

# NEWS RELEASE

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## **Spread and NTT COMWARE Partner to co-Develop DevOps IT platform for *Techno Farm*<sup>™</sup>, Next-generation Indoor Vertical Farming**

**~Creating an IoT platform for the world's largest automated indoor vertical farm~**

October 16, 2018, Tokyo/Kyoto - Spread Co., Ltd. (HQ: Kyoto, Japan; CEO: Shinji Inada; hereinafter, Spread) and NTT COMWARE CORPORATION (Head office: Tokyo, Japan; President: Satoshi Kurishima, hereinafter, NTT COMWARE) have entered into a contract for the co-development of an IT management platform for *Techno Farm*<sup>™</sup> - Spread's award-winning, next-generation, indoor, vertical farm. This cloud-based platform allows Spread to store and manage data from cultivation processes within *Techno Farm*<sup>™</sup> into its database. With its DevOps and Agile approach, NTT COMWARE will accelerate Spread's digital operations and to support its business on a global scale.

Expectations for indoor vertical farming are ever-rising to maintain a sustainable society amidst growing concerns for food security due to population growth, environmental contamination, climate change and shortage of arable land. Spread, who has been successfully operating a fully enclosed indoor vertical farm using artificial lights in Kyoto since 2007, is the leading company for indoor vertical farming. *Techno Farm*<sup>™</sup>, a Gold medal winner of the 2016 Edison Award, is Spread's upcoming project, which will be an indoor vertical farm capable of producing 30,000 heads of lettuce a day. To sustainably achieve global food security for future generations, Spread will bring *Techno Farm*<sup>™</sup> to the world by working with local partners in several international markets.

Meanwhile, NTT COMWARE has been shaping Japanese society by providing a safe and secure ICT infrastructure as experts within the NTT Group while operating 24 hours a day, 365 days a year. Today with its accumulated technology, experience, and quality, NTT COMWARE endeavors to collaborate with partners from a variety of fields to create new values through ICT.

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“*Techno Farm*<sup>TM</sup> is a next generation food production system created by Spread that implements automation replacing several elements of production from seeding to shipment that were previously hands-on processes. This system aims to be implemented anywhere, by anyone in the world. To achieve this requires technologies such as automation, IoT/AI” says Shinji Inada, Spread’s CEO. The role of NTT COMWARE here is to provide an IT management platform for *Techno Farm*<sup>TM</sup> where cultivation data, with its related environmental parameters collected by IoT sensors, is stored and utilized as Big Data. This platform is set to advance the digital operations and the overall production quality of *Techno Farm*<sup>TM</sup>.



*Techno Farm*<sup>TM</sup> concept image

Spread and NTT COMWARE entered into a contract to address digital transformation while sharing goals and directions from a long-term perspective. The decision is based on a mutual understanding for the necessity of continuous innovation due to day-to-day technological progresses and the big data-driven advancement of cultivation technologies as vertical indoor farming industry grows.

*Techno Farm*<sup>TM</sup> is Spread’s next generation food production system, which incorporates the latest innovations such as automated cultivation, water recycling and environmental control technology, specialized LED lighting and IoT/AI technology. To introduce an IT platform to *Techno Farm*<sup>TM</sup>, it was required to develop a bespoke system as existing platform cannot be used because of the uniqueness of workflows and data items from Spread accumulated through years of manual operation. The system features include:

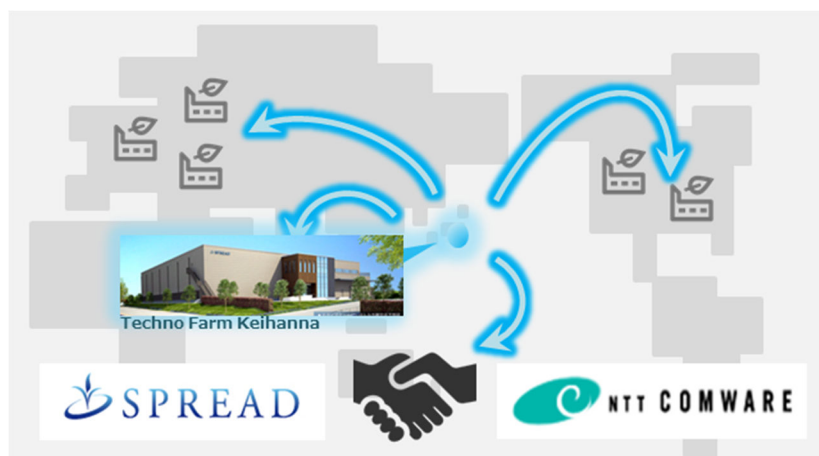
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- **IT based simple administration:** Leaving manual tasks behind, an IT based simple operation will drive Spread's multi-site partnerships.
- **Detect & solve problems:** By analyzing environment and production data with its related environmental parameters collected by sensors, it will be possible to detect and solve problems within the operating sites quickly.
- **Cloud-based central management:** By collecting data from each operating site into cloud, Spread will be able to see the production status and its related parameters of all operating sites.

Through the platform, Spread provides production management features to each operating site and collects environment and growth data with related environmental parameters to the cloud via IoT sensors and tablet inputs. Spread will be able to not only identify the production status of each operating site, but also to find out the best growth conditions based on AI analysis of those collected data.

NTT COMWARE adopted DevOps and Agile software development, and it makes possible to respond to the needs of each site flexibly and to adopt newly available technologies from the market.

Starting with Techno Farm Keihanna (scheduled to open in Autumn 2018), Spread will introduce the platform to accelerate both domestic and international businesses. As a co-development partner of Spread, NTT COMWARE endeavors to maximize value by following a B2B2X model presented by the NTT Group. Spread and NTT COMWARE will continue to promote innovations by adopting advanced technologies such as IoT/AI for *Techno Farm*<sup>TM</sup>'s further advancement.



*Techno Farm*<sup>TM</sup> to the world

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## Note to Editors

*Techno Farm*<sup>TM</sup> is a next generation food production system created by Spread based on their 10 years of operating experience and technological innovation in vertical farming. Joint development with Japanese technology companies for innovations such as automated cultivation, water recycling and environmental control technologies, specialized LED lighting, and IoT/AI will reduce environmental burden and operational costs. NTT COMWARE supports a wide range of IT aspects.

\* “*Techno Farm*” is a trademark of Spread Co., Ltd.

\* “Edison Awards” is a trademark of AF Networks LLC.

\* All company names, product names and service names mentioned are trademarks or registered trademarks of the respective companies.

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