

2022 WITSA Global Innovation and Tech Excellence Awards Nomination Form

The 2022 WITSA Global Innovation and Tech Excellence Awards (formerly known as *the Global ICT Excellence Awards*) will be presented to select individuals, academic institutions, corporations, NGOs or governments whose use and applications of digital technologies exhibit exceptional achievement within the following broad categories:

Private Sector/NGO	Public Sector
Digital Opportunity/Inclusion Award	Digital Opportunity/Inclusion Award
Smart Cities Award	Smart Cities Award
Sustainable Growth/Circular Economy Award	Sustainable Growth/Circular Economy Award
Innovative eHealth Solutions Award	Innovative eHealth Solutions Award
Public/Private Partnership Award	Public/Private Partnership Award
E-Education & Learning Award	E-Education & Learning Award
Emerging Digital Solutions Award	Startup Ecosystem Award

In addition, a *Chairman's Award* will be presented to a nominee selected from the entire pool of candidates from all award categories.

Candidates for these Awards are nominated by ICT experts from around the world who span over 80 countries/economies. The 2022 WITSA Global ICT Excellence Awards will take place in conjunction with the September 13-15, 2022 World Congress on IT in Penang, Malaysia (<https://wcit2022.com/>).

Sustainable Growth/Circular Economy Award

Award #1: Individuals, academic institutions, corporations, or NGOs

Award #2: Government authorities

Award Criteria-There is an urgent need for transition to a more sustainable and circular socio-technical system - now is the best time when we can witness how the health of the planet is connected to human well-being and vice versa. The most accepted definition of sustainability is defined by the Brundtland Commission in 1987; sustainability is seen as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs”. Circular Economy (CE) can be defined as a regenerative system in which resource input and waste, emission, and energy leakage are minimized by slowing, closing, and narrowing material and energy loops. This can be achieved through long-lasting design, maintenance, repair, reuse, remanufacturing, refurbishing, and recycling.

As the UN’s 2030 deadline for change fast approaches, we explore what role the circular economy has to play in mitigating the impacts of climate change and how the technology industry can learn from it. It is a popular idea as it places an emphasis on designing out waste and pollution, thus keeping products in use for longer and facilitating the regeneration of natural systems. Now, as the world faces an imminent

climate crisis, the IT and technology industries are starting to sit up and notice. ICT systems have influenced every aspect of modern life and the CE is no exception. Cutting-edge technologies, such as big data, cloud computing, cyber-physical systems, internet of things, virtual and augmented reality, and blockchain, can play an integral role in the embracing of CE concepts and the rollout of CE programs by governments, organizations, and society as a whole. Many countries are advancing circular electronics initiatives to encourage longer product lifetimes, but legal, policy, and economic support must exist for an open repair environment to motivate consumers to opt for repair over replacement.

This award will recognize Individuals, academic institutions, corporations, NGOs or governments that adopt effective and innovative local, regional or global initiatives that promote local production and use, local renewable energy sources, and adoption of circular and participatory practices for circularity in digital devices, software, internet access and services.

YOUR NOMINEES (limit three nominations per award category). *Please specify whether the nominee(s) are for the private or public sector category.*

Private Sector

Nominee: FlyFarm International Ltd

Entry Name: FlyFarm

REASONS FOR NOMINATION (NOTE: It is important that you make a detailed description of the nominee and why you think the nomination is justified. The absence of a detailed summary of qualifications as they *relate* to the above-mentioned award description will make it difficult for the awards committee to make an appropriate assessment of the candidate):

Global Impact/ Potential:

FlyFarm is an agri-technology startup based in Hong Kong. Through the use of IoT, robotics and proprietary remote monitoring, sensor and control systems FlyFarm is developing technology for insect farming as a sustainable alternative protein ingredient in pet food and animal feed. By using technology to create sustainable food cycles, FlyFarm plans to build a network of net-zero emission facilities across Asia.

FlyFarm came as an answer to two major global problems:

1. Protein demand is increasing due to population growth. According to the Food and Agriculture Organization of the United Nation, we will have to increase global protein production by 60% by 2050.

However, the current farming practices which we use to produce for food and feeds are heavily relying on natural resources, it's only a matter of time before reaching the breaking point, which accelerates water scarcity, overfishing, deforestation and arable land depletion. We have an urgent need of a new alternative and sustainable protein source.

2. Meanwhile we are exhausting natural resources to maintain our food production, a lot of them are actually wasted.

About 1/3 of global food production goes to waste on an annual basis. In Numerical terms, 1.3 billion tons per year is being thrown away.

The resources are not only wasted, but also cause damage to the environment through GHG emission and economic losses.

The FlyFarm solution brings multiple benefits all positively impacting the environment:

- FlyFarm upcycles local organic waste to produce insect based products, enabling a circular economy with zero waste
- Insect bioconversion of organic waste generates up to 90% less greenhouse gasses compare to landfill or composting
- Our system is vertical and uses a fraction of land compared to plant based protein (up to 500 times more land efficient).
- Each tonne of fish meal replaced by insect meal saves up to 3 tonnes of ocean caught fish and helps battle depletion of our fish stocks
- FlyFarm aims to recover lost nutrients sustainably in a bid to assist in the reduction of global hunger and protein poverty
- Working with food and beverage producers, FlyFarm helps companies to improve the sustainability of their supply chain

Scalability:

The Company has developed a unique technology which allows the company to scale globally with local partners. The Company has secured local partnerships in various countries in Asia where it has set up pilot projects which will ultimately result in commercial scale farms.

The most advanced competitors of FlyFarm in Europe have adopted or plan to adopt existing warehouse automation technology to operate the rearing process. These systems are very capex intensive and require purpose built infrastructure and costly interfaces and robotics to integrate them into an insect farming set-up. By design these systems become cost effective only at a very large scale but they are also of lesser quality compared to FlyFarm's as they are more prone to defect and issues along the entire process due to lack of automation.

FlyFarm is different in that we have designed and built our own automated Production System composed of robotics and IoT infrastructure that is purpose-built for insect farming and specially designed to be capex and cost efficient to process organic waste. This is a key competitive advantage for FlyFarm because it can operate profitably at less than giant scale and does not need to compete for the same waste supply access by the large scale operators.

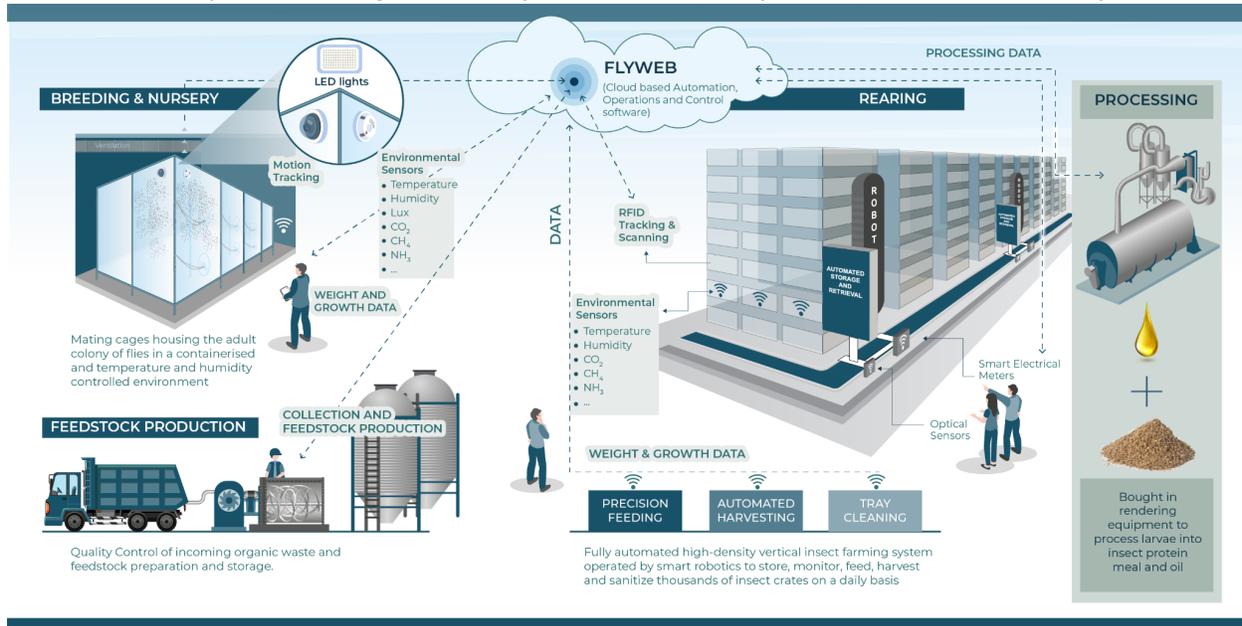
Innovation Features and Functionalities:

The FlyFarm Production System (FPS) is a top notch technology developed to produce insects efficiently as a sustainable alternative source of protein.

The technology is designed to be:

- Circular by nature
 - To collect local food waste from agriculture and food processors; and upcycle it into sustainable animal feed ingredients and fertilizer for crops
- Powered by insects

- Our process uses insect larvae to bio-convert waste into protein on an industrial scale. Insects are an ideal source of protein and nutrients for many animal and fish species.
- Driven by unique technology
 - Utilizing robotics, IoT and cloud computing to operate and manage the production cycle, ensuring traceability, consistent quality and operational efficiency.



Proven Solution:

FlyFarm currently operates a state of the art pilot facility in Australia partnering with a leading brewery group to bioconvert their brewer's spent grain. Over the last year FlyFarm has fine-tuned the processes and technology throughout a series of staged trials in close collaboration with its partner. The company successfully sells its protein ingredients into the pet food market and aims to open up new markets as it scales its production. The facility has demonstrated FlyFarm's capability to produce at scale using its proprietary production platform reaching high levels of efficiency through automation and sensing technology. FlyFarm currently focuses on the development of a next series of facilities in Australia and across Asia.

SUPPORTING INFORMATION: Please send any supporting information to the address above, including information from the candidate (i.e. excerpt from program description, website print-out, press release, etc.)

Website: www.flyfarm.com

NOMINEE CONTACT INFORMATION (for award follow up and coordination)

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