

February 2021 | Issue #3

## **UStansit Journey with Jason Yuen**

**An inspirational story  
on perseverance and  
passion to improve  
the lives of the many**

**Jason Yuen**  
Co-founder of  
SOCIF Limited

**Vertical Farming -  
The next generation  
of farming**

**The Unknown Tech  
quietly changing  
the world**

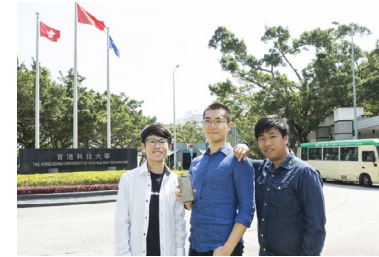




**Hello, we are  
The BASE.**

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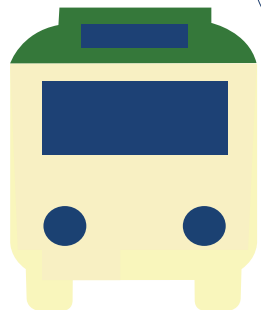
(From left to right) Simon Tsang (CTO), Jason Yuen (CEO), Gash Tsui (CIO)  
\*Image from HKUST SENG's website

# PLAN YOUR COMMUTE

**with Jason Yuen,**  
CEO and co-founder of  
SOCIF and USTransit

Jason Yuen is the mastermind behind USTransit, the app nearly everyone at HKUST has become dependent on to catch their minibuses. As CEO and co-founder of the smart mobility start-up SOCIF, he is currently working with various public and private institutions to transform Hong Kong into a smart city. However, the road to success was not a smooth one.

The long and arduous journey to success began when Jason, a second year HKUST business student at the time, noticed just how inconvenient it was to get to and from the campus. With students, staff and professors suffering every day from unpredictable minibus departure times, he wondered how he could make their journey easier. Together with his friends / co-founders Simon Tsang and Gash Tsui, he began creating a



prototype demo for an estimated time of arrival (ETA) system. However, when reaching out to the local green minibus operator to present their findings, the team was left without response. But that didn't stop them from developing their idea further. Two years later, a chance encounter with an industry professional got them back onto the playing field.

When he finally pitched his idea to the bus company in person, he got his first taste of the real-life business world. The people in charge didn't even want to see the second half of his carefully crafted presentation, rather insisting the group demonstrate just how the ETA system can help the company rack in more revenue. "What you do in university is totally different from business communications in the real world", the 24-year-old repeatedly echoes while talking about the intricacies of pitching and negotiation.

After a nine-month proof-of-concept that didn't materialize to any contracts, the team was ready to give up. As a last draw, they posted a Facebook ad, telling the world what they've done. Within no time, in what Jason describes as a miracle, countless media outlets began reaching out, elevating the group into the public transportation spotlight.

What followed was a sequence of collaborations with Microsoft, HKT and the university's campus services office that eventually brought us the USTransit app. Two years later, the team is working to implement the ETA system on thousands of minibuses in Hong Kong.

In sharing his advice for aspiring entrepreneurs, he explains that the most important part of any project is having true passion for what you are doing. It is only with the heartfelt drive that "the community deserves better", that enabled Jason to overcome all the setbacks he had faced in this four-year journey. Ultimately though, it was a combination of courage, determination and a bit of luck, that got Jason to where he is now.

**“ I think our community deserves better; it always deserves better. ”**

**THE BASE BROADCAST**

*Stay tuned for the full interview video with Jason in our Youtube Channel!*





The Hong Kong  
University of  
Science and  
Technology

“Solving a problem is not a big issue, but how to solve it in a sustainable and scalable way is a big issue.”

Jason Yuen,  
SOCIF Limited CEO

Tsui Park  
Po Hong Road  
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SUSTAINING VERTICALLY

# VERTICAL FARMING

*Next generation farming,  
The new Tesla of agriculture*

90% of Hong Kong's food supply consists of imports. With the city's four pillars all centered around service industries, it shouldn't be surprising that agriculture makes up less than 0.1% of Hong Kong's annual GDP. A few reasons responsible for this are a lack of space and fertile land. However, in view of recent technological advances, a handful of entrepreneurs are trying to find a workaround by developing indoor vertical farms.

Believing that there will always be demand for high-quality fresh fruits and vegetables, these businesses are filling a fast-growing niche market.

Traditional outdoor farming has a lot of downsides. Not only does it require a lot of space, energy and water, but it is also susceptible to damage from insects and diseases, thus requiring the use of potentially harmful pesticides.



Vertical farming, on the other hand, eliminates all those problems. The stacking of plants means that space can be reduced significantly; and operating indoors, there is no need to worry about pests. Most notably, however, the closed indoor ecosystem offers a drastic reduction in water usage and energy. Add in technologies such as intelligent lighting systems, and you've turned the place into a



hyperefficient food production facility. The benefits regarding vertical farming are clear; now, it is only a question of scalability and reduction in setup costs.

*Farm66* is among the few start-ups in Hong Kong to successfully operate vertical farms. Since its founding in 2013, the business has seen lots of growth; its most recent goal being to achieve a monthly produce yield of 16 tons.

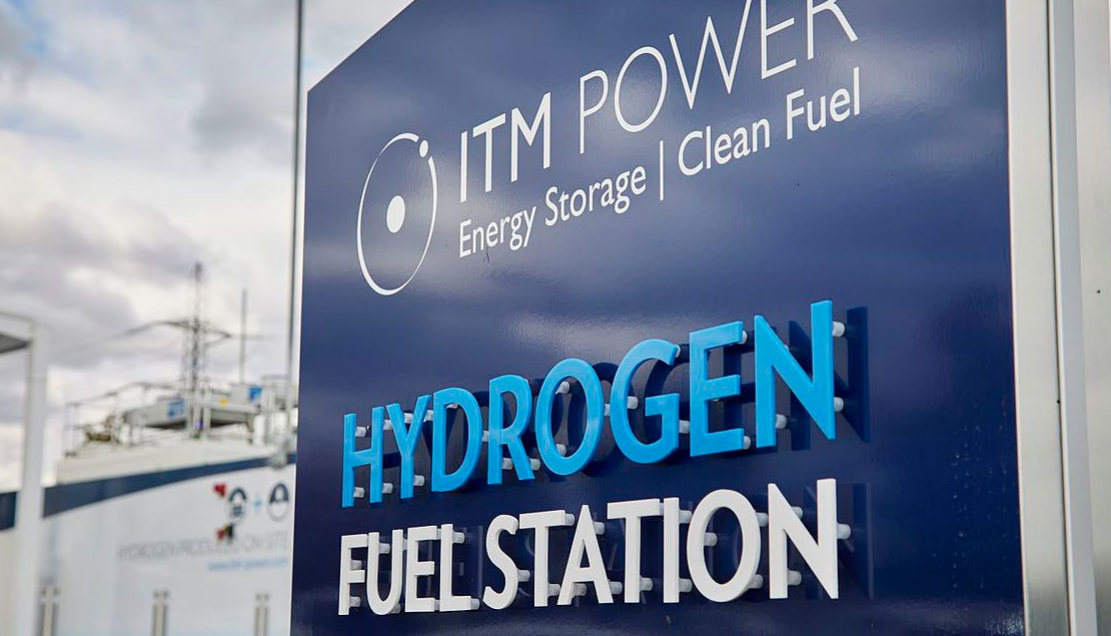


*Farm66* products are currently available in City'super and SOGO.

Besides operating completely pollution-free, *Farm66* also claims that its operations require 85% less space and 90% less water compared to traditional outdoor farms. Similarly, *Farmacy*, a business selling mobile farming systems to retail and food outlets, says its product reduces land use by a factor of 100.

Naturally, there is still a long way to go for vertical farming to become the norm. Currently, products from vertical farms is still associated with a relatively high price tag and is currently only available in places such as City Super. But with the global market for vertically farmed food predicted to grow fivefold by 2026, it will become easier by the day to find these products in your local supermarket's shelves.





## The Unknown Tech Quietly Changing Our World

Which technologies will decide what our future will look like? Certainly, AI, robotics or cloud computing; but often it is also the lesser-known innovations, especially those developed by start-ups, that silently drive global modernization. Looking at three underappreciated trends in technology, we will lift the curtain on influential developments in the energy, food and health care industries.

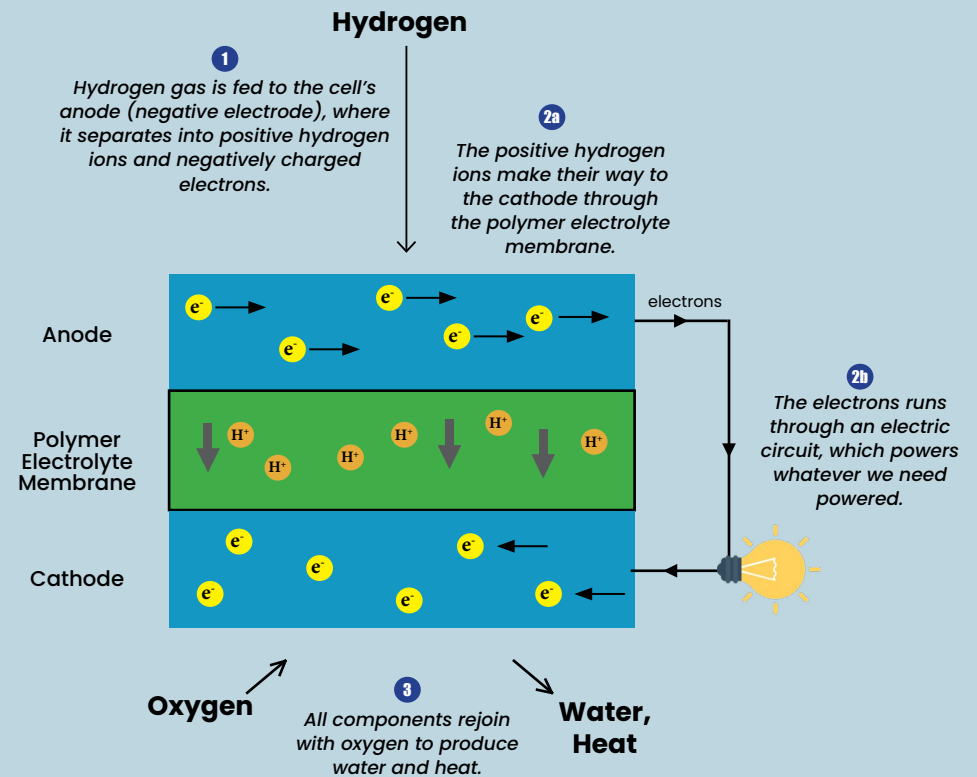
### Hydrogen Fuel Cells

When was the last time you heard about fuel cells? Perhaps in your high school chemistry class? Unfortunately, that is the extent of some people's knowledge

about the topic or even none at all. Yet, this method of producing clean electric energy has been around for a long time, its first commercial use going back as early as the 1960s. Historically, the necessary infrastructure for a hydrogen-powered world has been missing, but that is about to change.

The applications for such systems are endless. Besides powering cars, trucks and buses, hydrogen fuel cells are currently finding use on trains, boats, UAVs, airplanes, submarines and even spacecraft. The things standing in the way of widespread use thus far have been the lack of

### How does a hydrogen fuel cell work?



hydrogen infrastructure and cost-effective production methods. Realizing that a push for hydrogen technologies is the only way to reach the Paris Agreement climate goals, the European Union recently laid out an energy transition plan which aims to have 24% of energy demand in 2050 produced by hydrogen-related technology. With the recommendation to invest almost USD 10 billion annually in the industry, start-ups worldwide are taking advantage of the many new business opportunities.

While Germany's *Enapter* concerns itself with hydrogen production, *Ergosup* from France is thinking about mobile refueling options. *HYON* from Norway even goes a step further, specializing in all stages of hydrogen production, storage, and distribution.

With so much potential on the horizon, the future is looking bright for anyone taking part in the road to "net-zero".

## Plant-Based Food Alternatives

By now, you have probably heard of the *Impossible Burger* or even *Beyond Meat's McPlant*. These plant-based meat alternatives that taste similar to the original are becoming more mainstream. But have you ever considered that there is actually a market for other plant-based foods, such as seafood, eggs or dairy?

With increased awareness of the impacts of animal-based food production on the environment (after all, according to UN FAO, livestock accounts for 18% of global greenhouse emissions), start-ups from all corners of the globe have been busy developing exciting new products catering to the vegan lifestyle. To achieve authentic taste and consistency, these businesses extract proteins from peas, soybeans or rapeseeds and mix them with oil derived from sunflowers, coconuts or even algae.

## Fish-Less Seafood

To combat pollution and the strain on marine ecosystems, US-based *Good Catch* made it its mission to offer fish alternatives along the whole spectrum, from crab-free cakes to fish-free tuna. Similarly, the Swedish start-up *Hooked*, selling shredded salmon and tuna substitutes, and India's *Mister Veg*, are among the many others out there creating a more sustainable future.

## Egg-Less Eggs

What do waffles, mayonnaise and pasta have in common? Eggs! And despite significant animal welfare and pollution problems associated with their production, they are everywhere. Among others, the U.S. start-up *Eat Just* uses a protein-rich plant in placing a sustainable egg alternative on the shelves.



## Milk-Less Dairy

A much more common find are milk substitutes. In addition to being a major contributor to global greenhouse gas emissions, the dairy industry is often associated with limited animal rights. Knowing that most of us would probably be unwilling to give up the joys of a glass of chocolate milk or ice cream, *VlyFoods* (Germany), *Remilk* (Israel) and *Devon Garden* (UK) are among the many start-ups attempting to change the way we consume dairy.



VlyFoods's VLY Milk

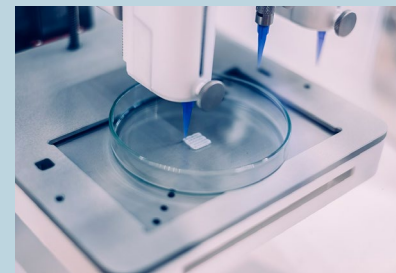


Hooked Foods's products  
\*Image from Hooked Food's Facebook

## Bioprinting

For most people, healthcare usually stands in the background, but at one point or another, everyone will see themselves depending on new healthcare applications - technologies, which were once exciting new innovations not long ago and are now slowly being adapted into widespread use. If we are to find out what our future healthcare industry will look like, we must look at technologies in their early stages of development.

One of such areas is bioprinting, a technique allowing scientists and doctors to 3D-print living tissues. Bioprinting has a host of applications in drug research and wound healing. Not only can this artificially created tissue be used to test drugs on, eliminating the need for animal testing, but it can also help to reconstruct anything from wounded skin to neurons, cartilage, and bones. And of course, the holy grail of this technology is to one day find a way to create artificial organs, which would put an end to costly and highly problematic organ donation programs.



A bioprinting process

The way bioprinting works is not all too different from traditional 3D-printing. Three-dimensional models are first created in a computer program and then printed layer by layer with a material of choice to form a tangible structure. In the medical field, this material of choice is a biopolymer gel called bioink. Once the printing process has been completed, the cells are stimulated to grow into a stable structure that behaves just like natural tissue.

Naturally, the promising new field of bioprinting is opening up countless opportunities for research, causing start-ups on almost all continents to pop up, racing to develop the best bioinks, cultivation processes and 3D-imaging technologies. Some of the most notable ones are Japan-based *CyFuse Medical*, which focuses on regenerative medicine, and the therapeutically centered businesses *Organovo* (US) and *Aspect Biosystems* (Canada).

# Funds



## Entrepreneurship Acceleration Fund

Organized by:  
*HKUST EC*

Registration: Open all year round

## Alumni Endowment Fund Student Startup Grants

Organized by:  
*HKUST EC*



Registration: Open all year round

# Startup Competitions



## HKUST-Sino One Million Dollar Entrepreneurship Competition 2021

Organized by:  
*HKUST EC*

Deadline 14th Apr 2021

## City I&T Grand Challenge

Organized by:  
*HK Innovation and Technology Commission*

Deadline: 30th Jun 2021



# What is entrepreneurship?

“Entrepreneurship is a perpetual process of resource integration including capital, manpower and business model for a direction with passion and commercialization opportunities.”





Jason Yuen,  
*SOCIF Limited CEO*





 The BASE (HKUST)

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 <https://ec.ust.hk/base>

*A student-run organization funded by HKUST Entrepreneurship Center  
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