Making Dreams Come True through Technologies, Building a Future with Lasting Reliability
NOK Group started out business as an oil seal manufacturer, but through years of technological development, we are now engaged in a wide spectrum of product fields in addition to oil seals. Many of our products and technologies are not visible to consumers as they go about their daily lives, but are in fact widely used in automobiles and other products that are in daily use. Capitalizing on the trust we have gained over the many years since our foundation, we will make contributions to society.
Message from the President

Chairman of the Board and
President of NOK CORPORATION

Masato Tsuru

NOK is Japan’s longest established oil seal manufacturer. Our functional parts such as oil seals and mechanical seals, created through advanced seal technology, are not only employed in the automotive industry but are also used in a wide range of other industries. We have developed into the leading company in the field in terms of reliability by leveraging the technology and know-how we have accumulated since the start of operations.

Also, as Japan’s first flexible printed circuit (FPC) manufacturer, we have greatly contributed to the development of smaller, lighter and better performing electronic devices. In 2004, we launched a new roller business to further foster the stable growth of our company.

NOK Group is aiming to become a stronger and even more unique parts manufacturer by further improving the technologies that make up the foundation of our business operations, namely our sealing, FPC, and rolling technologies. Moreover, we are carrying out drastic cost-cutting measures throughout our business operations, from manufacturing to the frontline of sales, while making strenuous efforts to improve the quality of our products and services. We are committed to "making unique and useful products backed by technology in a competitive manner and supplying them throughout the globe in a reasonable way," thereby becoming a highly profitable corporate group in which customers, shareholders, employees, suppliers, and all other stakeholders can take pride.

At the same time, to protect the natural environment for the next generation, we are also committed to careful environmental management and steadily fulfilling our social responsibilities as a corporate citizen.

What started out as a small town plant established in Kobe, Japan in 1939 has grown in to become a highly unique enterprise. The corporate culture of that original factory has been passed down through the generations to the 21st century, constantly inspiring employees of NOK Group to be ambitious. Taking pride in our reputation as a "small-town factory born to be a great parts supplier," we will continue to manage NOK Group in an even more ambitious manner in this new century.
We, NOK, based on Management Principles formulated in the NOK spirit, not only endeavor to contribute to the economic development of society, but want to be a company with which all stakeholders are proud to be associated, pursuing our dreams together in accordance with our Management Policies, and thus contributing to the betterment of society at large as well.

[ Management Policies ]

1. Focusing our business resources on our core area, we are committed to becoming an ever more competitive, ever more unique manufacturer of parts.

2. We are committed to being a profitable, robust company while carrying out company-wide cost-reduction programs ranging from front-line sales to the manufacturing floor.

3. We are committed to constant striving to improve our quality while producing and selling products worldwide proven to be technologically unique and of benefit to society.
NOK Group

— Supporting the Lives of People

NOK Group’s technologies and products support the lives of people by being used in a range of fields, including the automobile industry.

Seal Business
[NOK CORPORATION]

NOK CORPORATION (NOK) was established as Japan’s first oil seal manufacturer in 1939. Since its foundation, the company has been producing a range of functional parts, such as oil seals, O-rings, packings, and other synthetic rubber-based products. These products, produced using advanced synthetic rubber processing technology, are used in a wide range of fields in addition to the automobile industry. NOK will continue to provide the world with highly reliable products by making use of the many strengths of the NOK Group and its advanced technologies.

Seal Business
[EAGLE INDUSTRY CO., LTD.]

In 1964, the mechanical seal department of NOK became independent and was subsequently renamed EAGLE INDUSTRY CO., LTD. (EKK). Since then, EKK has been constantly releasing products to meet the needs of users based on its core technologies, namely sealing, special welding, power transmission, and valve technologies. Its products include various mechanical seals, special value products, products for marine vessels, aircraft and aerospace products, bellows products, and diaphragm couplings. These products are highly trusted and evaluated by users both in Japan and overseas.

Chemicals Business
[UNIMATEC CO., LTD.]

UNIMATEC CO., LTD. (UMT) was established in 2002 to take over the chemicals business launched by NOK in 1971. UMT is committed to providing environment-friendly synthetic chemical materials and technologies to the world. UMT is contributing to the protection and improvement of the natural and living environments by developing unique materials, such as special synthetic rubbers, fluorinated products, and electronic materials by the use of its extensive and unique chemical technologies.
NIPPON MEKTRON, LTD. (MEK) was established in 1969 to launch the electronics business in line with NOK’s business diversification strategy. This NOK Group company develops, designs and produces materials, and manufactures products in an integrated manner and has contributed to the smaller size, lighter weight and technological innovation of flexible printed circuits, precision rubber and plastic components, and other portable digital devices. MEK will continue its efforts to become a global company that will provide the entire world with advanced products and technologies.

SYNZTEC CO., LTD. (SZT) was established in 2007 through the merger of Hokushin Corp. and Nitto Kogyo Co., Ltd., which were both manufacturers of rollers for office equipment. By integrating the technologies of the two companies, SZT has become the only company in the industry capable of providing all types of rollers for office machinery such as copiers. To meet a range of customer needs, SZT will make evaluations and analyses by combining its leading-edge technologies with NOK’s base technologies to find solutions to problems customers face.

NEOPT CORPORATION (NEO) was established in 1989 as a joint venture between NOK and EG&G Inc. and is engaged in the sale of optoelectronics products and the development of sensing products. In order to meet the need for higher energy efficiency and automation, NEO provides society with a range of products incorporating leading-edge technologies, including devices that serve as the “eyes” of sensors as well as “intelligent” inspection equipment that recognizes and processes information as images.

NOK KLUEBER CO., LTD. (NKL) was founded in 1976 as a joint venture between NOK and Klueber Lubrication Muenchen KG, a long-established German lubricant manufacturer. NKL has been utilizing the proprietary technologies of the two companies in manufacturing products for use in a range of fields, including the automobile, industrial machinery, and home electric appliance industries. NKL is confident that its lubricants and applied technologies will help solve all lubricant-related problems and contribute to the development of new products and the improvement of product functions.
Seal Business

Our Business >>> NOK

NOK’s history of oil seals is, in effect, Japan’s history of oil seals. Oil seals are used in machinery and are not visible to consumers, but these seals made by the use of diverse technologies play an important role. By supplying oil seals in a stable manner with the use of its proprietary technologies, NOK has developed into the leading company in the oil seal field.

Producing Rubber Oil Seals Ahead of Others

NOK CORPORATION (NOK) ‘s history of oil seals virtually represents Japan’s history of oil seals. When the company was established, oil seals were generally made of leather. The oil seals of that time were therefore not stable in terms of sealing performance, and the smell of oil leaking from engines was noticeable in automobile garages. To solve this problem, NOK began producing rubber oil seals and launched a production line for the seals at its then head office factory in Haneda in 1954. At the same time, we also began conducting independent research into oil seals and announced a lubricant principle regarding the friction and sealing of oil seals in 1959. Through these efforts, we built the foundation for NOK as it is today.

Technological Partnership with Freudenberg

We took the first step to become Japan’s number-one oil seal manufacturer by concluding a technological partnership agreement with Carl Freudenberg KG of the former West Germany. Partnering with this German company marked a great turning point for NOK, which subsequently started the construction of its Fujisawa Plant equipped with a system to mass-produce oil seals to ensure a stable supply. We then expanded the production system by constructing other plants in Shizuoka, Fukushima, and Kumamoto. Through these measures, NOK began following a path to become a representative Japanese oil seal manufacturer both in name and reality. Specifically, the company has established a robust system to supply quality products in a stable manner and has demonstrated, both in Japan and overseas, its ability to manufacture and supply what the market wants in a forward-looking manner backed by highly reliable technologies.

NOK’s Global Development

NOK established a manufacturing plant in the United States as early as 1979, when only one Japanese automaker had a production base in the country. NOK had enough pioneering spirit to begin developing its business in the United States ahead of others and eventually succeeded in supplying oil seals to local automakers. The company was able to achieve this because it had established a highly reliable production system for the stable supply of high-quality products. Since then, we have expanded our production bases mainly in Asia, including Thailand, China, Indonesia, Singapore, India, and Vietnam, where we have built stable supply systems to meet the needs of our customers across the world.
Oil seals

Oil seals are functional parts used to prevent the leakage of lubricants and other substances from gaps in machinery.

O-rings

O-rings are O-shaped ring packings. They are appropriately compressed to prevent the leakage of various gases and liquids, including oil, water, and air.

Packings

Packings are used as sealing devices for the pistons of hydraulic and pneumatic machinery. There are rubber packings and also resin-mixed ones.

Iron rubber products

These products are widely used as elastic molding materials and serve as intermediate products between rubber and plastic products. They excel in elastic recovery, rebound resilience, and abrasion resistance.

Rubber vibration isolators (torsional dampers)

A range of rubber vibration isolators are available, including engine mounts as well as torsional dampers used to reduce the vibrations caused by the deflection and bending of crankshafts.

Construction

Packings and O-rings are used in the hydraulic parts of shovels and arms of construction machinery. In addition, NOK’s seal products are also used in agricultural equipment, various industrial machines, home electric appliances, and others.

Automobile

Oil seals, O-rings, and various other seal products, including engine mounts, dust covers, and accumulators, are used in automobiles.

Oil seals, O-rings, and various other seal products, including engine mounts, dust covers, and accumulators, are used in automobiles.
EAGLE INDUSTRY CO., LTD. (EKK) was founded after a department of NOK CORPORATION was spun off from the company in 1964. EKK is a leading company of mechanical seals, which are indispensable products in a range of industrial fields, including the automobile, machinery, marine vessel, and aerospace industries.

EKK has sealing, special welding, power transmission, and valve technologies as its core technologies and has built an integrated production system that encompasses all the processes from the development of materials to the manufacture of final products. In particular, EKK enjoys a solid reputation for a range of mechanical seals, products for marine vessels, and special valve products, all of which enjoy both high performance and top quality.

Mechanical Seal Department gained Independence from NOK

The mechanical seal department of NOK CORPORATION became independent in 1964 and changed its name from Nippon Sealol Co., Ltd. to EAGLE INDUSTRY CO., LTD. in 1978.

EKK has sealing, special welding, power transmission, and valve technologies as its core technologies and has built an integrated production system that encompasses all the processes from the development of materials to the manufacture of final products. In particular, EKK enjoys a solid reputation for a range of mechanical seals, products for marine vessels, and special valve products, all of which enjoy both high performance and top quality.

Used Not Only in Automobiles but also in Rocket Engines and for Nuclear Power Generation

Mechanical seals are functional parts installed to the shafts of rotating machines. A seal, as its name suggests, prevents gases and liquids inside a machine from leaking from the shaft and it also protects the internal part of the machine from the external environment.

Mechanical seals are widely used in a variety of industrial devices, not only in automobiles and machines but also in rocket engines and for nuclear power plants. These seals, although not visible, play a very important role by helping improve the functionality and durability of the machines and prevent the leakage of pollutants.

Mechanical Seals Hold Infinite Potential for Future Industries

The technologies and products developed by EKK have infinite potential for future industries. The company is committed to improving its sealing technologies to keep pace with improvements in the performance of devices that have rotating parts, including higher speed and higher resistance to high temperatures and pressures. Moreover, to deal with the global challenges represented by environmental protection and to achieve higher energy efficiency, EKK will meet the expectations of the market with further technological innovations for seals and valves by proactively implementing solutions and fulfilling its mission as a leading mechanical seal company.
Mechanical seals for industrial use
These seals are used under different pressure and temperature conditions. Under strict quality management, EKK manufactures mechanical seals for use in a range of fields.

Lip seals
Lip seals were developed as axis seals for automobile air conditioners, and both their structure and materials are suitable for sealing coolants. EKK provides originally designed compact lip seals.

Solenoid valves
These lightweight and compact solenoid valves meet high-precision and other specific requirements for a number of applications, including for use in engines and transmissions.

Dynamic seals for aircraft
These highly insulating seals, including those for rocket engines, can be used under severe conditions at high temperatures and high pressures, which is an essential requirement in the aircraft and aerospace industries.

Seals for stern tubes
Made using EKK’s technologies for rubber materials, structural design, and seals, these products play an active role for the safe navigation of marine vessels and for the prevention of marine pollution.

Supertanker
EKK manufactures mechanical seals for a range of industrial machines, such as seals for stern tubes that support the revolving shafts of marine vessels as well as highly insulated seals for aircraft.

Automobile
Mechanical seals are widely used in automobile air conditioners and water pumps. Solenoid valves used in engines and transmissions are also a major product for EKK.

Rocket
In the aircraft and aerospace industry, products that work stably even under severe conditions such as super-low temperatures, super-high temperatures, and vacuums are required. EKK’s mechanical seals are used in rocket engines as well.
Electronic Device Product Business

The technology behind FPCs (flexible printed circuits) is incorporated in electronic devices, which are devices that represent state-of-the-art technologies.

NIPPON MEKTRON, LTD. (MEK) contributes to convenient and comfortable lives through the continuous research and development of FPCs, which people seldom see in their daily lives.

Earliest Days of Flexible Printed Circuits

In 1969, MEK concluded a technological assistance agreement on the manufacture of electronic circuits with the U.S.A. Rogers Corp. and began manufacturing FPCs.

At that time, FPC technology was a leading-edge technology that was not well recognized, but the release of fully electronically controlled single-lens reflex cameras has since changed that drastically. FPCs have been adopted as a core electronic part in SLR cameras, which are recognized as an excellent product with longevity. The SLR became a great topic of conversation and consequently FPCs also began attracting the attention of engineers. This technology was a sign of what was to come in terms of new-generation electronics.

Adoption of FPCs in Hard Disk Drives

Subsequently, as FPC technology became more widely recognized, the possibilities for FPCs also expanded quickly. In particular, it merits noting that FPCs were adopted for computer hard disk drives (HDDs).

The arms of HDD heads, which read signals from disks that revolve at a super-high speed, also operate at a high speed. FPCs used for the connection of this part are required to have a flexural resistance of over 100 million times. MEK has met this requirement with its materials technology. MEK’s FPCs are highly reliable and usable under very severe conditions, garnering the full attention of the computer industry.

Further Technological Innovations for Downsizing and Weight Reduction

In 1986, an FPC was adopted for the then world’s smallest 8-millimeter video camera, greatly contributing to the downsizing and weight reduction of electronics. Now, FPCs are used as indispensable parts for daily-use digital consumer electronic devices appliances such as cell phones, portable music players, flat panel displays, and notebook PCs and also for electronic devices such as in-vehicle navigation systems.

In the future, MEK will further contribute to the development of digital consumer electronic devices by fostering technological innovations to increase the functions of FPCs and modularize them in addition to making them smaller, denser and more multi-layered.
Double-sided flexible printed circuits
These double-sided flexible printed circuits contribute to the downsizing and weight reduction of machines. They are suitable for a variety of designs because they are bendable and are therefore widely used in digital cameras.

Single-sided flexible printed circuits
These flexible, thin, and light products contribute to the downsizing and weight reduction of various devices. They are highly bendable and are therefore suitable for HDD heads.

Mounting of other parts
In order to meet customers’ needs for FPC module units, MEK not only provides FPCs themselves but also mount surface parts, flip chips, and other components on FPCs.

Flex-boards
A flex-board is a multilayer flexible printed circuit. Because flex-boards are highly functional and also small and light, they are often used in digital cameras and cell phones that need to be highly functional and also portable.

Precision rubber and Prastic components
MEK produces and sells precision rubber and prastic components, which were transferred from NOK to MEK in April 2011.

Mobile phone
FPCs are installed on the hinges of cell phones, which are bent countless times. Because FPCs are thin and light, they are also used in notebook PCs and portable music players.

Camera
For digital cameras, electronic parts need to be densely installed within a limited internal space. MEK’s FPCs are excellent in terms of flexural resistance and allow three-dimensional circuit formation. They therefore contribute to the downsizing and higher functionality of digital cameras.
At the heart of OA machines, which are advancing technologically day by day, highly functional rollers play an essential role to improve image quality and functionality. SYNZTEC CO., LTD. (SZT) supports the textile, audio device, and financial terminal industries with its long accumulated technologies that can deeply satisfy customers and gain their trust. SZT will continue to achieve higher targets with its cutting-edge technologies and outstanding expertise.

The Only Company in the Industry that Provides All Types of Parts for Office Machinery

SZT was established in 2007 by the merger of Hokushin Corporation and Nitto Kogyo Co., Ltd., both suppliers of functional parts for office machinery. As a result of combining the companies’ technologies, SZT has become the only one company in the industry that can provide all types of functional parts for office machinery.

SZT will continue to make leading-edge evaluations and analyses by combining NOK’s technologies to solve any problems posed, aiming to lead the industry by becoming the best supplier—the one constantly chosen by customers.

Leading the Industry with Products Developed through Unique Technologies

For the photoreceptor, which is a core part of an office machine such as a copier and determines its performance and value, SZT’s development rollers, charge rollers, and cleaning blades are widely used.

For these high-precision products, SZT has been fostering technological innovations by using its know-how, unique product planning and designing ability, and high production technologies. For pressure and heat rollers used to fix toner on paper by heat and pressure, SZT is leading the industry in the field of rollers manufactured by the environmentally friendly IH fixation method with its Mini Cell rollers developed using its unique technologies.

Continuing to be the Best Global Partner

In the ever changing office machine market, the level of products and services that customers expect is becoming higher and higher year by year.

Under these circumstances, SZT has been expanding its business in an unrivaled manner by supplying innovative products and services and also by building overseas production systems to enable customers to make local procurements. The company will continue its efforts and remain the best global partner for customers and contribute even more to the advancement of related technologies.
Development and charge rollers
Development rollers and charge rollers, the electric conductivity of which is controlled at high precision, are used to transport toner to the photoreceptor and to apply a specified amount of electric charge to the part.

Cleaning blades
These highly abrasion-resistant products are used to remove toner residue and other foreign matter adhering to the surfaces of the photoreceptor, rollers, and belts.

Mini Cell rollers
SZT has developed Mini Cell rollers for use in copiers that have higher durability. These rollers are highly durable with low thermal capacity, low repulsion force, and low hardness.

Products for financial terminals
These highly reliable products for financial terminals include belts made from a composite of rubber, threads, and cloth for transporting banknotes as well as rubber for smoothing out creased banknotes.

Products for textile machinery
These highly reliable products are used in textile machinery as essential parts for spinning fine yet strong thread.
Special Lubricants Business
[ NOK KLUEBER CO., LTD. ]

Based on the idea that lubricants are not consumables but important functional parts, NOK KLUEBER CO., LTD. (NKL) provides a range of products that have high resistance even in severe use conditions including use at super-high and super-low temperatures, high speed, and high load.

Optoelectronics Business
[ NEOPT CORPORATION ]

NEOPT CORPORATION (NEO) proactively incorporates the world's leading technologies into its products, represented by optical sensors, industrial cameras, inspection equipment, and inkjet printers.

Chemicals Business
[ UNIMATE CO., LTD. ]

UNIMATE CO., LTD. (UMT) produces environmentally friendly synthetic chemical products by using unique materials and technologies, and these products are used widely in a range of industries, including the automobile, industrial goods, and fashion industries.
Providing Lubricants as Functional Parts that Meet Diversified Needs in a Range of Markets

NOK KLUEBER CO., LTD. (NKL) has grown in line with Japan’s industrial development. NKL’s main products are lubricants (grease, oil, and coating agents), which display their abilities when used in an integrated manner with mechanical parts. Capitalizing on NOK’s and Klueber’s long accumulated proprietary technologies, NKL has developed a range of products that meet the respective needs of the iron and steel, industrial machinery (including machine tools), automobile, electric appliance, and semiconductor markets. The company is now engaged not only in the manufacture and sale of these products but also in maintenance and consulting services. NKL has also developed lubricants for food machinery, which are now globally recognized; lubricants used at solar power and wind power generation facilities, which represent future energy sources; and high-performance grease and coating agents that contribute to higher automobile fuel economy. NKL thus provides customers with safety and reliability in addition to higher efficiency and performance.

Cooperating with Foreign Manufacturers and Adopting the World’s Most Advanced Technologies

NEOPT CORPORATION (NEO) was established in 1989 and is a relatively new NOK Group company. NEO deals with optoelectronics products, which are used widely in the electric appliance, semiconductor, medical, aerospace, and biotechnology fields. NEO, in response to the increasing need in 21st century for environmentally friendly, highly energy-efficient, and automated products in every field of industry, is working to form partnerships with top manufacturers overseas. NEO provides a wide spectrum of products. These include optical sensors using ultraviolet, visible, infrared, and X-rays; heads used in inkjet printers with which on-demand printing for industrial purpose, and UV-curing equipment (Lamp, LED). Moreover, NEO supplies its own developed industrial cameras and inspection equipment under its own brand. Through these products, the company will make further contributions to the development of society and industry.

Providing Unique Ideas and Technologies in Various Fields

UNIMATEC CO., LTD. (UMT) manufactures environmentally friendly synthetic chemical products, inheriting the excellent R&D DNA of NOK, which is the leading seal products company in the world. In particular, UMT began manufacturing an acrylic elastomer named “NOXTITE” in Japan 40 or more years ago, and has been supplying this product to a range of industries including the automobile industry ever since. The company also developed a chemical compound named “CHEMINOX” using its highly unique technologies for organic fluorine chemicals and the synthesis of acrylic elastomer and this product is used as monomers for polymerization and materials for cross-linker agents. Moreover, UMT has state-of-the art technologies in the fields of high-molecular fluorine compounds, special synthetic rubber, and electronic materials, and provides the world with highly trusted products of stable quality and performance. UMT will promptly detect any social change in the future and adopt unique ideas and technologies to develop new products through untried efforts to anticipate market needs.
Research and Development System

Since the company's foundation, the oil seals and other products of NOK Group companies have been greatly supported by users because these products have been continuously improved through the Group's advanced technological capabilities. NOK Group will further foster technological development to release new products and technologies that can help improve convenience within society and protect the environment.

Fostering Technological Development in a Forward-Looking Manner

NOK began producing oil seals, O-rings, and rubber packings in the 1940s. Since then, we have been constantly leading the industry with new technologies by taking the following steps: considering a lubricant mechanism; understanding the sealing phenomenon; presuming a sealing mechanism; implementing robust design; and building visualization technologies.

In materials technology, we are mixing materials, developing adhesives, and making physical and chemical analyses independently while always fostering technological development in cooperation with customers in a forward-looking manner.

By using the Group’s strengths, we are also developing gaskets equipped with flexible circuits for use in waterproof cell phones as well as rollers made from new materials for use in high-speed copiers, and are proactively proposing new technologies and products to customers.

Focusing the Group’s Strengths on the Development of More Advanced Technologies

Amid the trend for environmentally friendly automobiles, construction machinery, and industrial machines, NOK Group is developing and supplying parts not only for current hybrid vehicles but also for electric vehicles and fuel cell vehicles, winning high evaluation and trust for its technologies from customers. We will continue to use the Group’s comprehensive strengths in fostering the development of more advanced technologies, thereby providing customers in the automobile, industrial machinery, electric and electronic equipment, and office machine industries with highly satisfactory products and services.
The Shonan Development Center was opened in May 2005 as the R&D base for the entire NOK Group. It is located to the north of Enoshima and to the East of Mt. Fuji. Base technologies are examined for the Group's products; advanced product evaluation and examination processes are conducted; and inspection equipment, molding machines, materials, adhesives, and CAD and analysis technologies are developed.

NOK, in its long history of technological development, has been persistently presuming and verifying various phenomena. NOK's visualization technology, which represents one of its core technologies, is used to check the status of an oil membrane that is created when an oil seal is used on a rotating shaft. NOK succeeded in visualizing the oil flow for the first time in the world and has dramatically improved the accuracy of verifying differences between theory and reality. With this technology, the behaviors of parts inside metal cells can be visualized. And the behaviors and vibrations of materials in metal molds are also analyzable. NOK is also endeavoring to develop unique technologies and evaluation equipment, introduce more advanced technologies, improve the reliability of its product functions, and supply even safer products.

EKK began developing pump seals for liquid fuel rockets in 1967, marking the start of business in the aircraft and aerospace field. The company has been engaged in all of Japan's rocket development projects, including those for the N and H rockets and also for the H-IIB, which are the main rockets of today. The engines for these Japanese rockets use liquid hydrogen and oxygen as fuel and are therefore ultimately clean engines. EKK's sealing technology, which completely isolates the fuel from oxidizing materials to prevent an explosion, has been highly evaluated worldwide. Recently, EKK has participated in the development of seals for the J-2X engine of the spacecraft that will replace the Space Shuttle upon its retirement, and thus its field of operations is expanding on a global scale.

Printed electronics (PE) technology is a state-of-the-art technology that enables the direct printing of circuits on organic films by the use of leading-edge printing technology and nanotechnology. Circuit formation through PE does not adopt the general etching method and therefore leads to greater energy- and resource-savings, and the production of environmentally friendly FPCs. Moreover, large-sized FPCs can be easily manufactured, which was difficult under the conventional method, meaning business could be expanded to the new market of “large electronics,” which is now attracting attention in relation to in-vehicle electronic devices and those for general use. MEK therefore focuses on PE as one of its most important technologies.

For example, the company has developed charge rolls and blades by the use of electric resistance control rubber and abrasion-resistant urethane materials, respectively. Its products include Mini Cell fixation rollers and RUFASS paper pick-up rollers. The company is developing and providing highly functional, durable, and also environmentally friendly products by the use of its proprietary technologies.

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High-End Copiers are manufactured by the use of diverse technologies including those for the provision of high-quality images through high-speed charging and development and for high-precision transportation. Moreover, they need to be made environmentally friendly through such measures as reducing the loss of thermal energy at the time of toner fixation. SZT holds unique technologies and materials as a result of fostering technological developments to provide highly functional materials for copiers. For example, the company has developed charge rolls and blades by the use of electric resistance control rubber and abrasion-resistant urethane materials, respectively. Its products include Mini Cell fixation rollers and RUFASS paper pick-up rollers. The company is developing and providing highly functional, durable, and also environmentally friendly products by the use of its proprietary technologies.

Oil membrane visualization equipment for oil seals used on rotating shafts

NASA's next-generation rocket Ares-I

Production of FPCs through PE using silver paste

Urethane injection molding
CSR and Environmental Activities

As a good corporate citizen
NOK Group is conducting a range of community relations activities and social contribution activities to fulfill its corporate social responsibility and build strong relations with all its stakeholders. Moreover, to protect this beautiful blue planet for generations to come, each and every employee of the Group is proactively engaged in environmental protection activities highly aware of environmental problems.

Social Contribution Activities

NOK Group is conducting a variety of social contribution and community relations activities. For example, we are providing support to Indonesia for the reconstruction of elementary schools collapsed by the earthquake that hit the central part of Java, and also supporting a prosthetic limb foundation in Thailand. Moreover, our manufacturing plants foster communication with local inhabitants through clean-up activities around their premises.

Supporting a Prosthetic Limb Foundation in Thailand

One of the facilities of NOK Group in Thailand is voluntarily providing support to a prosthetic limb foundation in Thailand. The company donates waste from its manufacturing process and the pull-top tabs of used cans to the foundation, and these are recycled as materials and parts for prosthetic limbs. Moreover, it is supporting the improvement of prosthetic limb joints and also offering support to the improvement of the equipment to manufacture the limbs and to related engineering services. It also began extending support to a prosthetic limb center under construction in a rural area.

Community Relations Activities

The facilities of NOK Group are conducting a range of activities to foster communication with local communities. These activities include regular clean-up activities around the premises of the manufacturing plants, organization of a marathon and inviting local inhabitants to participate, and the opening of playgrounds within the premises of the facilities to the public.
Environmental Protection Activities

NOK Group fosters environmentally compatible design and manufacture to minimize the environmental impact of its products throughout their lifecycles from production to disposal, being aware of the impact NOK Group could have on the environment. We are conducting environmental protection activities by setting specific targets and implementing specific measures, while giving due consideration to future generations.

Recycling of Waste

NOK Group is fostering material recycling, including the commercialization of silicone oil extracted from silicone rubber, the recycling of waste oil, and the reuse of sludge and polishing powder as cement and pavement materials. In the year ending March 31, 2009, the Group's rubber chips made from crushed waste rubber were adopted as material for walls to prevent small animals from entering expressways.

- Crushing waste rubber: about 30-centimeters of black waste rubber is input into the crushing machine on a conveyor belt.
- Room for manufacturing rubber chips: chips output from the crushing machine are packed into bags through a pipe.
- Chips made by crushing waste rubber: they are finished in the size of three or five millimeters depending on usage. Wall to prevent small animals from entering expressways: Rubber chips are mixed with urethane resin and molded into a mat to be used as material for the prevention wall.

Acquisition of ISO 14001 Certification

The entire NOK Group is committed to acquiring ISO 14001 certification.

NOK has acquired ISO 14001 certification for its production facilities as a whole, and environmental conservation and management activities are harmoniously conducted to achieve the common targets and goals in line with uniform policies. Among 71 NOK Group companies in and outside Japan that have set the common environmental indicators and targets with NOK, 65 were ISO 14001-certified as of June 2012.
NOK Group’s History

Seal Business
[NOK CORPORATION]

1939 Edogawa Seiki Co., Ltd. is founded (capital: 150,000 yen)
1941 Japan Bearing Production Co., Ltd. is founded in Kobe (capital: 180,000 yen), (Renamed Nippon Yushi Industry Co., Ltd. in 1944) *
1951 Tokyo Oil Seal Industry Co., Ltd. merges with Nippon Yushi Industry Co., Ltd. and the company name is changed to Nippon Oil Seal Industry Co., Ltd. (present-day NOK CORPORATION) (capital: 7 million yen)
1954 Head office and Tokyo Plant relocated to Ota-ku, Tokyo
1960 Capital participation agreement concluded with Carl Freudenberg KG (West Germany) *
1961 Listed on the Tokyo and Nagoya Stock Exchanges
Head office moved to Chuo-ku
1963 Saga Plant established in Nakabaru-cho (present-day Miyak-cho), Saga Prefecture
1964 Agreement for joint venture for mechanical seals concluded with Sealol Corporation (U.S.A.)
1966 Head office moved to 1-12-15 Shiba Daimon, Minato-ku, Tokyo
1967 Shizuoka Plant established in Sagara-cho, (present-day Makinohara City), Shizuoka Prefecture
1968 NOK-USA, Inc. established (changes its name to NOK inc. in 1980)
Fukushima Plant established in Fukushima City, Fukushima Prefecture
1970 Kumamoto Plant established in Aso-cho (present-day Aso City), Kumamoto Prefecture
1973 Singapore Oil Seal Co. established (present-day NOK Precision Component Singapore) in Singapore *
1974 Tokai Plant established in Ogasa-cho (present-day Kikukawa City), Shizuoka Prefecture
1978 Equity stake taken in Pyung Hwa Oil Seal Industry Co., Ltd. (South Korea)

Seal Business
[EAGLE INDUSTRY CO., LTD.]

1964 As a joint venture between Nippon Oil Seal Industry Co., Ltd. and Sealol Corporation (U.S.A.), Nippon Sealol Co., Ltd. established
1965 Saitama Plant established in Sakado-cho, Iruma-gun (present-day Sakado City), Saitama Prefecture
1966 Head office moved to 1-12-15 Shiba Daimon, Minato-ku, Tokyo
1967 Okayama Plant established in Takahashi City, Okayama Prefecture
1978 Company name changed from Nippon Sealol Co., Ltd. to EAGLE INDUSTRY CO., LTD.
1979 EagleBurgmann Taiwan Co., Ltd. and Eagle Industry Taiwan Corporation established as an affiliated company in Taiwan

Electronic Device Product Business
[NIPPON MEKTRON, LTD.]

1969 Nippon Oil Seal Industry Co., Ltd. concludes a technological partnership agreement with Rogers Corporation (U.S.A.) and establishes a subsidiary named NIPPON MEKTRON, LTD. *
1971 Minami Ibaraki Plant established in Kukizaki-mura, Inashiki-gun, Ibaraki Prefecture
1973 Subsidiary named Kashima Kinzoku Kogyo K.K. established in Hasaki-machi, Kashima-gun (present-day Kamisu City), Ibaraki Prefecture
1978 Merged with NIPPON MECTRON, LTD.

Roll Business
[SYNZTEC CO., LTD.]

1976 Nippon Oil Seal Industry Co., Ltd. establishes a subsidiary named NOK KLUEBER CO., LTD., which starts importing and selling special lubricants made by Klueber Lubrication Muenchen KG in West Germany.

Special Lubricants Business
[NOK KLUEBER CO., LTD.]

Optoelectronics Business
[NEOPT CORPORATION]

Chemicals Business
[UNIMATEC CO., LTD.]

1980
Global Deployment of NOK Group — Main Location —

**NOK CORPORATION**

**Head office**
Seiwa Bldg., 1-12-15 Shiba Daimon, Minato-ku, Tokyo

**Domestic bases**
- Fukushima Plant (Fukushima City, Fukushima Prefecture)
- Nihonmatsu Plant (Nihonmatsu City, Fukushima Prefecture)
- Kitaibaraki Plant (Kitaibaraki City, Ibaraki Prefecture)
- Shizuoka Plant (Makinohara City, Shizuoka Prefecture)
- Tokai Plant (Kikukawa City, Shizuoka Prefecture)
- Tottori Plant (Saihaku-gun, Tottori Prefecture)
- Kumamoto Plant (Aso City, Kumamoto Prefecture)
- Shonan Development Center (Fujisawa City, Kanagawa Prefecture)

**Overseas bases**
- FREUDENBERG TECHNICAL PRODUCTS LTD. (England)
- NOK Europa GmbH (Germany)
- SIGMA FREUDENBERG NOK PVT.LTD. (India)
- THAI NOK CO.,LTD. (Thailand)
- NOK ASIA CO.,PTE.LTD. (Singapore)
- P.T. NOK Indonesia (Indonesia)
- VIETNAM NOK CO.,LTD. (Vietnam)
- Wuxi NOK-Freudenberg Oilseal Co., Ltd. (China)
- Changchun NOK-Freudenberg Oilseal Co., Ltd. (China)
- NOK-Freudenberg Group Sales (China) Co., Ltd. (China)
- NOK-Freudenberg Hong-Kong LTD. (China)
- Pyung Hwa Oilseal Industry Co., Ltd. (South Korea)
- FREUDENBERG-NOK GENERAL PARTNERSHIP (U.S.A.)
  (The unit name : Freudenberg-NOK Sealing Technologies)

**EAGLE INDUSTRY CO., LTD.**

**Head office**
Seiwa Bldg., 1-12-15 Shiba Daimon, Minato-ku, Tokyo

**Domestic bases**
- Saitama Plant (Sakado City, Saitama Prefecture)
- Okayama Plant (Takahashi City, Okayama Prefecture)
- KEMEL Company Takasago Plant (Takasago City, Hyogo Prefecture)

**Overseas bases**
- Eagle Simrax B.V. (The Netherlands)
- Eagle Industry France S.A.S. (France)
- EagleBurgmann India Private Limited (India)
- EKH Eagle (Thailand) Co., Ltd. (Thailand)
- P.T. Eagle Industry Indonesia (Indonesia)
- Eagle Industry WuXi Co., Ltd. (China)
- Eagle Industry Taiwan Corporation (Taiwan)
- NEK Co., Ltd. (South Korea)
- EagleBurgmann New Zealand Limited (New Zealand)
NIPPON MEKTRON, LTD.

Head office
Seiwa Bldg., 1-12-15 Shiba Daimon, Minato-ku, Tokyo

Domestic bases
Minami-Ibaraki Plant (Tsukuba City, Ibaraki Prefecture)
Kashima Plant (Kamisu City, Ibaraki Prefecture)
Okuhara Plant (Ushiku City, Ibaraki Prefecture)

Overseas bases
Mektec Europe GmbH (Germany)
Mektec Manufacturing Corporation (Thailand) Ltd. (Thailand)
Mektec Manufacturing Corporation (Zhuhai) Ltd. (China)
Mektec Corporation (Taiwan)

SYNZTEC CO., LTD.

Head office
Seiwa Bldg., 1-12-15 Shiba Daimon, Minato-ku, Tokyo

Domestic bases
Yokosuka Plant (Yokosuka City, Kanagawa Prefecture)
Kuki Plant (Kuki City, Saitama Prefecture)

Overseas bases
SYNZTEC (MALAYSIA) SDN. BHD. (Malaysia)
SYNZTEC (VIETNAM) CO., LTD. (Vietnam)
SYNZTEC PRECISION PARTS (Shenzhen) CO., LTD. (China)
SYNZTEC PRECISION PARTS (Shanghai) CO., LTD. (China)
SYNZTEC OFFICE EQUIPMENT (Shenzhen) CO., LTD. (China)

NEOPT CORPORATION

Head office
Seiwa Bldg., 1-12-15 Shiba Daimon, Minato-ku, Tokyo

Domestic bases
Kawasaki Office (Kawasaki City, Kanagawa Prefecture)

SYNZTEC CO., LTD.

Head office
Seiwa Bldg., 1-12-15 Shiba Daimon, Minato-ku, Tokyo

Domestic bases
Kitaibaraki Plant (Kitaibaraki City, Ibaraki Prefecture)

Overseas bases
Unimatec Singapore Pte. Ltd. (Singapore)
Company Profile

Company name:
NOK CORPORATION

Established:
December 2, 1939

Head office:
1-12-15 Shiba Daimon,
Minato-ku, Tokyo 105-8585

Website:
http://www.nok.co.jp/e/index.html

Capital:
23,335 million yen

Total number of authorized shares:
600,000,000

Total number of outstanding shares:
173,138,537

Stock exchange listing:
Listed on the first section of the
Tokyo Stock Exchange
(Security code: 7240)

Business details:
Manufacture, purchase, import, and sale
of seals, industrial functional parts,
hydraulic and pneumatic equipment,
plant machinery, nuclear power
equipment, synthetic chemical products,
electronic products, and various other
products; and the provision of
associated services such as the
installation of machinery and devices
NOK Group
1-12-15 Shiba Daimon, Minato-ku,
Tokyo, Japan 105-8585