



## **Spread, Chubu Electric Power and ES-CON JAPAN Enter an Investor Agreement, Plan to Construct Techno Farm Fukuroi, World's Largest Vertical Farm to Produce 10 Tons Daily**

May 25, 2021

Spread Co., Ltd. (HQ: Kyoto, Japan; CEO: Shinji Inada, hereinafter "Spread"), Chubu Electric Power Co., Inc. (Head Office: Higashi-ku, Nagoya; President & Director: Kingo Hayashi, hereinafter "Chubu Electric Power"), ES-CON JAPAN Ltd. (Head Office: Minato-ku, Tokyo; President & Representative Director: Takatoshi Ito, hereinafter "ES-CON JAPAN") announced today that they have entered into an investor agreement regarding the establishment of TSUNAGU Community Farm LLC (hereinafter "new company") to construct and operate vertical farms.

Expectations are high for vertical farms for stable production of pesticide-free agricultural products through precise control of the cultivation environment. Many hope that vertical farms will provide a solution for a number of problems, such as growing consumer needs for food safety, decrease in farming population, as well as food supply instability and price fluctuations due to extreme weather.

Based on the agreement, Spread, Chubu Electric Power and ES-CON JAPAN will jointly establish the new company that will construct and operate vertical farms, in July 2021. As its first initiative, the new company is planning to build an automated vertical farm "Techno Farm Fukuroi" in Fukuroi city (Shizuoka, Japan), which will be the world's largest automated vertical farm, capable of producing 10 tons of lettuce per day. The construction will start in October this year, while the production start is planned for January 2024.

The integration of Chubu Electric Power's energy management know-how, ES-CON JAPAN's real estate development capabilities, and Spread's cultivation technologies will allow for the efficient and stable production of pesticide-free, safe and clean vegetables.

Spread, Chubu Electric Power and ES-CON JAPAN aim to solve the issues affecting food and agriculture through vertical farming, while actively utilizing renewable energy and effectively using CO<sub>2</sub> in the cultivation process to achieve a sustainable society and the delivery of SDGs through decarbonization.

**About Spread**

Since its establishment in 2006, Spread has been promoting vertical farming with a goal of creation of a sustainable society. In 2018, Spread started shipping from the large-scale automated Techno Farm Keihanna in Kizugawa, Kyoto which is the first facility to employ Spread’s next generation food production system *Techno Farm™*. In less than 2 years from the start Techno Farm Keihanna reached a stable operating rate of 99%. Spread will further refine *Techno Farm™* technologies that allow stable production anywhere at any time, and plans to reach 100 tons of daily production domestically by 2030, while pursuing various business opportunities both in Japan and overseas. Under the concept of “Sustainable Vegetable”, Spread delivers its own vertically farmed vegetables brand *Vegetus* to approximately 4,000 stores in Japan. Since start of the brand in 2008, Spread has sold over 70 million packs in total<sup>1</sup>. Spread is excited to enter the investor agreement with Chubu Electric Power and ES-CON JAPAN, as all partners share same vision and values of sustainable agriculture, and each partner is bringing their own unique strengths to the partnership.



**Unique Features of Techno Farm Fukuroi**

- Largest vertical farm in the world, capable of producing 10 tons of lettuce per day
- Standardized, efficient operations via automated cultivation
- Even more precise environmental control
- Recycling of the water used for cultivation
- Energy saving due to in-house developed LED lighting specifically for vertical farming
- IoT-based cultivation management system
- Pesticide-free, stable production, not influenced by the weather

Spread will continue to pursue further business opportunities through technological innovation both in Japan and overseas. Spread aims to provide solutions for the global problems of climate change and food security, and the delivery of a truly sustainable society.

**Techno Farm Fukuroi’s Specification**

Construction site	Fukuroi-shi, Shizuoka Prefecture, Japan
Farm type	Indoor Vertical Farm using Artificial Lighting
Site area	Approximately 24,400 m <sup>2</sup>
Product	Leafy greens (Lettuce)
Production capability	10 tons per day / 3,650 tons per year
Production start	January 2024



**Overview of TSUNAGU Community Farm LLC**

Established	: July 2021 (scheduled)
Location	: 1, Higashi-shincho, Higashi-ku, Nagoya-shi, Aichi Prefecture
Managing partners	: Chubu Electric Power (representative member), ES-CON JAPAN, Spread
Investment	: Chubu Electric Power: 51%, ES-CON JAPAN: 48%, Spread: 1%
Business	: Production and sale of agricultural products through the operation of vertical farms, utilizing fully artificial light

**Overview of Chubu Electric Power Co., Inc.**

President & Director	: Kingo Hayashi
Established	: May 1, 1951
Capital	: 430.7 billion yen (As of March 31, 2020)
Headquarters	: 1, Higashi-shincho, Higashi-ku, Nagoya, Aichi, Japan
Business	: Renewable energy business, Nuclear power business, Overseas business, Community support infrastructure related business, Etc.

**Overview of ES-CON JAPAN Ltd.**

President & Representative Director	: Takatoshi Ito
Established	: April 18, 1995
Capital	: 6.2 billion yen (As of end of 2020)
Headquarters	: 20F The Okura Prestige Tower, 2-10-4 Toranomom, Minato-ku, Tokyo, Japan
Business	: Real estate sale, Real estate leasing, Real estate planning, brokerage and consultation

**Overview of Spread Co., Ltd.**

Chief Executive Officer	: Shinji Inada
Established	: January 5, 2006
Capital	: 87.4 million yen (As of March 31, 2021)
Headquarters	: Kyoto Research Park #8, 90 Chudojiawata-cho, Shimogyo-ku, Kyoto, Japan
Business	: Vertical farming operation, management and sales of the products

ABOUT SPREAD

◆ **Kameoka Plant, the Profitability Pioneer of Vertical Farming**

**Capacity : 21,000 heads/2.1t/day**

Spread's Kameoka Plant cracked one of the toughest challenges in commercial vertical farming. Since starting operations in 2007, Spread has developed sophisticated environmental control technologies, and significantly improved the overall operational efficiency at the Kameoka Plant.

Together this has brought the operating rate to 97% and enabled Kameoka Plant become profitable for the first time in 2013.



◆ **Techno Farm Keihanna. Stable Production via Innovative Technologies**

**Capacity : 30,000heads/3t/day**

Started operations in 2018. The first vertical farm to utilize next generation food production system *Techno Farm™*. At the R&D facility attached to the farm, development of the new cultivation techniques, as well as IoT and AI systems is underway. As the mother plant of *Techno Farm™*,

Techno Farm Keihanna will serve as the foundation for the never-ending evolution of new technologies.

Innovative technologies, allowing for simultaneous increase in productivity and environmental sustainability:

- Automated cultivation
- Saving over 16,000 liters of water per day via water recycling
- Advanced environmental control
- Energy saving due to LED lighting, tailored for vertical farming usage
- Upgrade in operational efficiency due to IoT-based management system



◆ **Next Generation Food Production System *Techno Farm™***

Developed by Spread with the help of partner companies, *Techno Farm™* builds on the know-how developed at the Kameoka Plant in more than 10 years of its operation.

Automated cultivation, water recycling and environmental control technologies, specialized LED lighting as well as IoT and AI make for simultaneous increase in productivity and environmental sustainability.

Spread will continue to promote this technology as an essential part of sustainable agriculture.

URL : [www.technofarm.com/en](http://www.technofarm.com/en)



◆ **Over 70 Million Packs Sold in Total** \*1.

**Vertically Farmed Vegetables Brand *Vegetus***

Under the concept of “Sustainable Vegetable”, *Vegetus* strives to be healthy for both Earth and people. Spread’s current lineup includes 3 unique varieties: crunchy Frilly Lettuce, smooth and sweet Pleated Lettuce, soft yet crispy Fringe Lettuce. Each of these delivers a clean and fresh taste and is rich in beta-carotene. \*2 *Vegetus* is a favorite of children, easy to prepare and fits into any meal, not only salads or sandwiches.

URL : [www.vege-tus.com](http://www.vege-tus.com) (Japanese only)



◆ **Contribution to the United Nations’ Sustainable Development Goals**



Examples of Spread’s contribution

- Goal 2: Promotion of sustainable food production
- Goal 3: Preventing food poisoning risk via hygiene and cultivation management practices
- Goal 8: Labor saving through automation and digital transformation
- Goal 9: IoT-based management system for efficient cultivation
- Goal 12: Helping to reduce food loss due to most part of lettuce being edible
- Goal 13: Promoting resilient agriculture
- Goal 15: Efficient usage of land resources and pesticide-free cultivation
- Goal 17: *Techno Farm*<sup>TM</sup> partnership business

\*1 Actual numbers of lettuce, produced and sold by Spread

\*2 *Vegetus* clears Japanese Ministry of Health, Labor and Welfare standards for the “beta-carotene rich” vegetables (equal or more than 600µg/100g)

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