



Actively innovating for new customer value

Hiroyuki Kojima, Ph.D.

Chief Innovation Officer

1985 Joined Ajinomoto Co., Inc.

2005 Assigned to ZAO "Ajinomoto-Genetika Research Institute" (Russia)

2015 Corporate Vice President and General Manager, Research Institute for Bioscience Products and Fine Chemicals

2019 Corporate Senior Vice President and General Manager, R&D Planning Dept.

Creating a sustainable business as a foodtech company

We are the first company in the world to commercialize glutamic acid, an amino acid, in the form of umami seasoning *AJI-NO-MOTO*®. Later, we elucidated all the elements of deliciousness, including taste, flavor, texture and external environment, and then combined these results with original new ingredients, new manufacturing methods, and applications to meet the needs of customers around the world. As a result, we are now capable of delivering all forms of solutions in the food industry (see p.22). Also, we provide solutions globally in healthcare using proprietary leading-edge bioscience and fine chemical technologies based on our many years of research into amino acids.

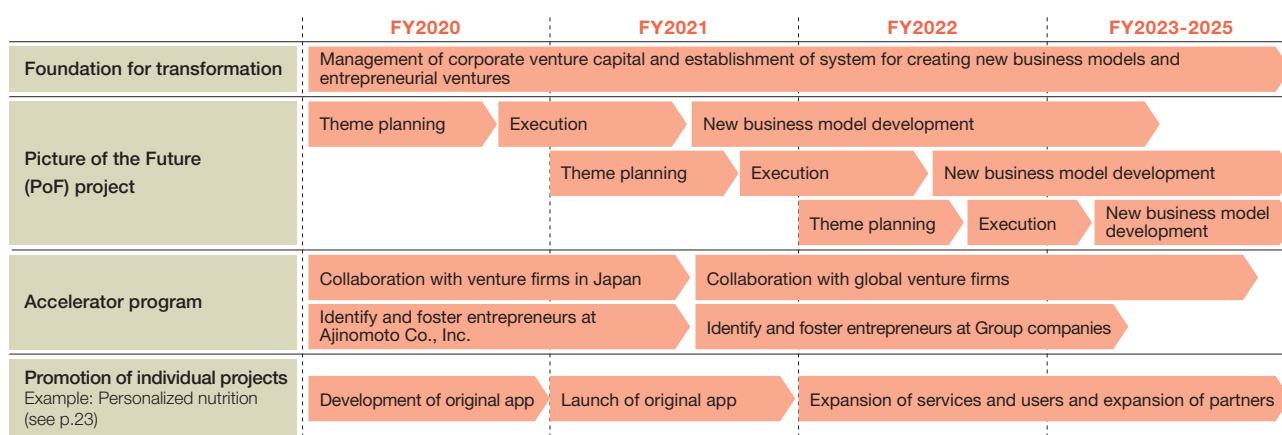
To become a solution-providing group of companies for food and health issues, it is essential that we always utilize customer-driven thinking to generate new value while combining various technologies to ensure a sustainable supply of products and solutions. This is the epitome of "foodtech," the very essence of what we strive for. To realize this vision, we must transform our corporate

culture and foster an innovative culture.

I am now spearheading efforts as leader of the Business Model Transformation Task Force. One of our most important initiatives is the Picture of the Future (PoF) project. This project involves thinking outside the box in examining the value creation possible by the Ajinomoto Group, driven by social issues and consumer needs in 2030, and formulating the business themes and processes needed for this. At the same time, the project promotes open innovation and corporate venture capital. Looking ahead, we will steadily and swiftly map out a path to become a "foodtech company" that provides solutions to food and health issues (see p.24).

As discussed in the Message from the President and CEO, we will increase investments in R&D and business model development for our core businesses. For the period from fiscal 2020 to 2022, we are planning to spend 87 billion yen on R&D, with more than 80% of this amount going to core businesses, and 26 billion yen on business model development, including investments in DX and human resources development.

Roadmap for business model transformation



Latest sensory research changing the value of food and health

The Ajinomoto Group has pursued the mechanisms of palatability scientifically since its founding. CIO Hiroyuki Kojima sat down with Dr. Robert Margolskee, Director and President of the Monell Center, to discuss the relationship between palatability and nutrition/health as well as the future potential of applied research in these fields.

About the Monell Chemical Senses Center

Established in 1968 originally as part of the University of Pennsylvania, but independent since 1978, the Monell Chemical Senses Center is the world's largest research institution in the field of taste and smell, specializing in the mechanisms and functions of chemical senses. The Center has conducted joint research with the Group since the 1970s.



Hiroyuki Kojima, Ph.D.
Chief Innovation Officer



Dr. Robert Margolskee
Director and President,
Monell Chemical Senses Center

Margolskee The senses of taste and smell, which the Center studies, are closely connected to nutrition and health. We view these as a single research area. For example, the function of taste cells is largely separated into two types. First is the intake of essential nutrients, sugar and salt, while the second is avoiding toxic compounds that harm the body. Both are directly connected to nutrition and health.

Kojima People need to consume salt and sugar in appropriate amounts, but our health suffers if we consume too much. To extend healthy life expectancy, we need to control our intake of salt and sugar, but most people feel that foods with lots of salt taste delicious, so we simply cannot reduce our intake. In other words, how can we reduce our salt intake without losing the deliciousness and flavor? The technologies and knowledge of senses accumulated by Monell along with our expertise to use umami to create delicious, reduced-salt foods are vital to resolving such a difficult challenge.

Margolskee Elucidating the mechanism of taste and smell receptors, or the process by which people feel deliciousness, is important also in the pursuit of health. When the sensitivity level of receptors increases, people consume less salt and sugar because of their high sensitivity. Recently, we have revealed the correlation between people's genotype and phenotype, which is making it possible to develop personalized health solutions.

Kojima Part of the response of senses is controlled by genotype, which is quite interesting. If we can incorporate these outcomes into our research and development, we may generate new possibilities.

Margolskee Personalization in health, including personalized medicine, is becoming a worldwide trend. The next trend will be personalized nutrition. Nutrition programs specially tailored to individuals' genotype and phenotype promote healthy dietary habits and effectively help patients control diet-related diseases such as obesity and heart disease.

Kojima I'm aware that Monell is working on research that utilizes sensory information in medicine and diagnostics.

Margolskee We are working on a project for early diagnosis of ovarian cancer and pancreatic cancer using sensory information. Both of these are considered difficult to diagnose at an early stage. In addition, we are researching both the diagnosis and treatment of infectious diseases such as COVID-19.

Kojima As I learn about your latest research, I hope to work even closer together to create new value by adding business and social value to research of sensory information.

Margolskee Yes, our Center emphasizes not only basic research, but applied research, too. The Ajinomoto Group excels particularly at applied research, using what it learns from translational research* to bring products to market. You also have a history of using deliciousness research for improving health and nutrition. We've been working together for more than four decades, and this strong connection should be continued, as I believe we both stand to benefit greatly.

Kojima I look forward to further deepening our collaboration in the future. Thank you for your time today.

* Translational research covers basic research to commercialization.

Supporting better lifestyles tailored to individuals based on the analysis of dietary patterns



Personalized Nutrition is one of the projects currently being implemented under the Business Model Transformation Task Force. The project aims to mitigate health risks by providing solutions tailored to the lifestyles of individual consumers. Below, project leader Masako Yasui presents an explanation of the project and our future aspirations.

Masako Yasui

Personalized Nutrition Project Leader
Research & Business Planning Department

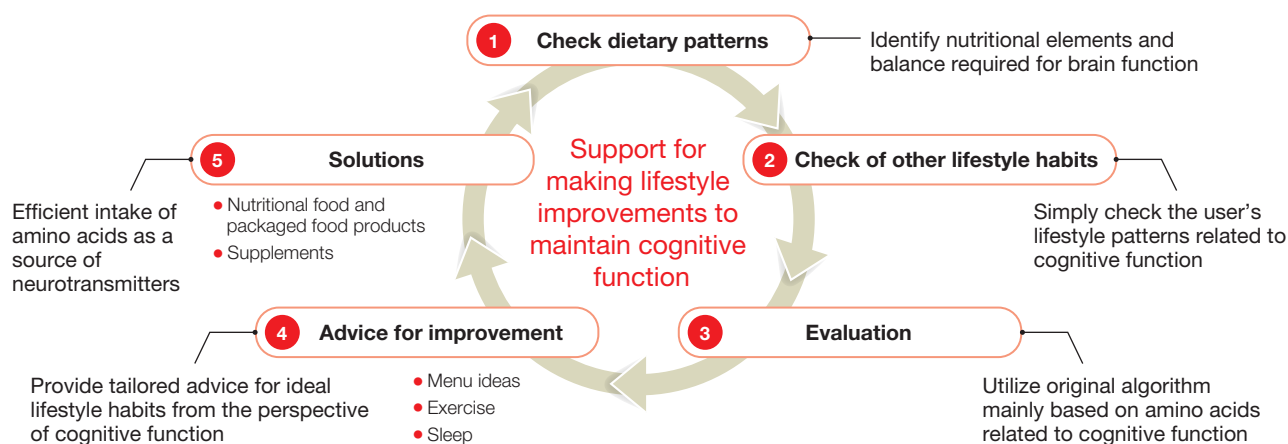
As the world's adult population increases and aging progresses in the 2020s and beyond, imbalanced dietary habits and nutrition could become a factor behind people's declining muscle mass and cognitive functions, which are expected to emerge as health issues. In other words, improving dietary habits from a younger age is important to mitigating future health risks. Given this, the Ajinomoto Group is implementing the Personalized Nutrition Project, which addresses individuals' health issues through direct connections with consumers. This project raises awareness about nutrition and health among consumers using IoT and digital technologies and provides one-stop solutions based on reliable information, tailored to each individual's characteristics. In particular, the project focuses on the correlation between declining cognitive functions and dietary habits, aiming to provide food-driven solutions for risk mitigation mainly targeting people in their 40s and 50s.

Specifically, we have developed an original app that enables to check user's dietary patterns to better

understand the nutritional elements necessary for brain function along with what constitutes a healthy balance. In addition to food, the app can check their lifestyle habits, too. By using our original algorithms focused on cognitive function, the app can analyze the correlation between food and lifestyle habits and declining cognitive function. Based on this information, the app provides advice and recommends solutions from various angles such as menu ideas, supplements, exercise and sleep tailored to individuals' lifestyle. We believe that these solutions can only be provided by the Ajinomoto Group having expertise and technologies related to food and healthcare.

Currently, we are building an ecosystem through collaboration with IT ventures focused on the assessment of cognitive function, a major company with strengths in analyzing system and AI technology, and leading research institutions in the field of epidemiological research. This will enable us to develop evidence-based algorithms and an app that we plan to launch in fiscal 2021.

Process for providing solutions to maintaining cognitive function



The future as seen from foodtech

The Ajinomoto Group is now working to create a path to become a “foodtech company” that resolves food and health issues. CIO Hiroyuki Kojima sat down with Hirotaka Tanaka, director of SIGMAXYZ Inc., to discuss the current situation of foodtech and the future of food, where the Group stands to make a difference.

About SIGMAXYZ Inc.

SIGMAXYZ Inc. is a consulting firm that provides services in a wide range of fields such as business process transformation, digital transformation, business investment and management.



Hiroyuki Kojima, Ph.D.
Chief Innovation Officer



Hirotaka Tanaka
Director, SIGMAXYZ Inc.

Tanaka In recent years, conferences on food and technology held around the world have actively discussed food and social issues along with the diverse value of food. This is because food itself is causing social issues, including food loss and waste. In addition, some people in the world today are not satisfied with the current situation of food, and such dissatisfaction is actually multifaceted and diverse. In other words, the value of food has a long-tail nature. To tackle this issue, there is a growing initiative to visualize individual needs using technology and provide the most appropriate options. Actually, top management of foodtech ventures on the frontline of this movement are mostly from the IT industry.

Kojima As the value of food demanded by customers changes, the Ajinomoto Group believes it must understand these needs accurately and respond accordingly. Innovation is vital in this process. Regardless of industry, innovation tends to be generated across more than one business domain.

Tanaka Formerly, I worked in the electronics industry, and since joining the food industry, I, too, have discovered a number of things. For example, food and cooking are a science, which is extremely logical and compatible with engineering. Yet, depending on the person who cooks, a completely different flavor can be produced even with the same cooking method and ingredients. Also, massive data on food nutrients has not reached consumers. I've also found that food manufacturers such as you actually possess a high level of expertise. If this know-how is opened up to food newcomers such as foodtech ventures, we will be able to discover a new pathway for food, and in turn, standardize this pathway to spread it around the world.

Kojima This means making our intangible assets more valuable and opening them up for use, right?

Tanaka Yes. I think it's very unfortunate that in Japan no company has yet to step forward to open up its assets, whether tangible or intangible, for broad collaboration with external parties. If major players get the message out that they are willing to open up their assets, this will help transform the convention in Japan. I expect the Ajinomoto Group to pioneer the future of food by being the first to open up its assets.

Kojima One effective approach to generating innovation is collaboration with outside parties. However, collaboration should not be the purpose; rather what we want to achieve should be the starting point. In July 2020, we renamed the R&D Planning Dept. to the Research & Business Planning Dept. This is because we aim to initiate research from the perspective of the value that we want to offer in response to customer needs, instead of what we want to make.

Tanaka This means you will bring conventional R&D and business closer together. Being customer-driven, rather than technology-driven, is important for realizing enjoyment and enrichment through food.

Kojima In our Picture of the Future project, too, we are thoroughly reviewing changes occurring among customers and what we need to do now to address them. First, we will decide on the value we want to provide, and communicate this in an appealing manner so as to attract partners who want to work with us. Next, we will create new value for food while collaborating in various ways with parties who identify with our vision for the future. Furthermore, we hope to contribute to sustainable production and consumption.

Undertaking transformation to change the way we think and act

Taro Fujie

Chief Transformation Officer

1985 Joined Ajinomoto Co., Inc.
2006 Assigned to Ajinomoto (China) Co., Ltd.
2011 President of AJINOMOTO PHILIPPINES CORPORATION
2015 General Manager, Latin America Division
2017 Corporate Vice President

Tackling the challenge of corporate culture transformation under our new vision

This year the Ajinomoto Group established the new vision of “Contribute to greater wellness for people worldwide, unlocking the power of amino acids to resolve the food and health issues associated with dietary habits and aging.” This vision describes our purpose in society and the path to fulfilling it. It forms the very foundation of all of our business activities and operations. We must now foster understanding and sympathy among our employees regarding what needs to be done to achieve this vision, encourage them to take ownership of ASV, and help in enhancing the execution capabilities of the entire organization.

Our roots can be traced back to a commitment to improve the nutrition of Japanese people and to achieve its philosophy of “Eat Well, Live Well.” However, a business climate where we could sell products as long as we made them continued for some time, resulting in a

corporate culture overly focused on products, the scale of sales, and the short-term profits of each division. As a result, in the past management plans, our numerical targets were mainly centered on sales and business profit. Under the 2020-2025 MTP, we will transition to a form of management that emphasizes the efficiency of invested capital (time, things, and money) and organic growth to resolve food and health issues, and escape from our previous mindset (change emphasis from P/L to ROIC over WACC). This is more than just changing our management indicators; it expresses our determination to transform our corporate culture and return to our roots of resolving social issues.

The Companywide Operational Transformation Task Force, which I lead, is responsible for building the platform and systems needed for this transition.

Roadmap for companywide operational transformation

	FY2020	FY2021	FY2022	FY2023-2025
Foundation for transformation (standard implementation of OE*)	Launch OE at all departments	Continually refine OE and undertake operational transformation		
ASV engagement	Strengthen ASV management through OE			
	Synchronize ASV engagement and individual skills development			
Common management indicators across the Group	Penetrate ROIC tree	Promote utilization of ROIC tree	Utilize ROIC tree in all operations	Continue refinement
	Penetrate managerial accounting standardization		Standardize managerial accounting	
		Foster data analysts	Increase data analysts	Continue refinement

* Continuous improvement and reform activities based on the concept and methods of thoroughly refining all operations from the customers' point of view while individuals and teams grow in a synchronized manner in order to create a competitive advantage.

Establishing a system to increase the ASV engagement of every employee

ASV engagement involves the passion and excitement of each and every employee as they work to provide “solutions for food and health issues.” It also means that employees are keenly aware of their contributions to the realization of this vision.

Here, I would like to share one concrete example. “Pair cooking” is an activity proposed by a group of young employees. This activity involves fostering closer bonds between family members by going shopping, cooking and eating together with a loved one. With lifestyles changing, this activity was born from the desire to support people’s mental health with the joy of eating together.

The Companywide Operational Transformation Task Force will establish a management cycle as a system to elevate this passion and drive of our people. By

penetrating this across the entire Ajinomoto Group, we will be able to increase ASV engagement and develop the skills of individuals in tandem.

An important aspect of ASV is to go beyond just creating social value to generate new economic value, too. By re-investing economic value (profits) obtained from the creation of social value back into our business, we will be able to generate new value and resolve even greater social issues. Therefore, we have introduced common management indicators for the Group and will establish a positive cycle where all employees can enjoy a keen sense of contributing to resolving food and health issues, by visualizing KPI, such as ROIC improvement and involvement to ASV, in all of our duties.

Management cycle that increases ASV engagement



▶ For details, see pp.57–60 “Enhancing Human Capital.”

▶ For details, please see the Ajinomoto Group Sustainability Data Book 2020. <https://www.ajinomoto.co.jp/company/en/ir/library/databook.html>

Foundation for promoting Group-wide transformation

We will introduce OE as a standard at all of our Group companies to serve as a platform for ushering in transformation across the entire Group. OE represents the foundation for the Ajinomoto Group’s DX. Our starting point is what customers and society require. All Group companies and organizations specify customers and customer value, based on which we set organizational and personal goals by cascading the companywide goals down. In turn, we will create a situation where improvement and reforms can be sustained via data-driven management.

In addition, the Companywide Operational Transformation Task Force is working to improve supply chain management, reduce costs from direct and indirect materials, and push ahead the efficiency improvement of service functions at Corporate Division. Going forward, under the leadership of the CEO, in my role as CXO I will work with the CIO and CDO as promoters to drive close collaboration between the executors of the Food Products Division, AminoScience Division and Corporate Division, powerfully promoting corporate culture transformation aimed at achieving our vision as One Team in sync.