million yen added value.
Benefits of upstrea	m/downstream costs				
Benefits related to g	oods produced by business activities				
CO <sub>2</sub> emissions at the time of	CO2 emissions (1,000 tons - CO2)	579.5	384.0	-195.5	Emissions of used containers and packages for waincineration and recycling
product disposal.	CO <sub>2</sub> emissions / volume of products shipped	2.24	1.48	-0.76	CO <sub>2</sub> emissions per ton of products reduced by 0. ton.
Other environment	al conservation benefits				
mprovements in en	vironmental impact of transportation				
	CO <sub>2</sub> emitted during product transportation (tons)	5,350	4,730	-620	CO <sub>2</sub> emissions reduced by 620 tons.
	CO <sub>2</sub> emitted during transportation: CO <sub>2</sub> /(Transportation weight x Transportation distance)(ton/million km)	96	85	-11	CO <sub>2</sub> emissions reduced by 11 tons for each ton o goods transported 1 million km.

#### Economic benefits of environmental conservation activities

		Amount in ye	n	
Details of benefits	FY 2001	FY 2002	Year on year Difference	Remarks
(1) Increased sales				
Economic benefits of R&D costs				
Sales of environmentally friendly products	¥75,731	¥101,926	¥ 26,195	34.6% increase from fiscal year 2001
(2) Increased income				
Benefits of resource recycling costs				
Business income from recycling unwanted materials	919	1,080	161	Saleable unwanted materials increased
(3) Cost savings				
Benefits of global environmental conservation and resource recycling co	osts			
Saving energy costs by energy conservation	¥ 1,049	¥ 1,503	¥ 454	Energy cost unit consumption substantially improved.
Saving waste-materials processing cost by resource conservation	917	650	-267	Processing cost unit consumption improved by reducing the volume of waste generated.

## Dai Nippon Printing Co., Ltd. and Consolidated Subsidiaries

	200	3	2002		2001		2000		1999		1998		1997		1996		1995
Income Statement Data (¥ million)																	
Net Sales	¥ 1,309,00	2	¥ 1,311,934	¥	1,342,035	¥	1,286,703	¥	1,269,543	¥	1,336,604	¥	1,310,100	¥	1,245,300	¥	1,192,827
Cost of sales	1,043,45	6	1,071,163		1,091,386		1,039,006		1,033,926		1,056,962		1,028,614		983,301		945,570
Gross profit	265,54	6	240,771		250,649		247,697		235,617		279,642		281,486		261,999		247,257
Selling, general and administrative expenses	175,66	5	168,529		164,708		161,811		166,008		172,824		170,298		161,609		156,536
Operating income	89,88	1	72,242		85,941		85,886		69,609		106,818		111,188		100,390		90,721
Income before income taxes and minority interests	42,24	4	26,150		69,116		79,199		77,703		100,634		107,394		98,103		101,542
Net income	28,77	4	15,609		33,409		39,034		30,493		56,539		56,165		52,974		49,200
Balance Sheet Data (¥ million)																	
Total assets	¥ 1,450,02	7	¥ 1,432,458	¥	1,489,871	¥	1,451,700	¥	1,445,293	¥	1,450,709	¥	1,410,138	¥	1,336,689	¥	1,274,581
Net property, plant and equipment	540,87	4	543,962		561,017		561,898		570,860		536,364		501,622		461,158		434,809
Long-term liabilities	66,82	1	79,013		86,012		77,637		100,695		100,214		97,340		106,792		113,295
Total liabilities	484,58	1	460,691		522,105		495,541		518,323		538,113		553,172		532,451		514,117
Total Stockholders' equity	942,08	3	946,998		939,441		925,646		898,646		885,507		831,262		780,484		738,243
Other Selected Data (¥ billion)																	
Capital expenditures	¥ 73.7	9	¥ 85.10	¥	103.05	¥	113.86	¥	119.37	¥	111.34	¥	113.66	¥	93.65		n.a.
R&D expenditures	24.1	0	23.37		24.66		23.57		n.a.								
Depreciation expenses	89.2	4	94.87		94.31		94.59		82.80		73.91		67.58		62.42		n.a.
Per Common Share Data (¥, shares)																	
Net income per common share - primary	¥ 37.8	0	¥ 20.55	¥	43.99	¥	51.40	¥	40.15	¥	74.49	¥	74.52	¥	70.63	¥	65.63
Net income per common share - fully diluted	37.6	7	20.53		43.45		50.47		39.54		72.53		72.15		68.19		n.a.
Dividends paid per share	19.0	0	18.00		18.00		18.00		18.00		18.00		17.00		16.00		15.00
Net assets per common share	1,270.8	1	1,246.99		1,236.96		1,218.79		1,183.24		1,165.94		1,102.56		1,040.49		984.61
No. of common shares outstanding - primary	759,480,69	3	759,480,693		759,480,693		759,480,693		759,480,693		759,480,693		753,940,533		750,110,275		749,779,633
Financial Ratios (%, times)																	
As a percent of net sales:																	
Gross profit	20.29	9%	18.35%		18.68%		19.25%	6	18.56%		20.92%		21.49%		21.04%		20.73%
Selling, general and administrative expenses	13.42	2	12.85		12.27		12.58		13.08		12.93		13.00		12.98		13.12
Operating income	6.87	,	5.51		6.40		6.67		5.48		7.99		8.49		8.06		7.61
Income before income taxes and minority interests	3.23	3	1.99		5.15		6.16		6.12		7.53		8.20		7.88		8.51
Net income	2.20	)	1.19		2.49		3.03		2.40		4.23		4.29		4.25		4.12
Return on equity	3.02	2	1.65		3.58		4.28		3.42		6.59		6.97		6.98		6.84
Current ratio	1.71	x	1.81x		1.65x		1.60x		1.59x		1.65x		1.60x		1.62x		1.65x
Debt-to-equity ratio	0.06	Х	0.07x		0.08x		0.09x		0.10x		0.10x		0.12x		0.14x		0.15x

Dai Nippon Printing Co., Ltd. and Consolidated Subsidiaries March 31, 2003 and 2002

Assets

Current assets:			
Cash and cash equivalents (Note 4)	¥ 238,896	¥ 189,615	\$ 1,990,800
Time deposits	95	298	79:
Securities (Note 5)	50	3,165	41
Trade receivables (Note 10)	383,576	411,336	3,196,46
Allowance for doubtful receivables	(5,173)	(5,806)	(43,10
Inventories (Note 6)	74,702	76,401	622,51
Prepaid expenses and other current assets (Notes 10 and 13)	23,363	15,001	194,69
Total current assets	715,509	690,010	5,962,57
Investments and advances:			
Non-consolidated subsidiaries and associated companies (Note 10)	12,540	11,651	104,500
Investment securities (Note 5)	93,006	121,008	775,05
Other (Note 10)	711	1,019	5,92
Total investments and advances	106,257	133,678	885,47
Property, plant and equipment, at cost (Note 7):			
Land	116,505	114,096	970,87
Buildings	408,097	396,194	3,400,80
Machinery and equipment	893,942	864,072	7,449,51
Construction in progress	12,422	9,327	103,51
Total	1,430,966	1,383,689	11,924,71
Accumulated depreciation	(890,092)	(839,727)	(7,417,43
Net property, plant and equipment	540,874	543,962	4,507,28
Other assets (Note 13)	87,387	64,808	728,22
Total assets	¥ 1,450,027	¥ 1,432,458	\$ 12,083,558
	- 1,100,027	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	12/000/05
The accompanying notes are an integral part of these consolidated financial statements			

	Millions	s of yen	Thousands of U.S. dollars (Note 3)
Dai Nippon Printing Co., Ltd. and Consolidated Subsidiaries March 31, 2003 and 2002	2003	2002	2003
Liabilities and Stockholders' Equity			
Current liabilities:			
Short-term bank loans (Note 7)	¥ 10,558	¥ 10,943	\$ 87,983
Current portion of long-term debt (Note 7)	36,070	19,959	300,583
Trade payables (Note 10)	267,874	261,920	2,232,283
Accrued expenses (Note 10)	31,148	32,260	259,567
Income taxes payable (Note 13)	25,059	12,475	208,825
Other current liabilities	47,051	44,121	392,092
Total current liabilities	417,760	381,678	3,481,333
Long-term liabilities:			
Long-term debt (Note 7)	8,700	33,730	72,500
Liability for retirement benefits (Note 8)	57,812	44,335	481,767
Other long-term liabilities (Note 13)	309	948	2,575
Total long-term liabilities	66,821	79,013	556,842
Minority interests	23,363	24,769	194,691
Contingent liabilities (Note 16)			
Stockholders' equity :			
Common stock -			
Authorized: 1,200,000,000 shares;			
Issued: 759,480,693 shares (Notes 7 and 9)	114,464	114,464	953,867
Capital surplus (Note 9)	144,898	144,898	1,207,483
Retained earnings (Note 9)	705,099	688,491	5,875,825
Unrealized gain on available-for-sale securities	2,581	1,625	21,508
Foreign currency translation adjustments	(3,200)	(2,409)	(26,666
Treasury stock, at cost 18,319,543 shares in 2003 and 54,838 shares in 2002	(21,759)	(71)	(181,325
Total stockholders' equity	942,083	946,998	7,850,692
Total liabilities, minority interests and stockholders' equity	¥ 1,450,027	¥ 1,432,458	\$ 12,083,558

The accompanying notes are an integral part of these consolidated financial statements.

# DNP Annual Report 2003

## **Consolidated Statements of Income**

		Millions	s of y	en	U	Thousands of .S. dollars (Note 3)
Dai Nippon Printing Co., Ltd. and Consolidated Subsidiaries Years ended March 31, 2003 and 2002		2003		2002		2003
Net sales (Note 18)	¥	1,309,002	¥	1,311,934	\$	10,908,350
Cost of sales (Notes 11, 14 and 18)		1,043,456	_	1,071,163		8,695,467
Gross profit		265,546		240,771		2,212,883
Selling, general and administrative expenses (Notes 11, 14 and 18)		175,665	_	168,529		1,463,875
Operating income		89,881	_	72,242		749,008
Other income (expenses ) (Note 12):						
Interest and dividend income		2,279		2,597		18,992
Interest expenses		(1,061)		(1,458)		(8,842)
Equity in losses of associated companies		(655)		(210)		(5,458)
Net loss on disposal of property, plant and equipment		(7,118)		(10,722)		(59,317)
Net loss on sales of marketable securities and investment securities		(196)		(563)		(1,633)
Loss on devaluation of investment securities		(30,253)		(30,870)		(252,108)
Payments of special retirement benefits		(1,688)		(194)		(14,067)
Gain on liquidation of subsidiaries		-		154		-
Amortization of transitional obligation for retirement benefits (Note 8)		(6,033)		(6,065)		(50,275)
Loss on devaluation of inventories		-		(221)		-
Special provision for doubtful receivables for membership rights		(395)		(391)		(3,292)
Other		(2,517)		1,851		(20,975)
		(47,637)	_	(46,092)		(396,975)
Income before income taxes and minority interests		42,244		26,150		352,033
Income taxes (Note 13):						
Current		34,240		25,472		285,333
Deferred		(20,477)	_	(15,137)		(170,642)
		13,763	_	10,335		114,691
		28,481		15,815		237,342
Minority interests		293		(206)		2,441
Net income	¥	28,774	¥	15,609	\$	239,783

		у	en		U.S.	dollars (Note 3)
Net assets per common share	¥	1,270.81	¥	1,247.87	\$	10.59
Net income per common share:						
Primary		37.80		20.31		0.32
Fully diluted		37.67		20.28		0.31

The accompanying notes are an integral part of these consolidated financial statements.

# Consolidated Statements of Stockholders' Equity

	Million	ns of yen	Thousands of U.S. dollars (Note 3)
Dai Nippon Printing Co., Ltd. and Consolidated Subsidiaries Years ended March 31, 2003 and 2002	2003	2002	2003
Common stock:			
Balance at beginning of year	¥ 114,464	¥ 114,464	\$ 953,867
Balance at end of year	¥ 114,464	¥ 114,464	\$ 953,867
Capital surplus:			
Balance at beginning of year	¥ 144,898	¥ 144,898	\$ 1,207,483
Balance at end of year	¥ 144,898	¥ 144,898	\$ 1,207,483
Retained earnings:			
Balance at beginning of year	¥ 688,491	¥ 685,760	\$ 5,737,425
Net income	28,774	15,609	239,783
Cash dividends (Note 9)	(13,668)	(13,670)	(113,900
Bonuses to directors	(13,008)	(13,670)	(113,900
Decrease resulting from change in consolidation scope	(199)	(130)	(1,050
Increase resulting from change in consolidation scope	1,820	1,145	15,167
Balance at end of year	¥ 705,099	¥ 688,491	\$ 5,875,825
Data location at a four minimum minimu	¥ 705,099	₹ 000,491	\$ 5,675,625

The accompanying notes are an integral part of these consolidated financial statements.

# DNP Annual Report 2003

## Consolidated Statements of Cash Flows

	Million	ns of yen	Thousands of U.S. dollars (No
Dai Nippon Printing Co., Ltd. and Consolidated Subsidiaries Years ended March 31, 2003 and 2002	2003	2002	2003
Cash flows from operating activities :			
Income before income taxes and minority interests	¥ 42,244	¥ 26,150	\$ 352,0
Adjustments to reconcile income before income taxes and minority interests to			
net cash provided by operating activities:			
Depreciation	89,239	94,870	743,
Provision for doubtful receivables (net)	2,069	2,405	17,
Provision for retirement benefits (net)	12,865	11,676	107,
Equity in losses of associated companies	655	210	5,
Amortization of consolidation goodwill (net)	369	(40)	3,
Interest and dividend income	(2,279)	(2,597)	(18,
Interest expenses	1,061	1,458	8,
Net loss on sales of marketable securities and investment securities	196	563	1,
Loss on devaluation of investment securities	30,253	30,870	252,
Net loss on disposal of property, plant and equipment	7,118	10,722	59,
Decrease in trade receivables	38,841	25,866	323,
Decrease in inventories	3,331	10,745	27,
Increase (decrease) in trade payables	1,947	(39,615)	16,
Other	(6,929)	(3,986)	(57,
Sub-total	220,980	169,297	1,841,
Payments of special retirement benefits	(1,688)	(194)	(14,
Payments for income taxes	(21,879)	(35,273)	(182,
Net cash provided by operating activities	197,413	133,830	1,645,
Cash flows from investing activities :			
Net decrease of time deposits	299	32,082	2,
Payments for purchases of marketable securities	(50)	(179)	(
Proceeds from sales of marketable securities	3,160	1,922	26,
Payments for purchases of property, plant and equipment	(65,554)	(100,385)	(546,
Proceeds from sales of property, plant and equipment	1,331	2,430	11,
Payments for purchases of investment securities	(24,141)	(15,210)	(201,
Proceeds from sales of investment securities	9,409	4,116	78,
Interest and dividend received	2,279	2,597	18,
Other	(14,125)	(6,936)	(117,
Net cash used in investing activities	(87,392)	(79,563)	(728,
Cash flows from financing activities :	•		
Net decrease in short-term bank loans	(1,349)	(6,619)	(11,
Proceeds from long-term debt	6,000	313	50,
Repayments of long-term debt	(11,289)	(1,122)	(94,
Redemption of convertible debentures	(19,181)	-	(159,
Interest paid	(1,165)	(1,457)	(9,
Dividend paid	(14,108)	(14,125)	(117,
Payments for purchases of treasury stocks	(21,694)	(2,584)	(180,
Other	656	-	5,
Net cash used in financing activities	(62,130)	(25,594)	(517,
Effect of exchange rate changes on cash and cash equivalents	(645)	1,966	(5,
Net increase in cash and cash equivalents	47,246	30,639	393,
Cash and cash equivalents at beginning of year	189,615	157,078	1,580,
Cash and cash equivalents of newly consolidated subsidiaries	2,035	1,898	1,300,
Cash and cash equivalents at end of year	¥ 238,896	¥ 189,615	\$ 1,990,
Casii aliu Casii euulvaleiils at eiiu oi veal			

The accompanying notes are an integral part of these consolidated financial statements.

## Notes to Consolidated Financial Statements

Dai Nippon Printing Co., Ltd. and Consolidated Subsidiaries March 31, 2003 and 2002

#### 1. Basis of Presenting the Consolidated Financial Statements

Dai Nippon Printing Co., Ltd. (hereinafter referred to as the "Company") and its domestic subsidiaries maintain their books of account and prepare their financial statements in conformity with accounting principles and practices generally accepted in Japan, and its foreign subsidiaries in conformity with those of the countries of their domicile.

The accompanying consolidated financial statements have been compiled from the consolidated financial statements filed with the Financial Services Agency of Japan as required by the Securities and Exchange Law of Japan. Certain reclassifications of accounts and modifications have been made in the accompanying consolidated financial statements to facilitate understanding by readers outside Japan. Certain reclassifications have also been made in the 2002 financial statements to conform with current classifications. In addition, the notes to the consolidated financial statements include additional information which is also not required for disclosure under accounting principles and practices generally accepted in Japan.

#### 2. Significant Accounting Policies

#### Consolidation

The accompanying consolidated financial statements include the accounts of the Company and its significant majority-owned subsidiaries. All significant intercompany accounts and intercompany transactions have been eliminated in consolidation.

The fiscal year-end of the consolidated subsidiaries is the same as that of the Company except for seventeen subsidiaries whose fiscal years end December 31. Significant transactions between December 31 and March 31 are reflected in the consolidated financial statements.

Investments in non-consolidated subsidiaries are stated at cost and, for valuation of such investments, the equity method has not been applied since these investments are considered immaterial in the aggregate. However, investments are devalued if the decline in value is judged to be other than temporary.

Investments in 20% to 50% associated companies are accounted for by the equity method.

The differences between costs and underlying net assets at the date of investment in consolidated subsidiaries are included in other assets or other long-term liabilities and are amortized over a period not exceeding five years.

#### Translation of foreign currency accounts

Monetary assets and liabilities denominated in foreign currencies of the Company and its domestic subsidiaries are translated into Japanese yen at the exchange rates at the balance sheet date. Revenues and expenses denominated in foreign currencies are translated at the exchange rates prevailing during the year. The resulting translation gains (or losses) are included in other income (or expenses).

The translation of foreign currency financial statements of foreign consolidated subsidiaries into Japanese yen has been made for consolidation purposes in accordance with the translation method prescribed in the accounting standard for foreign currency transactions. The balance sheet accounts of the foreign consolidated subsidiaries are translated at the exchange rates in effect at the balance sheet date, except for common stock and capital surplus, which are translated at historical rates. Revenue and expense accounts are translated at the average exchange rates during the year. The resulting translation adjustments are presented as "foreign currency translation adjustments" which is shown as a separate component of stockholders' equity in the consolidated balance sheets.

#### Cash and cash equivalents

Cash and cash equivalents include all highly liquid investments, generally with original maturities of three months or less, that are readily convertible to known amounts of cash and are so near maturities that they present insignificant risk of changes in value because of changes in interest rates.

#### Marketable securities and investment securities

Marketable and investment securities are classified and accounted for, depending on management's intent, as follows:i) held-to-maturity debt securities, which are expected to be held to maturity with the positive intent and ability to hold to maturity, are reported at amortized cost and ii) available-for-sale securities are reported at fair value, with unrealized gains and losses, net of applicable taxes, reported in a separate component of stockholders' equity.

Non-marketable securities are stated at cost determined by the average method. For other than temporary declines in fair value, investment securities are reduced to net realizable value by a charge to income.

#### Property, plant and equipment and depreciation

Property, plant and equipment are carried at cost. Major renewals and additions are capitalized, while minor renewals, maintenance and repairs are charged to income when incurred. Interest expenses on capital expenditures during the construction stage are not capitalized.

Depreciation of property, plant and equipment is principally computed by the declining-balance method at rates based on estimated useful lives. However, depreciation of buildings acquired on or after April 1, 1998 is computed by the straight-line method.

The estimated useful lives for depreciation purposes range as follows:

Buildings 3 to 50 years Machinery and equipment 2 to 13 years

Assets with an acquisition cost of ¥100,000 (\$833) or more per unit and less than ¥200,000 (\$1,667) per unit, acquired on or after April 1, 1998, are depreciated over three years on a straight-line basis, whereby one-third of such acquisition cost may be taken as depreciation expense each year.

#### Intangible assets

Intangible assets included in other assets are carried at cost less accumulated amortization calculated by the straight-line method over their estimated useful lives. Software development costs for internal use included in intangible assets are amortized by the straight-line method over 5 years.

#### Liability for retirement benefits

Effective April 1, 2000, the Company and several domestic significant consolidated subsidiaries applied a new accounting standard for employees' retirement benefits and accounted for the liability for retirement benefits based on projected benefit obligations and plan assets at the balance sheet date.

The transitional obligation determined as of April 1, 2000 is being amortized over 5 years. The transitional obligation was a net amount after deducting the contributed securities to the employees' retirement benefits trust from the gross amount of transitional projected benefits obligation determined as of April 1, 2000.

#### Research and development expenses

Research and development expenses are charged to income as incurred

#### Accounting for leases

Finance leases other than those which are deemed to transfer the ownership of the leased assets to lessees are accounted for in the same manner as operating leases under generally accepted accounting principles in Japan.

#### Income taxes

The asset and liability approach is used to recognize deferred tax assets and liabilities for the expected future tax consequences of temporary differences between the carrying amounts and the tax bases of assets and liabilities. Deferred taxes are measured by applying currently enacted tax laws to the temporary differences.

Income taxes on undistributed earnings have been provided for foreign subsidiaries, but not for domestic companies, as such earnings, if distributed in the form of dividends, are not taxable under the current Japanese tax laws.

#### Derivatives and hedging activities

The Company and certain consolidated subsidiaries use derivative financial instruments ("derivatives") for foreign currency forward contracts to manage their exposures to fluctuations in foreign exchange associated with certain accounts receivable and payable, including forecasted transactions, denominated in foreign currencies. The Company and its subsidiaries do not enter into derivatives contracts for speculative purposes.

While the trade accounts receivable and payable denominated in foreign currencies of the Company and domestic subsidiaries which are comprehensively covered by foreign currency forward contracts are translated at the exchange rate at the balance sheet date, such forward contracts are recognized as assets or liabilities and measured at fair value, and the related gains or losses are currently recorded in the statement of income.

The trade accounts receivable and payable denominated in foreign currencies of the Company and domestic subsidiaries which are individually covered by foreign currency forward contracts are translated at the contracted rates because such treatment is also allowed to be elected under the standard if the forward contracts qualify for hedge accounting.

The forward contracts for forecasted transactions such as export sales and import purchases are measured at the fair value but the unrealized gains/losses are deferred until the underlying transactions are completed.

#### Net assets and income per common share

Net assets per common share were computed based on the number of shares outstanding after deducting treasury stock at March 31, 2003 and 2002, respectively.

Primary amounts of net income per share were computed on the average number of shares of common stock outstanding after deducting treasury stocks during each year. Fully diluted amounts of net income per share were based on the assumption that all convertible bonds were converted into common stock at the beginning of the year.

#### 3. Basis of Translating Financial Statements

The consolidated financial statements are expressed in Japanese yen in accordance with accounting principles and practices generally accepted in Japan. The Japanese yen amounts have been translated into U.S. dollar amounts, solely for the convenience of the reader, at the rate of ¥120=U.S. \$1, the approximate exchange rate on the Tokyo Foreign Exchange Market at March 31, 2003. These translations should not be construed as representations that the yen amounts actually represent, or have been or could be converted into U.S. dollars.

4. Cash and Cash Equivalents

Thousands of U.S. dollars (Note 3)

	2003	2002	2003
Cash and deposits (excluding time deposits with a maturity over three months)	¥ 238,896	¥ 189,615	\$ 1,990,800

#### 5. Marketable Securities and Investment Securities

The acquisition cost and aggregate fair value of marketable and investment securities classified as available-for-sale securities as of March 31, 2003 and 2002 were as follows:

March 31, 2003	A	cquisition cost	l	Inrealized gain	Uı	nrealized loss		Fair value
Stocks	¥	59,187 109 59,296	¥	11,675 - 11,675	¥	7,314 - 7,314	¥	63,548 109 63,657

				Thousands of U	.S. dollar	s (Note 3)	Thousands of U.S. dollars (Note 3)						
	Ac	quisition cost	U	nrealized gain	U	Inrealized loss		Fair value					
Stocks	\$	493,225 908	\$	97,292	\$	60,950	\$	529,567 908					
Total	\$	494,133	\$	97,292	\$	60,950	\$	530,475					

				Million	ns of yen			
March 31, 2002	Ac	equisition cost	U	nrealized gain	U	Inrealized loss		Fair value
Stocks	¥	83,818 252 84,070	¥	17,982 - 17,982	¥	15,143 102 15,245	¥	86,657 150 86,807

The proceeds from sales of available-for-sale securities for the years ended March 31, 2003 and 2002 were ¥138 million (\$1,150 thousand) and ¥1,022 million, respectively. The gross realized gains on these sales for the years ended March 31, 2003 and 2002 were ¥50 million (\$417 thousand) and ¥336 million, respectively, and the gross realized losses on those sales for the years ended March 31, 2003 and 2002 were ¥97 million (\$808 thousand) and ¥771 million, respectively.

The following summarizes carrying amounts of securities with no fair value as of March 31, 2003 and 2002:

		Millions	s of yen		U.S. dollars (Note 3)		
		2003		2002		2003	
Held-to-maturity debt securities- Non-listed foreign securities Others	¥ ¥	5,000 51	¥ ¥	13,000 2,182		41,667 425	
Available-for-sale securities- Non-listed equity securities Others	¥ ¥	24,251 97	¥ ¥	22,093 81	\$	202,092 808	

The redemption schedules for securities with maturities classified as held-to-maturity debt securities and other securities at March 31, 2003 and 2002 are as follows:

			IVIIII	ons or yen		
March 31, 2003	Due in o	ne year or less	Due at throug	fter one year gh five years	Due thre	after five years ough ten years
Corporate bonds	¥	-	¥	82	¥	-
Other bonds		50		1		5,000
	¥	50	¥	83	¥	5,000

	Due in	Th one year or less	of U.S.dollars (No after one year ugh five years	,	ue after five years nrough ten years
Corporate bonds	\$	- 417 417	\$ 683 8 691	\$	- 41,667 41,667

			Mil	lions of yen		
March 31, 2002	Due in	one year or less	Due a throu	after one year igh five years	Du th	ue after five years nrough ten years
Corporate bonds	¥	5 3,160 3,165	¥	6 11 17	¥	12,000 12.000

#### 6. Inventories

Inventories at March 31, 2003 and 2002 consisted of the following:

inventories at March 91, 2003 and 2002 consisted of the following.		Millions of yen			Thousands of U.S. dollars (Note:		
		2003		2002		2003	
Finished products  Work in process  Raw materials	¥	35,101 26,283 13,318 74,702	¥	34,109 28,907 13,385 76,401	\$	292,508 219,025 110,984 622,517	

#### 7. Short-term Bank Loans and Long-term Debt

Short-term bank loans at March 31, 2003 and 2002 were represented by bank loans and bank overdrafts, etc. bearing interest at an average rate of 2.73% per annum for 2003 and 3.74% per annum for 2002

Long-term debt at March 31, 2003 and 2002 consisted of the following:

	Yen	Millions	of yen	U.S. dollars (Note 3)
	Conversion price	2003	2002	2003
Unsecured convertible debentures				
1.5% due 2003	¥ 2,027.00	¥ -	¥ 19,181	\$ .
1.8% due 2004	2,677.40	29,663	29,663	247,192
Mortgage loans, maturing 2003-2004		2,310	2,922	19,250
Unsecured loans, maturing 2003-2010		12,797	1,923	106,641
Current parties of languatures delet		44,770	53,689	373,083
Current portion of long-term debt		(36,070)	(19,959)	(300,583
		¥ 8,700	¥ 33,730	\$ 72,500

With minor exceptions, interest rates on mortgage loans ranged from 0.88% to 3.30% per annum for 2003 and from 1.01% to 3.30% per annum for 2002, while interest rates on unsecured loans ranged from 0.35% to 4.15% per annum for 2003 and from 1.68% to 4.12% per annum for 2002.

The aggregate annual maturities of long-term debt after March 31, 2003 were as follows:

The aggregate difficult materials of long term debt after March 31, 2003 were as follows.	Milli	ions of yen	U.S	S. dollars (Note 3)
Year ending March 31				
2004 2005	¥	36,070	\$	300,583
		2,553		21,275
2006		2,397		19,975
2007		1,885		15,708
2008		1,000		8,333
2009 and thereafter		865		7,208
	¥	44,770	\$	373,083

The above convertible debentures are currently convertible into approximately 11,079,031 shares of common stock.

#### 8. Retirement Benefits

The Company and one of its domestic subsidiaries have contributory defined benefits retirement plans covering substantially all of their employees. Most of the other domestic subsidiaries have non-contributory defined benefits retirement plans. Upon retirement or termination of employment for reasons other than the cause of dismissal, employees are entitled to lump-sum payments based on the current rate of pay and length of services. Thirty percent of the retirement benefit liability of the Company and the total of such liabilities of one of the domestic subsidiaries are covered by the employees' pension fund which is established in accordance with the Welfare Pension Insurance Law.

The employees' pension fund also includes the portion representing the governmental social welfare pension program which is funded equally by employees and employers in accordance with the welfare pension regulations.

The liability for employees' retirement benefits at March 31, 2003 and 2002 consisted of the following:

	Million	ns of yen	Thousands of U.S. dollars (Note 3)	
	2003	2002	2003	
Projected benefits obligation Fair value of plan assets Unrecognized transitional obligation Unrecognized actuarial loss Unrecognized prior service cost Prepaid pension cost Net liability	¥ 229,674 (93,528) (12,068) (69,677) 3,392	¥ 204,084 (101,799) (18,197) (44,026) 4,240	\$ 1,913,950 (779,400) (100,567) (580,642) 28,267 159	

The components of net periodic benefits costs were as follows:

	Million	ns of yen	Thousands of U.S. dollars (Note 3)
	2003	2002	2003
Service cost Interest cost Expected return on plan assets Amortization of transitional projected benefits obligation Actuarial loss Amortization of prior service cost Net periodic benefits costs	¥ 8,062 5,866 (2,507) 6,033 7,825 (848) ¥ 24,431	¥ 7,625 6,237 (3,169) 6,065 4,134 (848) ¥ 20,044	\$ 67,184 48,883 (20,891) 50,275 65,208 (7,067) \$ 203,592

Assumptions used for the years ended March 31, 2003 and 2002 were set forth as follows:

	2003	2002
Discount rate  Expected rate of return on plan assets  Recognition period of actuarial gain/loss  Amortization period of transitional obligation  Amortization period of prior service cost	2.5% 2.9% 11 years 5 years 6 years	3.0% 3.2% 11 years 5 years 6 years

#### 9. Stockholders' Equity

Japanese companies are subject to the Japanese Commercial Code (the "Code") to which certain amendments became effective from October 1, 2001.

The Code was revised whereby common stock par value was eliminated resulting in all shares being recorded with no par value and at least 50 % of the issue price of new shares is required to be recorded as common stock and the remaining net proceeds as additional paid-in capital, which is included in capital surplus. The Code permits Japanese companies, upon approval of the Board of Directors, to issue shares to existing stockholders without consideration as a stock split. Such issuance of shares generally does not give rise to changes within the stockholders' accounts.

The revised Code also provides that an amount at least equal to 10% of the aggregate amount of cash dividends and certain other appropriations of retained earnings associated with cash outlays applicable to each period shall be appropriated as a legal reserve (a component of retained earnings) until such reserve and additional paid-in capital equals 25% of common stock. The amount of total additional paid-in capital and legal reserve that exceeds 25% of the common stock may be available for dividends by resolution of the stockholders. In addition, the Code permits the transfer of a portion of additional paid-in capital and legal reserve to the common stock by resolution of the Board of Directors.

The revised Code eliminated restrictions on the repurchase and use of treasury stock allowing Japanese companies to repurchase treasury stock by a resolution of the stockholders at the general stockholders meeting and dispose of such treasury stock by resolution of the Board of Directors beginning April 1, 2002. The repurchased amount of treasury stock cannot exceed the amount available for future dividend plus amount of common stock, additional paid-in capital or legal reserve to be reduced in the case where such reduction was resolved at the general stockholders meeting.

The amount of retained earnings available for dividends under the Code was ¥567,538 million (\$4,729,483 thousand) as of March 31, 2003, based on the amount recorded in the parent company's general books of account. In addition to the provision that requires an appropriation for a legal reserve in connection with the cash payment, the Code imposes certain limitations on the amount of retained earnings available for dividends.

Dividends are approved by the stockholders at a meeting held subsequent to the fiscal year to which the dividends are applicable. Semi-annual interim dividends may also be paid upon resolution of the Board of Directors, subject to certain limitations imposed by the Code.

Cash dividends and appropriations to legal reserve charged to retained earnings during the years ended March 31, 2003 and 2002 represented dividends paid out during those periods and related appropriations to this reserve. The accompanying

During the years ended March 31, 2003 and 2002, there were no issuance of common stock by the Company in connection with conversion of debentures.

#### 10. Accounts with Non-consolidated Subsidiaries and Associated Companies

Account balances with non-consolidated subsidiaries and associated companies as of March 31, 2003 and 2002 were summarized as follows:

		Millions of yen					
	2003	2002		2002			2003
¥	7,271	¥	5,747	\$	60,592		
	5,859		269		48,825		
	4,133		5,923		34,442		
	8,390		5,451		69,917		
	366		277		3,050		
	4,216		5,600		35,133		
	1,621		3,549		13,508		
	¥	¥ 7,271 5,859 4,133 8,390 366 4,216	¥ 7,271 ¥ 5,859 4,133 8,390 366 4,216	¥ 7,271 ¥ 5,747 5,859 269 4,133 5,923 8,390 5,451 366 277 4,216 5,600	¥ 7,271 ¥ 5,747 \$ 5,859 269 4,133 5,923 8,390 5,451 366 277 4,216 5,600		

#### 11. Selling, General and Administrative Expenses

Selling, general and administrative expenses for the years ended March 31, 2003 and 2002 consisted of the following:

	Millions of yen					Thousands of S. dollars (Note 3)																																										
		2003 2002		2003		2003		2003		2003		2003		2003		2003		2003		2003		2003		2003		2003		2003		2003		2003		2003		2003		2003		2003		2003		2002		2002		2003
Transportation expenses Provision for doubtful receivables. Salaries and allowances. Bonuses paid. Accrued bonuses. Provision for retirement benefits. Depreciation Research and development expenses	¥	15,946 990 43,337 9,728 4,766 8,864 11,691 20,664	¥	15,359 3,017 42,974 8,974 3,814 6,412 11,514 18,449	\$	132,883 8,250 361,142 81,067 39,717 73,867 97,425 172,200																																										
Other	¥	59,679 175,665	¥	58,016 168,529	\$	497,324 1.463.875																																										
	÷	,000	<u> </u>	.00,027	_	.,,																																										

Total research and development expenses (including manufacturing costs) amounted to ¥24,097 million (\$200,808 thousand) and ¥23,367 million for 2003 and 2002, respectively.

#### 12. Other Income

The following types of income from non-consolidated subsidiaries and associated companies were included in other income.

		Millions	of yen		Thousands of U.S. dollars (Note 3)				
		2003		2002		2003			
Interest and dividend income  Leasing fees	¥	227 1,223	¥	94 1,665	\$	1,892 10,192			

#### 13. Income Taxes

The Company and its domestic consolidated subsidiaries are subject to a number of different taxes based on income, which, in the aggregate, resulted in a normal effective statutory tax rate of approximately 42% for the years ended March 31, 2003 and 2002, respectively.

The actual effective tax rate reflected in the accompanying consolidated statements of income differs from the normal effective statutory tax rate primarily due to the effect of permanently non-deductible expenses, current operating losses of subsidiaries and different tax rates applicable to foreign subsidiaries, etc.

Reconciliation of the differences between the normal effective statutory tax rate and the actual effective tax rate was as follows:

	2003	2002
Normal effective statutory tax rate	42.0% 1.7 (13.7) 2.6 32.6%	42.0% 2.3 (3.5) (1.3) 39.5%
Actual effective tax rate	32.6%	39.5%

Net deferred tax assets and liabilities at March 31, 2003 and 2002, resulting from temporary differences between the carrying amounts and the tax bases of assets and liabilities, were reflected on the accompanying consolidated balance sheets under the following captions:

		Millions	of yen		U.S	. dollars (Note 3)
		2003		2002		2003
Prepaid expenses and other current assets  Other assets	¥	9,891 47,989 57,880	¥	7,603 29,797 37,400	\$ 	82,425 399,908 482,333
Other current and long-term liabilities	¥	267	¥	162	<b>\$_</b>	2,225

Significant components of deferred tax assets at March 31, 2003 and 2002 were as follows:

	Million	Thousands of U.S. dollars (Note 3)	
	2003	2002	2003
Current: Excess provision for doubtful receivables Loss on devaluation of inventories Excess accrued expenses. Other Total	¥ 960	¥ 1,060	\$ 8,000
	1,227	2,217	10,225
	5,780	2,460	48,167
	1,924	1,866	16,033
	¥ 9,891	¥ 7,603	\$ 82,425
Non-current:  Excess provision for retirement benefits  Loss on devaluation of investment securities  Other  Total	¥ 22,145	¥ 16,493	\$ 184,542
	24,677	13,099	205,642
	1,167	205	9,724
	¥ 47,989	¥ 29,797	\$ 399,908

On March 31, 2003, a tax reform law concerning enterprise tax was enacted in Japan which changed the normal effective statutory tax rate from 42% to 40.5%, effective for years beginning on and after April 1, 2004. The effect of this change was to decrease deferred tax assets –non-current and income taxes-deferred by ¥1,527 million (\$12,725 thousand) and ¥1,591 million (\$13,258 thousand), respectively, and to increase unrealized gain on available-for-sale securities by ¥63 million (\$525 thousand) in the consolidated financial statements for the year ended March 31, 2003.

#### 14. Leases

Where finance leases do not transfer ownership of the leased property to the lessee during the lease terms, the leased property is not capitalized and the related lease expenses are charged to income in the period incurred, as per the statement issued by the Business Accounting Deliberation Council of Japan.

Pro forma information such as acquisition cost, accumulated depreciation and net book value of the leased properties for such finance lease purposes was as follows:

		Millions of yen				S. dollars (Note 3)			
		2003	2002			2002			2003
Acquisition cost Accumulated depreciation Net book value	¥	43,181 (23,289) 19,892	¥	54,532 (33,524) 21,008	\$ 	359,842 (194,075) 165,767			

Lease expenses on finance lease contracts without ownership-transfer amounted to ¥12,391 million (\$ 103,258 thousand) and ¥11,124 million for the years ended March 31, 2003 and 2002, respectively.

The amounts of outstanding future payments under finance leases due on March 31, 2003 and 2002, including the portion of interest thereon, were summarized as follows:

		Millions	s or yen		0.5	o. dollars (Note 3)
		2003		2002		2003
Future lease payments: One year or less More than one year	¥	7,977 11,915 19,892	¥	9,475 11,533 21,008	\$ -	66,475 99,292 165,767

The amounts of outstanding future payments under operating leases due on March 31, 2003 and 2002 were also summarized as follows:

		Willions or yen			0.5	o. dollars (Note 3)						
		2003		2002		2002		2002		2002		2003
Future lease payments: One year or less More than one year	¥	371 1,430 1,801	¥	578 955 1,533	\$	3,092 11,916 15,008						

#### 15. Derivative Financial Instruments

Nature of Derivative Financial Instruments:

The Company and certain consolidated subsidiaries enter into derivative financial instruments ("derivatives") for foreign currency forward contracts to hedge foreign exchange risks associated with certain accounts receivable and accounts payable, including forecasted transactions, denominated in foreign currencies. The Company and its subsidiaries do not hold derivatives for speculative purposes.

Derivatives are subject to market risks and credit risks. Because the counterparties to those derivatives are limited to major international financial institutions, the Company and its subsidiaries do not anticipate any losses arising from credit risks. The basic policies for the use of derivatives are established in the Company's internal regulations and the execution and control of derivatives are controlled by the Accounting Department.

Fair value of Derivative Financial Instruments:

The contracted amount and fair value of derivatives for foreign currency forward contracts at March 31, 2003 and 2002 were as follows:

			M	lillions of yen		
2003	Contract	ted amount		air value	Unreal	ized gain
Receivables: U.S.dollars Euro.	¥	11,129 12	¥	11,224 13	¥	95 1
Payables: U.S.dollars	¥	(35) 11,106	¥	(35) 11,202	¥	<u>-</u> 96

	Thousands of U.S. dollars (Note 3)						
2003	Contr	acted amount		Fair value	Unre	ealized gain	
Receivables: U.S.dollars Euro	\$	92,742 100	\$	93,533 108	\$	792 8	
Payables: U.S.dollars	\$	(292) 92,550	\$	(292) 93,349	\$	800	

				Millions of yen		
2002	Contr	acted amount		Fair value	Unre	ealized gain
Receivables: U.S.dollars Deutsche mark	¥	11,169 9	¥	11,394 10	¥	225 1
Payables: U.S.dollars	¥	(202) 10,976	¥	(198) 11,206	¥	230

Fair value was determined based on the foreign currency forward exchange market rates. Foreign currency forward contracts which qualified for hedge accounting for the years ended March 31, 2003 and 2002 and were assigned to the associated assets and liabilities or deferred until completion of the forecasted transactions were excluded from disclosure of the above fair value information.

#### 16. Contingent Liabilities

The Company was guarantor of bank loans of an other company, amounting to approximately ¥94 million (\$783 thousand). It is common practice in Japan for companies, in the ordinary course of business, to receive promissory notes in settlement of trade accounts receivable and to subsequently discount such notes at banks. At March 31, 2003 and 2002, the Company and its consolidated subsidiaries were contingently liable on trade notes discounted in the amount of ¥1,400 million (\$11,667 thousand) and ¥1,686 million, respectively. Notes discounted were accounted for as sales.

#### 17. Subsequent Event

The Company and one of its domestic subsidiaries have contributory defined benefits pension plans. These plans, which are established under the Welfare Pension Insurance Law, cover substitutional portion of the governmental social welfare pension program managed by the Company and the subsidiary on behalf of the government and corporate portion established at the discretion of the Company and the subsidiary. According to the enactment of the Defined Benefit Pension Plan Law in April 2002, the Company and the subsidiary had applied for exemption from obligations to pay benefits for future employee

#### 18. Business Segment Information

#### Industry segments:

The Company's primary business industries principally consist of Printing and Beverage operations. The Printing business includes three segments: Information Communication, Lifestyle and Industrial Supplies, and Electronics.

The following tables present certain financial information, including net sales, costs and expenses, operating income, assets, depreciation and capital expenditures regarding the Company's industry segments at March 31, 2003 and for the year then ended.

	Millions of yen						
		Printing					
For 2003 :	Information Communication	Lifestyle and Industrial Supplies	Electronics	Beverages	Total	Elimination and/ or corporate	Consolidated
Net sales : Outside customers Inter-segment Total Costs and expenses Operating income	619,924 579,851	¥ 417,277 2,890 420,167 391,572 ¥ 28,595	¥ 208,138 242 208,380 180,063 ¥ 28,317	¥ 71,833 2 71,835 72,001 ¥ (166)	¥ 1,309,002 11,304 1,320,306 1,223,487 ¥ 96,819	(11,304) (11,304) (4,366)	¥ 1,309,002 
Assets, depreciation and capital expenditures: Assets Depreciation Capital expenditures	¥ 484,957 ¥ 24,173 ¥ 16,941	¥ 382,773 ¥ 26,333 ¥ 17,170	¥ 32,940	¥ 53,990 ¥ 3,707 ¥ 7,172	¥ 1,192,367 ¥ 87,153 ¥ 71,858	¥ 2,086	¥ 1,450,027 ¥ 89,239 ¥ 73,789

		unication         Industrial Supplies         Electronics         Beverages         Total         or corporate         Consolidated           97,950         \$ 3,477,309         \$ 1,734,483         \$ 598,608         \$ 10,908,350         \$ -         \$ 410,908,350         \$ 58,083         \$ 24,083         \$ 2,017         \$ 17         94,200         (94,200)         \$ -         66,033         3,501,392         1,736,500         598,625         11,002,550         (94,200)         10,908,350         10,195,732         10,159,342						
		Printing						
	Information Communication		Electronics	E	Beverages	Total		Consolidated
Net sales: Outside customers Inter-segment Total Costs and expenses Operating income		24,083 3,501,392	2,017 1,736,500	\$	17 598,625	94,200 11,002,550 10,195,725	(94,200) (94,200) (36,383)	10,908,350 10,159,342
Assets, depreciation and capital expenditures: Assets			\$ 2,255,392 \$ 274,500 \$ 254,792	\$ \$ \$	449,917 30,891 59,767	\$ 9,936,392 \$ 726,275 \$ 598,817	\$ 17,383	\$12,083,558 \$ 743,658 \$ 614,908

Effective April 1, 2002, according to the newly established Company Group's Vision for the 21st Century, the Company changed the classification of industry segments from two segments, Printing and Beverage, to the above four segments. Also, the basic research and developments expenses and the Company's investing fund and the assets related to the basic research and development division, which had been fully charged to the Printing industry segment for 2002, were stated under the elimination and/or corporate column for 2003 because such items could not reasonably be allocated to each four segment.

According to the revised classification of industry and revised allocation of basic research and development expenses, etc. the industry segment information for the year ended March 31,2002 was as follows:

							Millio	ns of	yen			
For 2002 :	Information Communication		Printing ifestyle and ustrial Supplies	E	Electronics	В	Beverages		Total		mination and/ or corporate	Consolidated
Net sales : Outside customers Inter-segment Total Costs and expenses Operating income	8,025 659,241 610,191	¥ - — ¥	410,705 235 410,940 390,991 19,949	¥	176,914 - 176,914 168,324 8,590	¥ — ¥	73,099 - 73,099 72,524 575	_1	,311,934 8,260 ,320,194 ,242,030 78,164	¥ 	(8,260) (8,260) (2,338) (5,922)	¥ 1,311,934 
Assets, depreciation and capital expenditures: Assets Depreciation Capital expenditures	¥ 27,351	¥ ¥ ¥	377,060 27,734 17,833	¥ ¥ ¥	230,591 33,750 31,426	¥ ¥ ¥	51,507 3,734 4,229	¥ 1 ¥ ¥	,157,782 92,569 82,558	¥ ¥ ¥	274,676 2,301 2,538	¥ 1,432,458 ¥ 94,870 ¥ 85,096

#### Information by geographic area:

Disclosure of information by geographic area was not required as domestic sales and assets exceeded 90% of consolidated sales and assets, respectively, before elimination, for all segments for the years ended March 31, 2003 and 2002.

#### Overseas sales:

Overseas sales of the Company and its consolidated subsidiaries for the years ended March 31,2003 and 2002.

		Millions	s of yen	Thousands of U.S. dollars (Note 3)
		2003	2002	2003
Overseas sales	(a)	¥ 183,996	¥ 150,816	\$ 1,533,300
Consolidated net sales	(b)	1,309,002	1,311,934	10,908,350
Ratio	(a)/(b)	14.1%	11.5%	14.1%

## Report of Independent Certified Public Accountants

To the Board of Directors of Dai Nippon Printing Co., Ltd.

We have audited the accompanying consolidated balance sheets (expressed in Japanese yen) of Dai Nippon Printing Co., Ltd. and consolidated subsidiaries as of March 31, 2003 and 2002, and the related consolidated statements of income, stockholders' equity, and cash flows for the years then ended. These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits.

We conducted our audits in accordance with auditing standards generally accepted in Japan. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the consolidated financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of Dai Nippon Printing Co., Ltd. and consolidated subsidiaries at March 31, 2003 and 2002, and the results of their operations and their cash flows for the years then ended in conformity with accounting principles generally accepted in Japan.

As discussed in Note 18, the Company changed the classification of industry segments and the method of allocating basic research and development expenses, and assets to each segment in the segment information.

Our audits also comprehended the translation of Japanese yen amounts into U.S. dollar amounts and, in our opinion, such translation has been made in conformity with the basis stated in Note 3. Such U.S. dollar amounts are presented solely for the convenience of readers outside Japan.

Tokyo, Japan June 27, 2003

Meiji Audit Corporation

Meiji Audit Corporation

**Investor Information** 

(as of March 31, 2003)

#### Dai Nippon Printing Co., Ltd.

**Head Office:** 

1-1, Ichigaya Kagacho 1-chome, Shinjuku-ku,

Tokyo 162-8001, Japan

Established: 1876

Number of Employees:

35,182

Paid-in Capital: ¥114.464 million

Number of Common Stocks:

Authorized 1,200,000,000 shares Issued 759,480,693 shares

Number of Shareholders:

(more than 1,000 shares)

26,709

Major Shareholders: (non-consolidated)

Japan Trustee Services Bank, Ltd.5.669The Master Trust Bank of Japan, Ltd.5.57The Dai-Ichi Mutual Life Insurance Co.4.56

Mizuho Corporate Bank, Ltd. 4.04
Mizuho Bank, Ltd. 2.97
Nippon Life Insurance Co. 2.92
Dai Nippon Printing Co., Ltd. 2.32
Euroclear Bank S.A./N.V 1.69
State Street Bank and Trust Company 1.65

The Chase Manhattan Bank, N.A. London

S.L. Omnibus Account

Stock Exchange Listings:

Tokyo, Osaka, Nagoya, Luxembourg, Amsterdam

Transfer Agent:

Mizuho Trust & Banking Co., Ltd. 2-1, Yaesu 1-chome, Chuo-ku, Tokyo 103-8670, Japan

Phone: +813-5213-5213

**Annual Meeting of Shareholders:** 

The annual meeting of shareholders of DNP is normally held

in June each year in Tokyo, Japan

Investor Relations:

Dai Nippon Printing Co., Ltd. Press and Public Relations

1-1, Ichigaya Kagacho 1-chome, Shinjuku-ku,

Tokyo 162-8001, Japan

Phone: +813-5225-8220
Facsimile: +813-5225-8239
E-mail: info@mail.dnp.co.jp

Web Site Address:

http://www.dnp.co.jp/

#### Common Stock Price Range (Tokyo Stock Exchange)

(For the years ended March 31, 2001, 2002 and 2003)

	20	01	20	002	2003		
	High	Low	High	Low	High	Low	
1st Quarter	¥1,970	¥1,690	¥1,730	¥1,420	¥1,762	¥1,436	
2nd Quarter	1,935	1,605	1,503	1,090	1,660	1,227	
3rd Quarter	1,750	1,535	1,412	1,147	1,469	1,125	
4th Quarter	1,731	1,315	1,569	1,154	1,340	1,113	

1.53