## **Business Strategies**

#### Oil and Fat

Oil and Meal

Processed Oil and Fat

Continue to increase the value of oils and fats, serving as the propulsion engine behind the Group

#### **Business characteristics**

#### Oil and Meal

- Business primarily based in Japan on diverse plant resources, such as rapeseed, soybean, olive, sesame, and flaxseed
- Building relationships with a wide range of customers for household-use, commercial-use, and food processing, holding the largest share (by sales volume) of edible oil in

#### Processed Oil and Fat

- Business with palm oil as the primary raw material expands both domestically and globally
- Overseas sales account for the majority of sales thanks to the trust we have earned from global manufacturers of processed foods
- Global share of confectionery fats—a strategic product for us—of approximately 9% (by sales volume)

#### Opportunities and risks

#### **Opportunities**

- Increasing number of people actively consuming oils and fats for health purposes
- Expansion of the market for home meal replacements and ready-to-eat meals to accommodate the diversification of eating styles, increasing value-added demanded by consumers
- Oils and fats must fulfill more sophisticated and diverse functions and roles, mainly to address labor shortages and food loss and accommodate changes in consumer behavior
- · Advancing food industry and expanding business opportunities in developing countries

#### Risks

- Fewer people frying—a typical use of oils and fats—at home
- Increasing instability and cost of raw material procurement and logistics due to intensification of climate change, increasing global demand for oils and fats, and geopolitical factors
- · Reduced profitability of the oilseed processing business due to contracting domestic livestock industry and competition against imported meal
- · Uncertainty as to business viability in global markets due to quality defects and delays and omissions in regulatory

#### **Business strategies**

#### Oil and Meal

- Given the structurally high prices of oils and fats raw materials, exchange rate fluctuations, and consumers' increasing focus on protecting their livelihoods, establish a profit base by instituting a new price equilibrium based on the improved value of edible oils.
- For household use, strengthen marketing aimed at capturing latent and emerging demand and create markets for oils valuable for health maintenance, flavored oils, and more. Additionally, despite the ongoing surge of raw material prices for olive oil, stimulate consumption in new segments through products and communication.
- For commercial use and food processing, deepen "collaborative-sales-to-identify-needs" marketing and propose solutions for users to increase sales of "customer-solution-type" frying oil and value-added oils.
- Promote efforts to establish marketing mechanisms and systems to realize an uninterrupted value creation scenario.
- To improve capital efficiency, implement these strategies to improve the operating profit margin and make efforts to optimize inventory.

#### Processed Oil and Fat

- The ISF Group will improve its position to be a first supplier to existing customers by introducing new supply methods and meeting further quality requirements.
- ISF (Malaysia) will soon earn a return on its investments through stable operation of its enhanced interesterification facilities.
- Proceed with investments in ISF (Malaysia) to increase the capacity of production facilities, and strengthen procurement capacity for further business expansion.
- Promote sales expansion in China and ASEAN markets by expanding our product lineup and enhancing applications.





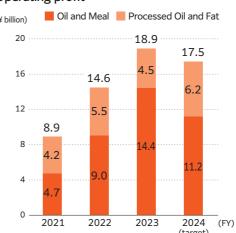








#### Operating profit



#### Market trends

Domestic market for edible oil for household use

Approx. \$116 billion (FY2013)  $\rightarrow$ 

Approx. ¥180 billion (FY2023)

Global market for confectionery fats

**2** million tons (2024)



Masato Saegusa Director and Senior Managing Officer General Manager, Food Product Division; Responsible for branch operation

During the Value Up+ period, the environment surrounding edible oils for household-use and commercial-use changed rapidly; for example, the market contracted and consumers' lifestyles changed as a result of the historic rise in raw material prices and the COVID-19 pandemic. To vigorously promote value creation under such circumstances, we have begun systematizing a new form of marketing creation and taken steps to resolve emerging issues by integrating deeper customer understanding and sales style reform into existing product and sales strategies, mainly through digital utilization.

For example, as an initiative for deeper customer understanding for household-use edible oils, we are using ID-POS data to analyze customer behavior in real-world sales, aiming to build sales stories that capture consumer insights and link them to effective promotions adapted to environmental and

We view these marketing creation initiatives as investments to improve the quality of sales representatives and create extra capacity and time. By expanding digital investments, utilizing AI, investing in human resource development to leverage digital technology, and more, we will create a virtuous cycle of sales and profit growth that leads to higher ROIC by business.

#### Spotlight Achieving further market penetration of "pour-and-enjoy" fresh edible oil

We have continued to promote edible oils as condiments to have on hand at the dinner table. The "Fresh Keep" bottles in our Fresh Oil Series are designed to prevent the oil from coming into contact with oxygen. These containers have made it possible for people to pour flaxseed, olive, and other oils directly onto their food without compromising freshness, and have made headway on dinner tables throughout Japan.

This year, we remodeled our "Fresh Keep" bottles to reduce plastic usage by approximately 19%. Additionally, thanks to increased attention on the health functions of omega-3 fatty acids, the market for flaxseed oil in the first quarter of fiscal 2024 has expanded approximately 50%

Moving forward, we hope to help increase the vitality of the market for edible oils by closely tracking the diverse needs of consumers.



# Processed Food and Materials Creating a virtuous cycle that continues to enhance the value of oils and fats as part of the value chain

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#### Business characteristics

 Chocolate and Seasonings are businesses that use oils and fats as base ingredients. We continue to refine application technologies in these sectors as part of the oils and fats value chain with the aim of improving the value of oils and fats

Seasoning

**Functional Materials and Foods** 

Soybean Materials and Foods

- In recent years, we have accelerated the global spread of our chocolate business
- The market for MCTs—a strategic product for functional materials and foods—is expanding

#### Opportunities and risks

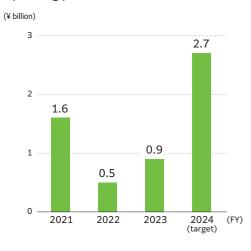
#### Opportunities

- Increasing demand for oils and fats for nursing meals and frailty and pre-frailty prevention as the population ages
- Expansion of business opportunities thanks to increasing global demand for chocolate
- Expanding natural products market and needs for plant-derived foods with high naturality
- Increasing number of consumers choosing traceable and sustainable products that contribute to well-being

#### Risks

- Intensifying competition in markets targeting elderly people and preventive medical care
- Increasing instability and cost of raw material procurement and logistics due to intensification of climate change and geopolitical factors
- Waning demand for high value-added products as real wages decline due to inflation

#### Operating profit



#### **Business strategies**

- Further develop our chocolate business in the Asian market by creating chocolate flavors that serve as strengths and leveraging the synergy of confectionery fats.
- Increase the number of products that use MCTs in the functional materials and foods business by continuing to approach manufacturers of processed foods, commercializing products, and following up with distributors.

# Message

Shigeyuki Takeuchi President and Representative Director Daito Cacao Co., Ltd.

Daito Cacao manufactures chocolate products for commercial use under an in-house integrated system starting from processing cacao beans. During the first half of the Value Up+ period, although sales to the market for gifts declined due to the COVID-19 pandemic, we captured new demand by further strengthening collaboration between sales and development and meticulously responding to product proposals for convenience stores.

Recently, the price of cacao beans has surged to historic levels due to extreme weather in production areas

and cacao tree diseases, which destabilized the procurement of beans from Ghana, a major production country. However, we continue to ensure high quality by using cacao beans from other areas and fully leveraging our stockpile of blending technology.

Looking ahead, we aim to achieve sustainable growth by further diversifying cacao bean production areas and utilizing three types of roasting equipment to expand sales of products that maximize the aroma and flavor of cacao beans and products that utilize Nisshin OilliO's oils and fats technology.

#### Spotlight New functional claim to capture further demand

We have filed a new functional claim for MCT oil: when used in combination with exercise, it maintains leg muscle strength, which declines with age in middle-aged and elderly people. With such labeling, we aim to create further demand for MCTs in the elderly and nursing care market in terms of preventing frailty.

#### Market trends

Global chocolate market

**15** million tons (2024)

Household MCT oil market

40.9 billion (FY2019)  $\rightarrow 43.4$  billion (FY2023)

#### **Fine Chemical**

**Fine Chemical Products** 

Environment and Hygiene-Related Products Leveraging the superiority of our ester synthesis technologies to become a leading company of cosmetic oils





#### **Business characteristics**

- High level of quality stability achieved for fine chemical on the strength of ester synthesis technology as the core technology
- Global share of cosmetic oils approximately 9% (by monetary value) thanks to the trust we have earned from domestic and global manufacturers of cosmetics
- Developing business across borders, with net sales for cosmetic ingredients outside Japan accounting for approximately 40%

#### Opportunities and risks

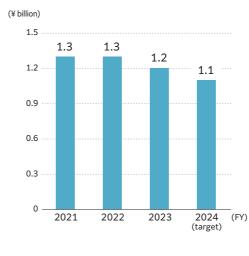
#### **Opportunities**

- Increasing domestic demand on the strength of a recovering inbound market
- Rising need for high-naturality cosmetic ingredients
- Increasing global demand for the safe use of chemicals
- Expanding cosmetics market due to development of emerging countries
- Growing needs for environmentally friendly products and businesses

#### Risks

- Uncertainty as to business viability in global markets due to quality defects and delays and omissions in regulatory compliance
- Uncertainty as to stability of procurement and rising cost of raw materials due to intensification of climate change and geopolitical factors
- Slowdown in market growth due to prolonged geopolitical risks
- Increased competition from environmentally friendly businesses

#### Operating profit



#### **Business strategies**

- Strengthen our technical proposals and expand sales to global markets centered, on Asian markets with their potential for expansion in addition to Europe and the U.S.
- Discover the potential functions of specialty oils by leveraging our technical support functions, and expand our solutions business by developing high-naturality products.

#### viessage



Yoshiharu Okano Director and Managing Officer Responsible for global business and fine chemical business During the Value Up+ period, we focused on global expansion (mainly in growth markets such as China and Southeast Asia) and new product development (including new products with high functionality and naturality), mainly for cosmetic oil. Despite the slumping market for makeup due to the COVID-19 pandemic and other major changes in circumstances, measures to strengthen technical support functions and develop new functions to expand sales for skin care application products resulted in subsequent sales expansion. Looking ahead, we will further promote global

expansion, build an efficient production system, and manage inventory properly, all with the aim of improving capital efficiency. We will also use Incubation Square to promote the development of environmentally friendly products and processes and other sustainability initiatives to serve as a driving force for further growth.

#### Spotlight Opening a technical support center in China

We opened a technical support center for cosmetic ingredients in Shanghai. Now, we can be closer to customers and quickly provide solutions that meet local needs.



#### Market trends

Global cosmetics market

Average annual growth: **5**% (2021–2030)

Global natural cosmetics market

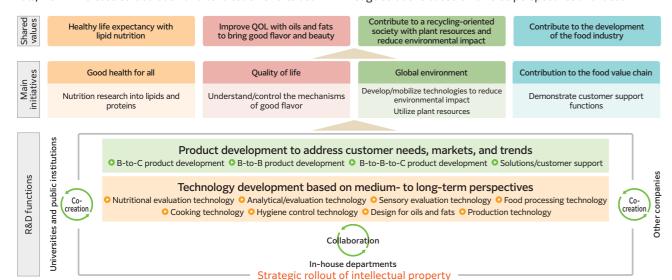
Average annual growth: **11**% (2021-2030)

(Source: Panorama Data Insights Ltd.)

The Group responds to the diverse needs of its customers and to the issues facing society in terms of health, good flavor, convenience, reducing environmental impact, and other aims by leveraging its capabilities in technology and development based on its stockpile of expertise in the context of its research into vegetable oils and fats. Based on our strength in technology with regard to evaluating the nutritional value and good flavor of oils and fats (analysis, evaluation, and sensorial evaluation techniques) and the manufacturing and processing of oils and fats, we will increase collaboration and co-creation efforts both

within and outside the Group as part of our push to engage in research and development geared toward creating shared value under each of the priorities set out in Vision 2030.

With Incubation Square as the core of our new research and development base, we will further refine our technologies for oils and fats and related fields to strengthen the Group's R&D capabilities. We will also use Incubation Square as a place for co-creation with customers from Japan and overseas and exchanging technology and information to provide cuttingedge solutions based on diverse perspectives and ideas.



#### Our intellectual capital

R&D expenses (consolidated)

2,343

2019

2,495

2020

(¥ million)

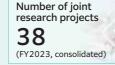
4.000

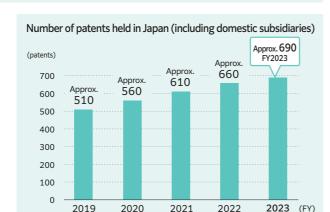
2,000

1.000



2,702





#### Intentional efforts to create the good flavor of animal meal from vegetable oils and fats

2023 (FY)

¥3,519 million FY2023

3,128

2022

To realize "Quality of life" (one of our priorities), we engage in research and development to understand and control the mechanisms of good flavor by rigorously searching for answers as to why oils make food taste better. Through joint research with Tohoku University as part of this effort, we discovered that intentionally oxidizing MCTs—vegetable oils conventionally regarded as resistant to oxidation—allows us

to create aroma components such as lactone, which is found in dairy products, beef, and other animal products. We also understand the underlying mechanisms. This technology can be used to replace dairy ingredients with vegetable oils and fats, and to add dairy and beef flavors to plant-based foods. We will conduct pilot-scale trials with the aim of commercializing the technology.

#### Beginning research on useful substances obtained from microalgae to acquire new meal resources

We have joined the industry-academia collaborative project titled "Center of Innovation for Bio-Digital Transformation (Bio-DX)" and begun research on producing edible oils and fats and other useful substances obtained from microalgae and developing and functionally evaluating food applications, all with the aim of acquiring new meal resources and functional materials. As the circumstances surrounding food change with the growth of the world's population and the

diversification of food needs, one challenge is to secure new food resources so that everyone can continue to enjoy health and good flavor. Under this project, we will utilize our stockpile of technical expertise to establish technologies for extracting and purifying useful substances obtained from microalgae and fulfill a role in developing and functionally evaluating food applications.

#### Intellectual property strategy

Building a patent network to ensure competitive advantages, promoting strategic use of patents by evaluating their value and visualizing how they contribute to our business



#### Susumu Hikichi

General Manager, Intellectual Property Dept., Technical Division

The Group aims to build a robust patent network that is superior in both quality and quantity to ensure advantages in its business operations toward becoming a global top provider of oils and fats solutions. We currently hold approximately 690 patents in Japan, and have established a large patent network by acquiring multiple patents on specific themes. We continue working to secure rights through research and development while analyzing our patent network and clarifying points to be strengthened.

Companies in the food industry tend to conduct research in the same areas at the same time in response to the world's needs. Therefore, we strive to obtain a broad range of patents ahead of our competitors to ensure that our researchers feel free to engage in research and development with no restrictions.

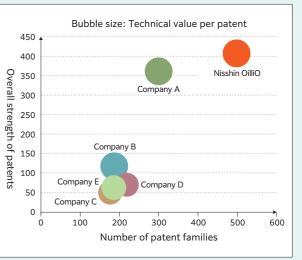
Looking ahead, we will evaluate the value of our intellectual property rights and visualize how they contribute to our business so that they can function as the basis for making decisions in promoting even more sophisticated business strategies. We evaluate the value of patents in terms of three attributes: their ability to keep competitors at bay, their ability to contribute to the Group, and their score on an objective patent analysis tool, which analyzes the number of patent citations, market size, and other factors to estimate the overall strength of each patent (see graph). By combining the evaluations of these three attributes, we hope to help build a patent network and encourage the use of patents in the Group's business.

To visualize how patents contribute to our business, we analyze the relationship between patent rights and net sales to determine whether products with growing sales are properly protected by patents, and which patents are contributing to net sales.

Recently, intellectual property rights have been joined by technology, know-how, brands, supply chains, and other

elements of corporate competitive advantages, all of which are being treated as intellectual property. Therefore, it is difficult for us to cover all competitive advantages on our own, and we will probably turn more and more to the concept of open innovation, in which we collaborate with other companies. We intend to further refine our strengths as a company and strategically promote co-creation within the Group and with other companies.

## Nisshin OilliO and other companies in the edible oils and fats domain



This comparison using LexisNexis® PatentSight+ revealed that we hold as many high-quality patents as our competitors in the edible oils and fats domain, and as many patents in terms of quantity, demonstrating our superiority in overall strength.

A key objective of Vision 2030 is to create our various shared values through sustainable supply systems. To this end, we are transforming our production system into a nextgeneration structure that highlights the strengths of each production plant and enhances our collective strength through integrated management. Each production plant is

refining its strengths and rolling out its knowledge and best practices to other Group companies to enhance the collective strength of the Group. We have steadily built up initiatives at each plant—including converting the Nagoya Plant to a smart factory—and have begun horizontal deployment to other

Key points

Achieving sustainable supply systems that create diverse shared value 1. Thorough strengthening of our competitiveness in the oil and fat business 2. Establishing supply systems for a broad range of products 3. Addressing environmental issues

Each production plant refines its relative strengths

Transformations of key production plants

Nagoya Plant Yokohama Isogo Plant Smart factory that utilizes ICT









Sakai Plant



Mizushima Plant

Core operational base for oils



ISF

Sustainable palm oil sourcing

Examples of initiatives

We are proceeding with efforts to radically reform existing operations and introduce ICT to convert the Nagoya Plant into a smart factory with improved productivity and reformed work styles, a place where we can acquire and pass down our technologies. One such reform is promoting plant-wide activities to review and propose changes to consolidate and eliminate operations. As for introducing ICT, we have adopted a tanker truck shipment management system and a manufacturing management system for centrally managing data on manufacturing performance. The reforms and systems have not only reduced employee workloads, but also contributed to resolving logistical issues, for example reducing shipment weighing time. In fostering a culture of promoting operational reform, we have revitalized the entire plant, and will continue working as one toward completing the conversion into a smart factory.

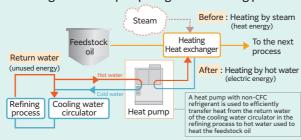
Value-added labor productivity at the Nagoya Plant 8.8%

[Generating the equivalent of approximately 18,600 hours/year] (FY2023)

Note: An index representing the added value generated by each employee Calculating the time created by converting the Nagoya Plant into a smart factory as added value

We are taking steps to make our Sakai Plant a sustainability center based on the two-pronged approach of implementing environmentrelated technologies and realizing palm sustainability. Newly installed solar power generation equipment and biomass boilers are in full-scale operation, expanding the percentage of non-fossil energy used at the plant. Additionally, as part of our energy-saving and decarbonization efforts, we have decided to adopt heat pumps that use unused energy from the plant as a heat source. We have also installed equipment to produce RSPO SG-certified products, and are building a supply system to increase the percentage of certified palm oil.

Flow diagram of heat pump usage in the refining process



Roll out to entire Group

### Transforming our production system into a next-generation structure by 2030

- Customer-driven value creation
- Leading the way in international competitiveness in the oil processing industry
- Implementation of environment-related technologies
- Making further improvements to productivity
- Realization of sustainable procurement
- Realizing workplaces that are rewarding to work in

#### Manufacturing capital characteristics

Number of production plants:

12, across 8 companies in 6 countries (FY2023)

(1) Japan: The Company (4 locations), (3) Spain: IQL Settsu (Sakai), Daito Cacao (4) Singapore: T&C (Nakai)

(5) Indonesia: IADC

(2) Malaysia: ISF (Port Klang, Dengkil) (6) Italy: ISF Italy

Scale of production:

Approx. 2.66 million tons

Note: Total for the Company, Settsu, Daito Cacao, ISF, and IQL

## **Progress of Digital Strategies**

One of our growth scenarios for realizing Vision 2030 is strengthening our digital infrastructure. To this end, we are focusing on developing digital infrastructure as well as creating new business models and transforming operations through the use of AI, IoT, and other digital technologies.

To date, we have taken steps to convert the Nagoya Plant into a smart factory, reform supply chain management (SCM), and strengthen contact points with customers. Additionally, in terms of human resource development, we provide digital literacy education for employees, an internal proposal system, and more.

In recognition of these efforts, the Ministry of Economy, Trade and Industry renewed our DX certification in March

We view using AI as the starting point of our strategy to expedite the approach of utilizing digital technology, and will continue to strike out into unexplored territory and leverage the broad array of knowledge and data in the Group's possession to bolster our value chain and make our corporate structure stronger and more flexible.



#### Main initiatives

#### 1. Reforming SCM

With the aim of reducing inventory and shortening the cash conversion cycle (CCC) while maintaining a stable supply of products, we have built an SCM planning system to draw up plans for balancing supply and demand. Additionally, to further refine planning operations, we are studying AI applications and considering the strategic optimization and restructuring of our supply chain using digital twin technology.

#### 2. Strengthening contact points with customers

As part of our pursuit of deeper customer understanding through the use of ID-POS and other data, and sales style reform, we have established dedicated websites for each of our B-to-B business domains to provide information that will help our customers resolve their issues. We utilize marketing automation tools to strengthen relationships through customized communication for each customer. We are also strengthening our contact points with consumers by providing health information on lipids while utilizing dietary records, exercise habits, and other personal data.

#### 3. Promoting AI utilization

We are introducing AI text generator tools and AI development platforms as our foundation for AI utilization. Al development platforms are infrastructure that allows users to build AI systems for prediction, classification, and other applications without programming; we have taken our first steps to leverage machine learning in research and development. We are also preparing AI utilization rules and Al introduction and utilization guidelines for these tools.

#### 4. Promoting digital literacy education and an internal proposal system

For roughly 18 months, we provided e-learning-based training for all employees of the Company to raise their level of digital literacy. The program included content on digital knowledge and data analysis methods as well as courses on ways of thinking that are useful for problem solving. We are also implementing an internal proposal system aimed at cultivating human resources who can use digital technology to create new business models and reform the organizational culture, and are working to create a climate conducive to proactive innovation creation.



Aiko Kobayashi Leader, Business Coordination Department Marketing Force Japan Inc.

#### Using an internal proposal system to improve the efficiency of market research for prepared foods

I applied for the Internal Proposal System for DX Ideas because, during my time working in the development of prepared foods, I realized that using digital technology could help streamline business operations.

For mass retailers, manufacturers, and others involved in developing prepared foods, the lack of reference information available on websites adds to the time and effort required to conduct market research; without that data, we have to actually go out and purchase products, deconstruct them, measure the ingredients, and so on. I thought that if we could develop a digital system that would enable us to share and analyze information on mass retailers' prepared foods, we could streamline operations, not only for ourselves, but for everyone else involved. I am also considering using AI to generate new menus by combining the acquired data on prepared foods with information on food trends. We have begun developing the system based on interviews with customers about the demo version, and plan to sell it in the future.

The proposal system has given us the opportunity to realize measures to resolve the issues we faced in our daily work, and now I am thinking about how we can further streamline and create new value by using digital technology in other operations.