



## Corporate Profile



Representative Director and President

## Masao Tsuru



# We strive to become a truly unique comprehensive parts manufacturer with the technology and know-how we have accumulated.

NOK is Japan's longest established oil seal manufacturer. Our functional parts such as oil seals, created through NOK's advanced seal technology, are used in automobiles, construction machinery, agricultural machinery, electronic equipment, office equipment and housing equipment, etc., thereby supporting society and people's daily lives behind the scenes.

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. Moreover, we have launched a business focusing on rollers for copiers to further foster the stable growth of our company.

The 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 roller 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 world 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 promoting sustainable environment management by way of positioning the response to environmental issues as one of the most important management issues. The NOK Group supports the ideals of the SDGs and steadily fulfills our social responsibilities as a good corporate citizen.

What started out as a small town factory in 1941 in Kobe, Japan, has grown to become a highly unique enterprise over the years. The corporate culture of that original factory has been passed down through the generations, constantly inspiring employees of the NOK Group to be ambitious. Taking pride in our reputation as "a small town factory born to be a great parts manufacturer" we will continue to manage the NOK Group in an even more ambitious manner.

## Management Principles and Management Policies

We, NOK Corporation, are committed to being an entity that fulfills the role of driving efforts toward the realization of a sustainable society according to the Management Principles under the NOK spirit. We will pursue this through developing the Management Policies in such a way that all its stakeholders are proud of us and chase their dream with us; and, while upholding the principle of fair and free competition, through creating added value that is socially useful, generating employment, and autonomously acting responsibly.

### Management Principles

- 1 The Management has to run the Company based on feelings of love and trust in its employees.
- 2 The Management has to run the Company while uniting to ensure full ventilation without forming any cliques.
- 3 The Management has to run the Company while making absolutely incredible efforts against all odds and risks.
- 4 The Management has to run the Company while pursuing dreams with management plan.

### Management Policies

- 1 We are committed to be a strong and unique parts supplier while focusing its managerial resources on core business areas.
- 2 We are committed to be a profitable and robust company while fulfilling company-wide cost reduction programs ranging from front-line sales to manufacturing floor.
- 3 We are committed to continuously improving our quality while producing and selling our products that are proven to be technologically unique and socially useful, on a global scale.

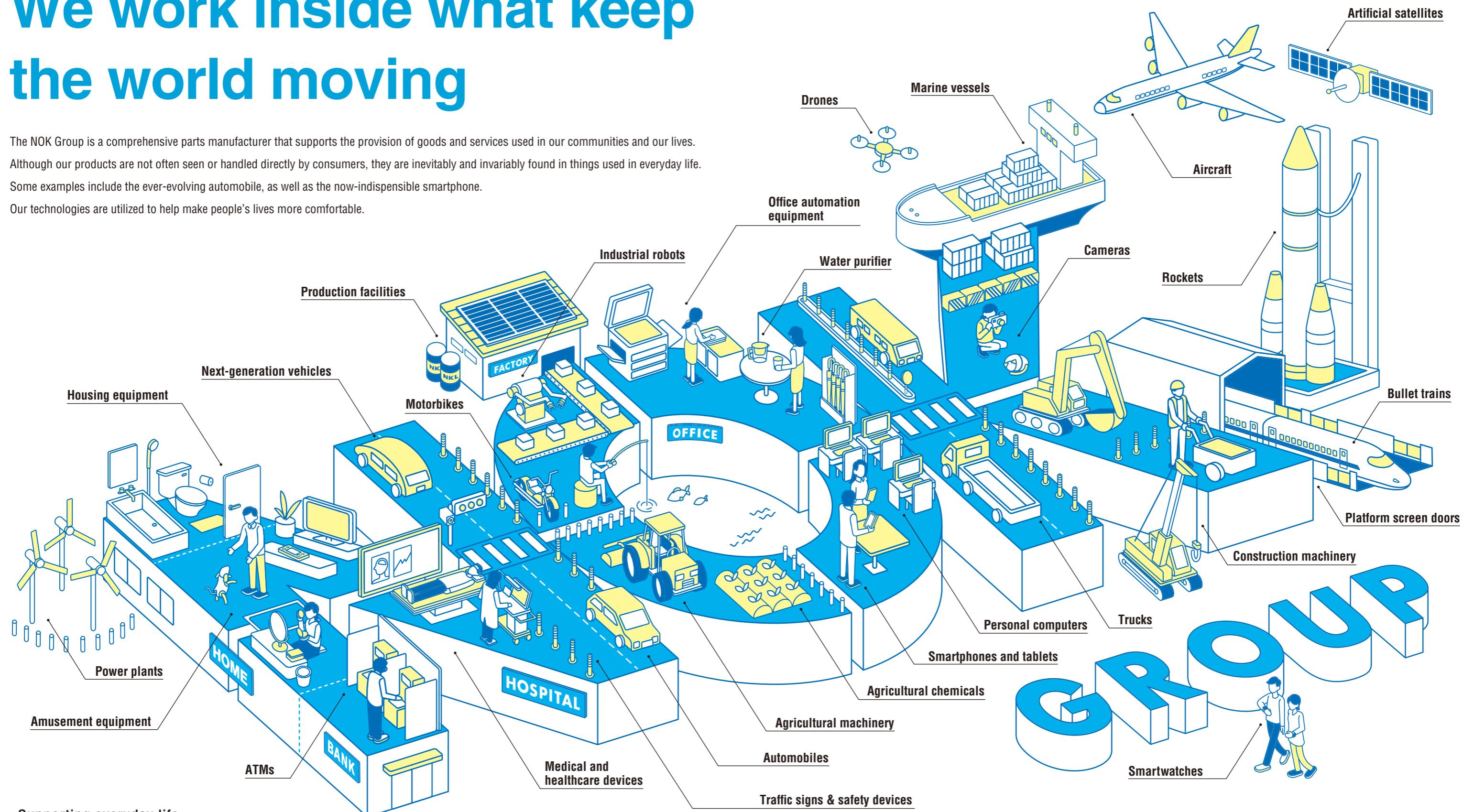


## Contents

Message from the President .....	P1	EAGLE INDUSTRY CO., LTD. [Seals] .....	P7	Research and Development System .....	P15
Management Principles and Management Policies .....	P2	NIPPON MEKTRON, LTD. [Electronic components] .....	P9	CSR Activities .....	P17
NOK Group — Supporting Everyday Life .....	P3	SYNZTEC CO., LTD. [Rollers] .....	P11	NOK Group's History .....	P21
Our Business .....	P5	NOK KLUEBER CO., LTD. [Special lubricants] .....	P13	Global Deployment of NOK Group .....	P23
NOK CORPORATION [Seals] .....	P5	UNIMATEC CO., LTD. [Synthetic chemical products] .....	P14	Company Profile .....	P25

# We work inside what keep the world moving

The NOK Group is a comprehensive parts manufacturer that supports the provision of goods and services used in our communities and our lives. Although our products are not often seen or handled directly by consumers, they are inevitably and invariably found in things used in everyday life. Some examples include the ever-evolving automobile, as well as the now-indispensible smartphone. Our technologies are utilized to help make people's lives more comfortable.



## Supporting everyday life

NOK Group

**NOK CORPORATION** [Seals]

Listed on the first section of the Tokyo Stock Exchange

Established in 1941. With its core technologies

Established in 1971 with its core technologies in material development and processing of rubber and resin, the company manufactures and sells oil seals, O-rings, packings, and other products used in a variety of industry fields, including the automobile industry.

EAGLE INDUSTRY CO., LTD. [Seals]

Listed on the first section of the Tokyo Stock Exchange

Established in 1941. With its core technologies in material development and processing of rubber and resin, the company manufactures and sells oil seals, O-rings, packings, and other products used in a variety of industry fields, including the automobile industry.

Established in 1964 by spinning off the mechanical seal department of NOK. The company manufactures and sells metal seals and other products based on its core technologies, namely sealing, special welding, power transmission, and valve technologies.

NIPPON MEKTRON, LTD.

[Electronic components]

Established in 1969 as a company responsible for the electronic components business of the NOK Group. The company manufactures and sells flexible printed circuits (FPCs), precision rubbers, and plastic components.

■ SYNZTEC CO., LTD.

## [Rollers]

Founded in 2007, the company is responsible for the roll business of the NOK Group. It is the only company in the industry that manufactures and sells all types of rollers for office machinery such as copiers.

NOK KLUEBER CO., LTD.

[Special lubricants]

Founded in 1976 as a joint venture with Klüber Lubrication München SE&Co.KG, a German manufacturer of special lubricants. The company has been supplying products in a wide range of fields including the automobile, industrial machinery, and home electronic appliance industries.

UNIMATEC CO., LTD.

[Synthetic chemical products]

Founded in 1971, the company is a chemical manufacturer. It has been developing and supplying unique products, such as special synthetic rubbers and fluorinated products.

# NOK CORPORATION

## Seals

NOK CORPORATION (NOK) was established as Japan's first oil seal manufacturer in 1941. It manufactures sealing devices (oil seals, O-rings, packings, etc.) used in a variety of machines, including automobiles. Through tireless research and development efforts undertaken since its foundation, the company has successfully grown to be a leading company in the oil seal field.



## NOK's history with oil seals is, in effect, Japan's history with oil seals

### Producing Rubber Oil Seals Ahead of Others

Around the time when NOK was established, leather packings were commonly used in Japan for preventing oil leaks from machinery. These packings did not provide stable sealing performance, and automobile garages were always filled with the smell of leaking oil. Responding to this problem, in 1942, NOK began producing rubber oil seals with superior sealing performance. In 1954, the company's head office factory was constructed in Haneda, and mass production was begun to enable the supply of products with uniform quality. We also began conducting independent research into oil seals and announced a lubricant principle with regard to the friction and sealing of oil seals in 1959. Through these and other efforts, the foundation for NOK was built into its present form.

### Technological Partnership with Freudenberg

In 1960, NOK began a new chapter through a technological partnership agreement with Carl Freudenberg KG (CF) of the former West Germany. Moreover, in the same year, the company started construction of its Fujisawa Plant and expanded the production system by constructing other plants in Shizuoka, Fukushima, and Kumamoto. NOK has successfully established a system for the stable supply of quality products.

Through these measures, NOK has developed its foresight and technologies to create products that accommodate market demand, built a successful track record within and outside Japan, and developed into a leading oil seal manufacturer in Japan.

### NOK Outpaces Competitors in Global Development

In 1979, when only one Japanese automaker had a production base in the United States, NOK built a manufacturing plant in the country ahead of others and began supplying oil seals to local automakers. This achievement would not have been possible without NOK's outstanding technologies, stable supply, and the trust it has built over the years.

Since then, we have established our production bases in such countries as Singapore, China, Thailand, Indonesia, India, and Vietnam. We have thus built stable supply systems to meet the needs of our customers not only in Japan but around the world.

## Main Products

### Oil seals

Oil seals are functional parts used to seal oil. Composed of synthetic rubber, metal rings, and springs, they prevent oil from leaking from gaps in machine shafts. They also prevent the entry of dust from the outside.

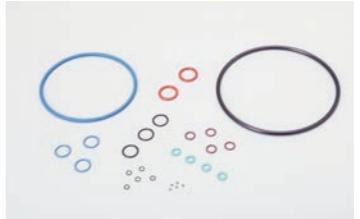


#### Main usage

Automobiles, construction machinery, agricultural machinery, railroad vehicles, steel mills, industrial robots, aircraft, marine vessels, office machinery, home electronic appliances, etc.

### O-rings

O-rings are O-shaped rubber ring packings. They are appropriately compressed by fitting into grooves of machinery, and prevent leakage of various fluids, including oil, water, air, and gas.



#### Main usage

Automobiles, construction machinery, agricultural machinery, piping joints, water-proof cell phones, etc.

### Industrial rubber products

These are functional parts for industries that use synthetic rubber, such as dust covers, boots, and diaphragms. We provide a wide range of products including rubber products as well as rubber-lined metal and resin products.



### Iron Rubber products

Iron Rubber, an intermediate product between rubber and plastic, demonstrates excellent performance in resisting abrasion and absorbing shock/vibration. We provide a wide range of products, including packings for machinery pistons and traffic safety-related products that require superior durability.



#### Main usage

Construction machinery, automobiles, semi-conductor manufacturing equipment, food manufacturing machinery, traffic safety-related products, etc.

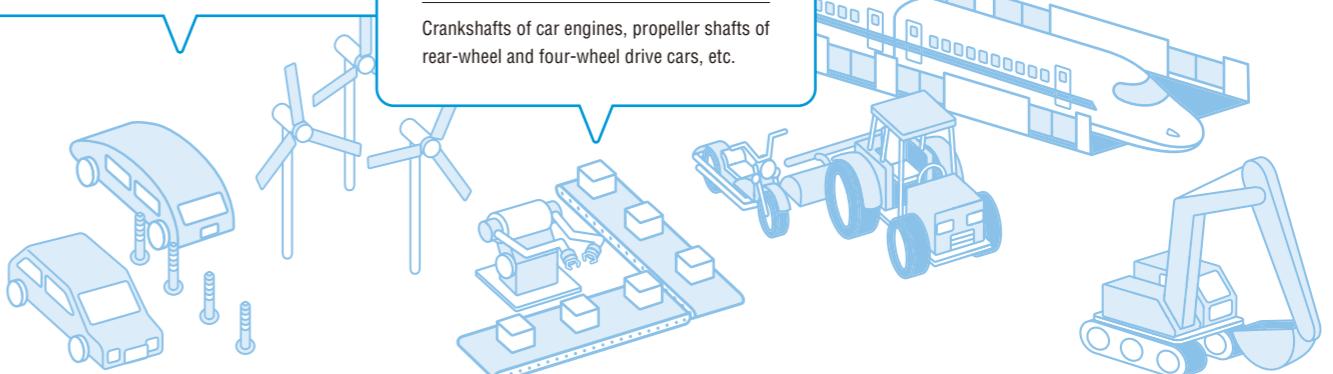
### Rubber vibration / sound isolators

A wide variety of vibration/sound isolators are available, including torsional vibration dampers to reduce crankshaft vibration in car engines, and a center bearing support to absorb and isolate vibration by supporting the propeller shafts of rear-wheel and four-wheel drive cars such as passenger cars and trucks.

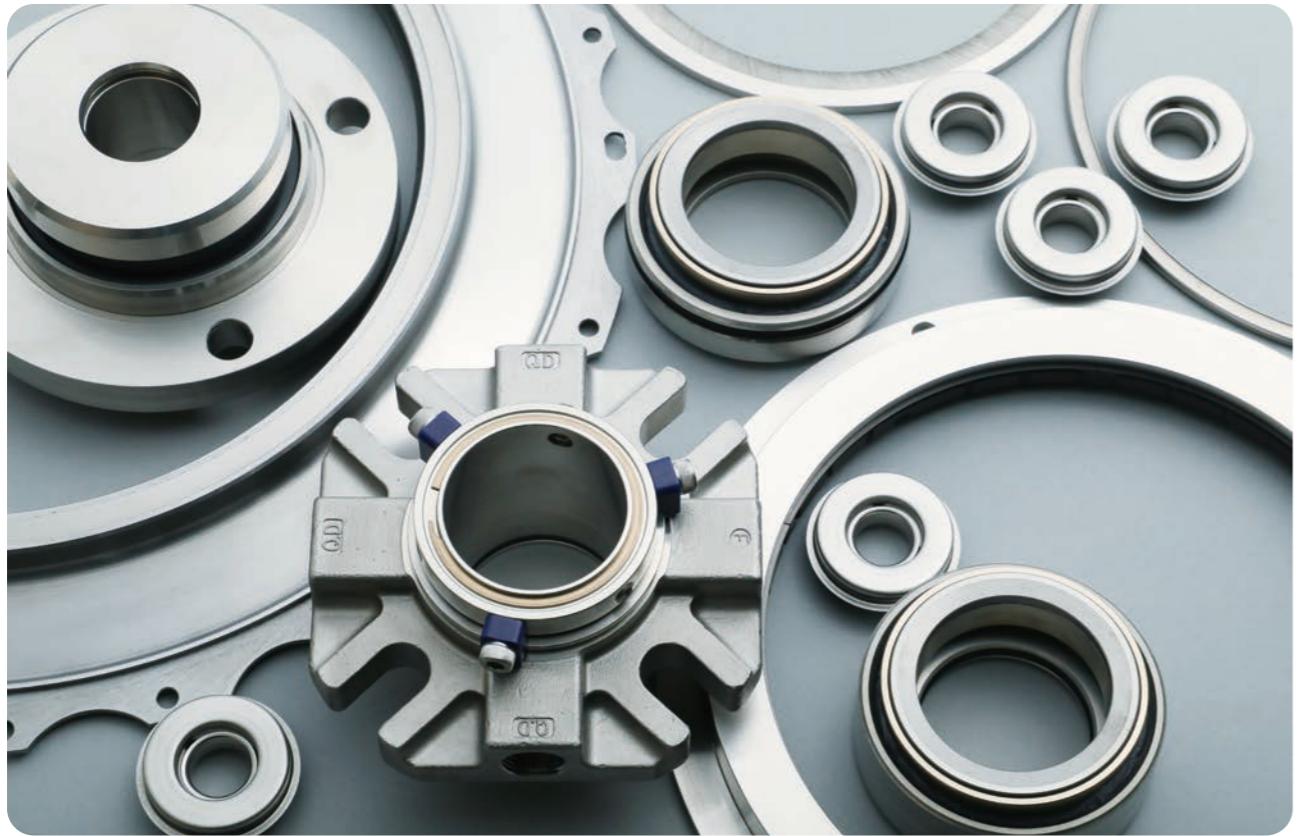


#### Main usage

Crankshafts of car engines, propeller shafts of rear-wheel and four-wheel drive cars, etc.



EAGLE INDUSTRY CO., LTD. (EKK) was founded in 1964 when NOK's Mechanical Seal Department gained independence from NOK. By manufacturing and selling mechanical seals that demonstrate stable functional performance in harsh environments, we play an indispensable role in a range of industrial fields around the world, from small pumps to rockets.



## Leading Company in Mechanical Seals

### Mechanical Seal Department Gains Independence from NOK

EKK, a manufacturer of mechanical seals, was initially founded as Nippon Sealol Co., Ltd. in 1964. In 1978, the company name was changed to EAGLE INDUSTRY CO., LTD. (EKK) and remains so to this day.

EKK's core technologies include sealing, special welding, power transmission, and valve technologies. Based on these technologies, we have built an integrated production system that encompasses all processes from the development of materials to the manufacturing of final products. In particular, EKK enjoys a solid reputation for a range of mechanical seals, products for marine vessels, and special valves, all of which offer both high performance and top quality.

### From Automobiles to Rocket Engine and Nuclear Power Plants

Mechanical seals are metallic seal products that prevent fluids, such as oil and gas, inside a machine from leaking from the shaft and also protect the machine by preventing the entry of dust. Through these functions, these seals also contribute to the improved functionality of machines and to environmental conservation. In particular, EKK's mechanical seals are used in a variety of fields, not only automobiles and industrial machinery but also aircraft and rockets, semiconductor manufacturing equipment, marine vessels, nuclear power plants, and housing equipment. They play a powerful role in supporting the entire society, and therefore future industries as well.

### Products with Infinite Potential to Support Future Industries

Along with improvement in the performance of devices, customers are also seeking the development of products that can function in extreme environments such as under conditions of high temperature, pressure, and speed. Also, in order to solve various global issues such as through environmental measures and the promotion of energy conservation, society is waiting for the further technological innovation of mechanical seals.

Leveraging its technologies developed over the years, EKK will continue to fulfill its mission as a leading mechanical seal company that speedily responds to the needs of our times.

## Main Products

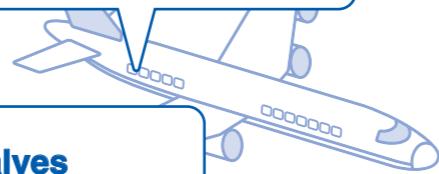
### Mechanical seals

EKK manufactures mechanical seals capable of withstanding high speed, high temperature, and high pressure for use in automobiles as well as in various power generation applications, petroleum refining, petrochemicals, and industrial plants.



#### Main usage

Water pumps for automobiles, EV motors, pumps, turbines, agitators, compressors, etc.



### Solenoid valves

Solenoid valves are electromagnetic valves used for controlling the pressure and flow volume of automobiles. EKK realizes designs with superior durability while keeping products small and lightweight. EKK meets the requirements of all types of applications, including ON-OFF solenoids, Duty solenoids, and linear solenoids.



#### Main usage

Automobile engines and transmissions, shock absorbers, car air-conditioning, etc.

### Seals for semiconductor manufacturing equipment

We conduct in-house manufacturing of various highly functional products including magnetic fluid seals, welded metal bellows, rotary joints, and elastomer seals. These are all essential for semiconductor manufacturing equipment that requires a vacuum and clean environment.



#### Main usage

Manufacturing equipment for semiconductors, FPDs, solar panels, etc.



### Seals for aircraft and rockets

These are used in aircraft and rocket engines, ensuring excellent airtightness with stable functionality even under severe conditions such as extremes in temperature and in a vacuum.



#### Main usage

Jet engines for aircraft, engines and fuel tanks of rockets, etc.

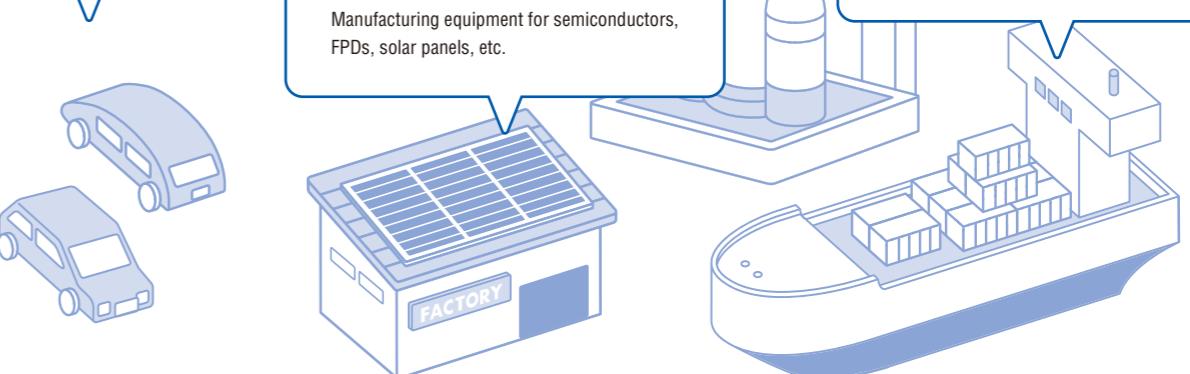
### Seals for stern tubes

These seals are used to prevent seawater from entering into a marine vessel and oil leakage within and outside the vessel. They are placed on propeller shafts, one of the components of marine vessels, on both the inner and outer sides of the vessel. They are manufactured with EKK's technologies for rubber materials, structural design, and sealing, and contribute to safe navigation and prevention of marine pollution.



#### Main usage

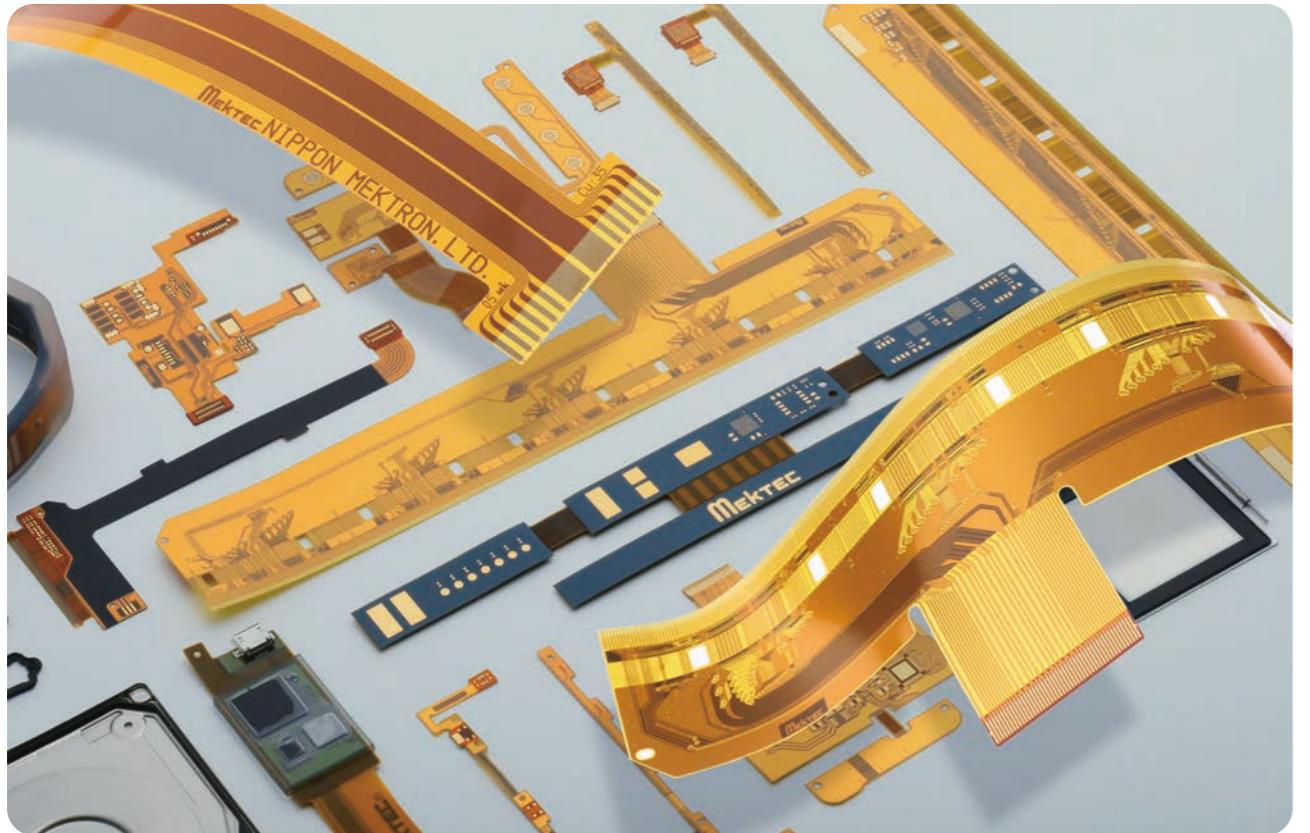
Stern tubes of various large and small marine vessels such as luxurious ocean liners, large size tankers, drilling vessels, fishing vessels, etc.



# NIPPON MEKTRON, LTD.

Electronic components

NIPPON MEKTRON, LTD. (MEK) was founded as a company responsible for the electronic components business of the NOK Group. MEK develops and manufactures thin, lightweight, and super flexible electronic circuit boards called flexible printed circuits (FPCs). MEK keeps up its efforts for the research and development of FPCs that are used for a variety of electronic devices, and aims to realize more convenient and comfortable living.



## Endeavoring to be a Global Company that Supports an Electronic Society

### Earliest Days of FPCs

In 1969, NOK concluded a technological assistance agreement on the manufacture of electronic circuits with Rogers Corporation of the United States. MEK was founded on this occasion, and the full-fledged manufacture of FPCs had begun. At that time, FPC technology was a leading-edge technology that was not well recognized. This changed dramatically with the subsequent release of the fully electronically controlled single-lens reflex (SLR) camera, which is recognized as an excellent product that has made its mark on the history of cameras. Since FPCs were adopted as one of the core electronic parts used in SLR cameras, they attracted the attention of engineers. Indeed, the practical use of FPCs was a sign of what was to come in terms of new-generation electronics.

### Realizing Flexural Resistance beyond 100 Million Times

Since FPCs were adopted for SLR cameras, their research and development has made further progress, opening up more possibilities for the products. In particular, it is noteworthy 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. Therefore, FPCs used in the arms are required to have flexural resistance exceeding 100 million bends. MEK has met this requirement with its materials technology. MEK's FPCs are highly reliable and usable under very severe conditions, thus garnering the full attention of the computer industry.

### Supporting the Ever-Evolving Electronic Society

Being key contributors to the downsizing and weight reduction of electronic devices, MEK's FPCs now support everyday life throughout society, ranging from indispensable smartphones to next-generation vehicles. Also, MEK has introduced a global brand, "MEKTEC," supplying a variety of FPCs globally from its manufacturing sites and sales offices around the world. MEK has been building a system to respond to a variety of needs, from material development to the manufacture of FPC modules, in a flexible manner.

We will continue to pursue our goal of becoming a global company to support an electronic-based society with untiring efforts for technological innovation and strict quality control.

## Main Products

### Single-sided FPCs

Single-sided FPCs have circuits on one side only. They are structured to best exhibit the thin and flexible characteristics of FPCs. They are durable against repetitive bending and can be mounted on the operating part using less space. They are also suitable for multi-dimensional wiring in narrow gaps.

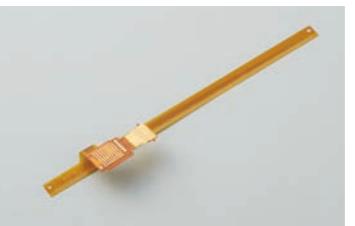


#### Main usage

HDDs, digital cameras, media players, game machines, etc.

### Double-sided FPCs

These have circuits on both sides. Compared to the single-sided version, they allow for more complex wiring, and contribute to downsizing and weight reduction through the mounting of parts on both sides. They can also be used for a variety of designs because they are freely bendable.

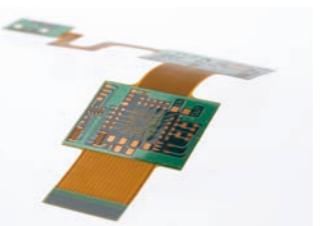


#### Main usage

Digital cameras, smartphones, automobiles, medical devices, etc.

### Multi-layer FPCs

These FPCs have realized higher functionality, smaller size, and lighter weight through multi-layered circuits. Integrated boards and cables contribute to downsizing, as they require no connectors.



#### Main usage

Digital cameras, video cameras, smartphones, etc.

### Component assembly FPCs

FPCs are very thin films and therefore require a special mounting process. MEK not only manufactures FPCs alone, but also responds to requests for FPC module units by mounting semiconductors, very small chip parts, and connectors.

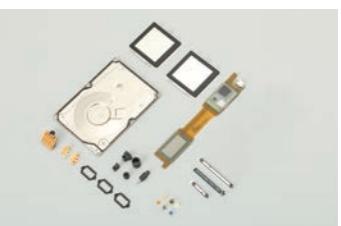


#### Main usage

HDD, digital cameras, smartphones, automobiles, etc.

### Precision rubber and plastic components

These products are sealing parts to prevent the entry of water and dust by fitting inside of HDDs and smartphones or assembling on the exterior. Utilizing the technologies fostered in development and manufacturing processes, MEK also offers products with additional waterproofing functionality and anti-shock mechanism (protection) by molding rubber or resin to FPCs.



#### Main usage

HDDs, smartphones, etc.

# SYNZTEC CO., LTD.

## Rollers

SYNZTEC CO., LTD. (SZT) is in charge of the roll business, and manufactures highly functional rollers for office machinery such as copiers and printers. SZT also supplies products for textile machinery and financial terminals based on its outstanding manufacturing technologies and reliability.



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

### Aiming at Being the Number One Supplier as the Only Company in the Industry

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

SZT will continue to be actively engaged in the research and development of next generation technologies based on the combined technologies of NOK Group companies including NOK, and pursue the goal of becoming the number one and only industry-leading supplier.

### Leading the Industry with Products Developed through Unique Technologies

SZT's rollers are commonly used around the photoreceptor, which determines the performance of copiers, and these products require extremely high precision.

They are also used at fixing parts, which also require high performance and durability. Particularly in the field of the environmentally friendly IH fixation method, SZT is leading the industry with its Mini Cell® rollers developed through its unique technologies.

SZT offers a number of products and contributes to the technological innovation of machinery through its expertise in material development, planning and designing of unique products, and production technologies.

### Continuing to be the Best Global Partner

In the ever-changing office machinery market, the quality of products and services that customers expect is becoming higher and higher, year after year. SZT delivers innovative products and services by combining its unique core technologies to meet such needs. It has achieved its business development in an unrivaled manner by building overseas production and support systems to enable local procurement.

The company will continue in its efforts as the best global partner for its customers and contribute even more to the advancement of related technologies.

## Main Products

### Development rollers and charge rollers

Development rollers are used to send a certain amount of toner to the photoreceptor, and charge rollers are used to apply a certain amount of electric charge to the photoreceptor. The electric conductivity of these products is controlled with high precision.



Main usage

Surrounding areas of office machinery photoreceptors

### Fixing belts and pressure rollers

Fixing belts are made by combining metal and rubber, with high heat conductivity and pyrogenicity. Pressure rollers are used to provide evenly distributed pressure when fixing toner. Stable fixing outcomes last a long time.



Main usage

Fixing parts of office machinery

### Cleaning blades

These products are used to remove toner residue and other foreign particles that adhere to the surface of photoreceptors, rollers, and belts. They are highly abrasion-resistant, tolerant to temperature changes, and provide stable cleaning performance during environmental changes.



Main usage

Surrounding area of the office machinery photoreceptors

### Products for financial terminals

These products are used for financial terminal devices such as ATMs and therefore require high reliability. Products include bill-conveying belts that combine high performance urethane rubber with threads and textiles, and bill beater rubber with excellent durability.



Main usage

ATMs, cash dispensers, etc.

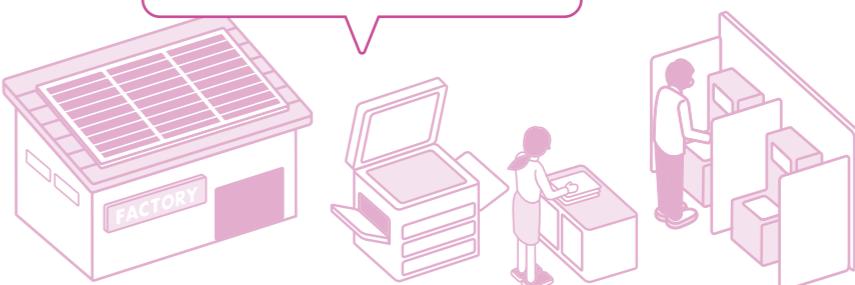
### Products for textile machinery

These rollers and belts are used for textile machinery. We offer a variety of products, including apron bands for high-quality spinning of fine yet strong threads, friction PU-DISCs to achieve the plump feeling of finished yarns, and DTY apron bands.



Main usage

Various friction PU-DISCs, spinning machines, etc.



NOK KLÜBER CO., LTD. (NKL) was founded as a joint venture between NOK and Klüber Lubrication München SE & Co. KG (Klüber), a German manufacturer of special lubricants. Based on the idea that lubricants are not consumables but important functional parts, NKL provides a range of products that have high performance even in severe operating conditions such as extremes in temperature, high speed, and high load.

### Main Products

#### Oil

Our high-performance oil excels in lubricating performance, heat-resistance, and oxidation resistance, leading to longer machine operating life and improved efficiency. NKL provides products suitable for various fields, including for large plants, precision machines, food processing machinery, and semiconductor manufacturing equipment.



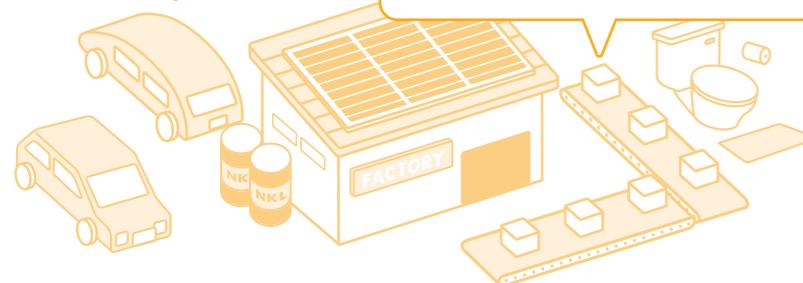
#### Coating

Our coating products offer beneficial effects such as excellent lubrication performance, resistance to wear, non-adhesiveness, and insulation performance, through their application on the surface of metal parts, including environments where grease and oil cannot be used. They are employed in various fields such as automobiles, electric appliances, and office machinery.



#### Grease

Our grease features high-reliability and long-operating life even in severe environments such as extremes in temperature, high-speed, and high-load. It is used in various fields such as automobiles, industrial machinery, electric appliances, office machinery, food machinery, and semiconductor manufacturing equipment.



### Lubricants are not Consumables, but Important Functional Parts

#### Meeting a Wide Range of Market Needs with the Proprietary Technologies Developed over Many Years

NKL has grown in line with Japan's industrial development since its establishment. Based on NOK's and Klüber's extensive experience and proprietary technologies, NKL has developed a range of products that meet respective market needs, including in the fields of industrial machinery (including machine tools), automobiles, electric appliances, and semiconductor manufacturing equipment, and has gained a good reputation for both performance and quality.

NKL also develops a variety of highly functional lubricants, including those for food processing machinery that requires high safety, as well as environmentally friendly lubricants for wind-power generation facilities and

ecologically friendly cars. NKL is thus contributing to the safety and reliability of society in addition to pursuing greater efficiency and better performance.

Furthermore, NKL provides comprehensive services that help enhance the reliability of facilities and machinery, improve their productivity, and reduce maintenance cost, thereby offering solutions to customers' lubrication-related concerns.

Based on the knowledge, experience, and technology related to lubrication that have been accumulated until now, NKL will continue to address various difficult challenges in the lubrication field and develop products with features that anticipate market needs.

UNIMATEC CO., LTD. (UMT) started with a mission to play a leading role in the research and product development of rubber materials. Synthetic chemical products produced with unique materials and technologies are widely used in a range of fields such as automobiles and industrial goods.

### Main Products

#### NOXTITE

The NOXTITE acrylic elastomer has a number of well-balanced functions, including oil resistance, heat resistance, high strength, and resistance to permanent compression set. In addition to use as a material for oil seals and O-rings, it is used in devices that require heat resistance and oil resistance such as the surrounding surface of car engines.



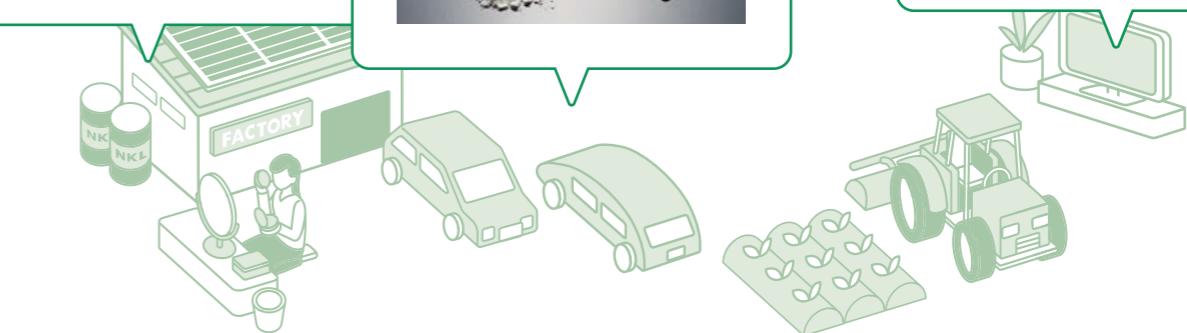
#### CHEMINOX

This is a fluorine chemistry-based compound with rubber additive, available in various forms such as powder, liquid, and gas. It is used as a material and a modifier for rubbers and resins, and provides new possibilities for materials.



#### NOXBARRIER & NOXFREE

These fluorinated surface preparation agents can prevent fats, oils, or water from adhering to and spreading over metal, resin, or glass surfaces treated with them, and provide water and oil repellency, corrosion resistance, and release properties.



### Opening the Door to the Future with Unique Materials and Unique Technologies

#### Superior Research and Development Capabilities to Lead the World Market of High-Molecular Materials

UMT manufactures a wide range of environmentally friendly synthetic chemical products, inheriting the excellent R&D-based DNA of NOK. In particular, the NOXTITE acrylic elastomer is still continuing in its evolution 50 years after its initial production in Japan, and is responding to every need of various industries, including automobiles.

Also, CHEMINOX, a fluorine and organic chemical product, was developed through highly unique technologies. UMT offers a number of original products, including polymerizable monomers, crosslinking agents, and surface treatment agents such as NOXBARRIER and NOXFREE.

UMT will continue to provide special synthetic rubbers for seal products, which represent the core business of NOK. It will also work on research and development of new products by using its fluorine chemistry and high-molecular material technologies, and continue to provide the entire world with products that demonstrate high performance and stable quality. UMT will strive to develop quality products through its untiring exploration of market needs, unique ideas, and technologies.

# Research and Development System

Since the company's foundation, NOK Group products have been greatly supported by various industrial fields because they have been continuously improved through the Group's advanced technological capabilities.

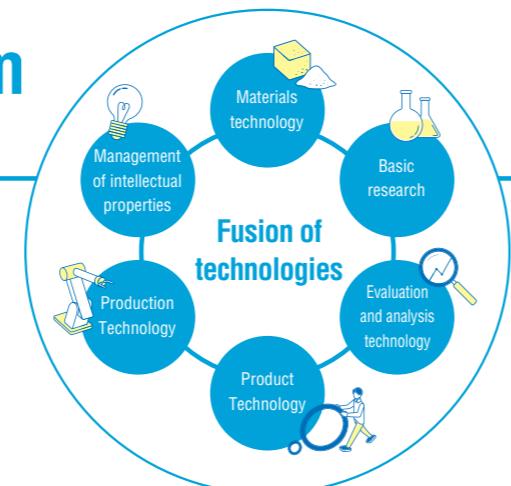
The NOK Group will further foster technological development in order to contribute to the realization of greater convenience and solutions to environmental problems.

## 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 constantly created industry-leading technologies by taking a number of steps such as: considering a lubricant mechanism, understanding the sealing phenomenon, presuming a sealing mechanism, developing robust design, and building visualization technologies.

Also in materials technology, we have promoted technological development in a forward-looking manner by independently designing material composition, developing adhesives, and conducting physical and chemical analyses.

Today, we are actively proposing new technologies through the development of various products, including rollers made from new materials for high-speed copiers.



## Focusing the NOK Group's Strengths on the Development of More Advanced Technologies

In recent years, environmental friendliness has been attracting growing attention in the fields of automobiles, construction machinery, and industrial machines. Amid this trend, the NOK Group develops and supplies parts for next-generation vehicles such as hybrid vehicles, electric vehicles, and fuel cell vehicles, earning high praise and trust from customers.

By using the NOK Group's comprehensive strengths and continuing research and development for more advanced technology, we will continue to provide products and services that satisfy customers in a wide range of fields such as automobiles, construction machinery, agricultural machinery, electronic devices, aerospaceplanes, marine vessels, office machinery, and home appliances.



## SHONAN R&D CENTER

The Center was opened in 2005 as the technological headquarters of the NOK Group. Base technologies are examined for the Group's products; advanced product evaluation and examination processes are conducted; and inspection equipment, molding machines, materials, adhesives, CAD, and analysis technologies are being developed.

## NOK CORPORATION / NOK (Seals) Base Technology for Seals

NOK, in its long history of technological development, has engaged in persistent prediction and verification of various phenomena. As a technology to verify the mechanisms of one such phenomenon, NOK developed visualization technology to check the status of an oil membrane that is created when an oil seal is used on a rotating shaft. Through this technology, NOK has succeeded in visualizing oil flow for the first time in the world and dramatically improved the accuracy of verifying differences between theory and reality. This technology is also used to visualize the behavior of parts inside metal pressure vessels as well as to analyze the behavior and sound vibrations of materials in rubber molds. NOK is working tirelessly on material analysis while incorporating advanced technology and the development of its unique evaluation devices, striving to improve the reliability of its product functions and to provide even safer products.



Oil membrane visualization equipment for oil seals used on rotating shafts

## EAGLE INDUSTRY CO., LTD. / EKK (Seals) Sealing Technology for the Aircraft and Aerospace Industry

EKK is the only manufacturer in Japan that is able to supply turbopump seals for liquid fuel rocket engines. The company has been engaged in all of Japan's rocket development projects, from the early days to the H-IIA/B and H3 rockets. Japanese rocket engines use liquid hydrogen and liquid oxygen as fuel and are therefore ultimately clean engines. However, since turbo pumps, which are the heart of the engine, must operate in severe environments where extremes in temperature co-exist with high-pressure and high-speed conditions, contact between hydrogen and oxygen must be completely prevented, which requires high reliability.



Turbopump seals for rockets

## NIPPON MEKTRON, LTD. / MEK (Electronic components) Technological Development Corresponding to Cutting-Edge Devices

In the 1960s, FCPs were used in the United States for aircraft, rockets, and military supplies. They spread rapidly in the 1970s as they began to be used for general purposes such as optical single-lens reflex cameras requiring components with small-size and thin specifications. Today, FPCs are widely used as electronic components essential for cutting-edge devices such as smartphones.

In order to support such downsizing and high functionality of electronic devices, MEK has been promoting the technological development of FPCs, such as making them thinner, more heat resistant, higher density and for high-speed transmission. MEK intends to expand its FPC technology into various fields where progress is expected in the future, including automobiles, wearable devices, medical equipment, and robots.



Stretchable FPC for a sensor to monitor biological signals

## SYNZTEC CO., LTD. / SZT (Rollers) High Functional Roller Technology

Copiers are manufactured by the use of diverse technologies, including those for the provision of high-quality images through high-speed charging and development, those for high-precision transportation, and those for environmental considerations such as reduction of thermal energy loss at the time of toner fixation.

SZT uses a variety of independently developed technologies. For example, it has developed highly functional materials and technologies for copiers, such as charge rollers and blades, by the use of electric resistance control rubber and abrasion-resistant urethane materials, respectively. Other examples include electroformed sleeves, Mini Cell fixing rollers, and RUFASS paper pick-up rollers. The company develops highly functional, durable, and also environmentally friendly products.



Urethane injection molding

# CSR Activities

The NOK Group engages in community and social contribution activities to fulfill its corporate social responsibility and to build strong relations with all its stakeholders. Moreover, to protect this beautiful blue planet for the next generation, each and every employee of the Group is required to pay attention to environmental issues and is actively involved in environmental conservation activities.



## Concept of CSR

As stated in the NOK Charter of Corporate Behavior, "NOK Corporation is committed to being an entity that fulfills the role of driving efforts for the realization of a sustainable society in accordance with the Management Principles established under the NOK spirit. We will pursue this through developing our Management Policies in such a way that all of our stakeholders are proud of us and will chase their dream with us and, while upholding the principle of fair and free competition, through creating added value that is socially useful, generating employment, and acting responsibly and independently."

All of our business activities are founded upon the NOK Charter of Corporate Behavior (Management Principles, Management Policies, and Principles of Corporate Behavior). We believe that fulfilling our corporate social responsibility (CSR) in regard to environmental conservation, social contribution, and corporate governance is an integral part of our ongoing business activities.

We also value communication with stakeholders as an effective way to broadly examine the current business climate and situation, as well as to identify business risks and opportunities. The NOK Group aims to be a company that not only brings benefits to stakeholders, but also makes them proud.

## Our CSR Organization

The CSR Committee has been set up to increase awareness of CSR throughout the company and to promote CSR activities more effectively.

The CSR Committee collects reports from related internal committees and divisions and oversees companywide CSR activities. It also shares information with the broader society, such as via the publication of CSR reports.



# Environmental Conservation Activities

The NOK Group fosters the environmentally compatible design and manufacture of its products throughout their life cycles, from procurement of raw materials/components and production to disposal, taking account of the environmental impact its business activities could have. We are also conducting environmental conservation activities based on specific goals and policies, while giving due consideration to the next generation.



## Environmental Management System

We promote an environmental management system by building a mechanism compliant with ISO14001, striving to reduce our environmental impact through manufacturing.

We have also consolidated our production facilities as a whole to acquire ISO14001 certification, and environmental conservation and management activities are harmoniously conducted based on the same policies, purposes, and goals.

## Measures against Climate Change

We strive to reduce CO<sub>2</sub> emissions through various measures. For example, the manufacturing department has developed energy-saving equipment to reduce production-related energy, and the logistics department has been reducing fuel consumption for transportation equipment.

We also take measures to reduce CO<sub>2</sub> emissions across the life cycle of our products, including the introduction of renewable energy throughout the company.

## Resource Conservation and Recycling

We have been promoting the 3R initiative (reuse, reduce, and recycle) in order to build a recycling-oriented society.

We strive to contribute to a sustainable society and to enhance our corporate value through a range of measures throughout the product life cycle, including the efficient use of raw materials, water, and energy as well as waste reduction and recycling.

## Basic Policies on Environmental Conservation

1. Based on our unique technology, we promote the improvement of technology and development of products with environmental considerations to reduce the negative environmental impacts.
2. We promote energy saving to prevent the global warming, and promote reuse and reproduction of resources and reduction of wastes corresponding to the recycling society.
3. Setting the goals by NOK Central Environmental Conservation Committee, we will continue environmental improvement cooperating with business partners including suppliers, strengthen the control of chemical substances, prevent global environmental pollution and strengthen the effort to initiative of water environmental impact.
4. We comply with related laws and regulations, local government ordinances, and regional agreement, etc., and promote activities for environmental conservation.
5. We comply with self-imposed restrictions by the industry and customers, and positively engage in the requirements from our stakeholders toward environmental issues.
6. We disclose information on environmental conservation and social contribution activities, and positively communicate with local and broader society.
7. As a good corporate citizen, we strive to continually improve the environmental management system, as well as promoting all employees to recognize the importance of biodiversity and conservation of global environment and cultivate the awareness toward the global environment.

## NOK Twin Green Plan 2030

In response to the Paris Agreement, which is aimed at reducing global warming, and the Sustainable Development Goals (SDGs) adopted by the United Nations, NOK has formulated its new NOK Twin Green Plan 2030, promoting environmental conservation activities to build a sustainable society.

### Green Factory

Through measures for environment-friendly production, we will reduce CO<sub>2</sub> emissions from factories by 30% from the FY2018 level.



- We will develop production facilities that will reduce energy consumption by 20% compared with the existing ones.
- We will actively promote the use of renewable energy.
- We will strive for waste reduction and a 100% recycling rate.
- We will work on water use reduction and clean wastewater.
- We will thoroughly oversee and reduce the use of hazardous chemicals in processes.

### Green Product

We will promote the development of products that will contribute to next-generation environment-friendly technologies.



- We will develop products that contribute to the spread of next-generation energy-saving technologies, such as fuel cells.
- We will contribute to the reduction of environmental impact by developing low friction technologies that will make low fuel consumption possible.
- We will develop functional membranes that will contribute to water recycling (hygienic water supply and circulation).
- We will thoroughly control chemical substances in our products and improve their environmental quality.

# Social Contribution Activities

Placing importance on communication with all stakeholders, we conduct various social contribution activities, such as implementing community support programs in districts where our sites are located and sponsoring events relating to the education of younger generations.

## Supporting Education of Younger Generations

We sponsor a variety of events for younger generations, including Kids Engineer (a hands-on learning opportunity for schoolchildren) and Formula SAE Japan—Monozukuri Design Competition, both organized by the Society of Automotive Engineers of Japan, as well as NHK Gakusei Robocon (Student Robot Contest) and Robocon for Elementary School Students, both organized by NHK Enterprises. Through these initiatives, NOK fosters the development of future engineers.



## Social Contribution through Sports

Sports can provide people with dreams and inspiration. We therefore actively employ athletes, aspiring to contribute to society through sports. We also sponsor the Minato City Half Marathon, and our employees participate in the event as runners. Through these and other initiatives such as supporting local sports teams in areas where our sites are located, we strive to contribute to local communities through sports.



## Contributing to Local Communities

Facilities of the NOK Group are conducting a range of activities to foster communication with local communities, such as participating in local events and festivals. These facilities also invite local residents to briefing sessions on environmental measures that are being implemented. Moreover, we also contribute to local communities by participating in voluntary activities, including local cleanup programs.

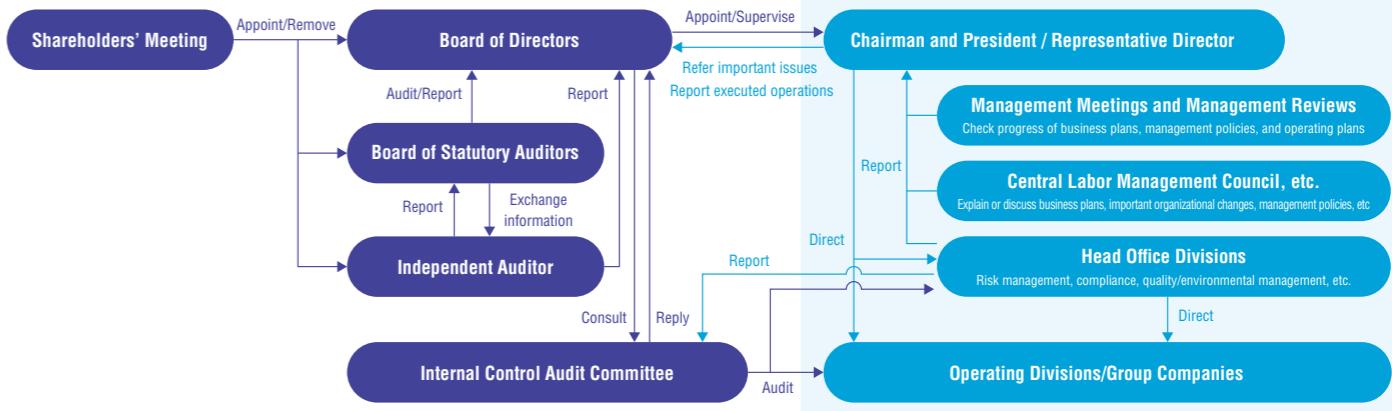


# Corporate Governance System

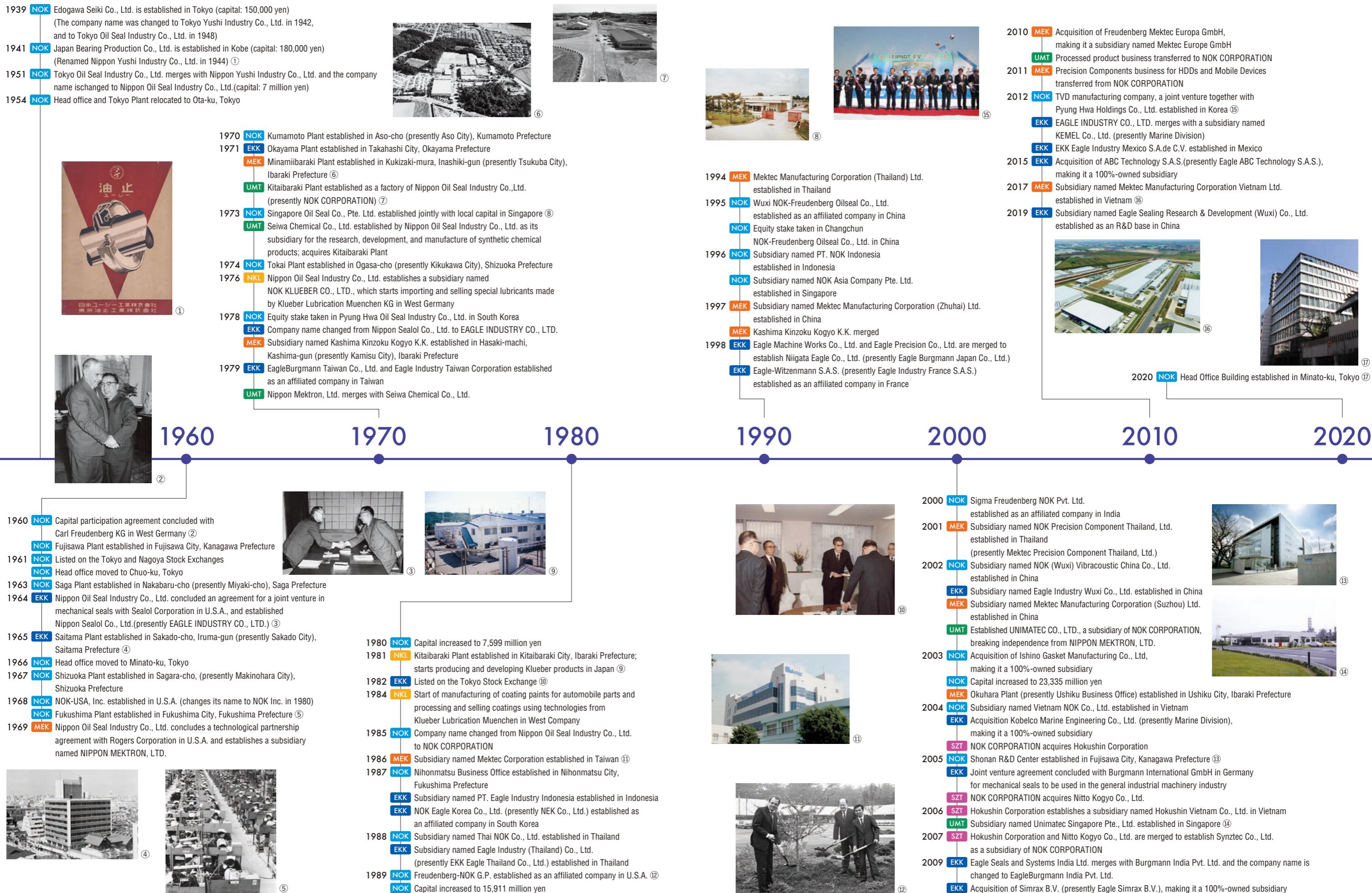
Continuously strengthening the corporate governance system is one of our business management priorities, and we are committed to this goal. NOK has adopted the format of a company with a board of corporate auditors. In our organization, directors who are well-versed in operations work together cooperatively, while good governance is maintained through mutual monitoring by internal and external directors, as well as through management audits conducted by statutory auditors, including external auditors.

NOK's head office divisions have established rules for the internal control system. In accordance with the rules, these divisions give directions to NOK's operating divisions and subsidiaries, while the Internal Control Audit Committee periodically audits the internal control system to determine the progress of improvement and implementation.

### Corporate Governance System



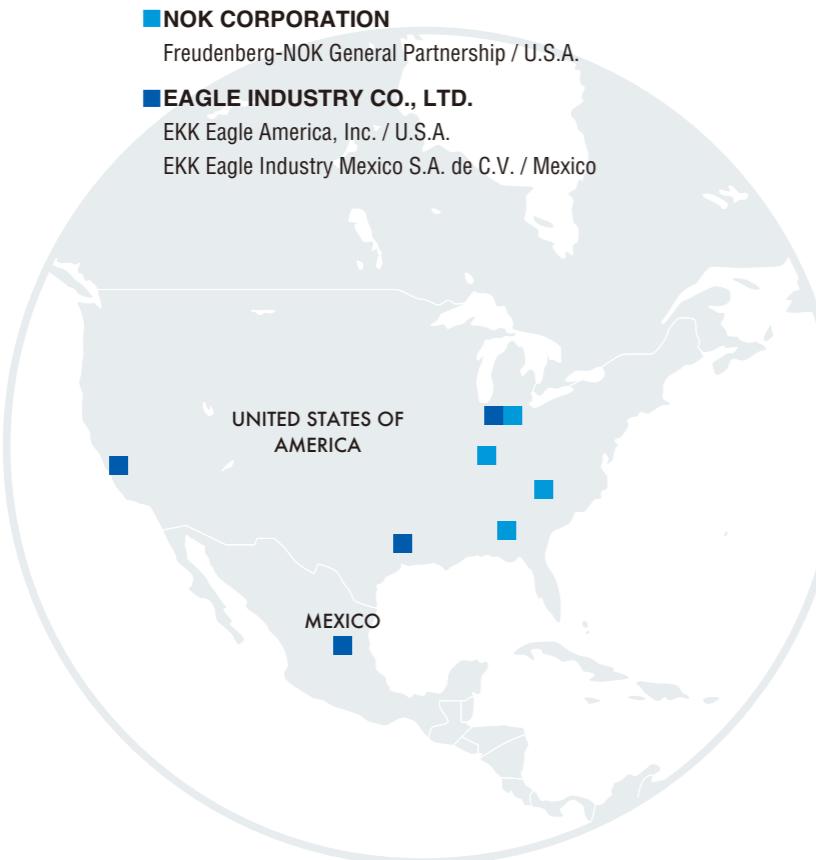
# NOK Group's History



# Global Deployment of NOK Group



## North America



## Asia

- NOK CORPORATION**  
Freudenberg-NOK Private Limited / India  
Thai NOK Co.,Ltd. / Thailand  
NOK Asia Company Pte. Ltd. / Singapore  
PT. NOK Indonesia / Indonesia  
Vietnam NOK Co.,Ltd. / Vietnam  
Wuxi NOK-Freudenberg Oil Seal Co., Ltd. / China  
NOK(Wuxi) Vibration Control China Co.,Ltd. / China  
Changchun NOK-Freudenberg Oil Seal Co., Ltd. / China  
NOK-Freudenberg Group Sales (China) Co., Ltd. / China  
NOK-Freudenberg Hong-Kong LTD. / China  
Pyung Hwa Oil Seal Industry Co., Ltd. / South Korea

- EAGLE INDUSTRY CO., LTD.**  
EagleBurgmann India Pvt. Ltd. / India  
EKK Eagle Products India Pvt. Ltd. / India  
EKK Eagle (Thailand) Co., Ltd. / Thailand  
PT. Eagle Industry Indonesia / Indonesia  
Eagle Industry (Wuxi) Co., Ltd. / China  
Eagle Industry Taiwan Corporation / Taiwan  
NEK Co., Ltd. / South Korea

- NIPPON MEKTRON, LTD.**  
Mektec Manufacturing Corporation (Thailand) Ltd. / Thailand  
Mektec Precision Component (Thailand) Ltd. / Thailand  
NOK Precision Component Singapore Pte. Ltd. / Singapore  
Mektec Manufacturing Corporation (Zhuhai) Ltd. / China  
Mektec Manufacturing Corporation (Suzhou) Ltd. / China  
Mektec Corporation / Taiwan  
Mektec Manufacturing Corporation Vietnam Ltd. / Vietnam

- SYNZTEC CO., LTD.**  
Syztac (Malaysia) Sdn. Bhd. / Malaysia  
Syztac Vietnam Co., Ltd. / Vietnam  
Syztac Precision Parts (Shenzhen) Co., Ltd. / China  
Syztac Precision Parts (Shanghai) Co., Ltd. / China

- UNIMATEC CO., LTD.**  
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:**

<https://www.nok.co.jp/en/>

**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