



Newsletter

Featured THINK Article

Smart Farming in Sarawak: Basic Challenges

Under the economic sector of the Sarawak Digital Economy Strategy (2018-2022), adoption of ICT and digital technologies is greatly emphasized. In the area of smart farming initiatives they include the usage of technologies like Internet of Things (IoT), robotics, drones, and Artificial Intelligence (AI) to boost the quantity and quality of products, while optimizing the human labor required by production. This approach is in line with the Post Covid-19 Development Strategy (PCDS) for agriculture to capitalize on modern aka smart farming as a way to accelerate productivity and growth. IoT technologies have been proven to be able to assist farmers to reduce waste and enhance productivity, and control processes such as the amount of fertilizers used and the number of journeys made by farm vehicles which will result in the efficient utilization of resources such as water, electricity and fuel. In short, smart farming can be summarized as identifying the right location, right place to apply, right quantity of fertilizer and water, and the right time to apply them.



The Department of Agriculture has introduced IoT among its farmers in Sarawak’s Permanent Food Parks (PFP). The first small group who utilise this technology are chili and melon farmers in the PFP of Rampangi. This experiment uses a sensor which monitors the application of fertilizer as well as controls the temperature and humidity, and has proven to be doable with rewarding results. The Sarawak government is planning to set up smart farming parks at selected agriculture stations throughout Sarawak. The establishment of these smart farming parks is mainly to provide opportunities and to spur greater involvement of local farmers in smart farming.

NEWSLETTER Highlights

FEATURED THINK ARTICLE

COMMENTARIES FROM MEMBERS

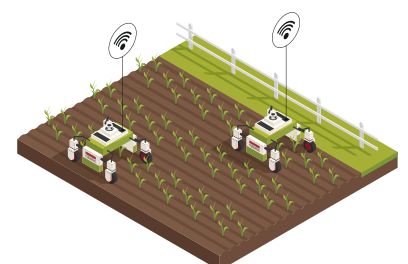
FEATURED SDI CORPORATE MEMBER: CRAUN Research Sdn. Bhd.

PAST ACTIVITIES & EVENTS

UPCOMING EVENTS: Webinar & AAEC2022

HEARD OF VCCs?

ON-GOING RESEARCH PROJECTS



Though there are some success stories, the real challenge, however, is how to spur interest and attract takers, especially the younger generation to embrace smart farming. Can the existing farmers who are from the rural area be swayed to take up smart farming? It can be a costly project to start with for a regular farmer or even for interested young people. According to one smart farming operator, the cost for the sensors and equipment alone is between RM10,000 – RM15,000 for a 0.4 hectare plot. Smart farming in Sarawak is still at its early stages which includes sensor applications for farming plots and using drone technology for planning, monitoring and mapping in agricultural areas. Proper and effective guidance is very much needed from the experts during the initial stage. The other issues are digital network performance and bandwidth speed that could hamper the interest of participation. Since many agro-sensors/gateways depend on cloud services for data transmission/storage, cloud based computing also needs a stronger network. Being connected only is not enough.

If farmers or the younger generation are willing to venture into smart farming, what kind of support and assistance are needed to sustain their active involvement from zero to the production and marketing stage? As smart farming requires new technology and new ways to operate, technological jargons and new techniques must be at least understood by the farmers if they want to progress and benefit from this transformation in farming. Funding should not be an issue as some agencies have already introduced programmes for farmers to venture into smart farming. For example, Agropreneur Muda Programme (PAM), Agrobank has funded 1,159 young agropreneurs in 2020. Some of the agropreneurs have already adopted a modern farming approach.

Potential and aspiring agropreneurs are certainly out there, wanting to be given the opportunity, to be provided with initial support and the right ecosystem, and be guided and trained for the vast opportunities in smart farming.

This article was published on the SDI website on 23 November 2021. To read other THINK articles, click on the logo.



Commentaries from SDI Members



Dr. Humrawali Khan

Smart sensors are used in the collection of real time information on animals and their environment. However, these smart sensors may not be able to detect these information when thousands of animals are kept together as in commercial poultry and pig production.

Smart farming is only practical in a farming system where fundamentals of animal husbandry are in place. In Sarawak context, with some exceptions, poultry and pig farms have achieved satisfactory animal husbandry standard. However, this is not the case for the ruminant sector. So for cattle and goat farming, because of the low husbandry standard as well the very small scale of operation, smart farming may not be appropriate yet.



Mr. Jiram Sidu

Under smart farming approach, where the farming environment will be under control through IoT, and thus, less susceptible to pest and disease attacks, farm productivity will be greatly boosted, while product quality can be assured to meet the market demands.

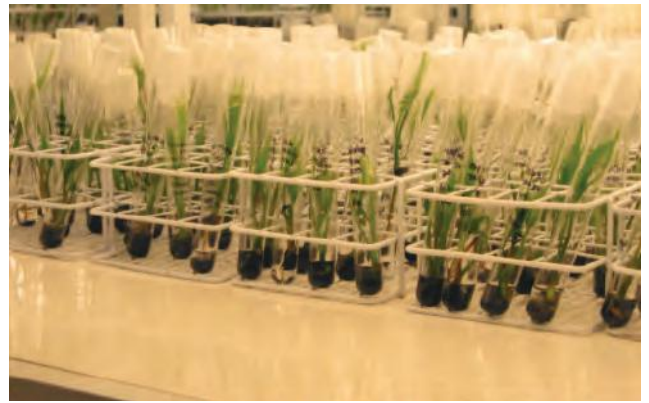
Most importantly, through smart farming approach, farming will become more attractive to our youth, especially, for those with entrepreneurial skills, albeit, the initial capital outlay to set up the system may be high. With proven technologies and sustainable farming models, the current attitude of our youth, who consider farming as low-paying and dreadful jobs, will soon change and they will realize that smart farming can be as interesting and lucrative as any other enterprises that one can venture into.

Featured SDI Corporate Member

CRAUN Research Sdn. Bhd.

CRAUN Research Sdn. Bhd. is a company wholly owned by the Sarawak Government to undertake Research & Development (R&D) activities on potential underutilized crops. CRAUN started as a unit under the Land Custody and Development Authority (LCDA) in 1993 prior to being corporatized in 1997 and was specifically tasked to undertake R&D on sago crop and the sago starch industry in Sarawak.

Our areas of research covers both upstream and downstream activities, and are further supported by our techno-economy team. We strive in creating innovative technologies and provide scientific information that can holistically serve the sago community spanning the supply chain with the ultimate aim to increase the overall productivity of the sago industry, while at the same time increase the economic returns for Sarawak.



Over the years, we take great pride in our achievement and contribution to the industry through our R&D activities. CRAUN had successfully mass produced a selection of good quality sago planting materials via tissue culture technology, developed smart agriculture practices, farm mechanization initiatives, introduced zero-waste sago milling concept, as well as created innovative food and nonfood products from sago starch and its biomass to meet the current market trends and demands, while highlighting the unique and functional properties in sago starch.



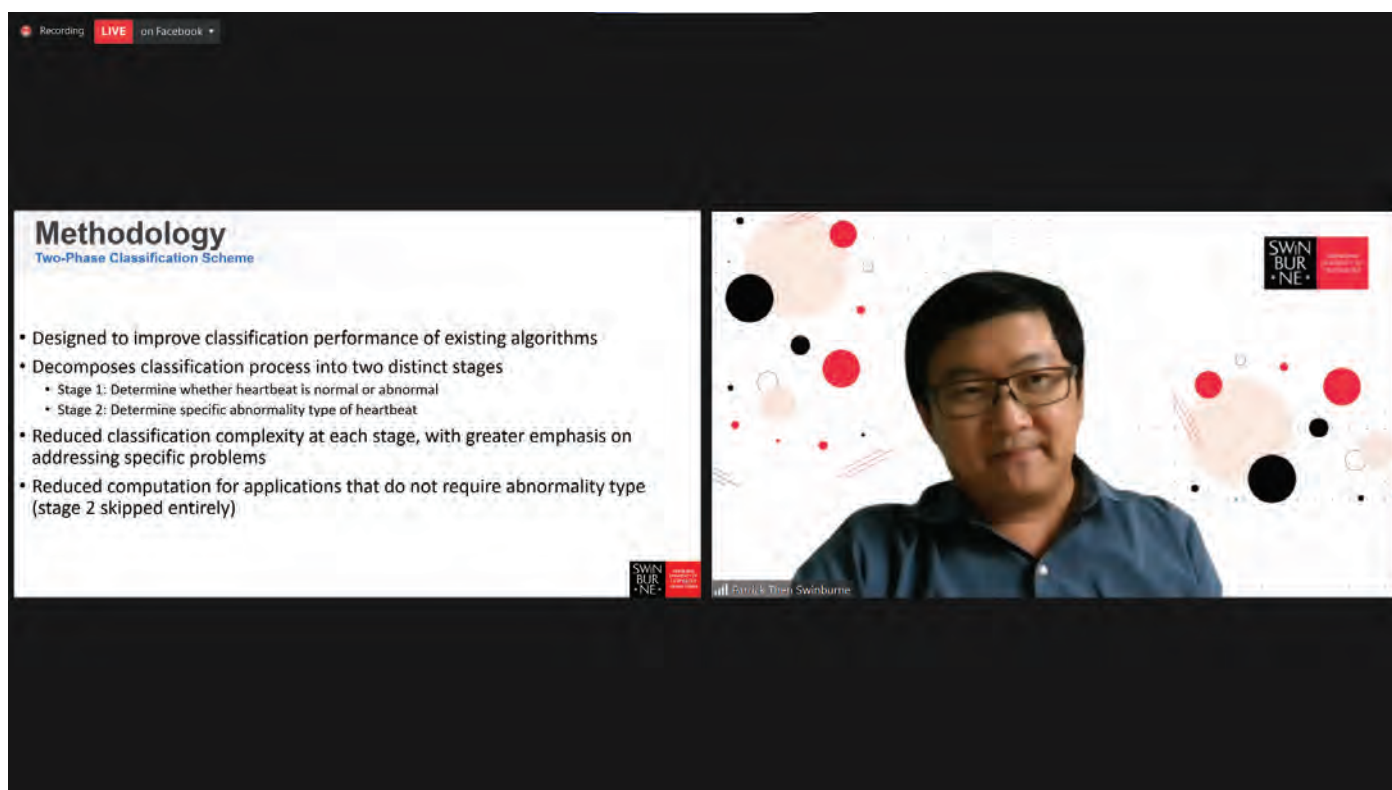
In line with the Sarawak Government's Post Covid Development Strategy 2030 to develop the State's economic sector based on digital economy and environmental sustainability, CRAUN has aligned its R&D activities towards promoting the creation of a circular economy for the Sarawak sago industry, thus ensuring its healthy development towards a sustainable, modern, competitive, efficient, and productive industry for the sago community and for the State.

Past Activities and Events



Digital Health Research in Sarawak

23 March 2022 | 2.30 pm via Zoom



The talk by Professor Dr. Patrick Then highlighted the research collaboration work on digital health, conducted since 2008, which aims to support and improve the efficiency of hospital care, health screening and diagnosis of illnesses.

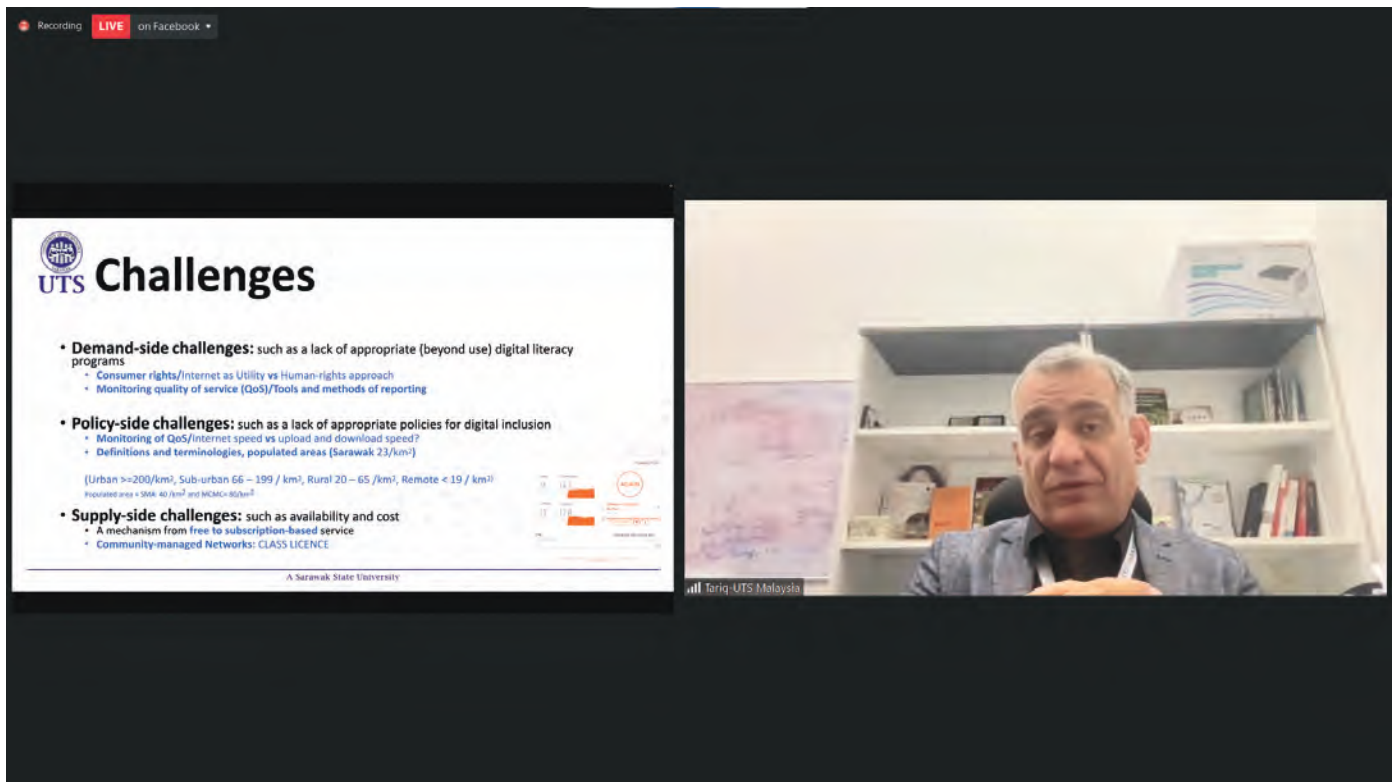
Professor Dr. Patrick presented five of such research work which include the award-winning health screening using AI to discover unknown risk factors among the healthy population who have developed diabetes; AI and data science algorithms for detecting heart abnormalities; Eye for the Future that encompasses state-of-the-art AI algorithms which can detect retinal vein occlusion diseases at more than 90% accuracy; AI algorithms to detect Covid-19 from cough sounds; and AI Geo-fencing techniques embedded in a fully automated Stay-Home-Notice surveillance system to monitor the conditions (blood pressure and body temperature) of Covid-19 patients.

Another ongoing project is the Cough Sound Artificial Intelligence which detects and identifies lung related diseases including Covid-19. All the projects presented gave interesting insights to how the technology is being used to improve the current medical processes in the respective areas.

For the recording of the session, click [here](#).

Digital Inclusion Policies in Sarawak: Are we missing something?

13 April 2022 | 2.30 pm via Zoom



Associate Professor Dr. Tariq Zaman highlighted three main challenges facing the digital inclusion policies in Sarawak which mainly arise from the aspects of demand, supply and policy.

In addressing these challenges, he emphasised the need for a Digital Inclusion Policy Literacy program which will work in circular to address the challenges mentioned such as quality of service monitoring and reporting tools, understanding and administering digital infrastructure, consumers' laws and regulations (access to internet as a utility), identify gaps in policies and programs, developing decision support digital tools for policy implementation and monitoring, and establishing model Community Networks as use-cases.

The final segment of the presentation covered the gaps or the missing elements in digital inclusion policies which include the development of local technology and human resource to sustain the internet connectivity in the rural areas.

For the recording of the session, click [here](#).

Smart City Development Initiatives in Sarawak

18 May 2022 | 2.30 pm via Zoom



Mr. Allen Liew presented on the seven smart city components based on the Malaysia Smart City Framework (2018) which are Digital Infrastructure, Smart Economy, Smart Environment, Smart Living, Smart Government, Smart Mobility, and with emphasis on Smart People. He also mentioned that the Federal Ministry of Housing and Local Government (KPKT) had announced the Malaysia Smart City Landscape in 2018 identifying five cities in Malaysia for the smart city pilot project namely Kuala Lumpur, Kulim, Johor Bahru, Kuching and Kota Kinabalu.

Mr. Liew spoke on the 10 Miri Smart City initiatives and solutions, to address the classified issues gathered from the Proof of Concept processes, which are Safe City, Safe Park, Miri CARES mobile application (Smart Council), Miri Tourism, Miri Smart City Command Centre, Smart Bus mobile application, Smart Truck mobile application, Digital Signage, Smart Drain, and Sarawak Smart City mobile application. He also shared on the success stories, data collected, and responses from public surveys done on the Miri Smart City initiatives and solutions.

For the recording of the session, click [here](#).

Upcoming Activities and Events

AAEC2022 WEBINAR: SYSTEM ASSURANCE AND SCHEDULING TOOL WITHIN KUCHING URBAN TRANSPORTATION SYSTEM (KUTS) PROJECT

SYSTEM ASSURANCE WITHIN KUTS PROJECT LIFE CYCLE

Ts. Khairul Shahrir Hashim

Senior Project Manager - System Assurance & Requirements, Sarawak Metro Sdn. Bhd.

USE OF SCHEDULING TOOL FOR KUTS PROJECT PLANNING

Mr. Prabu Ganesh

Head of Planning Department
Sarawak Metro Sdn. Bhd.

MODERATOR

Dr. Jibril Adewale Bamgbade

Lecturer (Construction Management and Built Environment)
Faculty of Engineering, Computing and Science Swinburne University of Technology Sarawak Campus



VENUE

Webinar - Online

DATE & TIME

17 June 2022 (Friday) |
2.30pm Malaysia Time

REGISTRATION IS FREE

REGISTER NOW

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Keynote Speakers



**Prof. Tan Sri Dato' Ir.
Dr. Chuah Hean Teik**

ASEAN Academy of
Engineering and
Technology (Malaysia)



Dr. Nick Fleming

National President and
Chair of Board Engineers
Australia (Australia)



Mr. Paul Sanda

Minister - Counsellor
(Commercial) and Senior
Trade & Investment
Commissioner (Australia)

Check out the full list of speakers @ <https://aaec2022.org/index.php>

Congress Highlights

◆ **Thought Leadership Forum on IR 4.0 and 5G in Malaysia**

◆ **Plenary 1: Industry 4.0 and Future Technologies**

Dato' Ir. (Dr.) Lee Yee Cheong
AAEC2022 Congress Advisor (Malaysia)

Dr. Mohd Sulaiman Sultan Suhaibuddeen
Digital Nasional Berhad (Malaysia)

◆ **Plenary 2: IoT, Network Communication, and Cybersecurity**

Dr. Ali R. Ebadi
MEASAT Satellite Systems Sdn. Bhd. (Malaysia)

Prof. Ir. Dr. Al-Khalid Bin Haji Othman
Sarawak Multimedia Authority (Malaysia)

Mr. Lavindar Singh Jay
Xperanti IoT Sdn. Bhd. (Malaysia)

◆ **Plenary 3: AI & Automation in IR 4.0**

Prof. Dr. Narayanan N. Kulathu Ramaiyer
Universiti Malaysia Sarawak (Malaysia)

Dr. Ishkandar Bin Baharin
Malaysia Robotics and Automation Society
(Malaysia)

Mr. Yogesh Agarwal
GE Digital (Malaysia)

◆ **Plenary 4: Smart Energy, Cities, and Factories**

Mr. Prem Kumar Menon
Digital Nasional Berhad (Malaysia)

Mr. Philip Chan
Ting Heng Energy Consultancy Pte. Ltd.
(Singapore)

Ts. Mazli Bin Mustaffa
Sarawak Metro Sdn. Bhd (Malaysia)

◆ **Plenary 5: Digital Construction for IR 4.0**

Mr. Ken Lee
Aurecon Group Pty. Ltd. (Australia)

Mr. Andy Tiong
PCSS Consultancy Sdn. Bhd. (Malaysia)

Mr. John Lim
Executive Director
Digital & Innovation Gamuda Engineering
and Gamuda Land (Malaysia)

Mr. Kuthur Sriram
Global Manager – Education Program
Bentley Education – Bentley Systems. (Malaysia)

◆ **Plenary 6: Education 4.0**

Prof. Dr. ML Dennis Wong
Heriot-Watt University (Malaysia)

Prof. Dr. Nor Aziah Alias
Universiti Teknologi MARA (Malaysia)

Mr. Jamiran Salam
Special Administrative Officer, MEITD (Malaysia)
Ministry Of Education, Innovation and Talent
Development Sarawak

REGISTER NOW @ www.aaec2022.org

Heard of VCCs?

Virtual Credit Cards (VCCs), or digitally issued cards, have all the benefits of a physical card but with the added benefit of the consumer being able to utilise the card instantly upon approval, says Ng Kong Boon, country manager for Visa Malaysia.



“Visa has various use cases for digitally issued cards, including a one-time-use digitally issued card to further increase the security of online transactions.” Asked whether he sees VCCs becoming a trend in Malaysia, Ng says, “We believe there are opportunities for digitally issued card products for today’s consumers across the world, not just in Malaysia.”

Accelerated by the pandemic, consumers are becoming more technologically savvy and they are moving away from using cash and no longer rely on a single physical payment form factor to make digital payments.

“The digital card details will be securely available on the bank’s mobile banking platform and can be used for online transactions and be provisioned on NFC (near field communication) wallets and digital e-wallets,” he told The Edge in response to emailed questions.



Adapted from: <https://www.msn.com/en-my/money/topstories/virtual-credit-cards-emerging-as-a-trend/ar-AAV7B94?ocid=UP97DHP&li=BBr8Hnu>

On-going Research Projects

Cultural Resource Mapping: Exploratory Project in Kuching Division

2022-2024

The current phase of this project is a series of stakeholder meetings to be held in the middle of June 2022. This involves a variety of stakeholders ranging from ethnic groups, religious bodies, government departments, industry as well as arts and culture groups. The stakeholder meetings aim to give a detailed briefing on the project and to discuss various aspects such as project variables, definitions, and how they envision their cultural data points to be presented on the project. The input from these meetings will be invaluable in developing the information technology platform called the Crowdsourced Heritage Automation Mapping Platform for Sarawak (CHAMPS), which will be developed by SDI’s project partner, University of Technology Sarawak (UTS). CHAMPS will be used to collect, organise and display cultural and heritage data points in Kuching Division.

On-going Research Projects

Baseline Study on Sago Starch Production and Downstream Activities in Betong and Mukah Divisions

January - December 2022



Preliminary field visits to the district of Pusa, Mukah and Dalat have been completed. The purpose of the visits was to familiarise the team with the field conditions, sample locations, plan logistics, identify potential enumerators for data collection, and meet with several industry stakeholders such as sago product-related entrepreneurs and sago flour millers. The team will proceed with the actual data collection in June 2022.

Assessing Local Population Needs in Relation to Services Provided by the Digital Community Centres (DCC) in Sarawak

January - December 2022

The preliminary visits to the 20 selected DCCs across Sarawak which are managed by the Ministry of Public Health, Housing and Local Government Sarawak and Pustaka Negeri Sarawak, were completed in March 2022. As of May 2022, the research team had begun data collection activities, using structured questionnaires in the selected DCCs in Kuching, Samarahan and Betong Divisions. The team will continue the data collection exercise for the DCCs in other divisions in June 2022.

