

TELL US ABOUT CROWDFARMX AND WHAT IT DOES.

CrowdFarmX is the world's first cooperative farming platform on blockchain. The CrowdFarmX platform connects farmers directly to the global market and equips them with technology know-how to deliver higher quantity and quality yields.

Powered by the Internet of Things (IoT) and blockchain technology, CrowdFarmX connects onboarded smallholder farmers directly to wholesale distributors, retailers and end buyers, promoting end-to-end visibility of the supply chain, and ensuring that quality pesticide-free produce gets to the end consumers.

Onboarded farmers are given access to a network of CrowdFarmX Food Cradles, which are physical shared services hubs that provide them with technological and logistical support. It is a centre of excellence equipped with IoT infrastructure, demo farm plots, R&D and educational facilities, where agronomists and technologists can directly collaborate with farmers to develop advanced growing protocol, and automation of farming procedures.

CAN YOU SHARE ABOUT YOUR BACKGROUND AS AN ENTREPRENEUR?

I was trained as a software engineer in New Zealand, and specialised in decentralised water technologies, cloud computing, farm IoT and blockchain technology. In the last 10 years, I have worked together with co-founders and team to establish Netatech Group of Companies as one of the leading providers of water and food sustainability technologies in Singapore.

My passion for purpose-driven innovation had drawn me to the problem of rising global food demand exacerbated by a declining farmer population. Through frequent visits to rural communities and villages, my team and I saw the need to deepen the level of engagement with smallholder farmers and alleviate them from poverty.

CrowdFarmX was established to connect small-scale food providers directly to end buyers, by providing a decentralised and digitally connected farming solution. In 2014, I led the CrowdFarmX team to build the first Food Cradle in Singapore, which is now supplying pesticide-free vegetables to the Singapore market.

WHAT DO YOU HOPE TO ACHIEVE?

Currently, 80 per cent of global food supply is provided by smallholder farmers in a US\$6 trillion industry. But these farmers receive low economic returns for their labour despite increasing consumer demand. Through smart contracts, CrowdFarmX links farmers directly to global market demand, and compresses the long supply chain process, helping them to



PHOTOS: YEN MENG JIN

THE FUTURE OF FARMING

Daniel Wong (above), co-founder and head of technology for CrowdFarmX, shares about the world's first cooperative farming platform using blockchain

AS TOLD TO VIVIEN SHIAO



← GROWING TOGETHER
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gain a greater cut of the selling price.

CrowdFarmX aims to impact more than 1,000 South-east Asian farmers under a pilot phase by 2020, providing access to sophisticated agriculture technologies that were not readily available before. This includes IoT monitoring systems and data analysis on micro-climates and soil moisture, enabling them to maximise the yield per square foot of land by up to 10 times. The higher levels of crop production secures food sufficiency for a growing world population especially amid declining farmer populations.

WHAT ARE SOME OF YOUR LATEST DEVELOPMENTS?

In 2017, the one-hectare CrowdFarmX Singapore Food Cradle was officially completed. The opening of the facility marks the first in a pipeline of regional Food Cradle expansion plans. The Singapore Food Cradle is the country's first high-tech greenhouse that uses state-of-the-art irrigation systems, advanced cloud-based computing, and IoT technologies to power safe and sustainable food production. CrowdFarmX is currently on track for completion of its Thailand Food Cradle by end of 2018, which will serve as the shared services hub for onboarded Thai farmers.

HOW DO YOU DIFFERENTIATE YOURSELF FROM COMPETITORS?

CrowdFarmX is a decentralised cooperative farming platform that has an exceptionally strong digital and technological backbone. Powered by IoT and blockchain technology, CrowdFarmX directly connects farmers to global demand while ensuring end-to-end supply chain visibility. Production planning and management resources handle sales and distribution, procurement, supply chain, finance control and monitoring, which allows for seamless integration of the supply chain with customers. All these technologies work in tandem to provide a holistic solution for high-yielding quality, pesticide-free food production, securing food security for a global world population.

CrowdFarmX Food Cradles are physical shared services hubs that provide farmers with direct access to sophisticated agriculture technologies such as irrigation systems, advanced cloud-based computing, and best-practice

farming protocols. CrowdFarmX Food Cradles deepen the level of engagement with farmers who are already in the ecosystem network and allows a ground level approach to building up the future generation of smallholder farmers.

WHAT ARE SOME OF YOUR BIGGEST CHALLENGES?

Our CrowdFarmX team built our first Singapore Food Cradle from the ground up. It was very labour intensive, and everyone in the company was mobilised to partake in the building and maintenance of the farm in some way – from our design engineers who saw through the design process of the farm, to our research and development team who conceived the protocol and smart technologies for crop production.

On the technical front, there were many challenges as some technologies we required were not yet fully matured. Our team worked tirelessly to find suitable solutions and even

developed our own proprietary technology from scratch to overcome roadblocks.

WHAT ARE YOUR PLANS GOING FORWARD?

CrowdFarmX plans to impact 60 million farmers by 2050 to become the world's leading decentralised cooperative farming platform. The vision is to help smallholder farmers improve average net yield up to 10 times by utilising advanced IoT and blockchain technologies, best practice farming protocols with an integrated supply chain.

With the support of Food Cradle partners in Sentul City (Indonesia), Graceland (Thailand) and Mekong Homes (Cambodia), CrowdFarmX aims to deepen the level of engagement with farmers who are already in the ecosystem network and reach out to more rural communities and villages. Countries such as Myanmar and Vietnam are also in the future expansion pipeline. ■

