

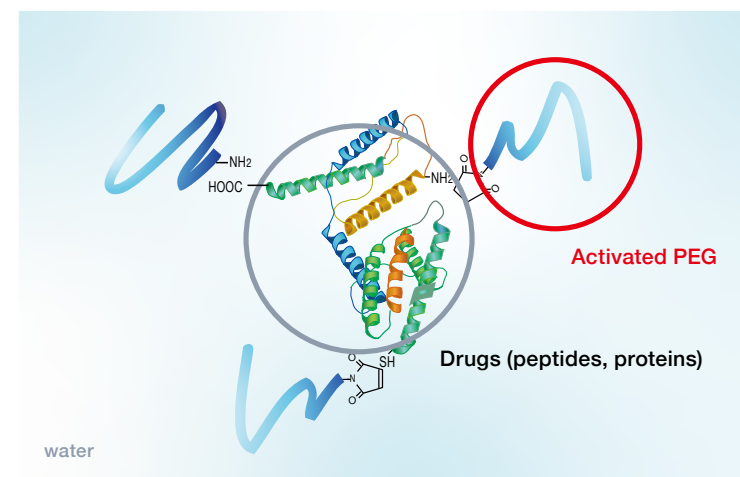
Examples of value creation through the business model (+Plus!NOF) ①

DDS materials using activated PEG

Core and growth products

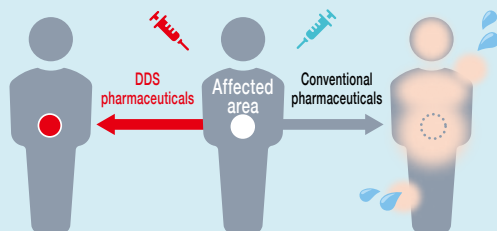
Life Science Business

NOF commercialized DDS materials in 2001, blending its technologies for high purification and molecular design to enhance the efficacy of pharmaceuticals. We boast the world's leading share of activated PEG, which enhances the retention of peptide and protein drugs within the body. We are also focusing on functional lipids for delivering nucleic acid drugs and gene therapy drugs into cells.



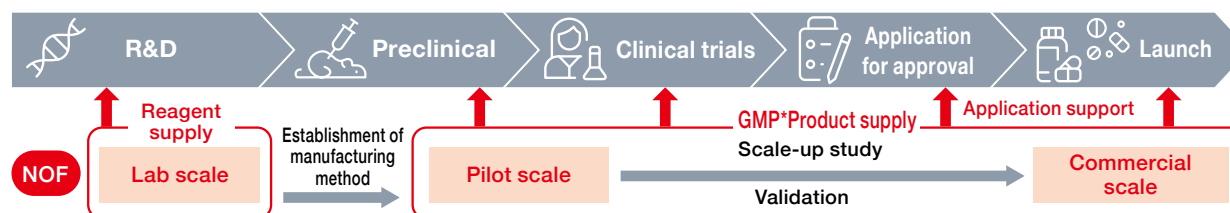
What is DDS?

A drug delivery system (DDS) is a system that delivers a drug to the desired location within the body, in the required amount and at the appropriate time. DDS enables the efficient delivery of drugs to affected areas, thereby enhancing therapeutic efficacy. By improving the retention of drugs within the body, DDS can also reduce the frequency of administration. This helps reduce the burden on patients and improve their quality of life.



Drug discovery flow

Development stage of customer [pharmaceutical manufacturer]



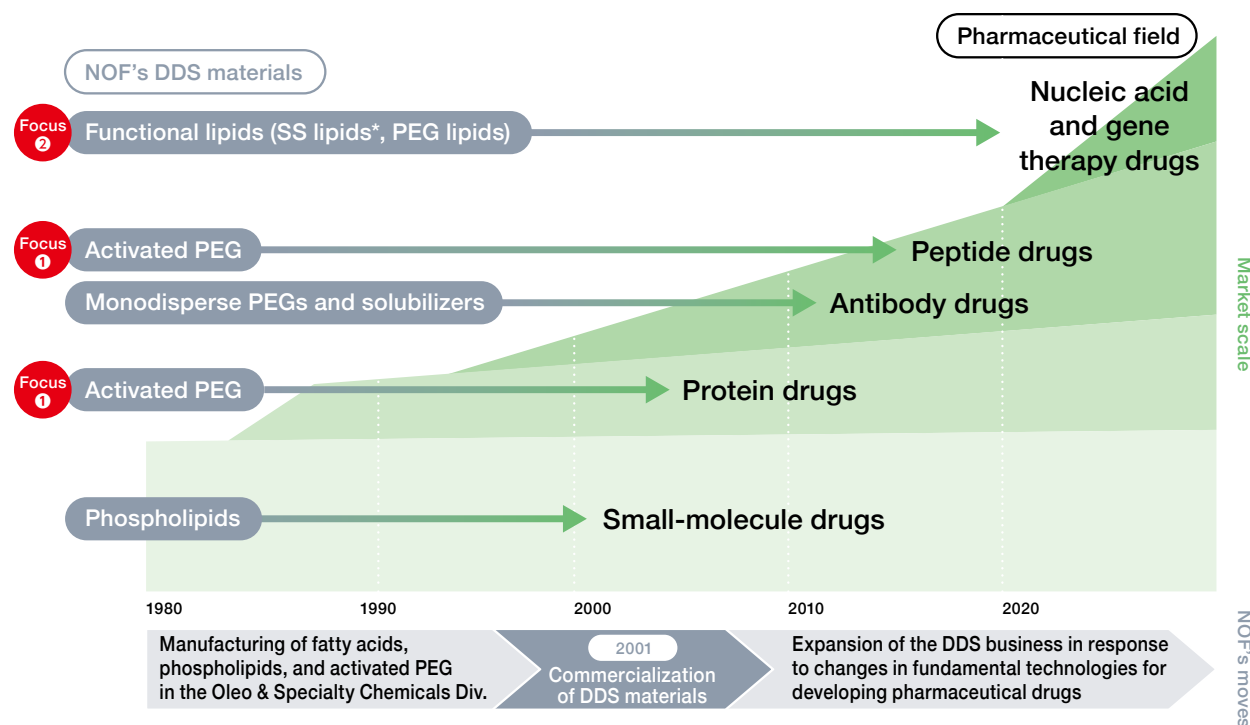
From the R&D stage of pharmaceutical manufacturers, NOF also develops materials that meet the requirements of pharmaceuticals. During the R&D stage of pharmaceuticals, prototype DDS materials are developed at the laboratory level, and reagents are provided to drug manufacturers to verify basic data (lab scale). Once the manufacturing method is established, the design of manufacturing facility, etc., is verified using equipment on a smaller scale than actual production machinery (pilot scale). Then, while scaling up to a production-scale plant (commercial scale), we provide pharmaceutical manufacturers with materials that conform to

management standards.

During the scale-up process, it is important to confirm that quality remains stable even when production scale is expanded. This verification is called validation. Management standards for pharmaceuticals, such as safety, are becoming ever stricter, and sufficient manufacturing control is required. We do not stop at merely providing materials, but have established a system to collaborate appropriately with pharmaceutical manufacturers according to the development stage, contributing to functional improvements.

* GMP: Abbreviation for Good Manufacturing Practice. Standards for manufacturing management and quality control required of manufacturers and marketing authorization holders of pharmaceuticals, etc.

The Value We Provide



* NOF's proprietary ionizable lipids that combine efficient nucleic acid delivery with low toxicity

Regarding product development

NOF has been commercializing DDS materials since 2001, utilizing manufacturing technologies for fatty acids, phospholipids, and activated PEG cultivated through its oleochemical business. DDS was initially limited to phospholipids for small-molecule drugs (low-molecular-weight compounds primarily produced by chemical synthesis, which were the mainstream of conventional pharmaceuticals) and activated PEG for

protein drugs, but subsequently, we expanded the business in response to changes in drug discovery platform technologies. We have developed new materials for antibody drugs, peptide drugs, nucleic acid drugs, gene therapy drugs, and others. Going forward, we will focus on expanding sales of functional lipids into the nucleic acid drug and gene therapy drug market, which is forecast to grow at a high rate averaging 42%* annually (2023 to 2028), and on developing new products.

* Source:Evaluate Pharma

Business environment and NOF's measures

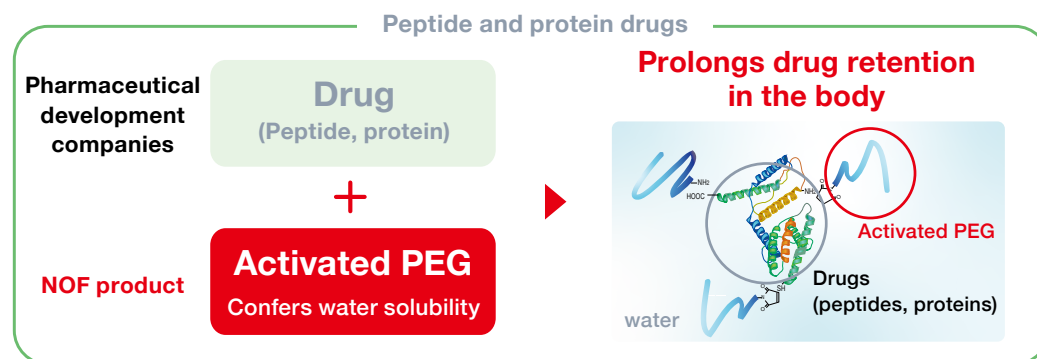
The market for biopharmaceuticals is expected to continue to expand, due to the advantage of fewer side effects and reduced impact on patients. On the other hand, pharmaceuticals are required to meet strict requirements in terms of quality and safety, etc., making it essential to balance more advanced technology with thorough manufacturing control. In 2021, Japan's GMP Ministerial Ordinance, which sets the standards for pharmaceutical manufacturing control, was revised, tightening regulations further.

As a top manufacturer of DDS materials, NOF is investing in facilities and human resources to continue supplying high-quality products that meet safety standards. In 2025, an activated PEG manufacturing facility with an investment exceeding ¥10.0 billion began operations at Aichi Works. We will maintain high manufacturing quality with GMP-compliant facilities.

Strengths of NOF's DDS materials

- Capable of custom-made responses tailored to customer needs
- Production of high-quality activated PEG that is challenging for other companies
- Abundant lineup of functional lipids

Focus 1 Activated PEG



Global share

No.1

Activated PEG is hydrophilic and, when chemically conjugated with hydrophobic substances such as peptides or proteins, imparts high water solubility. In addition, peptide and protein drugs modified with activated PEG demonstrate improved retention in the body, enabling more efficient treatment. NOF holds the No.1 global share in activated PEG, and increasing numbers of biopharmaceuticals have been made using our materials in recent years.

Reinforcing production of activated PEG



In October 2025, a new manufacturing facility for activated PEG began operations at our Aichi Works. The facility is approximately twice the size of the DDS plant at the Kawasaki plant and its state-of-the-art manufacturing facility has three key characteristics: (1) GMP-compliant equipment that enables production at larger batch scales* than before, (2) Realization of a smart factory through the digital transformation (DX) of manufacturing and quality control, and (3) Contribution to carbon neutrality through the use of solar panels and energy-saving design features.

* The amount of material processed per cycle in a specific process stage

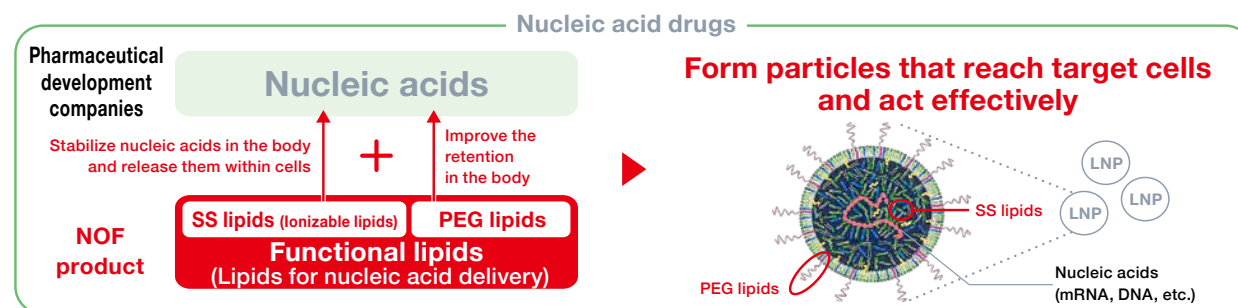
Support for custom-made solutions and solving user challenges



NOF also offers custom-made solutions for DDS materials such as activated PEG, pharmaceutical and medical polymers, and functional lipids, tailored to customer needs. We have responded to needs such as improving safety and duration by utilizing molecular design technologies accumulated over the years. Furthermore, as support for solving challenges faced by users, we have developed various analytical methods to assure the quality of NOF products and support pharmaceutical manufacturers in obtaining approval from the U.S. Food and Drug Administration (FDA) and the European Medicines Agency (EMA).

Focus 2

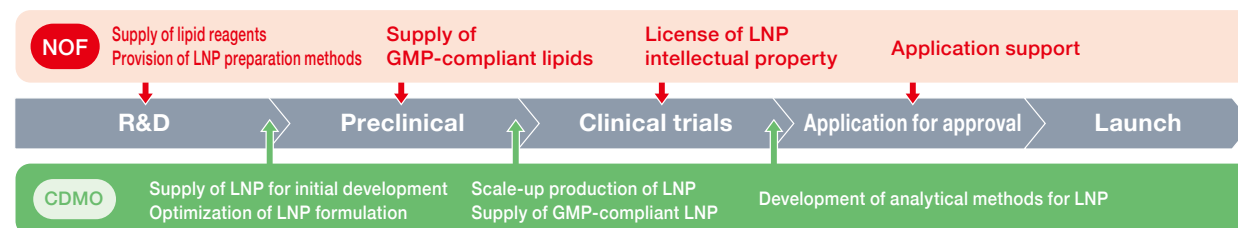
Functional lipids (SS lipids, PEG lipids)



Development of proprietary lipids

For nucleic acid drugs and gene therapies to be effective, it is essential to safely deliver nucleic acids such as mRNA and DNA to specific organs. To achieve this, lipid nanoparticles (LNPs), which serve as capsules to transport nucleic acids, are used. The functional lipids offered by NOF are vital components of LNPs and play a crucial role in efficiently delivering nucleic acids in the body. NOF has developed proprietary ionizable lipids called SS Lipids, which feature enhanced degradability within cells.

Start of collaboration with contracted drug development and manufacturing organizations



We have invested in Phosphorex, a contract development and manufacturing organization (CDMO) specialized in LNPs, and are further strengthening our business through this partnership. This partnership enables us to provide contract development and manufacturing services for LNP formulations tailored to each customer's stage of development.

Employee comments

In my previous job, I worked in quality assurance at a pharmaceutical company. I decided to change jobs because I wanted to work in a role where I could contribute to patients' health in a more expansive manner. Although our work may not be visible, I believe it is valuable because it supports patients in the here and now.

K•S
Quality Assurance Section



Employee comments

Seeing my father receiving cancer treatment, I felt that I wanted to contribute to treatment methods that not only cure the disease but also alleviate suffering. Building a track record of use for the products we have developed in Boston, a global center of therapeutics technology, should help expand product sales and enable us to deliver treatments that place less burden on patients. We share the knowledge gained locally with our laboratories, linking it to the future of patients.

Y•K
Boston base sales representative



The Value We Provide

Examples of value creation through the business model (**+Plus!NOF**) ②

Cosmetics materials developed based on market analysis

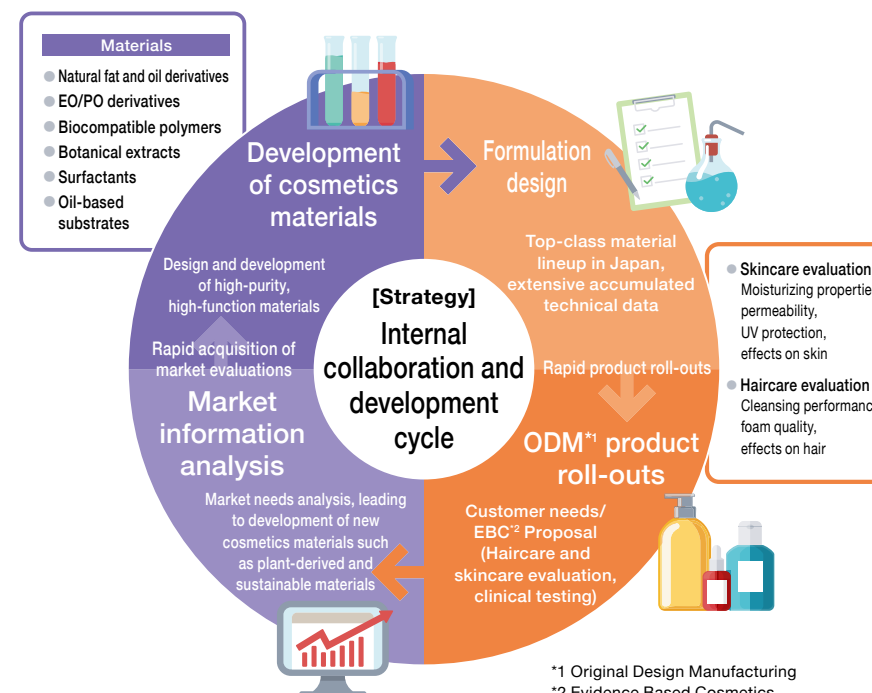
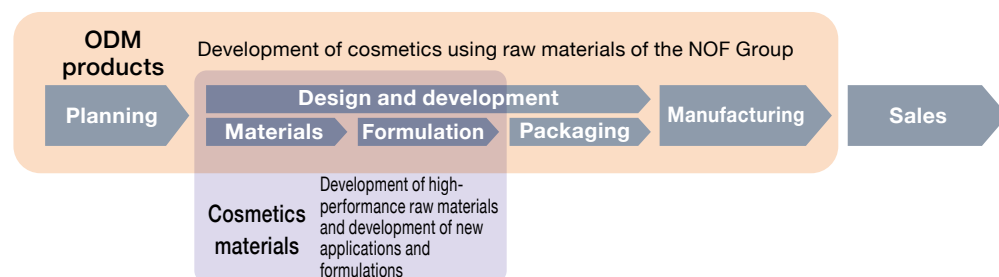
Core and growth products

Functional Materials Business

The NOF Group's cosmetics-related business does more than just sell high-quality raw materials. We deeply analyze market needs in collaboration with cosmetics manufacturers and propose products that are valuable to users. As a Cosmetic Solution Designer, we support our customers' cosmetics development from the development stage.

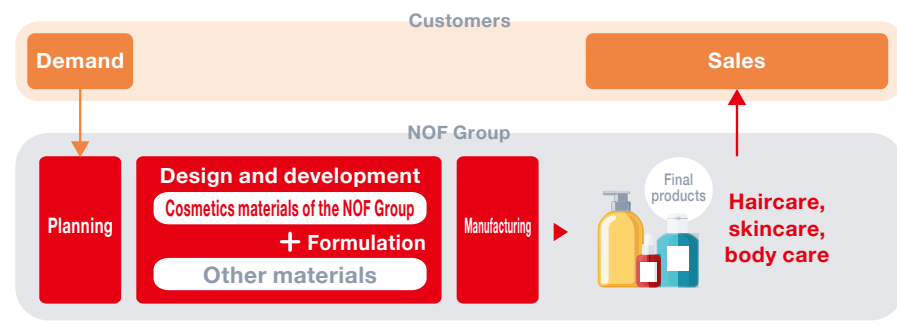
Features of the NOF Group's cosmetics-related business

In the cosmetics materials business, we do not merely sell raw materials alone—we also propose formulation designs tailored to applications. In the ODM business, we undertake everything from product planning and design to manufacturing while coordinating efforts with our customers, the cosmetics manufacturers. Therefore, our strength is that we can quickly obtain more detailed market information through user feedback on the completed cosmetics. Analyzing the market information we acquired and applying it to the next production of cosmetics materials also leads to further improved proposal capability in the ODM business. A feature of the cosmetics-related business is that by running this process, we can continuously generate raw materials with high added value.



The Value We Provide

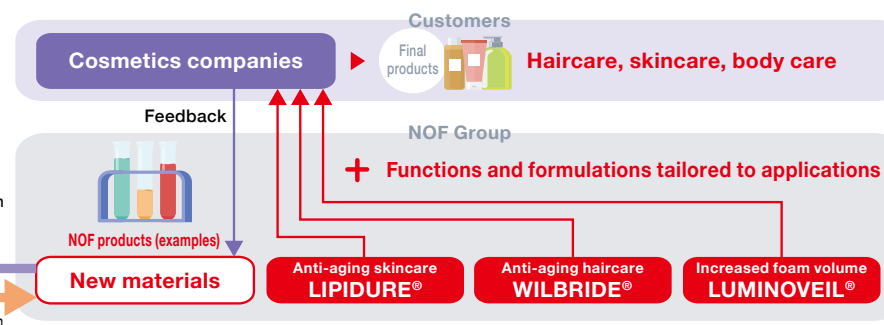
ODM products



Capabilities for product proposals
grounded in dermatological science

From planning to design, development, and manufacturing, one of our strengths lies in providing comprehensive product proposals grounded in dermatological science data to meet customer demand. Leveraging NOF Group's top-class lineup of materials in the nation and new materials developed based on market information, we can offer customized proposals tailored to each customer.

Cosmetics materials



Capabilities for Material development
aligned with market needs

With more than 500 products, we hold the no.1 market share in cosmetics materials in Japan (according to TPC Marketing Research Corp.). Our strength lies in development capabilities leveraging market trend analyses. We provide materials that enhance functions such as moisturization and foaming to manufacturers of haircare, skincare, and body care products.

Cosmetics materials of the NOF Group that respond to customer needs

Customer needs	Effect	Products	Market
Anti-aging haircare	Improvement of gloss/Improvement of hair strength	WILBRIDE®	Haircare
	Increase in hair volume	CERACUTE®	
	Natural cleansing without a tight feeling	SOFTILT®	
Scalp care	Maintains detergency across a broad pH range	DIAPON®	Haircare, skincare
Non-silicone	Improved slipperiness during rinsing	ACROBUTE®	
	Reduced squeakiness during rinsing	ALFEEL®	
Volume of foam Dense foam	Foam sustainability	NONION™DL	Skincare
	Improved foam elasticity	LUMINOVEIL®	
Anti-aging skincare	Pore tightening/Improved skin firmness	PROTEOGLYCAN (PLANT)	
	Improved skin elasticity	LIPIDURE®	Skincare
	Anti-wrinkle	CERACUTE®	
Pore care	Cleansing of sebum dirt	UNIOX®	

Customer needs	Effect	Products	Market
Water-based cleansing	Improved cleaning efficiency	WILBRIDE®	Skincare
	Low-irritation cleansers	SOLUBULE®	
Time-saving care (All-in-one cosmetics)	Solubilization of beauty ingredients	SOLUBULE®	
Sensitive skin care	Improvement of rough skin	LIPIDURE®	Skincare
	Anti-inflammation	Eucalyptus extract™	
Anti-pollution	Trapping of pollen and PM2.5	PROTEOGLYCAN (PLANT)	Skincare
		LIPIDURE®	
Naturally-derived raw materials ▶ pp. 042-043	Moisturizing/Improved feel	NATUWIL®	Skincare
	Improved feel/functionality	BIOLEAM®	Makeup, skincare, haircare

Strengths of the NOF Group's cosmetics materials

- High-performance product group backed by data
- Formulation proposal capability that makes effects more tangible
- Highly specialized evaluation technology
- Thorough quality control and production system

The Value We Provide

Cosmetics materials of the NOF Group

Plant-derived raw materials gaining attention in recent years

Business environment and NOF's measures

The cosmetics market is growing in Europe, the United States, China, and emerging countries where the middle-income population is increasing. In Japan as well, the market is trending upward due to the increase of the user base. Within this, demand is increasing for products for sensitive skin, anti-aging products, UV products, and cosmetics with distinctive ingredients.

For the NOF Group's ODM products, we focus on selling skincare products with high concentrations of functional and plant-derived raw materials, skincare products with UV protection plus additional functions, and haircare products incorporating hair beauty benefits. In cosmetics materials, sales are also increasing for products aimed at hair care (improved foamability), skincare (UV protection and anti-aging), and makeup. In particular, demand is growing for products with improved usability and products with high moisturizing properties. Going forward, we will continue to focus on the development and proposal of highly functional, high-value-added products based on market analysis.

Q Why is there a focus on plant-derived raw materials now?

A In the cosmetics market, the user base is expanding widely to include seniors and men, etc., due to growing interest in anti-aging and heightened beauty awareness. Therefore, demands for cosmetics go beyond mere beauty enhancement and encompass a broad range of needs, including long-term effects on the skin and suitability for individual skin types and allergies. Meanwhile, due to growing global awareness of the environment, similar demands are spreading to cosmetics. Plant-derived raw materials are drawing attention in this context. They are sought after by many users as sustainable raw materials that lead to reduced environmental impact. And by enhancing functionality in addition to being plant-derived, they become more easily selected as cosmetic ingredients.

Q What are the NOF Group's measures for these needs?

A The NOF Group focuses on product development that achieves texture and effects equal to or better than conventional cosmetics while being based on plant-derived raw materials. By applying our advanced synthesis technologies and chemical expertise cultivated over many years, we have created proprietary materials such as "BIOLEAM®" and "NATUWIL®," as well as botanical extracts derived from rice bran, camellia seeds, and others. These products are growing mainly in Europe, where there is a high level of interest in the environment and safety, and need is expected to expand in markets such as China and Southeast Asia, where the cosmetics market is growing. We are advancing product development by quickly capturing changes in market trends.

Employee comments

"BIOLEAM®" was developed as a substitute for cyclic silicones and silicone raw materials, which are regulated in Europe, and we pursued a feel similar to the substituted materials. Currently, we have started developing a new high-viscosity grade. Going forward, we will continue taking on the challenge of developing high-value-added products that offer value beyond simply being a substitute for existing raw materials, while staying keenly attuned to market trends.

M • N

Chidori Research Laboratory
AO research group



Employee comments

"NATUWIL®" A product developed with a commitment to being 100% plant-derived. Because we could not draw on existing knowledge, we needed to build a new reaction process and struggled to find the optimal reaction conditions. We successfully developed the product by introducing and selecting new catalysts that had no previous track record, allowing us to achieve both reduced environmental impact and high functionality.

T • M

Chidori Research Laboratory
AO research group



The Value We Provide

Q What are the new products “BIOLEAM®” and “NATUWIL®”?

A BIOLEAM®

Overview / features

A plant-derived version of the high-purity, colorless, and odorless emollient agent “PARLEAM®.” Emollient agents function to prevent the evaporation of moisture by forming a film of oil on the surface of the skin.

Applications

Viscosity, powdery sensation, spreadability, and other usability characteristics vary depending on the lineup. Therefore, deployment in various applications such as hair oils, cleansers, lipsticks, and mascara is possible.

Functions

Clears the issue of adjusting the feel, which was tricky with plant-derived raw materials, through the use of synthesis technology. Three new grades were developed in 2025, adding to the lineup a non-sticky feel type, and a high-viscosity type with long-lasting quality.

Future outlook

We supply to cosmetics manufacturers in Japan and overseas; overseas, our major targets are Europe, where there is strong need for plant-derived raw materials, and China, the world’s second-largest market.

NATUWIL®

A new water-soluble moisturizing oil that achieves the characteristics of the conventional product “WILBRIDE®” with 100% plant-derived raw materials. It retains high water solubility, with a feature being the ability to impart the rich feel characteristic of moisturizing oils.

Given that it blends well with both water and oil and has an excellent moisturizing effect, NATUWIL is being proposed for skincare products such as toners and milky lotions. It is a raw material with low surface tension and high affinity to the skin.

Prevents deterioration of usability, which had been an issue when blending moisturizing oils into toners, etc., at high concentrations, and achieves both high stability and moisturizing effects. Adding a small amount can also reduce the stickiness of glycerin and xanthan gum.

We currently sell to cosmetics manufacturers in Japan and overseas. Overseas, sales are centered on Europe, where there is a high need for plant-derived raw materials, and China, the world’s second-largest cosmetics market.

Feedback from customers using BIOLEAM®

Can be used as a substitute for cyclic silicones. Despite being plant-derived, it is great that BIOLEAM® delivers performance and feel equivalent to petroleum-derived products.

Because of its smooth feel and good compatibility, I would like to try using BIOLEAM® as an out-bath hair care product.

We are considering using it for lip products and others due to its glossiness and moisturizing feel when applied.

Feedback from customers using NATUWIL®

I want to create a toner with a high natural-origin index. In addition to plant-derived water-soluble moisturizing oil, NATUWIL® was non-sticky and spread very easily.

Compared to petroleum-based moisturizers with similar structures, NATUWIL® provides a comparable, penetrating feel with less stickiness, resulting in a pleasant user experience.

The Value We Provide

Examples of value creation through the business model (+Plus!NOF) ③

Eco-friendly stern tube bearing oil with excellent biodegradability

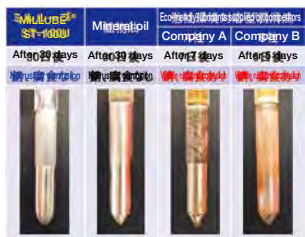


Strengths
Evaluation
technology
that enables
high quality

The need for biodegradable lubricants increased, following the major oil spill that occurred in the Gulf of Mexico in 2010. Since then, stern tube bearing oil, which ensures good lubricity between the stern tube shaft and bearings, has also shifted to eco-friendly types. However, many products faced challenges of insufficient lubrication performance and anti-corrosion performance. In light of this, the NOF Group developed an eco-friendly stern tube bearing oil that solves these issues. We progressed from raw material sales to the supply of final products.



Biodegradable + lubricity



“MILLUBE® ST-100U,” developed by the NOF Group, is an eco-friendly stern tube bearing oil that exhibits good lubricity and anti-corrosion properties. Because of its high biodegradability, low toxicity, and low bioaccumulation potential, its impact on the environment can be minimized even in the unlikely event of a spill into the ocean. This product currently maintains a solid market share in Japan. Going forward, we will focus our sales activities on shipping companies aiming to expand our global market share.

Examples of value creation through the business model (+Plus!NOF) ④

Environmentally and safety conscious anti-corrosion coatings



Strengths
Maximizes
anti-corrosion
properties with
proprietary
technology

In recent years, environmental issues have been in the spotlight worldwide, and regulations on hazardous substances have been tightening year by year. In particular, hexavalent chromium compounds, which have been used as effective materials for anti-corrosion surface treatments, tend to face restrictions and reductions in use due to environmental regulations in Europe, the United States, and elsewhere. Amid this situation, NOF Metal Coatings Co., Ltd. developed “GEOMET®,” a zinc flake water-based anti-corrosion treatment agent, aiming for a highly sustainable solution.



Resistance to rusting + Safety



It is also a completely chromium-free product that uses no chromium compounds at all. The majority of sales are currently for automotive parts applications, primarily in China. We will continue to strengthen our sales activities in China, while also strengthening proposals for expanding applications, such as for offshore wind turbines.

The Value We Provide

Examples of value creation through the business model (**+Plus!NOF**) ⑤

CPT that contributes to seabed ground surveys*1 Data acquisition service

Sustainability contribution products

Explosives & Propulsion Business



Strengths
From device
development to
operation Handled
seamlessly

Utilizing knowledge accumulated through the development of underwater resource exploration equipment and underwater / ocean equipment, such as the seafloor-mounted drilling rig BMS#1 in 1996, NiGK Corporation has cultivated pressure-resistant sealing technology adapted to high water pressure environments and expertise in underwater measurement. Leveraging this knowledge, we launched the CPT data acquisition service in July 2025. We provide a package of our proprietary seafloor-mounted compact CPT device, onboard-related equipment, and a dedicated operator, supporting the acquisition of seabed ground data required for the construction of offshore wind power generation facilities, etc.

▼
Improving efficiency of ocean development
+
Cost reduction, risk reduction



This service enables continuous acquisition of seabed ground data using a compact seafloor-mounted CPT device. Because the device, related equipment, and an operator are provided as a package, customers can use the service only for the required period without owning the device, eliminating the need for initial investment, operator training, or maintenance. Going forward, we aim to expand the business, mainly targeting offshore wind power construction, submarine cable laying, and CCS*2-related pipeline laying.

*1 CPT: Abbreviation for Cone Penetration Test. Refers to a cone penetration test.

*2 CCS: Abbreviation for Carbon dioxide Capture and Storage.

Examples of value creation through the business model (**+Plus!NOF**) ⑥

Functional food materials (lutein-containing products) that deliver high cost-effectiveness

Sustainability contribution products

Functional Foods Business



Strengths
High efficacy
with small
amounts
added

In the food market, demand for eating out and souvenir confectionery from inbound tourism has increased since the COVID-19 pandemic. Additionally, amid declining consumer spending due to high prices, it is increasingly important for food manufacturers to reduce costs without compromising on quality. The NOF Group supports our customers' product development through functional food materials that deliver high efficacy with a small amount of additives.

▼
Improvement of food texture
+
Utilization of discarded lettuce



This product is a functional food material containing lutein from lettuce leaves. Lutein has the effect of changing the texture of wheat gluten and improving its elasticity and viscosity. The NOF Group's functional food material (lutein-containing product) "LP-V™" is an upcycled product using lettuce leaves that would have otherwise been discarded before shipment. In addition to the expanding frozen bread market, we are also expanding our lineup for foodstuffs such as egg-based foods and noodles.