

SFA and ISE Foods Holdings sign MOU on development of new state-of-the-art facilities to boost local egg production

On 10 September 2021, the Singapore Food Agency (SFA) and ISE Foods Holdings Pte Ltd (IFH) signed a Memorandum of Understanding (MOU) for IFH to develop an egg layer farm, a Day-Old-Chick (DOC) hatchery, a parent stock pullet farm, and a parent stock layer farm in Singapore. This will be the 4th egg farm in Singapore and will strengthen the resilience of Singapore's food supply and egg production capability.

2. IFH is majority-owned by Mr Hikonobu Ise, Honorary Advisor and Owner of ISE Foods Inc. Japan (ISE). ISE is the top egg producer in Japan and one of the top six largest egg producers in the world. It has 15 farms in Japan and 6 farms in the U.S. and Asia. IFH will invest more than S\$100 million in the local facilities, which will adopt state-of-the-art technologies and environmentally-sustainable practices in areas ranging from remote monitoring of animal health, advanced climatic control to odour/waste management. These facilities are expected to break ground progressively from 2022 and commence operation in phases from 2024 to 2026. When fully operational, the facilities will have the capacity to produce 360 million eggs and 5 million DOCs annually. This can increase the capacity of local egg farms to meet about half of Singapore's demand for eggs, up from about 28% today.

3. The MOU was signed virtually by Mr Lim Kok Thai, Chief Executive Officer of SFA, and Mr Hikonobu Ise. The signing was witnessed by Ms Grace Fu, Minister for Sustainability and the Environment, and Director of IFH, Mr S Chandra Das. The MOU affirms SFA's intention to award four farm plots of about 13 ha in total on 30-year leases to IFH at market value.

4. Minister Grace Fu said, "IFH's planned investment of more than S\$100 million for the new state-of-the-art facilities will play a significant role in uplifting Singapore's

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local egg production capabilities. Having ISE anchor their operations in Singapore will not only create good jobs for Singaporeans in the agri-food and sustainability sectors, but also raise the capability and resilience of our local egg industry, thus boosting our local agri-food industry. This will support us in our push towards strengthening Singapore's overall food security in a productive, climate-resilient and sustainable manner."

5. Mr Lim said, "We are pleased to collaborate with ISE as this allows Singapore to build up local capabilities and capacity to further our '30 by 30' target. Their investment in areas such as agricultural inputs, advanced farming technologies, and R&D promises exciting future career opportunities, spillovers of know-how that would benefit the broader industry, as well as strengthen Singapore's overall food resilience."

6. Mr Hikonobu Ise said, "This landmark collaboration with Singapore is important to us because it is ISE's first overseas project where we are building up the entire ecosystem locally from agricultural inputs such as feeds and vaccines, DOCs to production of hen-shell eggs. We are keen for this development in Singapore to be a model sustainable farm-of-the-future that could be exported and replicated elsewhere. Talks are also underway for ISE to deepen our research and development (R&D) partnerships here in areas such as genetic breeding, feed types and recycling of chicken manure."

Jointly Issued by the Singapore Food Agency and ISE Foods Holdings (Pte Ltd)

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About the Singapore Food Agency

As the lead agency for food-related matters, SFA's mission is to ensure and secure a supply of safe food for Singapore. SFA works hand-in-hand with the industry and consumers to grow our three "food baskets" – Diversify import sources, Grow local, and Grow overseas, as well as ensure food safety from farm-to-fork.

As part of Grow local, we set ourselves the ambitious aspiration of "30 by 30" in 2019. This refers to the efforts we are undertaking to build up the capability and capacity of our agri-food industry to produce 30% of our nutritional needs locally in a resource-optimal and commercially- and resource-sustainable manner by 2030.

SFA also partners food businesses to strengthen capabilities, tap on technologies to raise productivity, undertake research to develop new lines of business, and catalyse industry transformation to ensure food security.

For more information on SFA, visit www.sfa.gov.sg.

About ISE Foods Holdings Pte Ltd

ISE Foods Holdings Pte Ltd (IFH) is a local company formed to operate the fourth poultry farm in Singapore. It is majority owned by Mr. Hikonobu Ise, Honorary Advisor and Owner of ISE Foods Inc. Japan (ISE).

Vertex Holdings and Vertex Ventures Southeast Asia and India is also a shareholder. Vertex Holdings is a Singapore-based venture capital investment holding company with Assets Under management (AUM) of over USD 5B. It provides anchor funding and operational support to a global network of 6 funds in key innovation hubs around the world, each operates independently with local investment teams. Vertex Ventures Southeast Asia and India is part of the global network investing primarily in high-growth start-ups seeking their first round of institutional venture capital funding with a primary



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focus on Singapore, India, Indonesia, Thailand and other emerging hubs of innovation across the region.

Founded 1912 in Japan, ISE is the top egg producer in Japan and one of the top six in the world. ISE has over 100 years of experience in the production and sale of high-quality eggs. Currently, it has 15 farms in Japan. Globally, the chickens at ISE lay about 20 million eggs a day and the company has major operations in the US, China, and Thailand.

ISE is known for being the first company to retail eggs with a food with function claim (FFC). It leads in the provision of eggs rich in EPA, DHA, and enhanced with vitamins. Apart from the ongoing egg-based R&D, ISE aims to conduct research into value-added feeds, seeds, immunology, genetic, production technology, and areas related to the ecosystem of a modern egg farm.

By replicating the ISE model in Singapore, the company aims to deliver eggs that are safe and have high nutritional content. It also includes advanced farming equipment with AI and IoT in areas ranging from remote monitoring of animal health, to advanced climatic control, to odour and waste management.

For more information on ISE, visit <https://www.ISE-egg.co.jp/eng/>

ANNEX: ADDITIONAL INFORMATION**Strengthening Singapore's local egg production**

Hen shell eggs are an affordable protein source commonly consumed locally. We are currently highly reliant on other countries with over 70 percent imported from sources such as Malaysia, Poland, Thailand and Ukraine. With IFH's facilities, local egg production capacity at steady-state would increase from around 1.7 million eggs per day to around 2.7 million eggs per day. Collectively, local egg farms would be able to meet about half of Singapore's demand for eggs, up from about 28% today.

At present, Singapore's egg farms import the majority of their agricultural inputs, such as feeds, vaccines and DOCs. IFH intends to maintain a well-diversified supply of agricultural inputs for eggs and develop a localised supply of DOCs in Singapore. This will further enhance Singapore's egg production capabilities.

Anchoring ISE's operations in Singapore would further strengthen Singapore's food supply resilience and contribute to our target to grow local capabilities to produce about 30% of our nutritional needs by 2030.

About ISE Foods Holdings

ISE Foods Holdings Pte Ltd (IFH) is majority owned by Mr Hikonobu Ise, Honorary Advisor and Owner of ISE Foods Inc. Japan (ISE). Vertex Holdings is also a shareholder. ISE is the top egg producer in Japan and one of the top six largest egg producers in the world. Founded in 1912, ISE has over 110 years of experience in the production and sales of high-quality eggs. Currently, ISE has 15 farms in Japan. The company also has major operations in the US, China, and Thailand. ISE's global presence sees a total daily production of about 20 million eggs a day.

ISE Foods Inc.'s Singapore Farm

ISE aims to establish IFH as the regional headquarter for ASEAN. The headquarter will oversee its operations in the region, including egg and grain production, as well as research and development initiatives in food and agricultural technology. IFH would invest more than S\$100 million in Singapore, adopt environmentally-sustainable practices and employ state-of-the-art technologies in areas ranging from remote monitoring of animal health, advanced climatic control to odor/waste management.

IFH's operations will comprise four facilities: an egg layer farm, a day-old-chick (DOC) hatchery, a parent layer farm and a parent pullet farm. See **Appendix A** for illustrative visuals of IFH's facilities. The four facilities will incorporate ISE's proprietary technologies and farming systems, particularly the "ISE Integration System". Each of the four facilities deploys state-of-the-art technologies and environmentally-sustainable practices, including upcycling of by-products into fertilisers and concrete supplements. Details are in **Table 1** below.

Table 1: Details of IFH's farm facilities

Facility	Egg Laying Farm	DOC Hatchery	Parent Layer Farm	Parent Pullet Farm
Location*	Lim Chu Kang	Lim Chu Kang	Sungei Tengah	Tuas
Use <i>(Refer to <u>Appendix B</u> for more details on</i>	Hatches fertilized eggs from Parent Layer Farm and rears them as <i>egg-layer</i> hens for egg production: Grows DOCs until maturity;		Rears imported <i>parent stock</i> DOC into hens that lay eggs to be hatched at the DOC Hatchery: Houses specialised	
		Incubates and hatches		For raising of imported

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<i>the egg production process)</i>	houses egg-layer hens for commercial production of hen shell eggs	fertilised eggs from the Parent Layer farm. The DOCs will be transported to the Egg Layer Farm after they have been hatched.	brooding equipment to raise <i>parent stock</i> chicks from 18 weeks old. These chicks will grow and lay eggs that will be hatched at the DOC hatchery.	<i>parent stock</i> DOCs until they are ready to be transferred to Parent Layer Farms at about 18 weeks old.
Estimated Plot Size (ha)*	10.0	0.6	1.5	1.0
Lease Duration	30 years			
Estimated Completion Date*	2024	2026		

* More details on the location of the facilities will be shared subsequently.

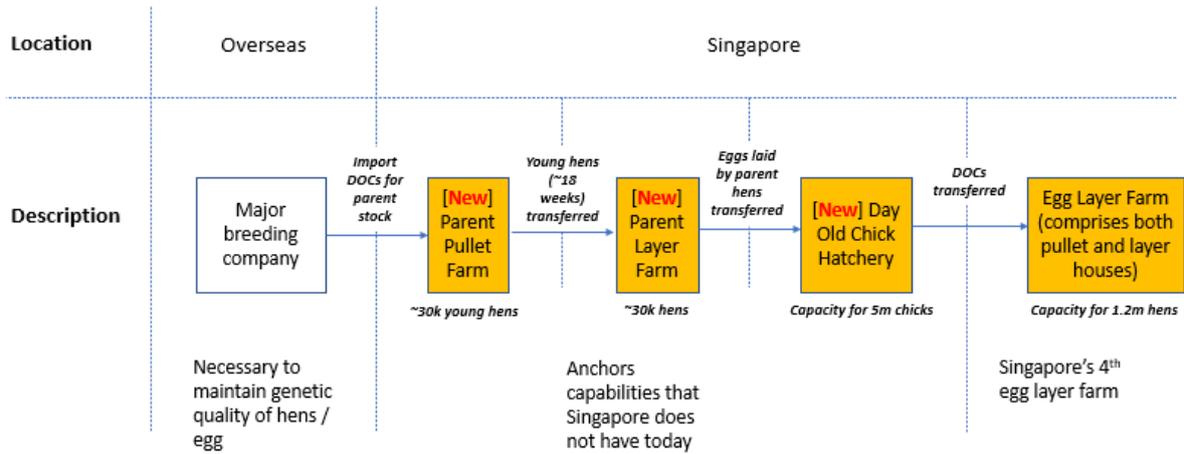
The four facilities are expected to break ground progressively from 2022 and commence operation in phases from 2024 to 2026. To support its production activities, IFH intends to have a strong local core for its high value roles, such as farm managers, laboratory specialists, technicians, business managers, as well as Artificial Intelligence (AI) and Internet of Things (IoT) specialists.



Illustrative visual of the bird's-eye view of IFH's future Egg Layer Farm. (Illustrative visuals: Big Dutchman)



IFH's facilities in Singapore would feature state-of-the-art technologies through the use of Artificial Intelligence (AI) and Internet of Things (IoT). (Illustrative visuals: ISE Foods Inc. [top left] and NABEL [others])



At-a-glance: IFH's egg layer production process (Illustration: SFA)