Nest Garage

volume
1
2018.12

Cambrian Explosion of Knowledge

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Where knowledge creation explodes

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The Most Unique Platform Connecting Real-Tech Ecosystem Globally

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2018.12 *01

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Chief Editor's Message

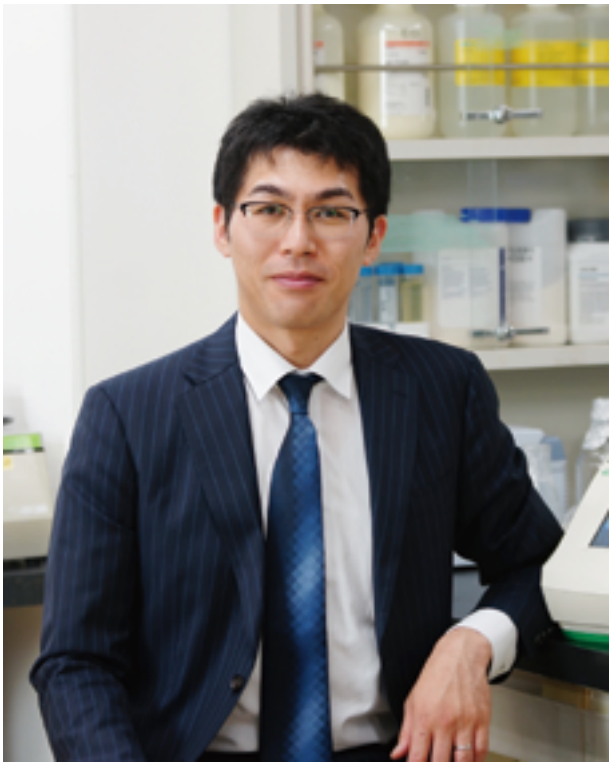
Importance towards interdisciplinary research has been recognized widely. But now, way of thinking towards "Hyper-Interdisciplinary" collaboration is starting to flourish around the world. Exploding creation of new knowledges may solve different global issues and drive our lifestyle one more step forward. We believe that creation of new knowledge occur not only from academia but from merging ideas from diverse players. This time, we renamed our magazine to "Nest Garage", where we define word "Nest" as nurturing of human resources and "Garage" as technology part. We believe merging of these two focus points is important for new knowledge to be created. Now, explosion of knowledge is about to come. As if the night before Cambrian explosion. (Shohei Michael Maekawa)

Hyper
Interdisciplinary
Conference

Where knowledge creation explodes!

Value creation from Hyper-Interdisciplinarity causes knowledge explosion

Academic conference, originates from the Royal Society of United Kingdom in the 17th century. It has become a place for discussion by those pursuing academics and research. Academic conferences which were the starting point of development of science and technology now faces dilemma. Diversification of the field has increased the number of specialists though communication across field were sometimes limited to just giving and receiving information. World famous Albert Einstein once mentioned "Information is not knowledge" , but then how can we really create knowledge? What purpose should we use those knowledge for? Dr. Hiroyuki Takahashi, director of Institute of Innovation & Knowledge of Leave a Nest Co., Ltd., thinks that answer to this lies in Hyper-Interdisciplinary Conference (HIC). We would like to ask Dr. Takahashi, more about how this may be a solution.



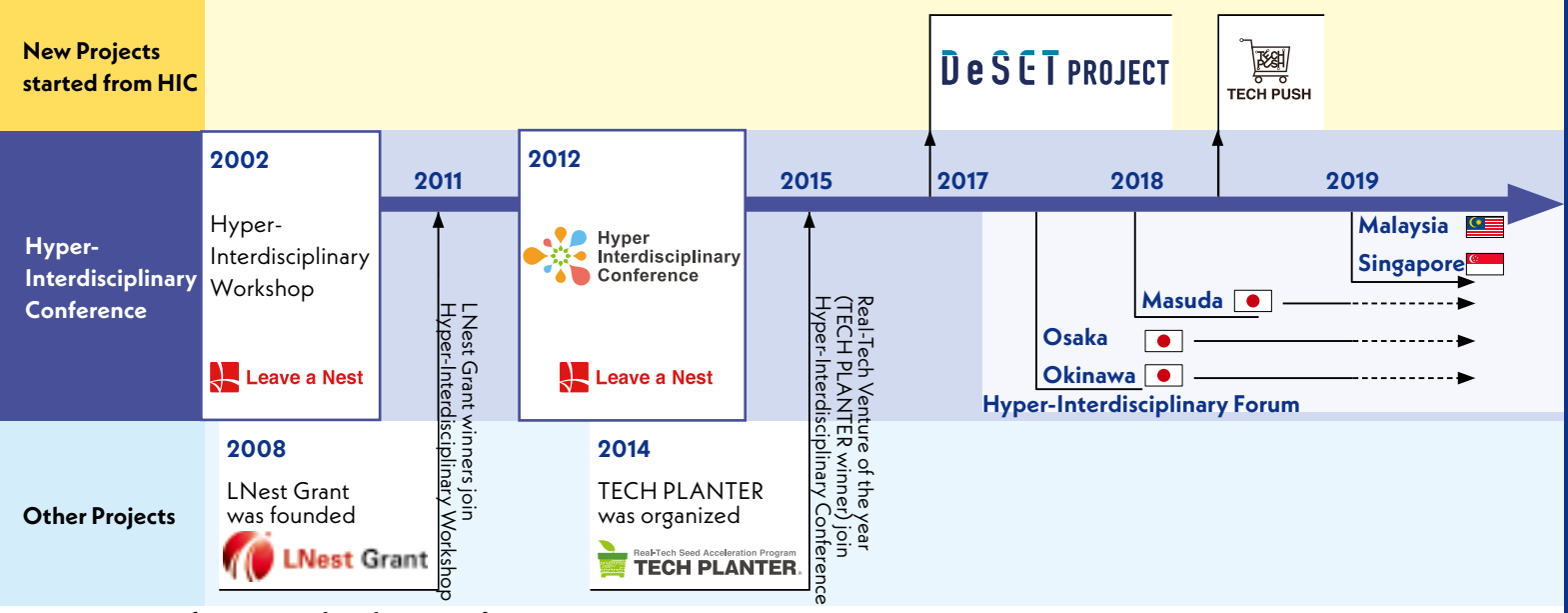
Dr. Hiroyuki Takahashi, Director of Institute of Innovation & Knowledge

Hyper-Interdisciplinary Conference is a place for creating seeds of innovation

Various participants from academia, large corporations, small and medium enterprises (SMEs), startups, primary producers, even middle and high school students gather to HIC. Here, professionals who have state-of-the-art knowledge or technology, people who are eager to solve social problems and technical issues by any means, and those who are passionate about research or business gathers to create seeds for new research or business idea and seek for partners who may join in to your project. Hence in HIC, background of field, nationality and age of participants are not limited. In order for HIC to be a place to create new values and knowledge with regardless of their background, presence of communicator is inevitable. Leave a Nest members plays the role as science bridge communicator, who correctly understands the technology but also knowing demands or needs that participants have and connecting with those who may team up to solve problems. In other words, Leave a Nest communicator act as a catalyst for fusion of different fields. For example, a researcher, who is working on chemotherapy, wants to develop a device with new method for delivery. In such case, the communicator will take you to potential discussion partners, such as SME that is good at microfabrication of metal, a startup capable of making a needle of fine biodegradable resin and a large company that is interested in commercializing the technology. From this, Dr. Takahashi's first message is that,"If you are stuck, Get a hold of the communicator' is golden rule for HIC. I have always kept hyper-interdisciplinary way of thinking and tried to be a communicator to connect and create through many projects."

Continuation is the key to shaping ideas practically

The philosophy of Hyper-Interdisciplinary began with the predecessor gathering named Hyper-Interdisciplinary workshop that started in 2008. At that time, only members from Leave a Nest were participants. But after renaming the activity to HIC in 2012, the variety and number of participants has increased year by year. In recent years, several interesting projects have been born and making a leap forward from HIC. The first example is project called TECH PUSH. This project uses the hidden IP from large corporates as a theme, it explores new possibility of business by adding new perspectives from academia, students and SMEs into it. Those who are enthusiastic about adding own perspective to cause an innovation teamed up and through months of discussion, they have presented their idea at HIC in 2018. Not only Japan but this project has made its expansion to Singapore as well, and some of the ideas from TECH PUSH is now on its way for industrial collaboration to implement them into the society. The second example is Development of Seabed Exploring Technology (DeSET) Project. In collaboration with "The Nippon Foundation" who



History of Hyper-Interdisciplinary Conference

established a magnificent international project "Seabed 2030" which is to complete a map of seabed by 2030, DeSET project started. In this project, researchers, SMEs and startups teamed up to develop innovative technologies that may dramatically accelerate the creation of topographic maps of ocean floor with resolution within 100 m. From each team's presentation at HIC 2018, project accelerated by formation of new research teams, conducting demonstration experiment in a sea near Japan, and attendance to the international conference, GEBCO symposium in 2018.

Dr. Takahashi points out, "The idea originating from communication between different fields should not end as it is. We have continued providing the opportunity and place to incubate ideas to produce actual projects".

Realizing the deepening of knowledge and practical approach

Activities to create knowledge have continued and will continue too. The theme of 8th HIC held in March 2019 will be "Rewiring beyond time, space, and five sense". Recently, the temporal and spatial limitations which bound us is gradually decreasing due to the development of preservation and communication technology. Furthermore, our sense has been studied scientifically by multimodal and crossmodal research that integrate our sense. How will our lives and ways of thinking change in the future when these science and technology will develop further? At the moment sessions are organised to discuss both practical and visonaly ideas relating to the conference theme. Dr. Takahashi expresses his thought about who this conference might be most interesting this time. "We are looking forward to see data scientists who accumulate, integrate and analyze research data in various fields and those who specialize in human computer interaction. In particular, I believe that something new should be created through discussions with people who they usually not meet, such as SMEs with great manufacturing technologies and the primary producers".

Now, HIC is expanding. In 2018, local conferences were conducted in following three cities with following topic: Masuda (The cooperation among medicine, food and agriculture and the model of compact city by technological innovation), Osaka (Expanding the world of healthcare), Okinawa (Bridging agricultural science and technology from Okinawa to Southeast Asia). It is important to set the theme that fits well to background and current situation of each area. Also it is important to accomplish the consistent purpose of HIC to create new academic field and lead to practical movement to solve issues specific to that area. Beyond the border, HIC will now land to Singapore and Malaysia in 2019 to pursue unknown challenges and enthusiasm.

"Researchers" are the ones to accelerate knowledge manufacturing in future

Dr. Takahashi stated his point of view about our future through development of HIC. "We may be now living in the era where it is becoming necessary to form a group of researchers to integrate each idea for advancement of research. What will we need to do in this situation? I feel that we need to understand the problem more, involve people and continuing approach to solve the problem. There is no need at all to stick in university to be a researcher. Imagine if there are more people who are open minded to approach to local and/or global issues on the earth. Then, our world should become more interesting".

Starting from HIC, more people may connect to those who sympathise with their passion and discuss among them, to turn information into knowledge. From this, expansion of HIC will cause explosive increase of knowledge, generating new research and we may see the world with full of innovation in near future. Everyone who has strong passion to resolve challenges you have in your mind, join in and BE HYPER-INTERDISCIPLINARY!

(Text by Tsuyoshi Inoue)

Connect to the unmet people, passion and technology!

The 8th Hyper Interdisciplinary Conference will be held on 8-9th March, 2019 in Tokyo.

Followed by our success in Hyper-Interdisciplinary Conference 2018 in Tokyo, we will be conducting our 8th Hyper-Interdisciplinary Conference in 2019. Just as our previous conference, we will be welcoming specialist from wide range of fields, ranging from academia, startups, engineer, large corporates, middle school high school students and more. All of these members will meet and discuss to create new knowledge from here that may change the world or solve social issues.

In our 8th conference, we will focus on discussing what will start to happen by connecting different things by new technologies. For example, connection from the advancement of AI technology, spread of IoT and distribution technology like drone will create numerous new business and solutions. Hence this times, keyword is "connect". There will be several themes that we will focus during the conference such as primary industry, secondary industry, lifestyle, mental health, health care, and so on. Please visit the 8th Hyper Interdisciplinary Conference and “connect” yourself!

Conference theme: Rewiring beyond time, space, and five sense.

Overview

Date and time
Day 1 **Friday, 8th March 2019 / 9:00 – 18:00**
Day 2 **Saturday, 9th March 2019 / 9:00 – 18:00**

Venue
Bellesalle Shinjuku Grand Floor #5 Conference Center
Nishi-shinjuku 8-17-1, Shinjuku-ku, Tokyo, Japan

Conference theme
Rewiring beyond time, space, and five sense.

URL
https://hic.lne.st/conference/8th-hic-en/

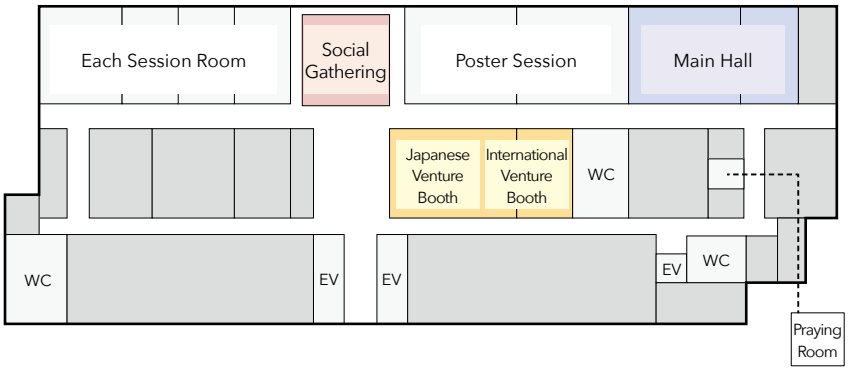
Keywords

Register for participation from here

Schedule

9:00		
10:00	10:00 - 11:50 TECH PLANTER World Communication	10:00 Exhibition and poster booth for researcher and venture
11:00		
12:00	12:00 - 12:50	Lunch / Networking
13:00	13:00 - 14:30 Panel Discussion The Futer of Deep-tech	
14:00		
15:00	14:40 - 16:10 Food tech session	14:40 - 16:20 Core time: Venture / Researcher Booth
16:00		
17:00	16:20 - 17:50 Real Tech Venture of the Year	
18:00		
19:00	18:30 - 20:00	Social gathering @ Foyer
20:00		

Venue Map



Featured Sessions

Gathering of world changing Tech ventures
~TECH PLANTER World Communication~

Among all the finalists of TECH PLANTERs held in United States, Europe and Asia regions, Several teams will be selected to join this session. They will present us about their Question, Passion and unique technology to solve those Questions. We cannot miss what kind of future they will show us!

Where technology takes us next?
~Hyper Deep Technology, near future of deep-tech~

After the tide of IT, deep tech has been an interest all over the world. However, if commodification of deep tech is thought to come gradually, how will deep tech keep its deepness? In this session, VIP players who has devoted in current deep-tech ecosystem in the world will discuss the future of deep-tech.

Presenting teams from the world at TECH PLANTER World Communication

Region / Country	Team
Asia/Singapore	NDR Medical Technology (Grand Winner, TECH PLANTER in Singapore)
Asia/Singapore	Fytosol (Mitsui Chemical Award, TECH PLANTER in Singapore)
Asia/Thailand	iVET (Grand Winner and JT Award, TECH PLANTER in Thailand)
USA/Boston	embr labs Inc.(Grand Winner, TECH PLANTER in Boston)
USA/San Francisco	Raydiant Oximetry (Grand Winner, TECH PLANTER in San Francisco)
USA/San Francisco	OneSkin (Leave a Nest Award, TECH PLANTER in San Francisco)
Europe/UK	InfiGear (Grand Winner, TECH PLANTER in UK)
Europe/UK	Remora Marine (Kobashi Award, TECH PLANTER in UK)
Japan	Theranospharma (Grand Winner and Suntory Award, Biotech GP in Japan)
Japan	Happy Moss (Grand Winner and Yanmar Award, Agritech GP in Japan)

How to Enjoy HIC JP 2019

~Road to accelarate your idea!!!~

9:30 Arrive at HIC venue

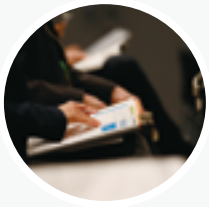
Belle Salle Shinjuku Grand

Let's begin HIC!

10:00–17:50 (Whole day)

Don't miss World Sessions!!!

What is the tech trend of the world?



Enjoy Lunch

12:00–14:30

Find seeds and needs and add your ideas at the poster session!!

World Session goes on...

18:30–20:00

Stay for the Networking Party!

Find your buddy! Deepen your thoughts!

Start next projects!

Tip to maximize your HIC experience

Check out HIC abstract. It has icons on the top. They show what the presenters are expecting to find at HIC and they are missing. Learn their status and start the discussion more effectively!

Wanted> What a presenter expects to get from audience	Ideas from different perspectives	Places to test the research findings for practical application	Partners for collaborating research	Partners who may use the technology
Missing> What is missing	Human resource	Equipment/ materials	Research fund	Information

Theme:
Intersection of Culture and Technology
in Halal Industry

Hyper
Interdisciplinary
Conference

Comes to Asia!

Theme: Smart Nation

Intersection of Culture and Technology in Halal Industry

Malaysia is globally recognized as a progressive and politically stable muslim country. It has the potential in establishing a global hub in halal production, logistics and trade. According to Global Islamic Economy report 2017/2018, Malaysia continues to lead the Global Islamic Economy Indicator for the fifth years in a row.
Today, the demand for halal certified products continues to grow as the global Muslim population also rising accordingly. It is estimated that 26.4 per cent of the global population is expected to be Muslims by 2030.

HALAL, is an Arabic word that exclusively used in Islam which means permitted, lawful, hygiene, purity and healthy. As we know, Southeast asia countries including Malaysia are multi-cultural complexion and different cultures have different belief or perspective, therefore it influencing the purchasing trends too. However, Halal not only referring to Muslims but its now accepted as a quality system to non-Muslims as well.

The 1st Hyper-Interdisciplinary Conference in Malaysia 2019 aims to bring together leading academic scientist, researchers, corporations, government agencies, startups, educators as well as school students to exchange and share their research and expertise on all aspects and creating a novel body of knowledge. It also provides an interdisciplinary platform to discuss the most recent trends, innovations, concerns and practical challenges encountered and solution endorse in the field of culture, food, pharmaceuticals, and technology specifically in Halal industry.

Hyper Interdisciplinary Conference

Malaysia




Date	**19th Jan 2019**
Time	**10am - 5pm**
Venue	**Universiti Teknologi Malaysia, Kuala Lumpur**
Highlighted Content	• **Plenary Speaker** • **Panel Discussion** • **Exhibition** • **Startups Pitching**

Theme

'Intersection of Culture and Technology in Halal Industry'

Scan here to register as audience

Register as exhibitor
http://bit.ly/posterexhibitor_HIC

Mr.Darween Reza, Founder & CEO, My Conceptual Robotics Sdn Bhd (MyCRO)

Keynote speaker

My Conceptual Robotics Sdn. Bhd. (MyCRO) is one of the successful startups from TECH PLANTER program. They are the runner-up winner of TECH PLAN GRAND PRIX 2015 (which rebranded to TECH PLAN DEMO DAY). Since their participation in TECH PLANTER, they involved with a lot of Leave a Nest program including participating as a presenter in Hyper-Interdisciplinary Conference Japan 2018. At HIC Malaysia 2019, Mr.Darween Reza Sabri as the CEO of MyCRO will share about their precious experience in HIC Japan and how they engaged with Japanese partners through Leave a Nest's supporting platform.

Topics Covered in HIC Malaysia 2019

When we talked about halal industry, the first things that came up in our minds is 'food'. Halal industry not only referring to food sector only but its now expanding to pharmaceuticals, cosmetics, health products, services such as logistics, packaging as well as financing. Here is the 3 rising sectors in halal industry that will covered in HIC in Malaysia. Take a look!.

Food

Halal products and food are essential component of the Muslim identity. Thus, halal certification has become as a substantial force in the Muslim minority countries and multicultural countries with Muslim communities. In Malaysia, the certification of halal food has been conducted throughout the country since 1982 by the Department of Islamic Development of Malaysia (JAKIM) and Malaysia is the first country that assigned government agencies to regulate halal matters. With expected increasing in muslim population and awareness of halal food from the non-muslim, the future of halal food industry is strong. Multinational corporation such as Nestle, Coca-Cola, F&N make Malaysia as a halal centre of excellence.

Pharmaceuticals & Cosmetics

The global increase in Muslim population and purchasing power has created a new demand for halal cosmetic product development. Cosmetics and personal could be referred to products that are applied to the human body for cleansing, beautifying, promoting attractiveness and altering appearances (USA Food, Drug and Cosmetic Act, 2012). Differing from the conventional product line, the halal cosmetic brands do not contain porcine-by products and their derivatives as well as alcohol (Hashim and Mat Hashim 2013). They should be manufactured, stored, packaged and distributed according to Islamic teaching. The halal beauty products are also recognised as clean, safe and of high quality. It also embraces the safety of the product making products natural and eco-ethical from all aspects and increases product efficacy that's why non-Muslims also prefer halal products.

Technology

As the world shifting to the internet of thing (IoT), demanding on high technology also increasing for Halal industry. Halal industry also now shifting to IoT to implement smart logistics for examples in halal product stored, automation of slaughtering and accessibility of far greater amounts of data as well as halal integrity of the global food safety distribution of better known as food chain.

Malaysia at the Forefront of Global Halal Industry

World's Muslim population is increasing and is known to become the major religion by the year 2070. With increasing demand for halal philosophy towards the Islamic society, now the range of halal industries are starting to bloom. We talked to Dato' Seri Jamil Bidin, Chief Executive Officer of Halal Industry Development Corporation (HDC) of Malaysia to learn more about the potential of the halal industry and its current aspirations.

Halal industry as a promising pillar that pushes the country's economy

Malaysia's economy continues to develop, as being one of the top runners in Southeast Asia. It's economy is particularly strong in product export by high-tech industries. In 2006, for country's further economic growth, the government outlined following 15 year's strategies in the Third Industrial Master Plan. In the same year, foreseeing the potential of halal business as a promising economic pillar, the government established HDC. HDC offers those involved in halal business, such as manufactures, researchers, and retailers, all necessary assistance. So what potential does it see in the world economy? "When people talk about halal, it is always within the context of religion. Yet halal also contribute significantly to our country's economy", said Dato' Seri Jamil. Every Muslim need to eat and use halal products as required by the religion, thus creating considerable economic demand. With the worldwide Muslim population reaching 1.8 billion this year, the demand is ever more increasing. "Malaysia sees this as an economic opportunity to become one of the biggest suppliers of the global halal industry", he continues.

Halal concept for all

The country is ready for an action, it seems. However, there are obstacles yet to overcome. One exists much closer than we imagine. It's inside of us. "One of the challenges is to change 'awareness' among the consumers including Muslim", Dato' Seri Jamil points out. It is a widespread consensus that halal only applies to meat and non-alcoholic products for Muslim. Indeed the concept of halal is far more encompassing. "Halal concept applies not only food, yet to safety, cleanliness, hygiene, and health. For instance, the processing of a product from handling, packaging, labelling, distribution and storage needs to meet the halal standards. Halal certification process is like the ISO certification. This is the value given to Muslims and also to non-muslims consumers that choosing halal quality products." he says. As to change the perspective and create an awareness about Halal, HDC conducted World Halal Conference every year as the biggest international Halal conference bringing a key player all around the world to discuss the future of the Halal industry.

Dato' Seri Jamil Bidin
Chief Executive Officer, Halal Industry Development Corporation

Entrepreneurship is the key to success

To nurture Malaysia as a global halal business hub, Dato' Seri Jamil's believes the key is to strengthen human capital in the industry with a special emphasis on entrepreneurship. Dato' Seri Jamil also raised the lacking of Muslims who want to become suppliers as they tend to become consumers. "As a Muslim, we are the one that knows better about the halal products so we should step up to become the supplier in the halal market", Dato' Seri Jamil states. To support the existing halal companies and those who consider starting one, HDC offers comprehensive arrays of training programs and information seminars including its concept and methods. This approach will not only be supporting human capital development but also lead to create more employment in Malaysia. The government will continue to increase investments in the halal industry to be the leading contributor to the halal industry. Dato' Seri Jamil and HDC will continue to strive for supporting more halal business for the Muslims and non-Muslims customers around the world!

(Text by Marshila Binti Kaha)

Check it out the list of startups in halal industry!

Biotrampil PLT

Biotrampil PLT is a food technology company from Malaysia that aims to make healthy eating simple, accessible and palatable. Their focus is to have a delicious plant based food with the exotic jackfruit being the main 'star' in their proprietary products. They are starting with plant based burger patties - a dish everybody loves - and make it something people can enjoy everyday, guilt free. They are staying away from soy and gluten, ingredients that are prevalent in the plant based food products today that can disrupt consumers' health. They are now looking

biotrampil
health starts here

developing more plant based products in familiar forms - ready-to-cook such as sausages and nuggets and ready-to-eat meals such as lasagna, sandwiches and puffs.

SecuraLips PLT

SecuraLips was established in 2018. Its products, SecuraKLEUR – a natural biocolourants comprise of red, purple and yellowish orange pigment that can be manipulate to produce more colours. This locally produced biocolourants can be used to replace existing toxic colourants, thus eliminating its hazardous effects towards consumer. The biocolourants possess antibacterial and antioxidants properties which can act both as colourants as well as natural preservative for the product. Another great advantage of this biocolourants is its compliance with halal certification for safe

SecuraLips

and non-hazardous product. Therefore, this biocolourants is suitable for any colour related industry such as cosmetics, textile, paint, food, polymer, pharmaceutical as well as health care industry.

Lipidware Sdn. Bhd.

Lipidware Sdn Bhd specializes in lipid technology and natural functional ingredients with the core interest to keep abreast with current trends to accommodate the commercial needs in food, cosmeceutical and skincare industry. Having a solid background in Biotechnology, Food Technology and Herbs, the team is able to develop international standard products for various such industries. The company is a heavy weight when it comes to intellectual properties and roprietary techniques of production but manufactures using an asset light approach through reputable companies that in the vicinity of Klang Valley. This

LIPIDWARE
real science

allows Lipidware to concentrate on the high-value added products without the burden of expensive infrastructure.

Lignas Bio Synergy PLT

Incorporated in 2017, Nahlah Salwana Sanusi and Nas Atira Salwana Nabil founded this start-up company aiming to be the leading producer and supplier of the Tiger Milk Mushroom based products. Regarded as Malaysia's national treasure, Tiger Milk Mushroom, is now able to be cultivated in large-scale. Currently, Lignas is collaborating with local universities to conduct further research on the benefits of this medicinal mushroom to human health. Several key research areas have been identified such as; Effects on learning and memory, Effects on aging,

LIGNAS

Fibrinolytic activities, and Nerve regeneration. Lignas has also awarded with JT Award during the last round of the TECH PLAN Demo Day in Malaysia 2018.

Solving global urban challenges

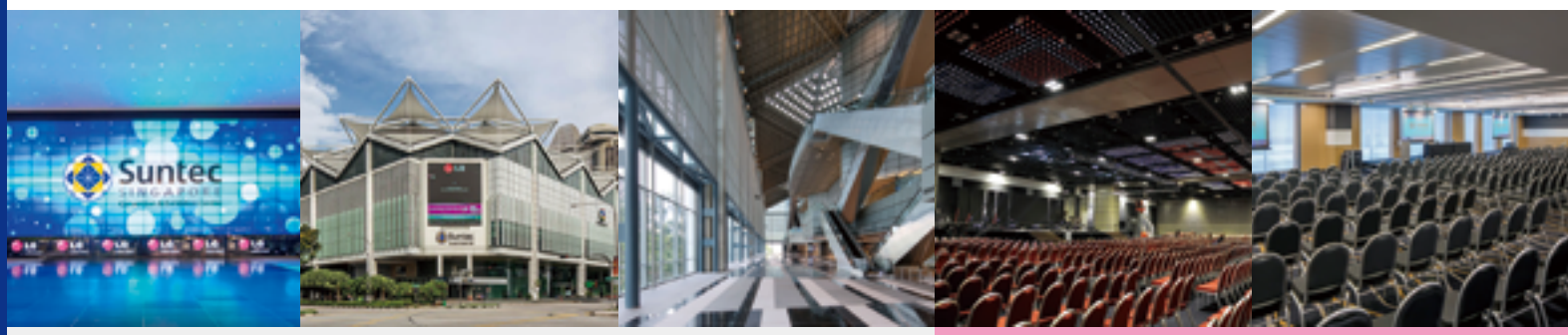
Many major cities in first world countries face similar concerns: rapid urbanisation, changing population demographics with low birth rates and a rising aging populace and the wastage of food and water amongst others. These challenges are not unique to the country of Singapore and extends to other developed countries like Japan, South Korea and China.

Singapore in the recent years has started to embrace a new government initiated movement by the name of "Smart Nation" - a purposeful push towards a cashless and technologically embracing country. This movement seeks to utilize next generational technologies to transform Singapore into a city that integrates the use of big data and information technology for everyday use.

HIC Singapore 2019 will be bringing in key industrial leaders and researchers from all over Singapore to share their wealth of knowledge and expertise in solving some of the global urban challenges that many first world countries face. Some of the key issues that will be talked about includes next generational functional foods to solve health problems, cheaper and more efficient ways to produce drinkable water, ways to transform big data for intelligent use and smart home care for the elderly. This conference will be a key step to develop insights and business contacts to solve different global urban challenges that different countries face.

Hyper Interdisciplinary Conference

Singapore



Date	**16th Feb 2019**
Time	**9am - 5.30pm**
Venue	**Suntec Singapore International Convention and Exhibition Centre**
Highlighted Content	**Big data, artificial technology, next generation food and water technology, smart home technology**

Themes

'Information Technology, Food & Water Tech and Smart Technology'

Scan here to register as audience

Register as exhibitor
https://goo.gl/forms/NxZF8mbMVkMpMoe62

Associate Professor Sun Delai Darren, Nanyang Technological University (NTU)

Keynote Speaker

Nanyang Technological University (NTU) associate professor Sun Delai Darren, is the co-founder of the company Nanosun which manufactures a wide range of multifunctional nano composite membranes for removing micropollutants from drinking water, water reuse and desalination pre-treatment. Nanosun is the first company in the world to utilise 3D printing to manufacture membranes; decreasing manufacturing cost, utilizing less land space and requiring less manpower to operate. Because of the incorporation of nano materials into it's membrane, it possesses multifunctional features such as antifouling through self-cleaning, disinfection and degradation of organic pollutants. Associate professor Darren Sun also holds visiting Professorship at Shandong University, PR China. He is a Chair for International Water Associate (IWA) Specialist Group on Chemical Industries and Associate Editor for Water Science and Technology.

Topics Covered in HIC Singapore 2019

The themes of HIC Singapore 2019 revolves around solving the challenges that urbanised cities face around the world. The handpicked speakers are chosen because they offer an unique insight to tackle the different business opportunities around the urbanised world.

Information Technology

With the bloom of smartphones, machine learning and cashless transactions, information technology has become more and more ingrained in human society. Beyond day to day use, many companies have started to turn towards artificial intelligence and big data to simplify work task and understand unseen trends. The utilisation of both artificial intelligence and big data will allow your company to become more efficient and capitalise on new ways to transform your business. In HIC Singapore 2019, key industrial players in the big data and AI industries will be giving sharing insights in this area.

Next Generation food and water technology

Food and water are essentials to any society on earth. Most developed cities have good logistical planning to obtain safe food and water sources. However, with the influx of people into urbanised areas, there is an increased need for better food and water technology. This includes creating functional foods and cheaper and more efficient ways to obtain drinkable water. This conference will be gathering innovators in the food and water industry to share their latest technology in creating the next generation of foods and water.

Smart Technology

Tangible innovations have made many advancements over the years - with many innovations stemming from new functions and the usage of materials with desired properties to enhance current technologies. These deep tech changes have accumulated to many societal paradigm changing eras such as the industrial revolution in the 18th and 19th century. In this modern 21st century, HIC Singapore 2019 is showcasing deep tech innovators who are pushing the boundaries of what it means to innovate and change the lives of the next generation.

A Novel (But Still Experimental) Se

Some new ideas but not too sure about their applications? Doesn't know how to bring your technology invention to society? Lack of business scheme on how to commercialize your new findings? These are some of the difficulties and challenges faced by the researchers, startups, young entrepreneurs or even large corporates. Good news for you, TECH SMOOTHIE is exactly what you need.

A snapshot from TECH SMOOTHIE 2018, the main hall

Birth of TECH SMOOTHIE

TECH SMOOTHIE was launched at Singapore in February 2018 as a novel type of meetup that could bring researchers, startups, and business personnel from large corporates together. One rule differentiated it from other events. That is, participant must bring an idea to talk to others. Not just startups/researchers express their ideas as you can often see in a "innovation" showcase event, participants from large corporates also need to show their technology assets. Collaboration between researchers, startups, and large corporates might be generated in such way. For example, one participant can share his/her pure research idea or IP, then business personnel can think about how to build business around it. In other way, business personnel share his/her assets (such as IPs, network, distribution) for R&D participants to know more about market.

Why "SMOOTHIE"? As a result of conversation among participants, a variety of ideas (= ingredients), blended and mixed together, resulting in a new plan to be implemented to society (= smoothie recipe). Especially, when participants equipped with different expertises complemented each other, we expected to generate delicious blend: Innovation, Product, Business. This was a bit bold and experimental concept, but we expected that would be a style that our participants were waiting for.

Strong corporate partners shared their visions

As a result, a hundred participants gathered to challenge together with us. The event opened with presentations from 6 REAL TECH startups. A variety that could not be seen in other event; such as, biotech for skincare, flex sensor, drone, aerogel, cell sorting, and image processing. Also, 4 Japanese big corporates introduced their core technologies for startups to use. Also, various ideation workshops were conducted to mix all the participants idea. Every participants freely exchanged his/her idea. It seemed the first TECH SMOOTHIE was in big success.

ssion to Implement Your Idea to Our Society

Pitches from REAL TECH startups

Workshops to ideate how to implement cutting-edge technologies to our society

TECH PUSH to implement technologies to our society

After TECH SMOOTHIE, we developed a program to incubate the ideas to be implemented to society. Leave a Nest teamed up with Mitsubishi Electric to take the process further. That is a program called “TECH PUSH”. Mitsubishi Electric’s in-house technology IP information were shared with Singapore local startup and university & polytechnic students to design business around it. We ran 4 months intensive workshop programs to address local challenges or problem faced by regional countries.

By going through months of brainstorming, conducting interviews to the key players, surveying the key players, proof of concept and listening to the needs of consumers. Participants pitched their proposals and ideas on solving real-life problems by the end of workshops. Team SafeHaven from Nanyang Technological University (NTU) won the grand prize S$3,000 for “Quartz”-a cost effective sensor that can be used for early Tsunami detection.

A gathering photo after TECH PUSH program

Here is the concept of TECH PUSH.

TECH PUSH

Technology In, Future Out!

TECH PUSH *noun* /tek pʊʃ/

1. A program to stimulate business ideas that can solve current world challenges by bringing cutting-edge technologies and young talents together.
2. A novel business design process inspired by technologies.

More experimental SMOOTHIE in HIC 2019

In 2018, we developed TECH SMOOTHIE as unique place for everyone to share, mix, develop his/her idea. Also, we had successfully developed a program to incubate business seeds from technologies. Then what’s next? We believe the function of TECH SMOOTHIE is to develop & experiment a new flavor that no one experienced. Not only ideation workshop, and TECH PUSH, we may do matching of large corporate technology to certain startups.

Now TECH SMOOTHIE was under the umbrella of Hyper Interdisciplinary Conference in Singapore 2019. More diverse sessions and participants we expect. With that, 2019 ver. of TECH SMOOTHIE session will definitely be experimental. We will challenge to create a novel process to implement your idea and technology to society.

TECH SMOOTHIE session will be held in HIC 2019 in Singapore! Please attend the session if you would like to experience a novel way of implementing your idea/ technology to society.

(Text by Ryuta Takeda)

JAPAN REAL-TECH STARTUP ECOSYSTEM TOUR

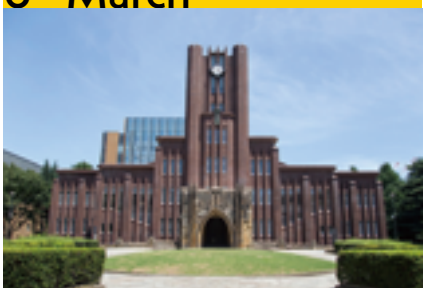
6th – 8th March

Japan attracts many tourists every year. However not only culture, food, and historical temples are the attractiveness of Japan. Japan's technology ecosystem may provide full of business opportunities too. This tour will lower the hurdle of entering to mysterious ecosystem in Japan.

Tour is designed for

- Government who is interested in learning about Japanese startup ecosystem
- Startups who is interested to explore market opportunity in Japan
- Corporate representatives who are interested in open innovation
- University reserchers and incubators

First Day
6th March



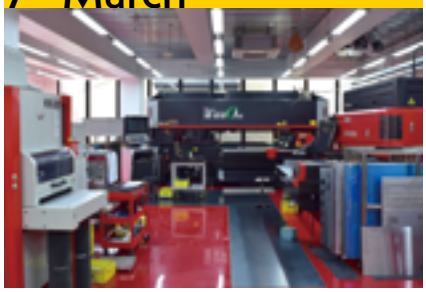
All you need to know about incubation ecosystem in Tokyo

› Leave a Nest HQ

› The University of Tokyo

› Tokyo Institute of Technology

Second Day
7th March



High-Tech manufacturer. Supporter for prototyping

› Super Factories from Itabashi

› Garage Sumida / Center of Garage

› AG & FOOD CENTER

Third Day
8th March

Hyper-Interdisciplinary Conference
An unique conference where researchers in different fields gather to create novel body of knowledge together with big corporates and startups.

Why should you join?

- In 3 days, you will get good bird's eye view of deep tech ecosystem in Japan.
- Chance to get directly connected to Japanese companies, startups and researchers with support from Leave a Nest.
- Leave a Nest will be there to support you to build the network you are looking for.

For registration

Or access

https://goo.gl/forms/Dr4Olo49I3SeLfok2

Program Fee **300,000 JPY / 4,000 SGD / 10,000 MYR / 3,000 USD / 2,000 GBP**

*excluding airfare and accommodation

Inquiry:
Leave a Nest Co., Ltd.,
URL https://en.lne.st/jptour2019/
EMAIL info@lnest.jp
TEL +81-3-5227-4198

The Frontline of Human Resource Development

with Leave a Nest

Leave a Nest Co., Ltd. has a mission to achieve global happiness by enhancing everyday life through science and education for future generation. The target of our training programs includes from young generations to experts to maximize their possibilities. Check out our unique and exciting challenges and join us to see a whole new world!

Principle of Bridge Communication to Create New Value in the World

Towards achievement of Leave a Nest's vision, Advancing Science and Technology for Global Happiness, we propose an innovative communication approach to encourage more people to initiate new things. "Science Bridge Communication", is a concept and soft skills to enable people to communicate beyond knowledge borders, create a bridge between different parties to generate new knowledge. We have been applying this principle of Bridge Communication to achieve sustainable development in the world. In this article, Dr. Kihoko Tokue, Head of Leave a Nest Asia (Managing Director, Leave a Nest Singapore Pte. Ltd.) and Mr. Abdul Hakim Bin Sahidi, newly appointed Director of Leave a Nest Malaysia Sdn. Bhd. will share the essences of bridge communication and how applicable it can be in the society for everyone.

First step is realizing the gap

Hakim In Malaysia, I've seen many students ending with finding jobs which are not so relevant from what they have studied in universities. I feel that it is very difficult to pursue our vision or to find right place to continue our challenge. In Leave a Nest, we are collaborating with various partners such as schools, universities, corporates and government agencies to identify their vision and solve issues in the world together. Today I'd like to explore how we can share this knowledge with interested parties?

Kihoko That's a good topic to cover. I'm curious as to how you found Science Bridge Communication as new member joining Leave a Nest 2 years ago. When I first joined Leave a Nest Co., Ltd., I was bit "skeptical" about usefulness of the program for non Japanese. I was proven wrong very quickly. Let me share my own experiences. I've been in field research about birds behavior for over 10 years, and honestly I was not really sure how knowledge as PhD holder can be utilized to contribute back to the society. The very first project after joining Leave a Nest, I realise the importance of bridging knowledge gap through science workshop project planning. Later I was assured that same principle can be applied for developing the program overseas too. In addition, internship students who joined our workshop commented they enjoyed Science Bridge Communication. I will not go into details but for the first workshop I used firefly as a study species. .

Hakim That sounds fun exercise for children. I would love to find out about firefly.

Kihoko Although the workshop was very simple one, I really wanted to tell difference of seeing and observing. And through developing this program for school children, I could learn a way to fill the gap between my message and expertise in Behavioral Biology to pique interest of young researchers.

Hakim I see. In my case, I learned another thing from school children. The first workshop I conducted was at KLESF (Kuala Lumpur Engineering Science Fair) in 2016 with a Malaysian IT startup called Brain Bites. The content was very new to feature Mathematics, to calculate Pi (π). Although we recommended young school children to join the workshop, we had 20 kids each time, ages varying from 9 to 16. But this was a key experience which forced me to change the way I talk to different background children. This made me realize that filling interests and knowledge gap can be the first step for us to attract more people to achieve vision.

A missing piece to achieve your mission

Kihoko Wow, Hakim you had such a wonderful experience early on. It is indeed essence of bridge communication which we realise by interacting with children. This is exactly what the founders realized when they started science workshops as the first business. Then founders themselves as young researcher could gain some skills to share frontier scientific knowledges for children as future generation. Children are great teacher to adults since they show whether they understand, got interested in what you share via bridging knowledge gap.

Hakim I heard that the program was certified by the Japanese government as well.

Kihoko Yes, at the time our founders focus more on biotechnology, then Ministry of Economy Trade and Industry selected our "Bio Communicator training program" to apply for more young researchers. Around that time, government was trying to promote advanced biotechnology research such as gene modification but general public had difficulties in understanding. So there was huge needs in the society to produce more communicators who can bridge knowledge gap. After 10 years of experience and improvement now, we have lecture modules such as: Leadership - Communication - Presentation - Writing - Management.

Hakim Now in Japan many universities and corporates are applying this training program? I think I can localise the program and implement in Malaysia as well.

Kihoko That's a really good idea. In Japan as examples, some of the major corporates in Engineering industry utilize this for all the freshmen training to share company vision and technologies, in hope that members learn how to communicate beyond their divisions. In universities, incubator managers invite us for entrepreneur course and business talk. I'm really counting on you and other Leave a Nest local members in Singapore, Malaysia to help me understand cultural background and suit the needs of Southeast Asia region.

Global issues can be solved by new generation communicator

Kihoko Hakim, you are now focusing on finding and nurturing university based startups in Malaysia. What do you identify as the key challenges for researchers turned entrepreneurs?

Hakim Well, in many cases, university researchers tend to bring hundreds of slides when they want to explain about their technology.

Kihoko Guilty. As a researcher, we can never be satisfied with the amount of time given. We just want to keep talking about it. It is universal challenge indeed, same thing happening in Japan TECH PLANTER.

* TECH PLANTER is a Real-tech Seed Acceleration Program

Hakim Through conversation in mentorings, we can understand their core technology and extract the message, vision they really want to deliver. Then we create business plan together to bring potential business partners from industry. This is the value that Leave a Nest can provide through our program.

Kihoko Can't agree more. This is what I think, the key point for early startups especially in deep tech field is an ability to identify and share the vision of the team to the society. Once you have identified the quality question such as what kind of future you can imagine applying your core technology to provide solutions to the challenges will turn into great business as a result.

Hakim True, I feel university incubators also need to change so that they can support startups to deliver it in easy to understand manner so that industry side can also imagine future vision with the startup.

Kihoko Sometimes corporate partners side also don't know how to communicate with startups because it's difficult to identify the gap. And there will be more needs in corporate for open innovation and startup investment. As bridge communicators, what we do is identifying the knowledge gap, passion and mission through the dialogue with our partners.

Hakim With the core competence as bridge communicator, I really would like to help more startups in Asia to realize their mission. In turn I also accomplish mission of bringing good to the society through power of engineers. Well, ultimately, I think bridge communication means filling the knowledge gap to create better future, and this can be applied not only for startups, corporates but for university researchers, teachers and businessmen. For all in the world.

Recent years in the world, many organization are expected to create something with partners beyond disciplines or organizations, such as joint R&D, new business collaboration, open innovation. Yet no one knows of the solution. We believe that our training program Science Bridge Communicator and its principle in bridge communication can be a new solution to encourage everyone to become key players to bring change to the world.

(Text by Nami Akinaga)

Dr. Kihoko Tokue
Managing Director,
Leave a Nest Singapore Pte. Ltd.

Mr. Abdul Hakim Bin Sahidi
Director,
Leave a Nest Malaysia Sdn. Bhd.

Principles to an Innovative Work Culture

Have you ever wondered what makes a team innovative? Or perhaps why certain creative organisations that were once coming up with paradigm shifting novelties are no longer leading the industries? A lot of this has to do with what model and principles that they embrace. Let us look at some of these principles required to build an innovative company.

Principle 1: Implementing an innovative model

The traditional PDCA model

Most people in the commercial world would have heard of the PDCA cycle: Plan, Do, Check and Act. This model was developed to enhance the production system and improve the quality control of an operating system. While this method is still important in many industries, it's true relevancy lies in improving operations and not creating new innovations.

Innovating with the QPMI model

The QPMI cycle on the other hand liberates an innovative mind by giving people greater freedom and flexibility. While the concept of the PDCA model is to compartmentalize people to improve in their existing task, the QPMI model seeks to drive people towards creating new value in the areas of their interest. The QPMI cycle stands for: Question, Passion, Mission and Innovation and we'll be going through each section in the next part of this article.

QPMI Cycle

Quality Questions

The first part of the QPMI cycle is developing quality questions by identifying problems in different circumstances. It begins by firstly recognising that there is a problem then coming up with the question of why it happens and how can we solve this problem.

Passion with purpose

Drawing upon the curiosity to solve the problem, the individual develops a personal passion to solve the problem. This will fuel the person towards achieving the goal and inspiring others to take up the cause to solve the problem.

Mission (with like-minded members)

Embark on the mission to solve the identified problem through a series of trial and errors. It is also during this period that the individual also seeks members who either face the same problem and questions or are incited with passion to solve the problem to join in the mission.

Innovation

The team innovates and creates something valuable to solve the identified problem. With the problem solved, the team restarts the cycle by identifying another problem that they may be facing and come up with new quality questions.

Principle 2: Converging different fields for innovation

Being surrounded by individuals with similar training may result in a team that isn't exposed to exploring non-conventional methods to solve the problem. This is because the team will most likely be using conventional methods common to the industry to solve the problem instead of considering other pathways that will result in innovation.

By drawing upon a diversity of different specialist in different areas, the team will be able to brainstorm from different angles and leverage and cover on each other's unique industrial strength and weaknesses. This will result in a team that is able to "think outside the box" in its attempt to solve a problem; bringing about innovation.

Principle 3: Embracing technology

Advancement of technology has revolutionised industries. The use of steam power technology for example had resulted in the widely known 18th century industrial revolution that had changed manufacturing forever. The advancement of technology generally helps to ease monotonous and routine work, allowing people to focus on the key task at hands.

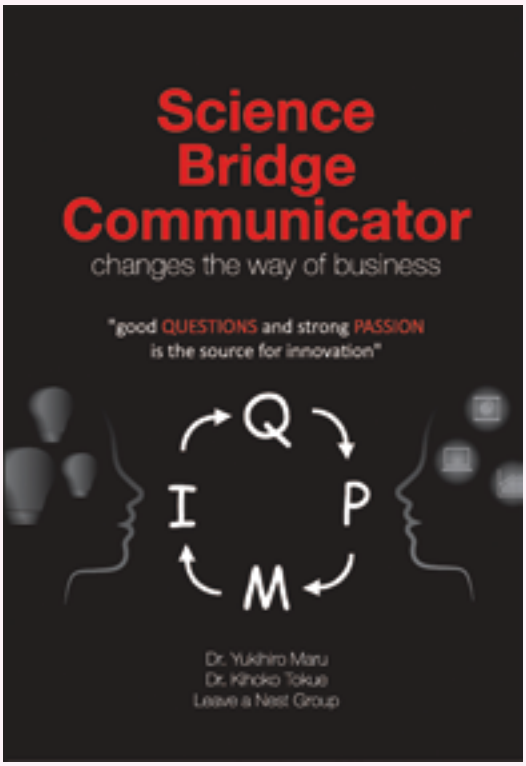
Beyond easing simple task, embracing technology also helps to reduce the need for the typical middle manager to manage people. In the past, companies required the use of middle managers to supervise subordinates, accumulate and disseminate knowledge and raise efficiency. However, with the modern day advancement of IT, the use of certain programs like Google calendar and Slack allows all the members in the company to see what everyone is doing - thus partially covering the middle management role. Through embracing technology, the middle management changes from one that supervises into one that trains and mentors - further increasing the organisation's innovation and efficiency.

Putting into practise

The following 3 principles: QPMI cycle, converging different specialist in a project and embracing technology were introduced in this short article. These 3 points can be used to boost a company's innovative culture and efficiency - allowing the organisation to grow in value.

A way to implement this is to consider how the people on the ground are working. Are they excited and motivated? Are they passionate and coming up with new quality questions to solve a problem? If they aren't, it is good to give them some space and nudge them in the direction of developing a quality question (as explained in the QPMI cycle). Encourage the questions that they are bringing up and mentor them in the way to bring about innovation for the company.

(Text by Jeremy Lim)

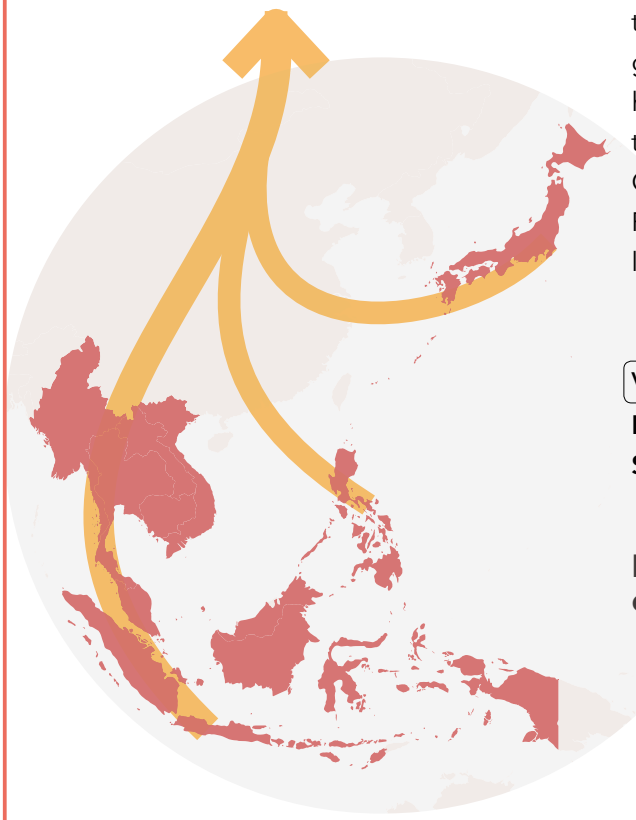


To know more

Dr. Yukihiro Maru

The following principles comes from the book *Science Bridge Communicator* which was written by Dr. Yukihiro Maru, CEO and representative director of Leave a Nest Co., Ltd. He earned his doctorate in agricultural science at the graduate school of agriculture and life sciences in the University of Tokyo. Other key concepts that are covered in the book includes: *the mechanism that transforms ideas into businesses, building sustainable internal systems that give rise to innovation and principles to create an innovative organisation*. To find out more, you can contact Leave a Nest Singapore at: Info-asia@lnest.jp

SCIENCE CASTLE



History

SCIENCE CASTLE is a global conference for youth researchers and entrepreneurs.

Leave a Nest has been attracting thousands of youths through SCIENCE CASTLE platform since 2012, started in Osaka, Japan, then it's expanding to Singapore and Malaysia. This platform aims to generate opportunities for teachers and youth researchers to learn how innovative knowledge and sustainable solution can change the society in local areas and the world. This year, in the SCIENCE CASTLE in Singapore, we have participation from Indonesia and the Philippines for the first time to create an ecosystem to incubate youth leaders and entrepreneurs based on science and technology.

Vision of SCIENCE CASTLE

Nurturing the next generation of researchers and scientist through SCIENCE CASTLE platform

Leave a Nest SCIENCE CASTLE PLATFORM extends over Southeast Asia.

- Singapore
- Japan
- Malaysia
- The Philippines
- Indonesia

Inspiring feedback from a teacher

Mrs. Dahliza Kamat

"SCIENCE CASTLE has opened up the opportunity for our students to propel and progress, particularly in the field of science. They learn to explore, to experiment and most importantly, to endeavor - again, instead of giving up, each time they are faced with challenges. It allows for creativity, as they have to start from scratch, compared to other competitions which focus more on product and prototype. Furthermore, Science Castle values research, instead of result, as students get to enjoy conducting their project, stemmed from their burning passion and curiosity."

Inspiring feedback from a teacher

Ms. Foo Koi Hoon

"One of the uniquenesses of SCIENCE CASTLE Conference is the team has been judged by judges from different countries and background. Basically, they emphasis on students' interest and passion in Science. It encourages students to explore and go further with their projects. Furthermore, SCIENCE CASTLE also gives exposure to students and teachers in bridging their knowledge with other students from other countries. This allow students to practice their public speaking skills and increase students' confidence level thus boost their self esteem too. Lastly, the students can showcase their projects to others and give opportunity to meet other students from the same and different countries."

Visit our website link
https://en.s-castle.com

SCIENCE CASTLE

13th APRIL 2019

Venue	In Kuala Lumpur (To be determined)
Application deadline	22nd February 2019
Announcement of selection	1st March 2019
Mentoring session	10th March – 5th April 2019

Theme

"Creative and Innovative Solution in The Changing World"

Judging Criteria

Novelty	New findings Discovery from the project is clearly described
Issues	New issues that have never been challenged
Passion	The representatives show interest towards research project The topic of the research is interesting
Scientific	The project is based on relevant hypothesis The results summarized and discussed in scientific manner (simple and concise)

Featured activities

Oral presentation

Poster presentation

Science workshop

Sharing experience from participants on SCIENCE CASTLE in MALAYSIA

SESERI (Participants of SCSG 2017)
Rikolto System

"We joined SCIENCE CASTLE in SINGAPORE 2017, we realised Oral presentation session give more impact to us. From there, we learned about cooperation as a team. We also can identify strength and weakness of our project. At the same time, we learned on how to interact and bridge our knowledge with others. This competition is not same as any other competition because it is all about our passion and dedication in our project."

SBPI Gombak (Winner of SCSG 2017)
Lemuni Hitam

"As a Grand Winner of SCIENCE CASTLE in SINGAPORE 2017, we had chanced to present our research in Hyper-Interdisciplinary Conference in Japan. From there, we realised SCIENCE CASTLE has became a platform for us to advance more, as it encourages deeper understanding from reading, discussing, discovering and sharing with others. This serves as a good kick start before we leave school and enter varsity, embedded with the passion and enthusiasm of an inquirer and thirst for knowledge."

Link for registration

https://s-castle.com/malaysia2018/

marshila@lne.st OR fatin@lne.st

018-2233230

fb.com/ScienceCastleAsia/

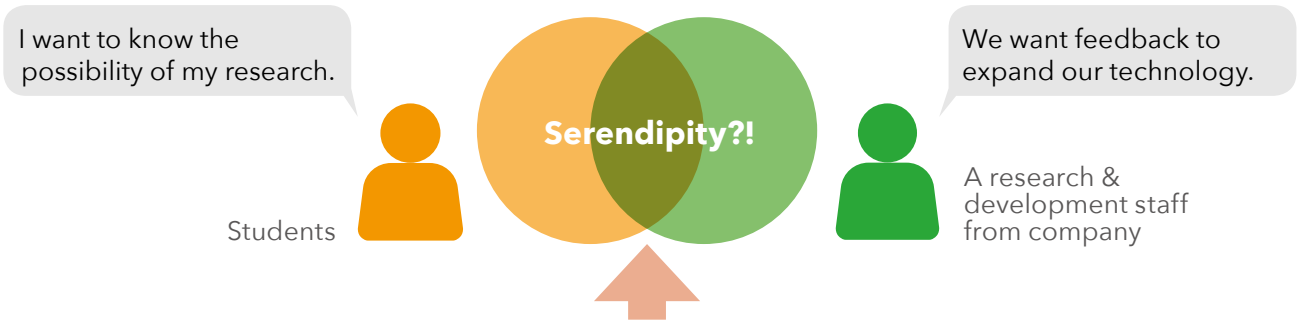
CDF
Career Discovery Forum

Career Dis

Share your vision. Discover future career.

Career Discovery Forum (CDF) is where researchers and developers come together, discuss without border, and design innovative future by sharing visions with other experts from a variety of fields. CDF participants gathers from all sorts background including students, researchers/engineers from big corporates, startups, and SMEs. Let's cultivate unseen field and accelerate innovation of science and technologies with us!

Designing future career



Leave a Nest

Leave a Nest supports creative discussion as a catalyst.

Program Contents

LEARN

Get inspired by pioneers

Speakers are invited from companies, factories and universities, and share their current challenge. This is the chance to hear how they expanded their strength in uncultivated field such as the development and utilization of psychological technology in the society, transdisciplinary collaboration of big corporates to change future agriculture, and more.

TRAIN

Train hyper-interdisciplinary communication skill

It is challenging to share others your ideas and vision in your research comprehensively. Practical training workshops are organized to accelerate communication by examining and brushing up one-minute-self-introduction.

DISCUSS

Dream up your future career

Booths are hosted by individual partner companies, at which students or researchers/engineers visit and discuss. The visitors give one-minute-research-introduction, and hosting company share their visions. Through the discussion, both company and visitors dream up future career together.

covery Forum 2018

Voices of participants

Mr. Ghiffari Aby Malik Nasution
Transdisciplinary science and engineering, Tokyo Institute of Technology
Undergraduate student (Junior)

My favorite part of CDF was a free talk session with the engineers and researchers from companies. They were friendly and casual, and it was a good opportunity for me to know about Japanese companies' visions that I did not know of. I talked with companies which are more biology related, which I usually do not have chance to step in. This experience gave me the opportunity to broaden my vision. It was also eye-opening fact to know there are some Japanese companies welcoming researchers and engineers regardless our study field or Japanese level.

Mr. Kosei Tsukamoto
Rohto Pharmaceutical Co., Ltd
Team Leader, Global human resource development team, Development & Planning Office

The impression of CDF was casual, and the motivation of participants was focused on research and technologies. This place gave me the opportunity to hear participants' honest thoughts. It was a place where students' can talk about their dreams which is difficult to read out from resume or job interviews. I learned to know more than their research itself, such as why they are researching and what dreams they want to realize. Having group companies all over the world, we want to know how researchers want to contribute to the society and change the world regardless where they are from. We are looking forward to discover and maybe work with those who open our eyes to see new vision.

Dr. Akito Endo
Kishu Giken Co., Ltd.
Manager of Research and development

We are ink jet company and have the vision to expand our technologies in diverse market. At CDF, we expected to obtain new insights and needs of ink printing technology from researchers and engineers who are from variety of fields. It turned out that not only we have met them and made connections, some had proposed their ideas on inkjet development! Several of the participants interested in our technology visited our company after CDF. We are looking forward to learn new insights into our business and meet more challengers. We offer Japanese training for international employees and welcome those who are willing to try and develop new products regardless classic research field borders.

Join Career Discovery Forum 2019 in Japan!!

Date	Saturday, 22 June 2019
Time	10:00am – 8:00pm
Venue	Belle Salle Shinjuku Grand 8-17-1 Nishi-Shinjuku, Shinjuku-ku, Tokyo

Sign in to get more information
http://bit.ly/2Q3OwgY
Contact: gpd@Lnest.jp
(Izumi Dateyama)

Career Discovery Forum in Singapore 2019

Date **14 May 2019** Time **10am - 5pm** Venue **Singapore** (exact venue to be announced)

Leave a Nest Group will be hosting the Career Discovery Forum (CDF) in Singapore for the first time in 2019. This is the second time that CDF is being held outside of Japan. The first CDF organised outside Japan was held in Kuala Lumpur, Malaysia on 20th October 2018. Here in Singapore, we envision to create a platform for graduates and companies to build purposeful careers together through direct communication. Although the event will be focusing on the Science and Technology sector, students of any background are welcome to explore potential career opportunities here as well.

Highlights of the first CDF in MALAYSIA 2018

Keynote speech by Dr. Wan Wardatul Amani, Former NASA's Project Manager sharing about her experience launching the nanosatellite.

Participants had opportunity to interact with top corporations such as Top Glove, one of the world's largest glove manufacturing company.

Panel discussion featuring 4 CEOs of engineering companies discussing about the future career in engineering field.

Who should Join CDF in Singapore?

- Postgraduate students who want to find out more about their potential career path or looking for internship opportunities.
- Jobseeker who want to explore new career path
- Researchers who would like to get industry feedback on their projects or looking for collaborations with companies.
- Companies who are looking for new talents to join their team.

What to expect at CDF in SINGAPORE?

- For students, the chance to find out first hand information about the companies and discover your potential career path.
- For companies, the chance to interact with students and learn what current graduates are looking for in a job.
- Keynote speech by industry professionals to share their career experiences.
- Panel discussion session where several industry professionals discuss and answer questions about various career-related topics.
- Open booth discussions to allow students and companies to interact individually or in small groups.
- Exhibitions to showcase company products or research.

Register Here!

Scan me

Or visit http://bit.ly/cdfsg2019

Real-Tech Seed Acceleration Program

TECH PLANTER®

The Most Unique Platform Connecting Real-Tech Ecosystem Globally

Real-Tech Seed Acceleration Program
TECH PLANTER®

TRAILBLAZING THE PA

TECH PLANTER SOU

TECH PLANTER is a seed acceleration program that focuses on innovative real technology such as biotech, agritech, robotics, IoT, energy, electronics, artificial intelligence, medical, new materials, and others which can solve wicked problems faced by local communities. Started with Singapore in 2014, TECH PLANTER technopreneurial wave had swept most of the ASEAN region when it reached Malaysia, Thailand, the Philippines, Indonesia and Vietnam shores.

TECH PLANTER inducts its participants into a well-formulated and exclusive ecosystem. The TECH PLANTER ecosystem supports startups prototyping needs by providing seed funding and access to the famous Japanese manufacturer. This ecosystem also made it possible for ASEAN startups to identify Japanese partners and gain access to Japan market through Leave a Nest legacy of 16 years of strong network with over 300 Japan major companies.

Finalists of TECH PLANTER program will receive guidance on how to pitch their ideas and products to the top management of Japanese corporations. Monetary reward is available for winner from each of the ASEAN countries. The final showdown for TECH PLANTER ASEAN round will be held in Singapore where one ultimate winner from ASEAN will win the rights to pitch their project in Japan. TECH PLANTER program also provides special post-TECH PLAN DEMO DAY initiatives called TECH SEED GRANT and TECH VENTURE MEETUP.

Leave a Nest and its partners are ever ready to support the scientific and technological needs of startups in the region. TECH PLANTER serves as the best springboard for startups to grow as a successful venture. Join the exciting TECH PLANTER ecosystem and discover your startup's true worth!

R-1 TECH PLAN DEMO DAY in Indonesia

Final Pitch Date	**4 May 2019**
Application Deadline	**29 March 2019**
Venue	**Block71 Jakarta**

For detailed information Page 34

R-2 TECH PLAN DEMO DAY in the Philippines

Final Pitch Date	**18 May 2019**
Application Deadline	**12 April 2019**
Venue	**QBO Innovation Hub**

For detailed information Page 36

R-3 TECH PLAN DEMO DAY in Vietnam

Final Pitch Date	**1 June 2019**
Application Deadline	**26 April 2019**
Venue	**Saigon Innovation Hub**

For detailed information Page 38

R-4 TECH PLAN DEMO DAY in Thailand

Final Pitch Date	**6 July 2019**
Application Deadline	**31 May 2019**
Venue	**RISE Accelerator**

For detailed information Page 40

R-5 TECH PLAN DEMO DAY in Malaysia

Final Pitch Date	**20 July 2019**
Application Deadline	**7 June 2019**
Venue	**SME Corp.,Platinum Sentral**

For detailed information Page 42

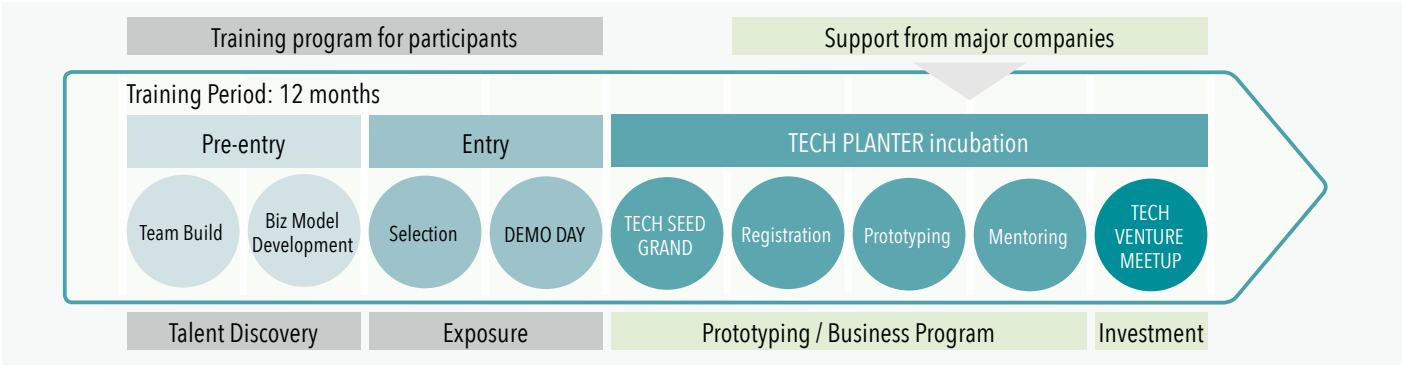
R-6 TECH PLAN DEMO DAY in Singapore

Final Pitch Date	**3 August 2019**
Application Deadline	**28 June 2019**
Venue	**Platform E**

For detailed information Page 44

TH FOR PROMISING ASEAN STARTUPS
UTHEAST ASIA 2019

FLOW OF TECH PLANTER PROGRAM



MONETARY PRIZE

Location	Value of Prize	Additional Prize
South East Asia round	300,000 JPY	Flight ticket and accommodation to join TECH PLANTER in Singapore for 2 members
Singapore round	300,000 JPY	Flight ticket and accommodation to join Hyper-Interdisciplinary Conference in Japan for 2 members

ABOUT TECH SEED GRANT

An encouragement grant in the amount of SGD500 for TECH PLANTER applicants who did not receive any awards during TECH PLAN DEMO DAY. The grant money is meant to be used for anything ranging from incorporation of company, research & development, or product development and prototyping. Six recipients from each countries in TECH PLANTER Southeast Asia round are eligible to receive the grant. Recipients are obliged to present about their progress in post-TECH PLANTER program such as TECH VENTURE MEETUP and to run for TECH PLANTER program again in the coming year.

ABOUT TECH VENTURE MEETUP

An occasion where real-tech startups gather and explore potential collaboration with corporate partners, venture capital firms, angel investors, manufacturing partners and other supporting partners.

Enter
TECH PLANTER
from here!
https://lne.st/TPworld2019

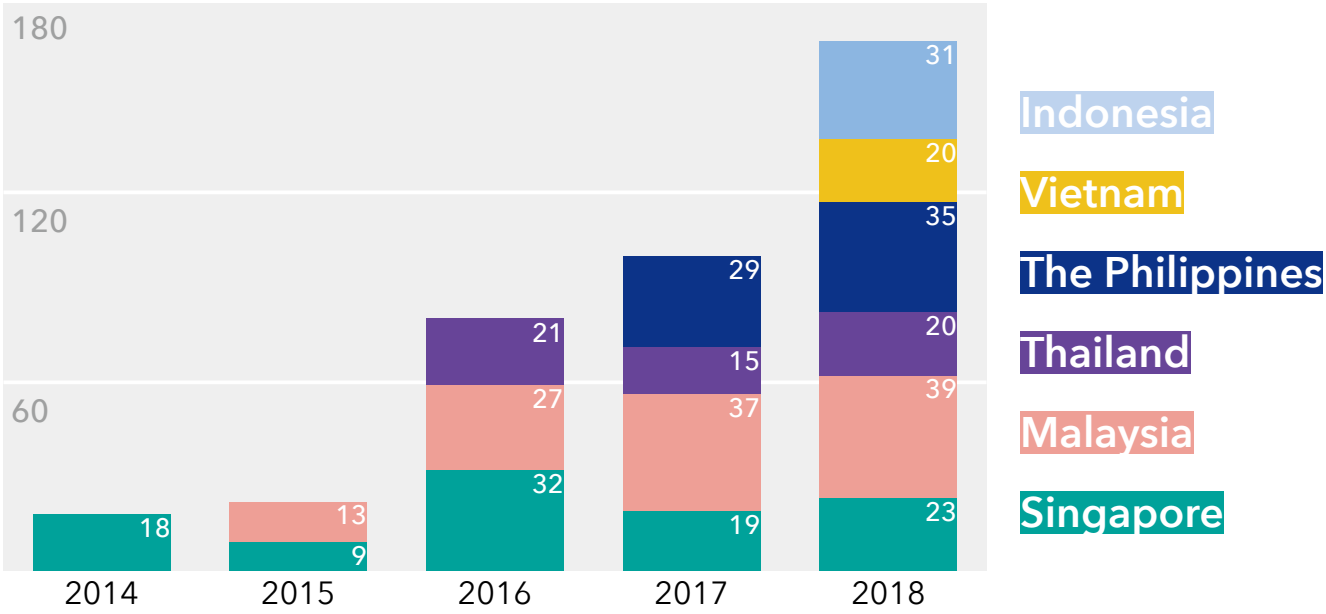
Quick News from Europe and America!!!

TECH PLANTER in UK 27 October 2018
Grand Winner: **InfiGear**
Theme: New design of the gear that allows more power and less mechanical wear

TECH PLANTER in Boston 6 October 2018
Grand Winner: **Embr labs**
Theme:Wearable, portable, body temperature controller

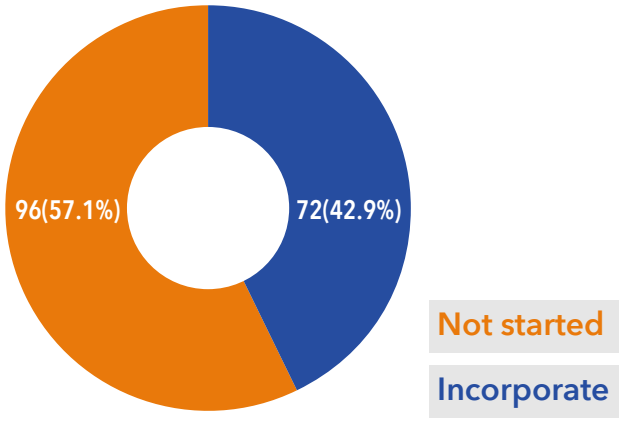
TECH PLANTER in San Francisco 10 November 2018
Grand Winner: **Raydiant Oximetry**
Theme:A better fetal monitor to improve outcomes for mothers and babies during childbirth

Leave a Nest footprints in Southeast Asia countries.

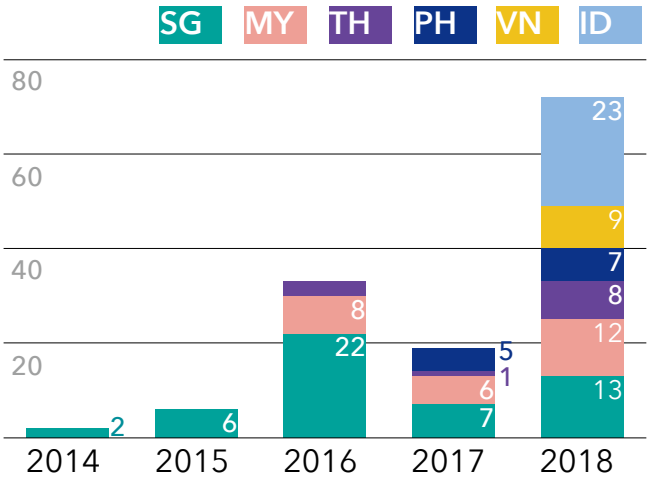


Number of TECH PLNATER members each year

In year 2018, we have received a total of 168 teams registered for TECH PLANTER program across 6 countries in South East Asia, i.e. Singapore, Malaysia, Thailand, the Philippines, Vietnam and Indonesia. Compare with the initial number of 18 teams in year 2014 and this number ascending steadily and number of members in the ecosystem keep expanding year by year. With the extended network with the local and regional accelerators, incubators, universities and research institutes, we have deepen our understanding in each country and foster a stronger relationship bond with the various key players in this ecosystem.

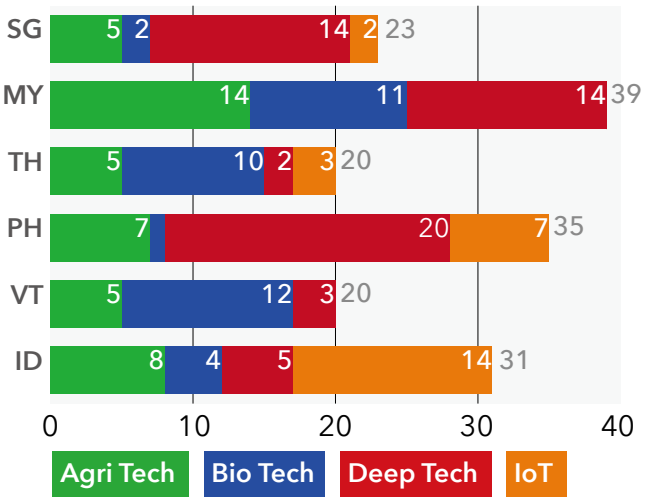


Incorporation of percentage of TECH PLANTER members



Number of incorporated members each year

There is no restriction on the startups as to be part of our platform and we accept teams from any stage including pre-startup, whether incorporated or non-incorporated because we are capable of supporting teams from any stages. We have seen number of incorporated startups applying through TECH PLANTER program increasing year by year, one of the possibility is that due to maturisation of ecosystem in Southeast Asia and better environment & opportunity for incubation. TECH PLANTER program offers a chance to researchers and startups to showcase their underlying technology and research work.



Category of TECH PLANTER members

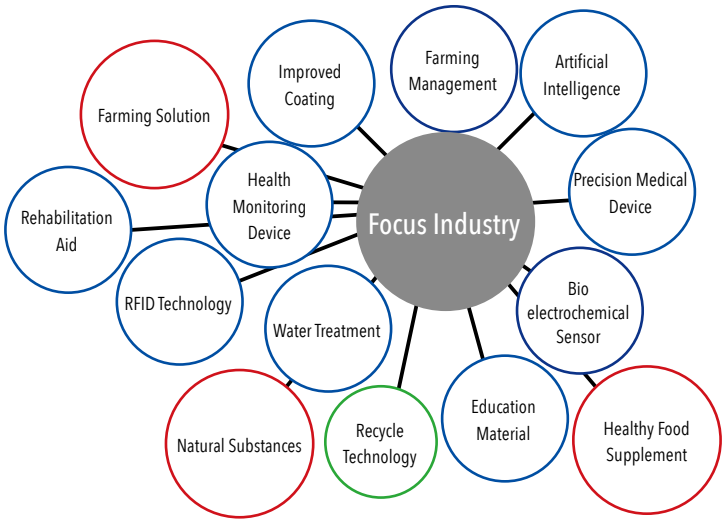
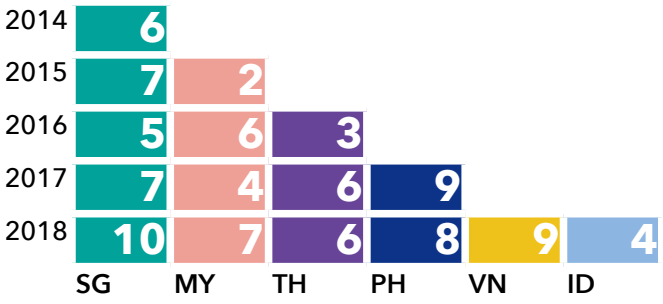


Diagram of Focus Industry

We are mainly focus on Real-Tech area. Real-Tech comprises of deep tech in the area of hardware, chemistry, IoT, and etc., bio tech, agri tech and AI engineering. We are totally aware that nurturing Real-Tech startups require both time and money as well as support from the community. However, we have never stop providing utmost support to these passionate teams, because we believe as to one day they will bring the change to the world with their very own technology.



Number of international and local partners each year in TECH PLANTER

TECH PLANTER Southeast Asia 2018 international and local partners

Malaysia							
Japan Tobacco Inc.	Mitsui Chemicals Singapore R&D Centre Pte. Ltd.	Malaysian Technology Development Corporation Sdn. Bhd. (MTDC)	SME Corporation Malaysia (SME CORP)	Innovation and Technology Managers Association (ITMA)	Micro Precision Machining Sdn. Bhd. (MPM)		
Philippines							
Japan Tobacco Inc.	Mitsui Chemicals Singapore R&D Centre Pte. Ltd.	Nippon Steel & Sumikin Engineering Co., Ltd.	QBO Innovation Hub	Brainsparks	IdeaSpace Foundation, Inc.	Nexus Innovation Labs, De La Salle Lipa	University of the Philippines Enterprise
Vietnam							
Japan Tobacco Inc.	Mitsui Chemicals Singapore R&D Centre Pte. Ltd.	Rohto Pharmaceutical Co., Ltd.	FocusTech Ventures Pte. Ltd.	Framgia Inc.	Saigon Innovation Hub	GiiG Asia	National Centre for Technology Entrepreneurship and Commercialization Development
Thailand							
Japan Tobacco Inc.	Mitsui Chemicals Singapore R&D Centre Pte. Ltd.	euglena Co., Ltd.	FocusTech Ventures Pte. Ltd.	Thailand Center of Excellence for Life Sciences (TCELS)	National Innovation Agency (NIA)		
Indonesia							
Japan Tobacco Inc.	Mitsui Chemicals Singapore R&D Centre Pte. Ltd.	Block71 Jakarta	AIBI Network				
Singapore							
GLOCALINK Co.,Ltd.	Mitsui Chemicals Singapore R&D Centre Pte. Ltd.	Rohto Pharmaceutical Co., Ltd.	Mitsubishi Electric Corporation	IHI ASIA PACIFIC PTE. LTD.	FocusTech Ventures Pte. Ltd.	Platform E	Innosparks Pte. Ltd.

TECH PLANTER in Indonesia

Information about the event

Date **4 May 2019**

City **Jakarta**

Venue **Block 71 Jakarta**

Contents of Winning Prize

300,000 JPY

Round trip ticket + accomodation for 2 to attend TECH PLANTER in Singapore, 3rd August.

Timeline

Application Deadline	29 March 2019
1st Screening	Early April 2019
2nd Screening	Mid April 2019
Demo Day	4 May 2019

Local Partners Last Year

BLOCK71 JAKARTA
By NUS Enterprise
In partnership with Salim Group

AIBI
ASOSIASI INKUBATOR BISNIS INDONESIA

Awardees from 2018

Grand Winner

CV Indobot

Indobot as the solution to game addiction

JT Award & Mitsui Chemicals Award

BLST Endophit

Using endophit Soursop Leaf as an antibreast Cancer Medicine

Leave a Nest Award

JALA

JALA : The online Shrimp Farming Assistant

Spurring Innovative Minds Among Indonesian Youth through Robotics Education Platform.

CV Indobot Passionate Team
From Left : Eva, Putri, Adi, Oby, Imam, Rahma and Novika

Main product by CV Indobot : Anami Robot

CV Indobot	
Country registered	Indonesia
Established	November 2017
No. of Members	7
Core Technology	Multifunction robotic kits
Problems to solve	Game addiction among Indonesian
Website	https://www.indobot.co.id

"Follow your passion, success will follow you". We might have heard about the inspiring stories of people who dared to step up and follow their passion. In this article, we interviewed the winner of the first TECH PLANTER in INDONESIA 2018, Mr. Oby, CEO & Founder of CV Indobot to share about their journey.

From Game Addict to Robotic lover

When Mr. Oby was a kid, he used to be a game addict. Playing console and online game days and night. Until one day, he was introduced to robotics education in his vocational high school. He started to create a simple robot and eventually, he fell in love with robotics. He thought that robotics is interesting because he learned how to create new things with his imagination and not just playing games. Since then, creating a robot became his new hobby and interest.

When he entered a university, he finds friends who have the common passion towards robotics as he is. He joined the university's robotics team and participated in various competition organised in the country. Through all those competitions he participated, he won a lot of recognition. But more important is, those experience improved his robotics skills and made him more passionate about robotics.

Robotic competition and Problem in Indonesian Education led me to start a company, CV Indobot

Experiencing in many competition made him realise that robotics competition should be the platform to promote new robotic innovation. In each competition, participants should present new improvement and new features of their robot. But it didn't happen. He started to think about why it became like that. He found that the main problem was there is no affordable and good robotics platform for the Indonesian to use as the base to create new innovation. Besides that, Indonesia also still lacking in term of having suitable learning kits for students to learn Science and technology.

In 2015, with the great passion and technical skills to solve the problem, he started making a training kit together with his robotics team partner Mr. Imam. They created several kinds of robotic kits such as the one that excels; "Anami Robot", an affordable robot platform that consists of 5 different applications such as line follower, Bluetooth Android controller, object avoider, object transporter and firefighter. The students also can explore further to innovate the robot applications according to their own imagination. As the demand for the training kit increase, Mr. Oby and Mr. Imam officially established CV Indobot in November 2017. Not only selling products, but CV Indobot also provided the students with a comprehensive online robotic education for the students to learn more on the robotic. By doing this, they hope to nurture the next engineers and innovators such as B.J. Habibie for Indonesia through robotics. Now since establishment in 2017, they already sold more than 500 sets of the robot to over 23 states in Indonesia and reached about 2,000 students.

The win opened the door to step up to the world

To accelerate the company, CV Indobot participated in many local entrepreneurship programs. When the university's lecturer informed them about a seed acceleration program TECH PLANTER in INDONESIA, they never heard of it and quickly checked on the website. They soon made up their mind to apply as they see it as an international competition and supporting Real-Tech startups like them to scale up especially to meet potential foreign collaborators and investors.

During the inaugural TECH PLAN DEMO DAY in INDONESIA 2018, they said: " We are really surprised to be announced as the grand winner as there were a lot of competitors". But they felt really grateful and regarded their winning as the manifestation of the potential that CV Indobot has. As the winner, they received 300,000 Yen which they can utilise to accelerate their business. They also being sponsored to participate in TECH PLAN DEMO DAY in Singapore on last July 2018 which open the door for them to meet with more potential partners outside of Indonesia.

After this win, CV Indobot received great coverage from local media and also raised the attention of the university towards them. More support will surely come to approach them to accelerate their business. Now, it is time for them to grow bigger and serve more young generations to learn robotics and becoming the next great engineers and innovators. CV Indobot will fly high not only in Indonesia but to other ASEAN countries as well!

(Text by Abdul Hakim Sahidi)

TECH PLANTER in the Philippines

Information about the event

Date **18 May 2019**

City **Manila**

Venue **QBO Innovation Hub**

Contents of Winning Prize

300,000 JPY

Round trip ticket + accomodation for 2 to attend TECH PLANTER in Singapore, 3rd August.

Timeline

Application Deadline	12 April 2019
1st Screening	Mid April 2019
2nd Screening	Late April 2019
Demo Day	18 May 2019

Local Partners Last Year

QBO nexus brainsparks ideaspace Enterprise

Awardees from 2018

Grand Winner

Fruit Coating Research Team

Development of fruit coating for shelf life extension of fresh fruits

JT Award

Senti

A localized text analytics platform powered by Artificial Intelligence

Mitsui Chemicals Award

MykoPlus

MykoPlus plant growth promoter

Fresh Fruits From The Orchard At Your Doorstep. Technology To Revolutionise The Industry Is Here

| Fruitect® product

From Left to Right, Mr. Glenn N. Baticados, Mr. Rodel Anunciado, Dr. Veronica C. Sabularse, and Dr. Hidelisa P. Hernandez.

QPro Tech Phils., Inc. (To be Registered)	
Country registered	The Philippines
Established	2 October 2017
No. of Members	5
Core Technology	Fruit coatings for shelf life extension of fruits
Problems to solve	· Post harvest losses of fruits · Waste disposal and environmental pollution from food processing and agricultural by-products or waste.
Website	N/A

According to the Food and Agriculture Organisation of the United Nations, a third of the food produced for human consumption is lost or wasted along the supply chain every year. Current technologies and innovation have been seeking to target this issue. Many technologies and innovations have been developed to address the various causes of food losses. However, most are not made affordable and are not produced in a sustainable manner. Herein, we look into Fruitect® technology of customised fruit coatings that reduces post harvest losses in fruits.

Searching For A Sustainable Way To Reduce Post-Harvest Food Losses In The Philippines

The Fruit Coating Research Group's invention started with a simple notion of finding a suitable project for graduating students to work on for their thesis, related to incorporating their main research on coatings, to reduction of environmental pollution, and reducing losses in fruits and vegetables. This product was developed specifically to counter the rapid ripening after harvest and physical deterioration resulting in wasted fresh producct and income loss, especially during transportation. The Fruitect® coating extends the shelf life of fruits, prevents water loss, and improves aesthetic appearance of the fruits while allowing a slower normal ripening process to happen. Indeed, there is food-grade wax available in the industry, but Fruitect® offers a better alternative.

As a liquid biocomposite, ingredients of Fruitect® coatings are derived from different kinds of raw materials - for instance low value agricultural or food processing waste. The materials are natural (non-synthetic) and biodegradable and forms a colorless, odorless film on the fruit's surface. The coating also delays the start of post harvest disease. Each Fruitect® product is developed for a specific fruit or fruit variety because of its unique ripening behavior.

Feeding More People By Creating Fruitect® Coating

The promising results led Dr. Hernandez and Dr. Sabularse to develop an array of Fruitect® coatings for fruits in the Philippines, such as papaya, mango, banana, calamansi. "We are focusing on our local bananas and we probably will be looking at other fruits as well as vegetables such as tomatoes and cucumbers to try to expand our application". The team aims to make fruits available to a larger market at a lower cost using the sustainable technology. "We can bring down the cost of fruits and vegetables by adding our technology to simplify transportation process. For example, refrigeration may not be needed. If we can reduce the amount of fruits that are thrown away because of spoilage, that would reduce the cost of commodity as well." Their passion in research, as well as the support from the government to commercialise the product, had brought them to the stage of incorporating into QPro Tech Phils., Inc and commercializing their product.

It Is Never Too Late To Be Successful

Dr. Sabularse and Dr. Hernandez revealed that they were very reluctant to join the TECH PLANTER contest which was described as being for young innovators. After much persuasion, they signed up for the programme even as they are of retirement age already. Little did they expect to win a local competition and join the regional final round in Singapore. "We gained exposure with people who were present during the pitch day." The team was also featured in local news reports and was also interviewed by a local radio station. To help them further, one of the officers in the Department of Trade and Industry had also connected them to a professor's student, who runs a food business. The age factor was brought up again in the Regional Final round in Singapore. "The participants at TECH PLANTER SINGAPORE were so young! And one of them came to us at the end of the event and said 'Congratulations! You know what, when I saw you on stage, I thought to myself, if she can face the challenge, so can I. I can't complain about the hardship.' " Dr. Hernandez smiles and looks back on the experience. This success story would be similar to vintage wine making, it gets better with age.

(Text by Elizabeth Wee)

TECH PLANTER in Vietnam

Information about the event

Date **1 June 2019** City **Ho Chi Minh City**

Venue **Saigon Innovation Hub**

Contents of Winning Prize

300,000 JPY

Round trip ticket + accomodation for 2 to attend TECH PLANTER in Singapore, 3rd August.

Timeline

Application Deadline	26 April 2019
1st Screening	Early May 2019
2nd Screening	Mid May 2019
Demo Day	1 June 2019

Local Partners Last Year

Saigon Innovation HUB · GiiG · KisStartup · AWS-VN User Group

Awardees from 2018

Grand Winner & Mitsui Chemicals Award

Advanced Water Treatment

Direct Contact Membrane Distillation Process.

Framgia Award

GaraSTEM

Science and Robotics Kit.

NASCI

JT Award & Rohto Award

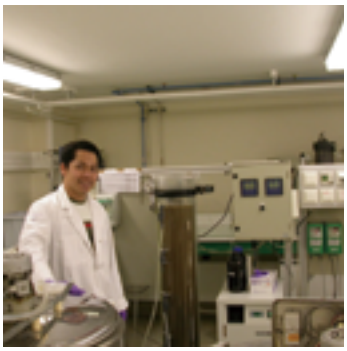
NASCI

Studying traditional Vietnamese medicine and developing for personal care.

A Purposeful Passion: Saving Local Livelihoods From Climate Change

Advanced Water Treatment

How do modern societies obtain clean drinkable water? Traditionally, mankind used to get access to drinkable water via rivers, lakes and wells. Ancient people even used to go to great lengths to transport clean water; the ancient Romans built aqueducts and ancient Nabataeans of Petra built a system of water pipes that transported sand filtered water into their dwellings. In modern society however, we have pushed that boundary and discovered methods to not only increase the sources of water but the quality of it as well.



Water purification device in the laboratory

Dr. Bùi Xuân Thành at TECHPLANTER in Vietnam

Advanced Water Treatment	
Country registered	Vietnam
Established	N/A
No. of Members	5
Core Technology	Submerged Direct Contact Membrane Distillation
Problems to solve	Making affordable drinkable water for everyone.
Website	N/A

The age old dilemma - drinkable water

In Vietnam's Mekong Delta, river water is one of the main water sources for many local Vietnamese. Its value has transcended beyond a drinkable water source and plays a huge role in local farming and shaping the economics of the nation. This way of life has recently been threatened by climate change - rising sea level and the loss of incoming fresh water due to several built upstream dams. This causes serious saline intrusion - up to 90 km inland; resulting in an increase in salt concentration in both surface and groundwater sources. The seawater intrusion has been partially solved through the efforts of the Vietnamese government who have built up dykes. However, this in itself is not a complete solution as there are regions where dykes have not been constructed and occasions when the seawater breaks the dykes. In some cases, certain local people have even planted mangroves along the coastlines to act as a natural protective barrier but it has been reported that the rising sea level has claimed them already.

This problem is a serious dilemma for people in Vietnam's Mekong Delta as it affects their livelihood. Being able to obtain clean water is one of the basic necessities of life and thus finding a way to solve this problem is of great importance. And all of these has resulted in the journey of a man with a desire to solve this dilemma.

A man's passion to save lives

Dr. Bùi Xuân Thành from Ho Chi Minh City University of Technology (HCMUT) has been conducting research in submerged direct contact membrane distillation as a means to solve this problem. He has recounted that it is his passion to "solve the water issue in Vietnam and find a way for local people to buy cheap clean water for everyday use". To that end, he has focused his research on developing a low cost direct contact membrane distillation system as it can be the solution towards a sustainable and cheap method for clean water.

This technology is the combination of two different concepts: membrane separation and distillation. The membrane separation mechanism is found in the movement of water vapour across a hydrophobic membrane of specified pore sizes through the application of heat in the hot side of the membrane. The distillation process is then used to condense the water vapour to become clean water on the cold side of the membrane.

Effectively, it is a thermally driven process via transmembrane vapour pressure difference by combining mass and heat transfer. How this process works is by having two concurrent streams (the seawater feed and clean water permeate) flow on either side of a hydrophobic porous membrane. The seawater is heated up to 50-60°C and evaporates through the membrane and condensates on the cooler permeate side. This process has the advantages of having no applied pressure, lower required temperature needed for conventional distillation and it can use energy from low grade heat waste or renewable energy.

Making it a reality - dreams can come true!

Through the TECH PLANTER platform, Dr. Thành and his team is currently in the talks with a Japanese conglomerate who is interested to conduct a research collaboration with him. He has also been invited to Japan to visit the Ota city's Superfactory - in the efforts to help him commercialize his research and turn his passion into a reality. Beyond all of these, Dr Thành has also said that this program has allowed his team and him to "gain exposure in the larger community and through potential collaborations, improve their research".

Dr Thành admits that his research is still not complete yet. There are certain challenges he is still trying to solve like such as obtaining a better flux for the membrane and finding the right membrane material that is heat resistant. But in spite of all these difficulties, Dr Thành is confident about the future and is in the steps to introduce renewable energy (e.g. solar power) to greatly reduce operational cost. His drive to help to solve the water problems in Vietnam remains the same and he will definitely his dream into a reality.

(Text by Jeremy Lim)

TECH PLANTER in Thailand

Information about the event

Date **6 July 2019**

City **Bangkok**

Venue **RISE Accelerator**

Contents of Winning Prize

300,000 JPY

Round trip ticket + accomodation for 2 to attend TECH PLANTER in Singapore, 3rd August.

Timeline

Application Deadline	31 May 2019
1st Screening	Early June 2019
2nd Screening	Late June 2019
Demo Day	6 July 2019

Local Partners Last Year

Awardees from 2018

Grand Winner & JT Award

iVET

Pet Health Solution

Mitsui Chemicals Award

NJ Lab

Innovation of Recombinant Human Peptide for Sustainable Replacement of Antibiotics and preservatives

euglena Award

TriOCIN

Anti-acne patch which contains an antibacterial protein component that seeks to treat acne effectively

FocusTech Ventures Award

Brain Dynamics

Brain Monitoring System for enhancing rehabilitation stroke patients.

Improving The Welfare Of Dogs Through Biomedical Engineering

According to the Bureau of Disease Control and Veterinary Services in Thailand, it is estimated that more than 750,000 dogs live on the streets of Thailand. These vulnerable creatures are prone to abuse, and some are abandoned due to old age or disabilities where owners are unable to care for their welfare. iVET has taken up the challenge to provide a holistic healthcare solution to this issue with determination to change the lives of these pets and strays with a rippling effect.

| iVET's pet healthcare device

| iVET team

iVET (Thailand) Co., Ltd.	
Country registered	Thailand
Established	October 2012
No. of Members	80
Core Technology	Biomedical Technology
Problems to solve	Pet Wellness Solution
Website	https://www.ivethospital.com/en

Challenging An Understated Societal Issue

CEO Dr. Warangkhana Phanwanich of iVET always had a passion for animals and she has an expanse of experience in veterinary studies and biomedical engineering. iVET as a company began with a determination of wanting to help pet owners improve the quality of life of their pets, building a whole healthcare system to provide for pets at all stages of life, be it young or old. "We want to take care of the pets even after they finish treatment." Previously only verbal advice and medication was administered to owners and their dogs which are weak and unable to walk. But for the owners, they are inexperienced in taking care of their dogs in their weak state. "They can advise the owners to make a wheelchair but the owners don't know where to go to make wheelchairs for their pets, they do not know anything about making wheelchairs. They want to help their pets, but do not know how." An inevitable impact of strays is the fact that they will carry different diseases on them which imposes health risks on not only to humans, but also the other animals and wildlife. Realizing this as a perpetual and urgent problem that effects in pets being neglected and becoming strays or potentially be put down, this inspired her and her team to start developing some products to help the pets and owners increase the pet wellness and challenge this problem, by providing an improved solution: a holistic healthcare system.

The biggest issue is disease: obviously, strays aren't vaccinated, so they present a health risk to other cats and dogs, as well as to humans and wildlife.

What Makes iVET's Solution Different

Unlike other pet healthcare systems, iVET's healthcare system not only provide a range a services from pre- and post- surgery care maintenance, it also includes customised medical hardware such as wheelchairs which are also engineered for dogs who need them. They provide an array of hardware, for handicapped pets, namely the PetWellSuit, FlexzWheels, and the AquaTrek, all of which to help disabled pets recover and improve their mobility overtime, which will result in improvement of their quality of life. "We try to make a system to help animals have better quality of life. Acupuncturists work with neurosurgeon and physiotherapist, and engineer team works on the hardware." Each of these hardware have been painstakingly designed to aid the owners and pets. To name a couple of examples, FlexzWheels, comes in 3 sizes and is adjustable to the size of the pet for comfort. It is also foldable and compact for storage when not in use. These well-thought inventions have bagged medals from events such as International Exhibition of Inventions Geneva, and Seoul International Inventions Fair 2017.

Small Steps To Achieving A Big Impact

Since winning the TECH PLAN DEMO DAY in THAILAND in June 2018, the team has also been selected out of 53 applications across Southeast Asian countries for the Ota City joint prototyping development project with Japanese super factories (Corporations which are famous for their niche technology in specific areas of manufacturing) "I thought TECH PLANTER was just a pitch competition, but it isn't. This platform doesn't only think about short term, but also long term. Even after pitching, it keeps support and connection with scientists together,". Indeed in the Ota City project, they have received opportunities to collaborate with super factories in Japan that matches their business and could solve their technical issue. Especially for global expansion, not knowing the market trend may results in detrimental losses. Dr. Warangkhana feels that their idea and vision can be validated and aligned through communicating with the Japanese locals as they are intending to enter the Japan Market. "We can collaborate and solve more important problems, more than just only on our own. For the first time I visit the Japan superfactory, it opened my mind and I think it's better than being alone in this." Prototyping will finish next year. She hopes to grow the business expand into new markets to make a game changing impact to the animal world.

(Text by Elizabeth Wee)

TECH PLANTER in Malaysia

Information about the event

Date **20 July 2019** City **Kuala Lumpur**

Venue **SME Corp., Platinum Sentral**

Contents of Winning Prize

300,000 JPY

Round trip ticket + accomodation for 2 to attend TECH PLANTER in Singapore, 3rd August.

Timeline

Application Deadline	14 June 2019
1st Screening	Mid June 2019
2nd Screening	Late June 2019
Demo Day	20 July 2019

Local Partners Last Year

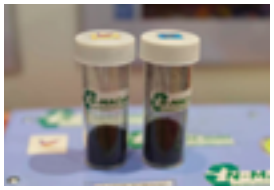
MTDC Malaysian Technology Development Corporation

SMECORP Malaysia

MPM Micro Precision Machining Sdn. Bhd.

ITMA Innovation and Technology Managers Association

Awardees from 2018



Grand Winner

Future Excel Plt. Ltd.

Nano-Magnetic adsorbent composite

MTDC Award & Mitsui Chemical Award

SecuraLips Plt. Ltd

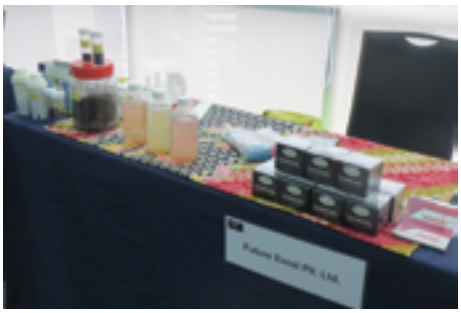
Harmless and Halal lipstick from bacterial pigment

JT Award

Lignas Bio Synergy Plt. Ltd

Mushroom for local transdermal therapy of breast cancer

Saving The Environment Using Super Adsorbent Nano Magnetic Biocarbon Composite



Products from nano magnetic adsorbent composite

Dr. Palsan Sannasi Abdullah

Future Excel Plt. Ltd.	
Country registered	Malaysia
Established	5 January 2016
No. of Members	4
Core Technology	Biocarbon surface modification with iron oxide nanoparticle coating.
Problems to solve	Water treatment issues at water treatment facilities, waste water treatment for small and medium enterprises (SMEs), separation of spent treatment agents, and the underutilized agro waste biomass.
Website	

In the East Coast of Malaysia, agriculture and batik textile industry thrive at the expense of the environment. Agro waste and dye from the batik textile industry polluted the freshwater source. It has been the plight of local water treatment facility operators to find solutions related to clarification process and filtration that is effective and affordable. Together with Future Excel PLT, N-MACom InnoTech team offers a solution for water and wastewater issue by using Nano-Magnetic Adsorbent Composite, a mix of agro waste derived biocarbon and iron oxide particles with magnetic characteristics. This is a clever two-pronged strategy by Future Excel PLT as it converts and utilizes the source of pollution and solve the pollution problem at the same time.

Magnetic Behaviour of Magnetized Particles

Our Earth's surface consists of 71% water, but only 3% is fresh water and 1% is available for human consumption. One of the reasons why fresh water source is shrinking rapidly year after year is due to pollution of freshwater resources. Adsorption, coagulation, ion exchange, and sedimentation are some important multi-step processes in water treatment. The challenge was to incorporate all those processes into one composite material. The realization that biocarbon material with magnetic characteristics could achieve that has led the way forward for research in this area. Dr. Palsan Sannasi Abdullah from N-MACom Innotech has a strong background in Biochemistry. He managed to come up with biocarbon surface modification by carbano-magnetization technique which is offered as a cheaper alternative to similar purposed non-magnetic products in the market. The introduction of customized nanoparticles with magnetic properties and high adsorption properties made it a great tool to deal with water wastewater filteration and purification. Biocarbon adsorption strength when coupled with nano-magnetic properties will enhance clarification, filtration, and removal of multi waste pollutants from water and wastewater. Magnetic properties facilitate separation of spent material with ease thus eliminating secondary waste or sludge accumulation. One main advantage of magnetic composite in saving the environment is that wastewater can be chaneled really fast without any contaminants. This surface modification concept is important to enhance the adsorption and separation of pollutants from water and wastewater for treatment and remediation purpose.

Value in Converting Agro Waste into Biocarbon

Annually in Malaysia, only 27% of the generated agro waste are utilized while the rest are left to rot or disposed as trash or in open burning. In Dr. Palsan's research, agro waste materials and plants consisting of fruit husks, coconut shell, dry leaves, and so on were put through carbonization process which involved controlled heating under a certain temperature and within selected parameters. The carbonization process turned these organic wastes into carbon material which was later used for surface modification with iron oxide nanoparticle coating which becomes the core technology of Dr. Palsan's invention. The incurring carbano-magnetization technique has been successfully patented. Magnetic nanoparticles are proven as a platform for pollutants separation in water and waste water treatment application. This is an important discovery in research to reduce water pollution emanating from toxic pollutants such as heavy metals and dyes especially by batik textile industry in East Coast, Malaysia. In addition, it is also applicable for reducing turbidity levels in drinking water treatment. The current filtration at water treatment facilities in the region is using high quantity of polymer media such as Poly-Aluminium Chloride (PAC) which is ineffective and expensive. Solution by Future Excel PLT is highly affordable as it does not require the user to have additional filtering mechanism or the need to use multiple treatment agents. Therefore, in the effort to protect the environment for the future, it is high time for Future Excel PLT to introduce the solution to the market.

Environmental Protection with Industry Partners

Dr. Palsan is an energetic person and always in high spirit. When asked what's next for Future Excel PLT now the product is at Technology Readiness Level 5, Dr. Palsan said the team has decided to move towards commercialization of the technology. They are introducing 2 types of products from this research which is the local premium nano-adsorbent powder and filtering device for use by water and waste water treatment service providers, water filtration system providers, and looking forward to have serious collaboration with industries. This would be his main mission in saving the environment and protecting freshwater source in the country. "Believe in your product or idea, and do your best!" was his advice to researchers who would like to commercialize their research.

(Text by Idarahayu Ayob)

TECH PLANTER in Singapore

Information about the event

Date **3 August 2019**

City **Singapore**

Venue **Platform E**

Contents of Winning Prize

300,000 JPY

Round trip ticket + accomodation for 2 to attend HIC in Japan, March 2020

Timeline

Application Deadline	28 June 2019
1st Screening	Early July 2019
2nd Screening	Mid July 2019
Demo Day	3 August 2019

Local Partners Last Year

Awardees from 2018

Grand Winner

NDR Medical Technology

AI Surgical Robotics for Automated Needle Targeting

Rohto Award

SinFooTech

Biotransformation of tofu whey into fermented beverages

Mitsui Chemicals Award

Fytosol Pte. Ltd.

Wetting and water-retaining agent to improve plant survivability

Leave a Nest Award

BioTrampil PLT

Plant based burger patties as fast food healthier alternative

GLOCALINK Award

Fifthsense

Innovative Functional Natural Nutraceuticals (IFNN)

Revolutionizing the way tissue biopsies are conducted by using AI surgical robotics to improve patient wellbeing.

Automated Needle Targeting (ANT) device

Mr. Alan Goh
Co-founder & CEO

NDR Medical Technology	
Country registered	Singapore
Established	20 October 2014
No. of Members	10 + Interns
Core Technology	AI-driven robotic means of visualizing needle insertion trajectory, guiding and stabilizing needle alignment in different planes using automated real-time correction.
Funding status	Seeking series A Funding – SGD$6 million
Problems to solve	Enhance clinical outcome, reduce radiation exposure and surgery time for patients requiring percutaneous biopsy.
Website	https://ndrmedical.com/beta

Currently, percutaneous image-guided biopsy is the worldwide standard for the accurate sampling of live tissue for diagnostic. However, a highly skilled radiologist is needed to perform it and there is still a risk of injuring patients during the procedure. How can we allow less experienced radiologist to perform the procedure while still maintaining high accuracy and minimal risk? NDR Medical Technology has developed the Automated Needle Targeting system to challenge the issue.

Current practice and challenges for biopsy procedures

Tissue biopsy is a common practice in the medical field used to diagnose various diseases. Samples are typically obtained through surgery or needle biopsy. As one of the major methods, Percutaneous Image-guided Biopsy is currently regarded as the worldwide standard due to its higher accuracy. Nevertheless, it is not without its attendant challenges and complications. For instance, it is time consuming (takes ~20 - 30 minutes), highly surgeon-dependant and can overexpose patients to radiation due to unpredictable duration of the procedure. Inaccurate placement of the needle by a less experienced surgeon can also mean multiple needle pass attempts which could increase the risk of tumor cell seeding. As such, percutaneous image-guided biopsy is still usually recommended only after thorough screening has identified suspicious nodules requiring further investigation. The surgery is usually performed free-hand with X-Ray or CT guidance. "The key is to create an affordable and smart device which can automate significant parts of the surgical procedure and that can also be easily mass adopted", said Mr Alan Goh, co-founder and CEO of NDR Medical Technology.

Affordable and reliable assistant robots for the well-being of patients

In 2015, the project development process for NDR Medical Technology officially began after securing funding from the Singapore government. Not long after, the Automated Needle Targeting (ANT) system was born. It is the world's first artificial intelligence surgical robotics system to use inverted delta robot design and real-time imaging modality images as sensors with closed-loop control to automatically position needles used for the creation of a keyhole access. Developed by a dedicated team of engineers at NDR Medical Technology, this medical device eases the surgeon's thought process by providing a robotic means of visualizing the needle insertion trajectory, guiding and stabilizing the alignment of the needle in different planes with automated real-time correction to reach the target. Within seconds, it automatically generates a precise trajectory from a chosen entry point on the surface of the skin to a target deep within the body. It then maintains this position and provides a mechanical guide, awaiting the insertion of a needle by the surgeon. The path of the needle is stabilized in multiple planes to ensure the needle stays aligned to the target. Due to its compact size, it can be mounted on the patient's body and scanned together along with CT-scan, enhancing its accuracy and reliability. Other applications include interventions like tumor biopsy procedures, tumor ablation, percutaneous nephrolithotomy procedures and minimally invasive surgery which requires needle positioning and alignment.

Delivering innovative and affordable medical robotics system to the world

The ANT system developed by a dedicated team of engineers has shown promising progress thus far, having passed EN 60601-1* Safety test and EN 60601-1-2** Electromagnetic Compatibility (EMC) testing and proving to be extremely accurate achieving precision of up to +/- 2mm during animal and human clinical trials. The team plans to conduct more human trials in the future, and is now working to further optimize the device. Mr Alan also plans to venture into global markets such as China and Japan. Together with Co-founder Mr Jason Ng, he was able to gain some valuable information about Japan during their recent participation in TECH PLAN DEMO DAY in Singapore this year, in which they were also the grand winner! "After participating in TECH PLANTER, it has given us the opportunity to interact with Japanese VCs and learn from their perspective on surgical robotics, and it was good to learn about the various aspects of bringing our product into the Japanese market", said Mr Alan. They will also be attending the upcoming Hyper-Interdisciplinary Conference in Japan in March next year to seek their opportunities there.

* A globally accepted standard test method, test limit and test level for the assessment of medical electrical equipment.

** The primary EMC standard for medical electrical devices and systems testing the general requirements for basic safety and essential performance.

(Text by Kouichi Maki)

Spotlight to Road of Success For TECH PLANTER Members

Since 2014, Leave a Nest run TECH PLANTER program in Southeast Asia countries starting from Singapore, Malaysia, Thailand, Philippines, Indonesia and Vietnam to support technopreneurs to accelerate their business. In celebration of 5 years of TECH PLANTER Asia Pacific, here are the highlight of the achievements of the alumni team since they joined TECH PLANTER in each countries. Members of TECH PLANTER will be able to use the TECH PLANTER platform in flexible way to gain support in wide rage of ways for their acceleration.

My Conceptual Robotics Sdn.Bhd. (MyCRO)

2nd Runner-Up Winner of TECH PLAN GRAND PRIX Malaysia 2015

TECH PLAN DEMO DAY

MyCRO joined TECH PLAN GRAND PRIX Malaysia 2015 when they are in the undergraduate study. They bring their final year project and managed to won 2nd Runner-Up winner.

SUPER FACTORY

After TPMY, they were sponsored to visit Superfactories in Japan and learn about Japanese manufacturing. They established the company in 2016 and started the business in 3D Printer manufacturing. They are among the pioneer in 3D Printer industry in Malaysia.

In 2016, MyCRO received a grant worth RM500,000 from the government agency to build the first ASEAN's Bomb Defusing Robot. In 2018, Mycro received soft loan of RM850,000 from Malaysia Debt Venture to further developing the robot.

DeNova Sciences

2nd Runner-Up winner of TECH PLAN GRAND PRIX Singapore 2015

TECH PLAN DEMO DAY

Incorporated in 2012, DeNova joined TECH PLAN GRAND PRIX Singapore in 2015 and managed to win 2nd Runner-Up winner during the event.

DeNova was invited to give keynote speech at TECH PLAN DEMO DAY in Singapore 2017 and managed to attract big Japanese chemical company to discuss potential collaboration.

Hyper Interdisciplinary Conference

In March 2018, DeNova participated in Hyper-Interdisciplinary Conference in Japan and managed to get collaboration with big Japanese Algae company to use their in-vitro skin model for product testing.

iVET

Grand winner of TECH PLAN DEMO DAY in Thailand 2018

TECH PLAN DEMO DAY

iVET was incorporated in 2012 and joined the TECH PLAN DEMO DAY in Thailand 2018. They became the Grand winner and also received JT award during the event.

TECH PLAN DEMO DAY

As the winner of TECH PLAN DEMO DAY in Thailand, iVET was sponsored to join regional round in Singapore and met with more Japanese partners there.

After TECH PLANTER, Leave a Nest introduced iVET to collaborate with Japanese pet startups in creating products and penetrate the market together.

The highlight will cover in term of :

New collaboration established | New fund received | New Product developed

Business exposure | Media coverage

SCIENCE CASTLE

MyCRO became a Silver partner of the first SCIENCE CASTLE in Malaysia in 2018 as marketing platform for MyCRO to engage with more school students and promote their 3D printer.

MyCRO became the first Malaysian 3D printer manufacturer to export their 3D printer to Japan. Leave a Nest bought a unit of the printer and placed it at the Centre of Garage for startups to utilise it. Mycro was covered by some local media such as TV3,Astro, Utusan & Bernama

Hyper Interdisciplinary Conference

MyCRO joined Hyper-Interdisciplinary Conference in Japan and pitched about their technology to more than 200 participants from corporates, superfactories and startups.

At HIC Japan, DeNova also met with big Japanese pharmaceutical company that is interested to explore collaboration with them.

DeNova attended TECH PLAN DEMO DAY in SINGAPORE 2018 and met with another TECH PLANTER team from Thailand. They are in discussion to collaborate in creating new product that are related to animal.

Since TECH PLANTER event, DeNova had received a lot of coverage from local and international media such as The Sunday Time, Hey! and the SME Magazine.

SUPER FACTORY

Not only working with Japanese startups, iVET was introduced to explore collaboration with big Japanese company.

iVET was selected as one of the recipient out of 53 applications to receive prototyping grant worth USD50,000 from Ota City to collaborate with Japanese Super Factories in improving their prototype.

iVET was featured in several major media such as TV Tokyo, NHK Japan for their prototyping project with Ota City.

Pursuing a Sustainability Path to Open the Doorways for Southeast Asia's Future through Research

Southeast Asian countries has made an incredible level of economic development in past 20 years. In the same time, research environment in universities has changed drastically too, starting to bring new inventions and findings to the world. World is paying a close attention to how we can collaborate further. One Japan led program played an important role to nurture the research environment in ASEAN region.

Signing ceremony for Phase 4

Close supporter of ASEAN university research

AUN/SEED-Net project itself supports the nurturing of researchers from ASEAN region especially in the field of engineering. As engineering would be one very important field for development of the country. It was 2001 that Japan International Cooperation Agency (as known as JICA), government agency from Japan which supports the economic and social growth of developing countries, established AUN/SEED-Net project (ASEAN University Network/Southeast Asia Engineering Education Development Network). Now it has a network of 40 engineering universities from both ASEAN countries (10 countries) and Japan. For past 17 years, it has been working to develop the research environment in ASEAN region and worked in four main areas which were, nurturing of researchers, support for research that addresses to common issues in the region, academic networking between Japanese and ASEAN universities, and linkage between universities and industries. Though this programme wasn't the first ever program to support research environment in the region. There were English program from Japanese universities since 80s to support talented youths from around the world, and what they realised here was the fact that there were many students from ASEAN region especially from countries like Indonesia, Thailand and the Philippines. Many of them returned to home countries to join the engineering universities. After the Asian financial crisis in 90s, ASEAN realized the importance of human resource development in engineering to vitalize industry. The gathering of these passionate Asian researchers became the driving force to start AUN/SEED-Net project. After two years of preparation period, the project started its first phase from 2003 expanding its support to even deeper ASEAN region including countries like Vietnam, Cambodia and more. This was very important, as at that time, there were very few researchers or faculty members who holds Master or Doctorate degree in the local universities. With successful outcome from phase 1, now the program has tuned itself to work on next challenge. At the time, many researchers still had to work on second business in order to proceed with their research. So, supplement of research grant was the next action to take in second phase.

Seeds for innovation starting to bloom in Asia

Under AUN/SEED-Net project, the program has nurtured more than 1300 PhD and master students supporting numerous projects in the past 15 years. Despite the successful support, AUN/SEED-Net project didn't stop there. Having to proceed the third era, the next phase was collaboration with industries. In order to continue this program, new and further development was expected. Collaboration with industries was needed. To enhance this, basic lecture on University-Industry collaborations were conducted and researchers were starting to work on applied research. In addition to this, opportunities for research presentation towards industry side were provided as well. Due to these efforts, some implementation of research to the society started occurring through collaboration with industries and even spin off company being born from university too. For example, in Vietnam there were collaborative research between major Japanese steel manufacturing company in civil engineering research and from Indonesia, spin off company was formed in the field of healthcare, using biomaterial for creating body parts. Having to create the groundwork for industrial collaboration, though this was still occasional. In order for flow of industrial collaboration to flourish, new challenges for supporting researchers and building of ecosystem is needed for implementation of research to the society.

Creating sustainable ecosystem together with ASEAN partners

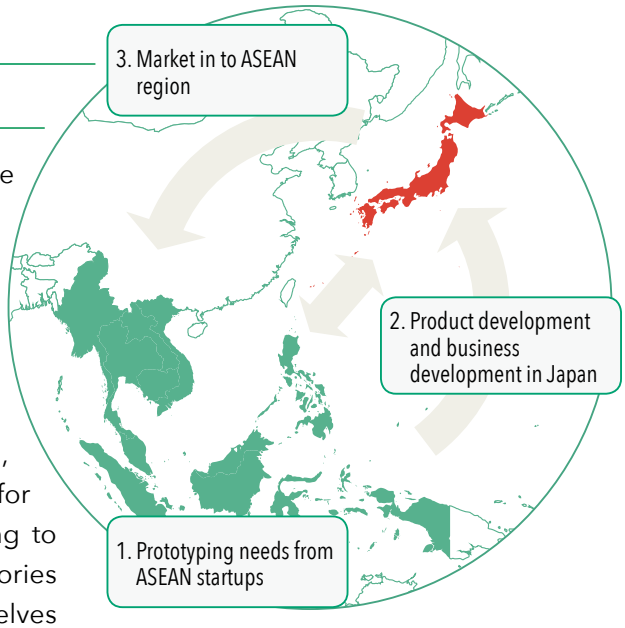
AUN/SEED-Net is on the path to face next challenge. Next stage is for research seeds to be implemented to society in sustainable way. Prof. Tamon Ueda, Chief Advisor and Acting Executive Director of AUN/SEED-Net suggested that "One of the ways to do this is to nurture startup but not all researchers know how to startup, and I think TECH PLANTER would be one great way for researchers to learn how to create new business or industry from research". In the season of 2019, AUN/SEED-Net will work closely with TECH PLANTER to accelerate its phase 4 by supporting researchers from this program, in nurturing the process for commercializing their research seeds and by creating a sustainable ecosystem that allows newly born startup to grow. Prof. Ueda thinks that "researchers in ASEAN region is our valuable partner" who we may work together to tackle challenges in Asia.

(Text by Shohei Michael Maekawa)

AUN/SEED-Net

Prof. Dr. Ueda at AUN/SEED-Net Secretariat

TIDE TO JAPAN.
POTENTIAL FOR ASEAN STARTUPS' SUCCESS.



Southeast Asia is full of regional issues and unexplored resources. Now many new entrepreneurs are trying to start a business by tackling issues around them and resources around them. However there lies many hurdles towards implementation of their technology to society. One of the hurdle is prototyping. There are not enough manufacturing partners who may discuss with startups about research from lab to PoC then to mass production. As potential supporter, there are many small medium size manufacturer (who are called as "Super Factories") in Japan with high manufacturing skills and knowhow. Now there are examples of collaboration between startups from Southeast Asia and Japanese Super Factories starting to born, bringing fruit of research into the society. Including ASEAN region, now there are many request for prototyping support gathering to Japan. Japanese Super Factories are on verge of turning themselves into global manufacturer from local manufacture. Adding to this, Japan is still renowned as spot in the world with numerous corporates that holds not only funds but technology, infrastructure, and knowhow that are beneficial for startups from abroad. Japan may become a new base for technology startups around the world for prototyping and new business creation.

COLLABORATION IS ALREADY ON THE WAY!!!

In Ota City, the heart manufacturing spot in Tokyo, project to enhance collaboration between Southeast Asian startups and Super Factories from Ota city has started with leadership from its local government. The project consists of connection to startups with prototyping issue that has synergy to its local Super Factories and supporting the prototyping fee. To this project, total of 52 application has gathered mainly from TECH PLANTER applicants and alumni. Then from 52 applications, 3 projects were selected to fund prototyping fee. Each project stated from its kickoff event in Japan on August 22nd 2018 and completing by beginning of February 2019.

Leave a Nest ASEAN startup Platform

388 Teams

Mainly from teams that has participated from TECH PLANTER in ASEAN region

Applied Startups

52 Teams

6 Countries

(Malaysia, the Philippines, Vietnam, Thailand, Indonesia and Singapore)

7 Teams

Invitation to Japan

Introduction to Super Factories in Ota city

3 Teams

Support for prototyping fee

ACeT Innovates
Malaysia

Development of device to produce an enzyme for high quality kenaf fibres

iVET
Thailand

Development of high quality medical device for injured and disabled pets

Red Dot Drone
Singapore

Development of drone system for real time filming in sports

LEAVE A NEST ASIA IS HIRING
NEW MEMBERS AND INTERNSHIP STUDENTS!

Leave a Nest Asia specializes in customizing educational and entrepreneurship programs originated from Japan to suit with the local needs in the region. In line with our vision, we are offering Science Bridge Communicator training program to nurture new talents as a science and technology communicator. At the end of the training program, trainees will have the confidence to lead any project in 'Advancing Science and Technology for Global Happiness'.

Bring Your Ideas and Execute It With Us!

Here are some of the activities that we do at Leave a Nest Asia.

Inspire young students through science encouragement programs

Visit the most advanced lab at research universities

Plan and run original science workshop for school students

Create networking opportunities for researchers

Meet and learn from experts at research institutions

Conduct career discovery program

Introduce TECH PLANTER as a platform for researchers to realize their entrepreneurship dreams

Mentor and motivate young researchers through SCIENCE CASTLE program

Opportunities to interview and write about successful entrepreneurs & researchers for our magazine

Trainees will be equipped in the know-how of delivering complicated science and technological knowledge in a comprehensible manner to majority of the public. Join our team of talented researchers, and discover your true ability to change the world through leadership, passion, and also experimental programs with our partners.

Kihoko Tokue
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Leave a Nest Singapore

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Asst. Manager
Frontier Development Division

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ISBN978-981-11-6506-1

Nest Garage 2018.12 *01

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