# Co-creating value in four focused growth areas with “AminoScience”

**“AminoScience” is the source of the Ajinomoto Group’s unique strengths and competitiveness. We can co-create greater social and economic value in four focused growth areas: Healthcare, Food & Wellness, ICT, and Green.**

## Healthcare

**Contributing to advance treatment and prevention and to help extend healthy life expectancy.**

With “AminoScience” providing a deeper understanding of the human body, we will contribute in a wide range of areas, from providing solutions for advanced medical modalities to extending healthy life expectancy.

## Food & Wellness

**Contributing to well-being and self-fulfillment through food.**

We combine a new business model that utilizes “AminoScience” with an existing business model that evolves through orchestration. We contribute to well-being in everyday life by empathizing with the perspectives of each individual consumer.

## Evolving our business portfolio in areas of high social value.

The Ajinomoto Group has achieved growth for over 100 years by diversifying its business and expanding globally through innovation driven by “AminoScience.” In order to achieve the dramatic growth targeted by its purpose-driven management by medium-term ASV initiatives, we set four focused growth areas - Healthcare, Food & Wellness, ICT, and Green - as our basic policy, leveraging “AminoScience” and focusing on areas with high market-growth potential and high social value that the Ajinomoto Group can create. In setting these goals, we backcasted from where we want to be in 2030 and created a roadmap to achieve them. First, we drew a PoF (Picture of the Future) of what human beings, society, and the planet will look like with the participation of future generations of employees and key managerial positions who will play a central role in the company. We then organized the social value that we will be able to create with “AminoScience” in the future.
The four focused growth areas are areas where we can solve social issues, create value through business operation unique to the Ajinomoto Group that contributes well-being, increase our corporate value through ASV (Ajinomoto Group Creating Shared Value), and realize our “Purpose.” We will evolve our business portfolio by steadily promoting the creation of new businesses and organic growth through business model transformation in these four focused growth areas, both by forecasting from existing businesses and backcasting from our vision.

### ICT

**Contributing to advance semiconductors for a smart society**

By utilizing “AminoScience”, we will contribute to the evolution of semiconductors with faster speed and lower environmental impact, as well as to the realization of a smart society, including AI, autonomous driving, and photonics-electronics fusion.

### Green

**Contributing to society and the planet with an eye to the future through sustainable environmental issues.**

We aim to address pressing environmental issues by reducing the environmental impact through “AminoScience”, creating a positive impact, and contributing to the provision of sustainable food and the realization of a biocycle.

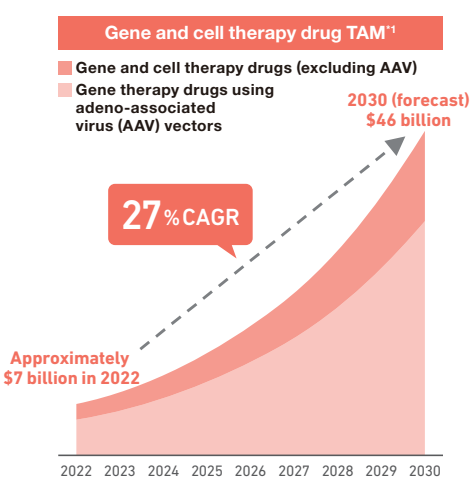
Healthcare

# Advancing from gene therapy to cell therapy in global bio-pharma CDMO businesses

**To evolve our business model in the healthcare field, Ajinomoto Group is building a cell therapy value chain and a platform for the advanced medical field with Forge Biologics, a US gene therapy CDMO that became a wholly owned subsidiary of the Ajinomoto Group in 2023 as a hub of innovation.**

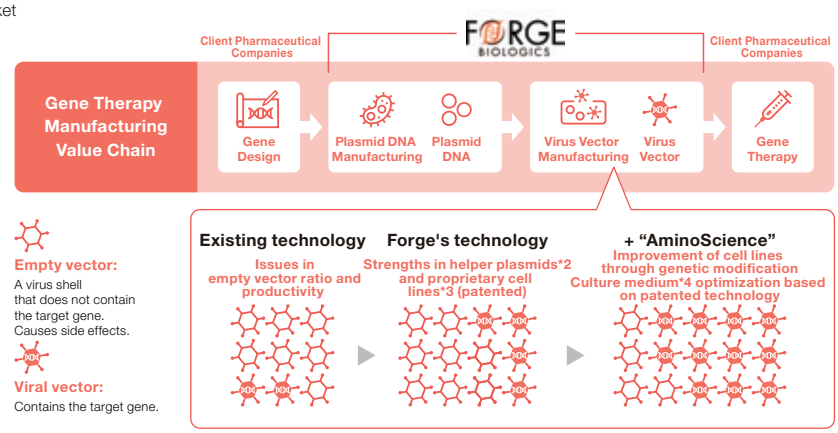
## Next-generation strategic business/gene therapy CDMO

In the healthcare area, in addition to the steady growth of amino acid and small molecule drug CDMOs (contract manufacturing and contract development of manufacturing methods), we expect accelerated growth from businesses such as oligo nucleotide/biopharmaceutical CDMO, regenerative medicine/antibody culture medium, and medical food.




Source: Wall Street Research, Alliance of Regenerative Medicine, Roots Analysis, etc.
*1 Total Addressable Market

Furthermore, from a medium- to long-term perspective, we are positioning gene therapy CDMO, which treats genetic abnormalities that cause disease, as one of our next-generation strategic businesses. There are currently approximately 350 million patients with rare diseases worldwide, with approximately 10,000 types. Of these, 80% are genetic diseases, and 50% are children. Among these, more than 100 clinical trials have been conducted for the highly safe adeno-associated virus (AAV) therapy, and many new AAV drugs have been approved in recent years. The market is expected to continue to grow rapidly by more than two digits per year. In addition, AAV vector (a carrier to cells) manufacturing and plasmid DNA manufacturing, which are key points in the gene therapy manufacturing value chain, require advanced know-how and dedicated facilities, making technological differentiation possible, and a continued increase in demand is anticipated. The Ajinomoto Group aims to gain a unique and strong position in this field as well.

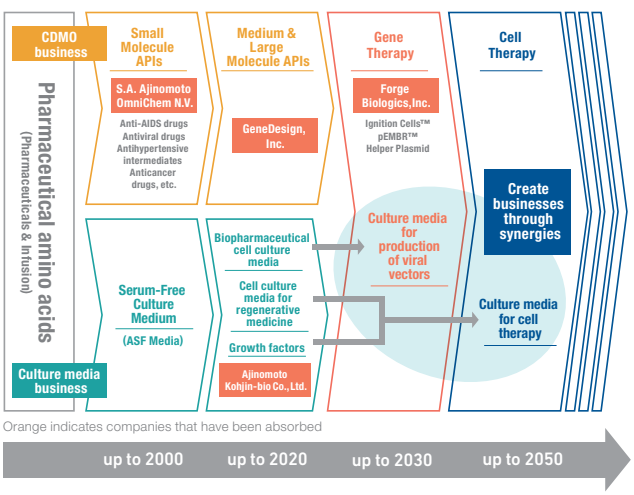



*2 DNA of a protein which is required to encapsule a gene of interest into the virus shell
*3 Special cells that are used to introduce the DNA (plasmid) of a gene of interest and a helper plasmid to produce a viral vector
*4 Source of nutrients required to grow cells and produce a viral vector

## M&A to build a strong platform by evolving “AminoScience”

We are currently investing while actively utilizing M&A to speed up and scale up, accelerating the realization of a unique business portfolio to the Ajinomoto Group.
Forge is a gene therapy CDMO with the manufacturing capabilities of AAV and plasmid DNA, two key points in the gene therapy manufacturing value chain, and also has the technology to produce high-purity, high-yield AAV vectors. They have already produced GMP (good manufacturing practice) products for clinical trials by many biotech companies, and have steadily built up a manufacturing track record, which has led to rapid growth and expansion in recent years that is expected to continue in the future.
In addition, Forge has one of the largest manufacturing equipment for AAV production, and in addition to its existing facilities, it also has space for expansion within its facilities to accommodate further business expansion in the future.

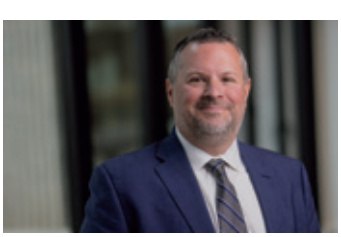
## Building a value chain for cell therapy




The Ajinomoto Group has a strong technological foundation in the CDMO field and formulation optimization and manufacturing know-how cultivated through culture medium development. By combining this with Forge’s AAV manufacturing know-how and proprietary platform technology, it can generate high synergies.
By building a global biopharmaceutical business foundation that includes Forge, the Ajinomoto Group is now accelerating development of consumables necessary for cell therapy, such as culture media optimized for each cell type.
Based on this, we will work to strengthen and create businesses through further synergies and to develop from gene therapy to cell therapy.

## A central hub for innovation within the bio strategy

### Forge Biologics, Inc. President & CEO John Maslowski, M.S.



Forge is creating meaningful synergies with Ajinomoto Co. that generate shared value across innovation, operations, and commercial execution. Our R&D, molecular development, and process development teams collaborate with Ajinomoto Co. to co-develop proprietary technologies such as optimized cell lines and production platforms. These efforts strengthen the innovation pipeline across the Group and enhance Forge’s technical capabilities and market offerings.
Business Development bridges this innovation with market needs by sourcing external tools and facilitating partnerships that drive value for both organizations. In Sales, joint pursuit of large pharma opportunities positions both Forge and Ajinomoto Co. for expanded client engagement. Marketing synergies, including a brand strategy refresh and upcoming global video campaigns, will elevate the Group’s positioning across all services. This benefits both brand equity and market access.
Operational synergies also generate shared value. IT and HR drive efficiency through best practice sharing. Finance ensures aligned reporting and financial transparency across entities.
These integrated activities enable Forge to act as an innovation hub and execution arm for the Ajinomoto Group’s global biotech strategy. At the same time, they provide Forge with greater reach, capability, and opportunity. Together, we are building a collaborative engine that drives innovation, accelerates commercialization, and delivers mutual value across the Group.

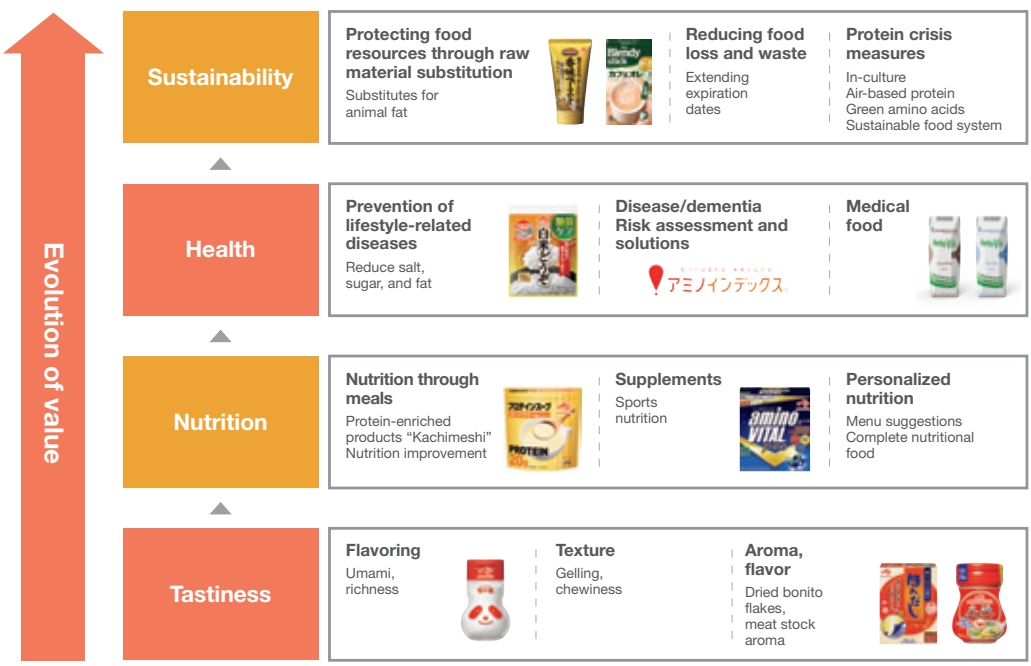
Food & Wellness

# Evolving value and promoting the Fan-Based Model

**In the Food & Wellness area, we will combine new business models that utilize “AminoScience” with existing business models to discover and create value that not only solves health issues but also contributes to the well-being of each and every consumer.**

## Evolving from Deliciousness to Sustainability

The Ajinomoto Group develops healthy and delicious products based on the food culture of each country and region, from seasonings to soups and frozen foods. In the Food & Wellness area, we will evolve value from deliciousness to nutrition, health, and sustainability by 2030 through innovation that utilizes “AminoScience.”




## Evolving to a fan-based model to implement the POND concept

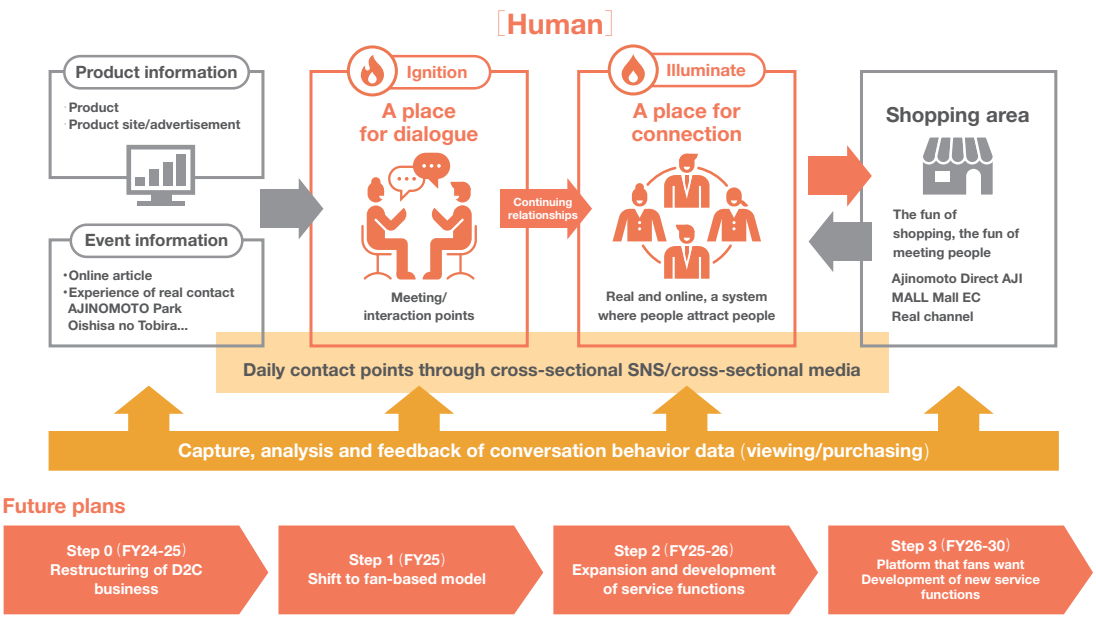
The Ajinomoto Group established the Marketing Design Center in 2023 and further established the D2C Dept. within it in April 2024. These organizations are integrating and collaborating to start implementing the POND (Company-wide customer base) concept, which will increase customer engagement and improve customer lifetime value.

In Japan's mail-order business, sales have been declining since peaking in fiscal 2018 due to a deterioration in the efficiency of new customer acquisition and the yield of continued use, and acquiring younger customers in particular is a challenge. Therefore, the Ajinomoto Group is transforming its communication strategy by evolving from the traditional D2C model of advertising and new telephone orders to fan-based marketing.

The Ajinomoto Group's fan-based marketing is a strategy that emphasizes building long-term relationships with customers. By connecting business activities that have previously been carried out on a product or service basis with a consumer perspective and building deep, long-lasting relationships with consumers like friends, the Group aims to contribute to consumer well-being and achieve business growth.

### Specific measures for fan-based marketing

By adding human feelings to conventional products and experiences, we will move closer to consumers and create opportunities for dialogue and connections by implementing an "enthusiasm ecosystem.




### Future plans




## Strategy for increasing long-term customer lifetime value

We are focusing on the following two main communication initiatives in fan-based marketing. Through these initiatives, we aim to increase our customer lifetime value in the medium to long term by increasing our fan base.

### 1. Enthusiasm Ecosystem

We have systematized efforts to increase customer enthusiasm, increase fandom and maintain it. By adding human passion to conventional efforts, we will build a unique mechanism called the “Enthusiasm Ecosystem” that brings us closer to consumers and creates opportunities for dialogue and connection, and we will proceed with the transformation to a “fan-based model”. The challenge for this is that each layer of services, systems and data is independent, there is low interconnection between services, and the whole system is not closely linked. In the future, we will clarify the departments responsible for each layer and promote horizontal collaboration within the layers and vertical collaboration on the axis.

### 2. Virtual organization “Fan-based model promotion unit”

We have established a virtual organization directly under the General Manager of the Marketing Design Center to promote the transformation to a “fan-based model” through the construction of an “Enthusiasm Ecosystem.” Members from inside and outside the company will gather as needed to work together organically and will consolidate information on dispersed services and systems to optimize the overall experience and provide a consistent customer experience.

ICT

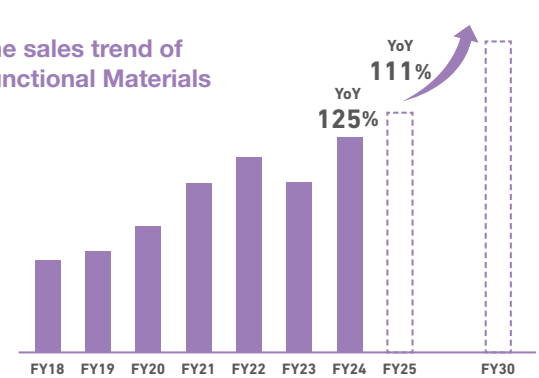
# The growth strategy to evolve ABF

**Ajinomoto Build-up Film® (ABF) has an overwhelming share of the global market. We aim to maintain our competitive advantage by proactively identifying and updating the technology that society and our users desire, and also advancing development for Photonic-Electronic Co-package substrates.**

## ABF Evolving through High-speed Development

Ajinomoto Build-up Film® (ABF) continues to grow rapidly as the de facto standard in the semiconductor industry. ABF, produced by the Ajinomoto Group, is an essential insulating material for high-performance semiconductors and currently holds an overwhelming share of the global market. Its core technology is “AminoScience”, which has successfully achieved its current position by turning the insulating material, which was previously ink, into a film. The strengths of the Ajinomoto Group are its co-creation ecosystem with key players in the value chain and its high-speed development system. The co-creation ecosystem allows us to predict the characteristics required for next-generation semiconductor packages, and formulation technology, which utilizes our unique polymer chemistry know-how and molecular design capabilities, enables high-speed development. By continuing to develop new ABFs, that is, by continuing to evolve ABFs, we have contributed to the evolution of semiconductor packages, such as the realization of fine wiring and high-speed communication. Semiconductors, which now support ICT infrastructure, including AI and autonomous driving, are evolving more and more and are attracting attention. The Ajinomoto Group is working on the evolution of ABF with the ambitious goal of contributing to the evolution of a smart society. We believe that ABF will continue to maintain its advantage in the industry by continuing to update the technologies required by society and users along with research and development, advance development for Photonic-Electronic Co-package substrates, and by responding to needs as an essential ecosystem in the industry.

**The sales trend of Functional Materials**



## Development of materials for Photonic-Electronic Co-package

Currently, the demand for ABF is expected to grow due to the expansion of HPC for servers, deep learning, generative AI, etc. in addition to PCs. These HPC applications are expected to become increasingly multi-layered and large, so they are expected to continue to drive demand for ABF. There is an issue that power consumption will increase due to the future increase in data communication volume. One solution to this issue is the Photonic-Electronic Co-package.

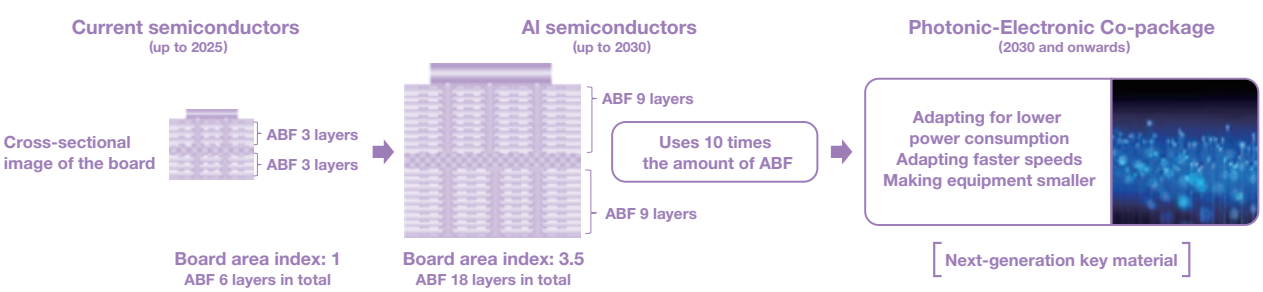
This is an advanced semiconductor package that combines optical signals, which enable efficient data transmission, with existing electrical signals. Leveraging the strengths we have cultivated at “AminoScience” and ABF, we aim to contribute to the realization of a sustainable society by providing solutions and materials that enable low power consumption.

## Accelerating business development through expanded applications and entry into new business domains.

We aim to expand our Group’s technology into areas surrounding ABF. As part of this effort, we are developing magnetic materials, sealing materials, and ABF-RCC (resin coated copper foil).

In addition, in order to provide value in the world after 2030, we are collaborating with external parties to research new trends in the ICT field, such as bioelectronics.

We would like to establish our position as an innovation provider by providing materials that are essential to our customers’ products and services and products that are essential to society.




Green

# Leveraging “AminoScience” to build agrifood systems

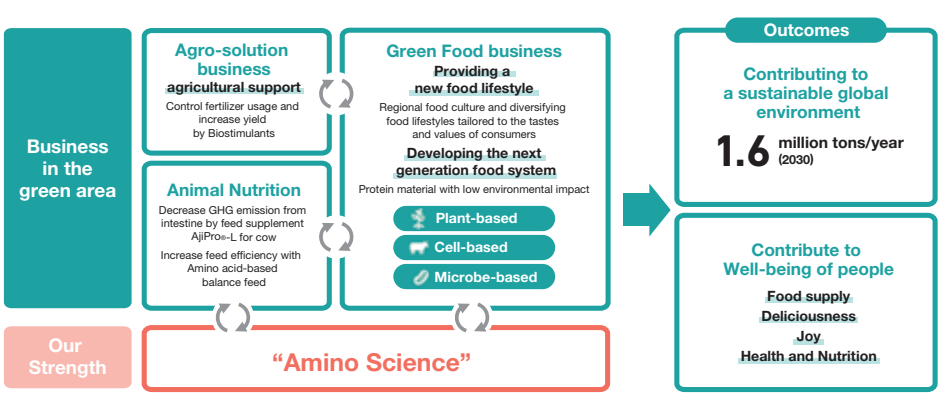
**The Ajinomoto Group is building a sustainable food system that utilizes our strengths in “AminoScience” to realize new food lifestyles that match the diverse tastes and values of consumers, contributes to agriculture, and coexists with the earth.**

## Our vision for the green area

The Ajinomoto Group aims to create a positive impact of 1.6 million tons/year of GHG reduction in 2030 by leveraging our strengths in “AminoScience” and through the construction of a sustainable food system and agro-solution business.
We will also contribute to creating a positive impact through the construction of a sustainable food system and agro-solution business. In our green food business, we will promote the development of next-generation food systems, such as plant-based, cultured meat, and precision fermentation, with low environmental impact, and provide food lifestyles that match the regional food culture and the diverse tastes and values of consumers.
We will build a business foundation quickly through collaboration with start-up companies and aim to expand our business globally, starting with plant-based solutions and consumer businesses in Singapore.
In the agro-solution business, we will use the biostimulant business as a growth driver, with both B2B and B2C businesses as the driving forces to not only improve land yields for agricultural crops, make them more resistant to climate change, enhance nutritional content, and reduce environmental impact, but also aim to achieve sustainable growth in businesses with high economic value.
In the livestock feed business, we will work with partners to improve the conversion efficiency of meat/dairy feed and reduce environmental impact, focusing on the bovine lysine preparation AjiPro®-L.

### Vision for Green Area

Through Green Food business, Agro-Solution business and Animal nutrition business, we will contribute to sustainable global environment and Well-being of people.




* The effect of GHG reduction created by replacing it with a new food system, rather than reducing GHG emissions in in-house production.

## A new food system with alternative proteins

As a strategy to contribute to the realization of a sustainable global environment and the well-being of consumers, we are proposing food or dietary choices that contribute to the environment in developed countries that already have high meat demand and high environmental impact, and promoting the early provision of alternative proteins that are healthier and more affordable than meat in emerging countries where meat demand will increase in the future.
Last year, we started developing and demonstrating a business model for developed countries in Singapore, and are

selling dairy alternatives under the “Atlr.72®” (Atelier Seven-two) brand. This year, we will expand into the staple food category, with agile verification of sales and improvement of products in our directly managed stores, and put into practice a high-speed development model in which products that are expected to show continued demand will be expanded to general retail channels as processed foods.

## Contributing to agriculture through biostimulants

The Ajinomoto Group is working to improve agricultural efficiency and crop quality and reduce environmental impact through its biostimulant business, which uses “AminoScience” agricultural materials.

Biostimulants are agricultural materials that promote the natural power and growth of plants by blending environmentally conscious bio-derived materials such as amino acids and other compounds derived from microorganism-based fermentation and natural extracts. Unlike pesticides, which protect plants from “biotic stress” such as disease and pests, biostimulants work to reduce “abiotic stress” such as high temperatures, low temperatures, and drought.

Crops have a genetic maximum yield at the time of harvest, but the yield gradually decreases due to the “biotic stress” and “abiotic stress” they experience during the growth process. Biostimulants play a role in reducing the yield reduction caused by “abiotic stress”.

Agro2Agri (Spain), a member of the Ajinomoto Group, manufactures and sells biostimulant products, operates in more than 50 countries around the world, and contributes to reducing GHG emissions in the agri-food system, which accounts for 30% of GHG emissions. The company’s research confirmed a 24% increase in yield and an estimated 25% reduction in water and chemical fertilizer use.

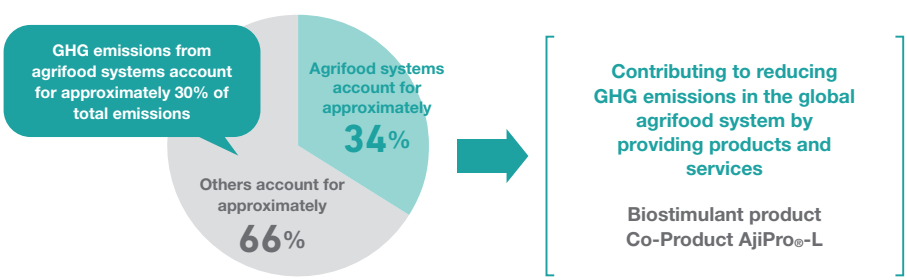
In addition, improved quality of crops is expected, such as a 39% increase in protein content in wheat, a 20% increase in vitamin C in paprika, and a 14% increase in starch content in corn.

Although there is a temporary cooling in demand due to the situation in Ukraine and falling crop prices, the agri-market as a whole is expected to grow at an annual rate of about 12% in the medium to long term due to increased food demand, adaptation to climate change, and the need to reduce chemical fertilizers and pesticides. The Ajinomoto Group will establish a system for stable procurement of biostimulant raw materials, strengthen our compounding technologies and product development capabilities, and expand our product line. In our B2B business, the Group will expand into the European and American markets by strengthening relationships with major customers, and in our B2C business, we will expand mainly into Asia and Africa.

Furthermore, through collaboration with the animal nutrition business and lobbying with the government, we will increase our value as a business that contributes to solving environmental issues in the green field, mainly agriculture, dairy farming, and livestock farming. The Ajinomoto Group will strive to achieve continuous growth as an agri-solutions business with high economic value, with both B2B and B2C businesses as growth drivers.

**Expanding positive impact through co-creation of “AminoScience” products and ecosystems.**

**Global GHG emissions: 57.4 billion tons**




**Percentage of global GHG emissions from agrifood systems**

*1 UNEP (United Nations Environment Programme), 2022
*2 Crippa, M. et al., 2015, “Food systems are responsible for a third of global anthropogenic GHG emissions”, Nature Food, vol. 2, 2021, pp. 198-20