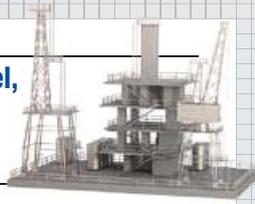


1

**Petrochemicals, Steel, Pharmaceuticals, Water, Pulp & Paper, Food & Beverages**



Our diverse product line most notably includes dry gas seals used in large compressors, a key component of petrochemical plants; mechanical seals used in large industrial pumps, process pumps and household pumps; and seal units for agitators widely used in industry.



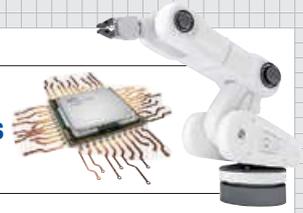
API682 metal bellows seal



Dry gas seal

2

**Semiconductors**



Products include magnetic fluid seals and welded metal bellows used in semiconductor and flat panel display production equipment; and rotary joints used in chemical polishers that polish silicon wafers.



Welded metal bellows



Magnetic fluid seals

# EKK Group Businesses and Products Supporting People's Lives and Society

3

**Automotive, Construction Machinery**



We stably supply a wide range of products, including seals for automotive air-conditioning systems and water pumps, solenoid valves and sensors for machinery, and floating seals for construction machinery undercarriages.



Automotive products



Seals

4

**Housing Equipment**



We make home life more comfortable with products such as valves used in bidet toilet seats, household fuel cells and heat-pump water heaters, accumulators used in well pumps and water supply systems for commercial and residential buildings.



Valves for bidet toilet seats



Accumulators for housing equipment

5

**Aerospace**



We supply seals used in rocket engines' turbo pumps and aircraft engines' main shafts and gearboxes. Our reach extends even to the International Space Station, where the Japanese Experiment Module, Kibo, is equipped with our bellows accumulators.



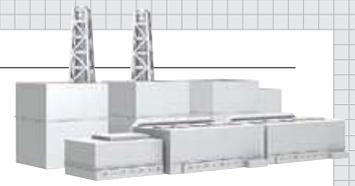
Bellows accumulators



Seals for aircraft engines

6

**Energy**



We offer seals that can withstand high-temperature, high-pressure environments in addition to seals for generators and power-plant pumps. Our specialty valves are likewise used at many power plants. We supply diaphragm couplings also, mainly for power plant machinery and LNG tankers' propeller shafts.



Diaphragm coupling

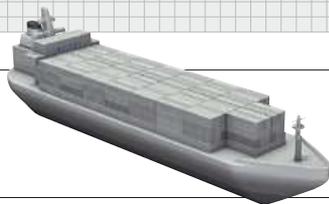


Main steam isolation valve

The EKK Group's core strengths are seal, valve, specialty welding and power transmission technologies. Our products run the gamut from mechanical seals and specialty valves to marine products, aerospace products, bellows and diaphragm couplings. Widely used as critical components of automobiles, ships, various types of plants, aircraft and rockets, our products benefit industries and make people's lives better globally.

7

**Marine**



We supply stern tube bearings and stern tube seals that attach to ships' propeller shafts to prevent lubricant leakage and seawater infiltration. Many ships are equipped with our non-polluting stern tube air seals that use air to completely suppress oil leakage.



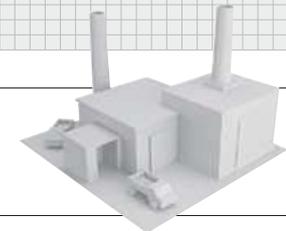
Oil-lubricated stern tube seal



Water-lubricated rubber bearings

8

**Other**



We contribute to energy efficiency and help improve productivity and customers' product quality with products such as pressure sensors, load cells and digital controllers used in machinery across a broad range of industries (e.g., automotive, rubber, semiconductors, water treatment, industrial machinery, batteries, food, beverages and pharmaceuticals).



Pressure sensors



Round digital pressure gauges

## Approach to Sustainability

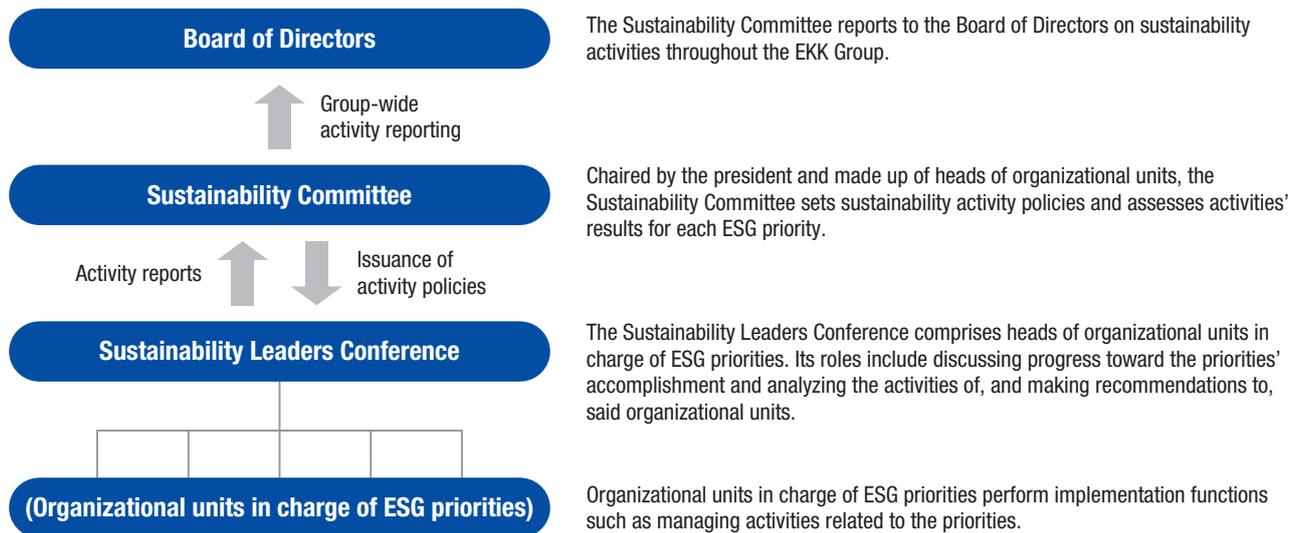
The idea that companies belong to not only their shareholders but also their employees and society has long permeated every aspect of the EKK Group’s management. Given the imperative of taking action toward realizing a sustainable society, including by addressing climate change, we established the Sustainability Committee in April 2021 and have been advancing activities accordingly.

Referencing sustainability guidelines, ESG ratings and other relevant inputs, the committee will discuss and decide on priority ESG issues (materiality) on behalf of the EKK Group and promote business activities that take into account not only economic principles but also societal mores by, for example, developing environmentally friendly manufacturing processes.

Additionally, we will expedite development of environmentally friendly products with a focus on environmental preservation and energy efficiency while contributing to attainment of the SDGs through growth in our core businesses.

## Sustainability Initiatives

### The Sustainability Committee’s Composition and Activities



### The EKK Group’s Priority ESG Issues (Materiality)



**We will contribute to achievement of the SDGs through growth in our businesses alongside initiatives to address our ESG priorities.**



## The EKK Group's Business Environment

In its five business segments, the EKK Group provides mechanical seals and various mechanical products for land, sea and air mobility, plant equipment and semiconductor manufacturing equipment.

We are the only organization in the world that provides mechanical seals to all of these industries. Furthermore, we are developing and expanding sales for new products for the next-generation mobility and next-generation energy markets leveraging our surface texturing and other proprietary technologies.

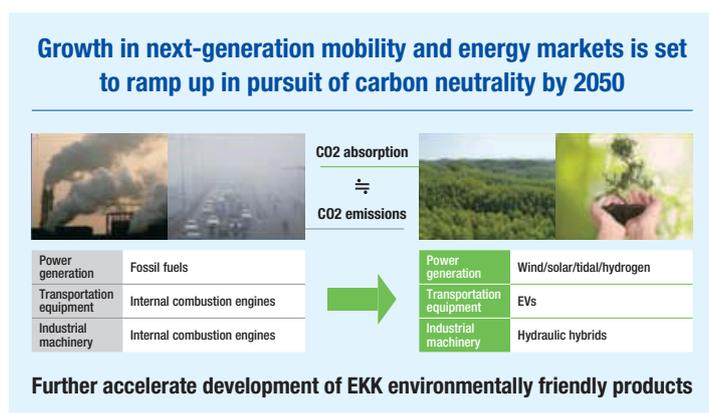
In the area of mobility, not only is electrification progressing for EVs but also potentially for construction machinery, ships and aircraft. Meanwhile, in the energy market, while demand for petroleum is expected to increase for the time being, the renewable energy market is also expanding. We will continue to expand sales of our products in each of these areas, targeting these trends.

The semiconductor market is also expected to grow alongside these markets with advancements in IoT and DX, and we will focus here as our next driver of growth.

## R&D Activities | Development of New Products Conducive to Environmental Preservation and Energy Efficiency

Mechanical seals, the EKK Group's core product, protect the environment by preventing leaks from rotary machinery.

By upgrading these seals' functionality and improving the performance and energy efficiency of the machinery in which they are installed, we are advancing the proposal of our proprietary technologies and the development of new products. Additionally, there is now a growing need for our products and technology in conjunction with the pursuit of carbon neutrality to mitigate climate change, an issue that needs to be addressed on a global basis.



Using a wide range of analytical techniques, the EKK Group conducts R&D in specialized fields required for seal technologies. Our R&D activities are based mainly on tribology, materials science and fluid dynamics.

In particular, we place priority on developing minimal-friction technologies for every application in light of the recent societal imperative of reducing the environmental burden.

### The EKK Group's R&D Spending and Staffing

FY2021 R&D expenses	¥3,084 million
R&D staff headcount	199 (3.1% of total workforce)

## R&D Status by Business Segment

Segment	Main R&D initiatives	R&D expenses (Millions of yen)
<b>Automotive and Construction Machinery Industries</b>	<ul style="list-style-type: none"> <li>Continuing to develop and expand sales of products for EVs and gathering technical information through collaboration among R&amp;D centers in China, Europe and Japan in response to the auto industry's migration to EVs</li> <li><b>Mechanical seals:</b> Started development and mass production of high-speed mechanical seals for EV drive motor shaft coolant, developed a small-diameter lip seal for electric water pumps</li> <li><b>Mechatronic and metal bellows application products:</b> Continuing to develop thermal management system products and work on mass producing hydrogen pressure control and check valves for FCVs as next-generation automobiles</li> <li><b>Products for construction machinery:</b> Developing hydraulic hybrid systems that reduce construction machinery's fuel consumption</li> </ul>	1,957
<b>General Machinery Industry</b>	<ul style="list-style-type: none"> <li><b>Industrial mechanical seals:</b> Actively developing longer-life mechanical seals for machinery used under high-pressure/high-speed conditions by using surface texturing technologies to substantially reduce frictional force and heat generation</li> <li><b>Diaphragm couplings:</b> Continuing to develop large couplings for power plants</li> </ul>	881
<b>Semiconductor Industry</b>	<ul style="list-style-type: none"> <li><b>Magnetic fluid vacuum seals:</b> Developing ultra-high-speed rotary vacuum seals in addition to high-temperature-resistant seals for semiconductor production equipment</li> <li><b>Metal bellows:</b> Developing long-lived models for semiconductor production equipment</li> </ul>	126
<b>Marine Industry</b>	<ul style="list-style-type: none"> <li><b>Oil-lubricated stern tube seals:</b> Continuing to mass-produce seals compatible with various oils, particularly biodegradable oils</li> <li>Continuing to develop environmentally protective stern tube seals for small ships and adapt seals to electric propulsion systems in addition to developing large-ship stern tube seal systems that are more reliable even in a water-lubricated environment</li> </ul>	26
<b>Aerospace Industry</b>	<ul style="list-style-type: none"> <li><b>Products for aircraft:</b> Applying surface texturing techniques to develop low-torque seals for engine gearboxes</li> <li><b>Products for space rockets:</b> Continuing to help develop turbo-pump, high-pressure pipe and fuel tank seals for the H3 launch vehicle, Japan's new flagship rocket</li> </ul>	93