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**UNIVERSITI TEKNOLOGI MARA (UiTM)  
SOCIAL INNOVATION SUPPORT UNIT (SISU)**

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**Introduction to Universiti Teknologi MARA (UiTM)**



Universiti Teknologi MARA (UiTM) has a long-standing and profound history making it as one of the most popular higher education institutions in Malaysia. It was first established in 1956 as RIDA (Rural & Industrial Development Authority) Training Centre with a specific aim of assisting the rural Malays. In 1965, due to the expansion in the programmes offered and linkages with external and international institutions, RIDA Training Centre became MARA College. In response to the crucial need for trained manpower in professional and semi-professional levels, MARA College was renamed as MARA Institute of Technology in 1967. Finally, due to its success and achievements in spurring the nation's economic growth through the internationally recognized academic and research activities, MARA Institute of Technology became University Teknologi MARA (UiTM) in 1999. To date, UiTM has more than 600,000 alumni some of whom are captains in their respective industry and political leaders. UiTM consists of one main campus in Shah Alam, 13 autonomous state campuses and

21 satellite campuses. With a little over 17,000 academic and non-academic staff, UiTM offers more than 500 academic programmes to 168,000 *Bumiputera* (son of the land; aborigines) and international students in both full-time and part-time modes. An interesting signature of UiTM academic programmes is that they are all offered in English language. UiTM's motto is "Endeavour, Religious, Dignified".

## UiTM SISU



Social Innovation and UiTM has always been synonymous although there was a lack of awareness and recognition of relevant efforts and initiatives in the past. To begin with, the very establishment of RIDA Training Centre back in 1962 was meant to improve the quality of life of the rural Malays who were at that point of time formed among the poorest group of people in the country. The first group of students, a total of 50 of them, was selected among the rural Malay teenagers. Trained under RIDA Training Centre, the first group of alumni had proven that the education they received from RIDA Training Centre had leveraged their family social-economic status. Equipped with new skills and expertise, the students were able to secure decent jobs and expand their entrepreneurship abilities thus changing their family's quality of life. At that point of time, the mission of RIDA Training Centre was ultimately to offer the kind of 'Social Innovation' deemed required by the selected group of Malaysians in the post-independence era.

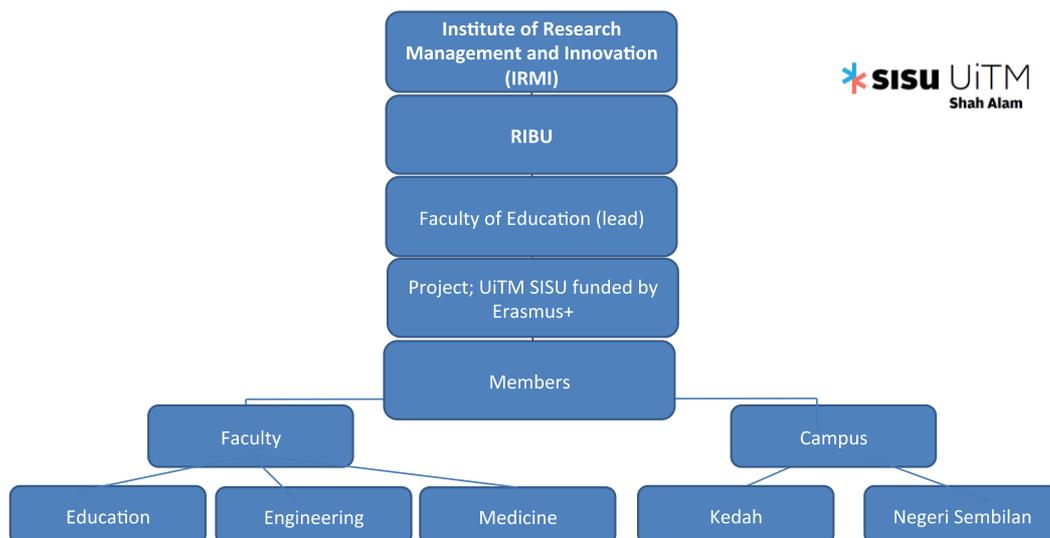
Currently, driven by the need to produce more professional *Bumiputera* and give back to the community, several departments in UiTM have been tasked to steer and champion in relevant projects that would support Social Innovation. Some of the

departments include the Office of Industry, Community, Alumni and Entrepreneurial Network (ICAEN), Research Innovation Business Unit (RIBU), Malaysian Academy of Small Medium Enterprise Development (MASMED) and Institute of Student Leadership in the office of Student Affairs. While the first two departments cater to the growing interest in supporting Social Innovation among the academics, the other two departments focus on the involvement of students in Social Innovation related activities.

However, just like the trend in many other higher education institutes in Malaysia, these departments are more academically inclined in conducting Social Innovation related projects. It is such the case since the departments are driven by Key Performance Indicators (KPIs) given to them by the university's top management. Needless to say the KPIs are derived from the indicators in relevant ranking organizations such as Academic Ranking of World Universities (ARWU), Times Higher Education (THE) and Quacquarelli Symmonds (QS). Thus, the Social Innovation related projects and activities tend to be geared towards research and innovations with intellectual property (IP) and commercial values. Sadly, this strategy has somewhat overshadowed the spirit of Social Innovation. In other words, most academics tended to conduct their projects without truly embracing the essence of Social Innovation. In other words, although there was knowledge transfer and learning facilitation between the academics and the beneficiaries, the end product tended to focus on the academics' KPIs rather than the betterment of the beneficiaries' quality of life. The academics' KPIs achievements were celebrated instead of the community's or industry's successes.

UiTM SISU when it was first launched in November, 2017 was seen as a potential solution in bridging the gap between fulfilling the university's KPIs and supporting the true spirit and essence of Social Innovation. As awareness and recognition of Social Innovation projects were scarce among the academics despite their eagerness in conducting relevant projects, UiTM SISU became the one-stop centre to raise awareness and recognize true potential of Social Innovation projects in UiTM. In this instance, UiTM SISU acts as the balcony for Social Innovation initiatives in the university.

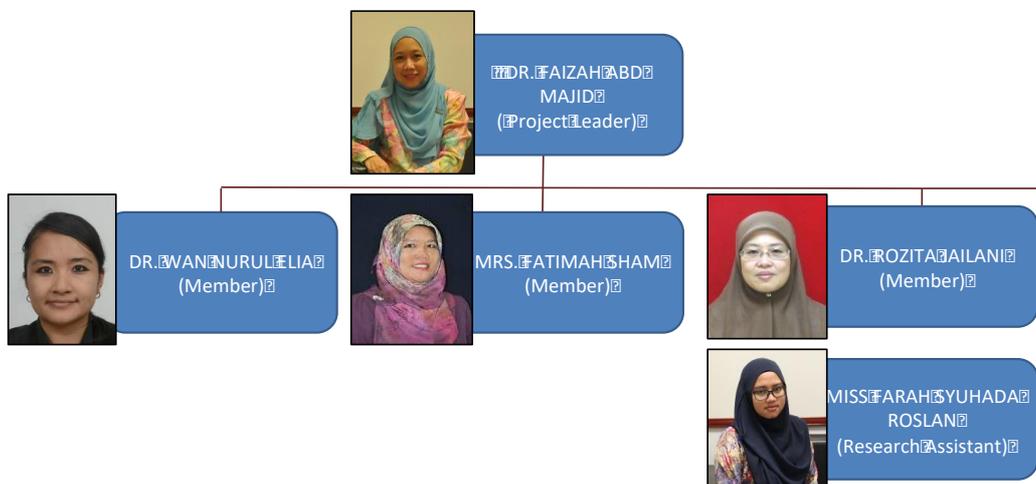
The following is the organigram of UiTM SISU, which signifies its position within UiTM system.



UiTM SISU is parked under the university’s Institute of Research Management and Innovation (IRMI) led by an Assistant Vice Chancellor. Within IRMI, there is a department, RIBU, which handles various projects closely related to Social Innovation. RIBU is headed by a Director. Specifically, the location of UiTM SISU is placed within the vicinity of RIBU. The location is ideal since RIBU has existing resources and physical spaces, which could complement UiTM SISU’s mission.

Interestingly, as the leader of UiTM SISU is a faculty member of the Faculty of Education, it provides an advantage to the Faculty to act as the champion in steering the projects under UiTM SISU. While RIBU and the Faculty of Education provide relevant support in terms of resources and facilities, UiTM SISU is accountable to the Assistant Vice Chancellor of IRMI besides to SEASIN project leader in Glasgow Caledonian University (GCU).

The following chart provides information on UiTM SISU members.



All funding supporting UiTM SISU establishment came from SEASIN project, which receives its grant from European Union (EU) through the Erasmus+ programme. The fund received was meant for the purchase of relevant equipment for UiTM SISU. It is important to note that the purchase of all equipment using the fund received in the project went through strict procurement procedure monitored by IRMI's bursar department. Various paperwork and approval of the ICT committee were needed prior to the advertisement of the open tender. The vendors were those registered in the university with good track record. The university appointed the successful vendors and payment was done through the bursar office upon delivery of the equipment. The following list details the equipment purchased. Note that the estimated total cost excludes the Goods & Services Tax (GST).

### SISU EQUIPMENT - MULTIMEDIA

	Item	Quantity	Estimated Price	
			One unit	Total
1	Smart TV (with HDMI, connector , software)	1 unit	RM8,000.00	RM8,000.00

	Model Samsung 65inch UHD Curve Smart TV MU 6300 Series 6			
2	Multimedia Projector Casio LED Projector XJ-V2	1 unit	RM3,000.00	RM3,000.00
3	Video Camera SONY AX P5S Handycam	1 unit	RM5,400.00	RM5,400.00
4	84 inch Smartboard	1 unit	RM5,000.00	RM5,000.00
<b>TOTAL</b>				<b>RM24,400.00</b>

#### SISU EQUIPMENT – iMAC COMPUTER, printer & scanner

	Item	Quantity	Estimated Price	
			One unit	Total
1	Computer i-Mac 27 inch	3 unit	RM10,000.00	RM30,000.00
2	Computer iMac All-in-One Touchscreen Desktop	10 unit	RM5,000.00	RM50,000.00
3	Printer Canon model ImageCLASS MF621Cn	1 unit	RM1,700.00	RM1,700.00
4	Toner for printer Canon model ImageCLASS MF621Cn	5 unit	RM300.00	RM1,500.00
5	Scanner Fujitsu Scansnap iX500	1 unit	RM2,500.00	RM2,500.00
6	Toner for Scanner Fujitsu Scansnap iX500	5 unit	RM300.00	RM1,500.00
7	3D Printer model Flashforge Finder	2 unit	RM4,500.00	RM9,000.00
<b>TOTAL</b>				<b>RM96,200.00</b>

As stated, since UiTM SISU is strategically located within RIBU vicinity, it enjoys the existing physical space and facilities. Specifically, UiTM SISU has the following spaces; Room 1 (15'X20'), Room 2 (25'X20'), Ideation Room (25'X20'), RIBU meeting room (15'X20') and MTDC Seminar Room (30'X25'). The following graphics details the physical space and the uses.

## Room 1

Room 1 is used as Training Room 1 which is provided with LED projector, an interactive smartboard, an iMac and a 3D printer.

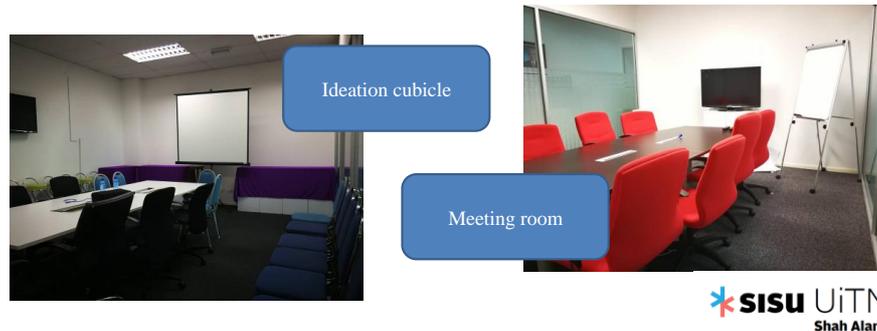


## Room 2

Room 2 is used as Training Room 2 and is equipped with eight (8) 21.5-inch iMacs, two (2) 27-inch iMac, a scanner, a printer, a 3D printer and an LCD smart TV.



RIBU meeting room, an ideation cubicle and MTDC seminar room are used for ideation sessions and discussions.



UiTM SISU has specific roles acting as the balcony for Social Innovation initiatives in the university. The main role is to increase the awareness and recognition of Social Innovation among the academics. As the awareness and recognition of Social Innovation initiatives were scarce among the academics, UiTM SISU initiated various discussions with potential academics who had projects related to Social Innovation. Next, UiTM SISU has the role to promote and market the experts and their potential projects. In this regard, the academics, their beneficiaries (users among the community or industry) were welcomed to UiTM SISU for relevant training and ideation sessions. Some signature trainings conducted by UiTM SISU include Impact Studio and 3D-printing. From time to time, UiTM SISU hosts exhibition in promoting the on-going projects. The following are some photos taken during the activities mentioned.

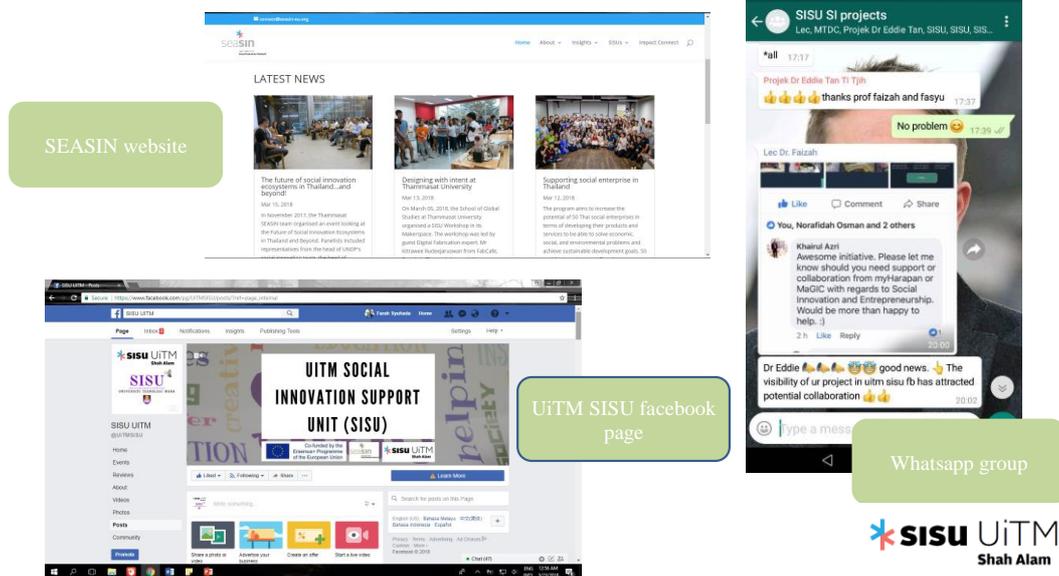
## Ideation sessions & discussions



## Exhibition & seminar



To leverage the promotion and marketing outside the boundary of the university and particularly at international level, UiTM SISU hosts its own Facebook and provides information to be shared in SEASIN website. Communication among the UiTM SISU users is enhanced through UiTM SI projects WhatsApp group.



The following details the users of UiTM SISU. The table summarizes the type of users and what services they receive from UiTM SISU.

Types of users	Services obtained
Academics @ SI project leaders	Promotion and marketing of their projects in SEASIN website, UiTM SISU Facebook, exhibitions & seminars
Students	Training (3D-printing & Impact Studio)
Community (School children, Teachers)	Training on STEM & 3D-printing
Community (Council Members)	Networking
International delegates	Exposure to Social Innovation & SISU; benchmark visits
Ministry (MESTECC)	Exposure to Social Innovation & SISU; benchmark visits
Malaysian Technology Development Centre (MTDC)	Exposure to Social Innovation & SISU; benchmark visits

UiTM SISU stakeholders mainly comprise the relevant departments in the university namely RIBU and ICAEN. As these departments provide relevant grants that promote projects with the community and industries, many academics have been registered with them. However, both RIBU and ICAEN do not promote nor market the registered projects as Social Innovation initiatives of the university. This is where their relationship with UiTM SISU became a synergy particularly in promoting and marketing the university's Social Innovation projects.

## SISU Projects

### 1. MRVR: Medical Rehabilitation Virtual Reality Platform

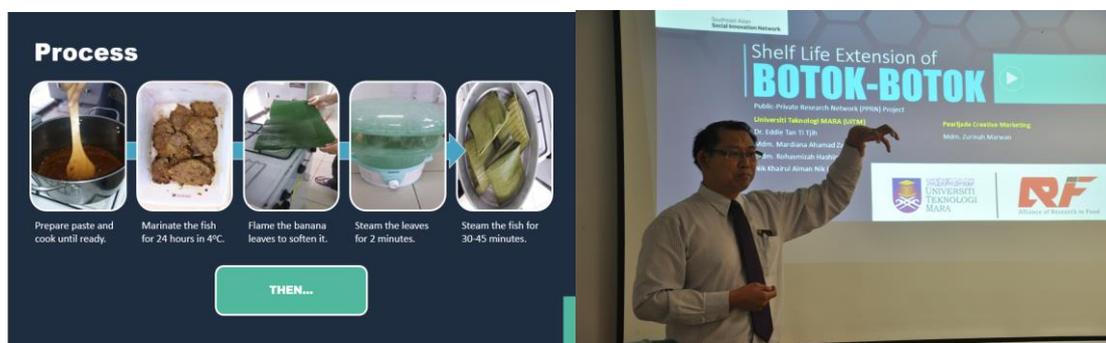
One of the projects supported by UiTM-SISU is helping patients with brain injuries by providing a rehab facility through the use of Virtual Reality platform. This project is led by Associate Professor Dr. Fazah Akhtar Hanapiah from the Faculty of Medicine, UiTM. She works closely with MotioFixo, a company that provides virtual reality platforms. The collaboration saw UiTM providing MotioFixo with the clinical expertise in designing a rehab programme, while MotioFixo provided the virtual reality platform for the execution of the rehab programme. It is hoped that the MRVR project will benefit many patients with brain injury by improving their quality of life.



### 2. Shelf-life Extension of *Botok-botok*

Another project supported by UiTM-SISU is the '*Botok-Botok* with Longer Shelf-life' led by Dr. Eddie Tan Ti Tjih from UiTM Negeri Sembilan. This project is in collaboration with Pearljade Creative Marketing, a small medium food industry producing *botok-botok*, a Johor traditional cuisine made of fish, aromatic leaves and *ulam* (a type of salad), and wrapped in banana leaves before freezing storage. Prior to meeting Dr. Eddie, Pearljade Creative marketing had problems with the products' relatively short shelf-life (1 month). Upon meeting Dr Eddie, several weaknesses were discovered in the production of *botok-botok* which includes inappropriate raw material preparations, excessive cooking, unsuitable temperature reducing process, and incompatible storage conditions. With Dr. Eddie and team's help, several modifications were made on the sequence of the production to minimise enzymatic reaction from

plants (*ulam*, aromatic leaves and banana leaves wrap) and microbiological load from cross-contamination. A series of sensory evaluations were also conducted to assure the sensory attributes of the product were not greatly affected after the processing modifications. To assure the modifications do help in prolonging the shelf-life of the dish, a normal shelf-life study was carried out. The duration of storage for the *botok-botok* was extended to 3 months, while maintaining the flavour of the dish. This has increased the marketability of the product, reduced the cost of rapid food spoilage and enhanced the enterprise's revenue to a greater extent.



### 3. Entrepreneurship Transformation of Marketing the Traditional Cookies

Entrepreneurship Transformation of Marketing the Traditional Cookies by the Community of Kampung Hilir, Merbok, Kedah, Malaysia is another project supported by UiTM-SISU. This project is a social innovation project, led by a group of academicians with various academic background, working hand-in-hand with Kampung Hilir's community located in the rural area near the location of the university. The leader for this project is Dr Marzlin Marzuki from Universiti Teknologi MARA Kedah, Malaysia. The aim of this project is to improve the packaging, branding and marketing of the traditional cookies developed by the community that may help to increase the income revenue of the community.

Prior to the project, the community (low income groups which include single mothers) produces traditional cookies as their means of living. However, they do not have access to packaging, branding, marketing and documenting procedures. This is the juncture where the academicians' team plays a vital role to assist the community by providing the necessary professional knowledge and expertise to help them with the issues of

packaging, branding, marketing and documentation. The community was also given the opportunity to get practical experiences on how to keep accounting records systematically. The lecturers came up with a few designs for packaging and branding of the traditional cookies in the effort to capture both high-end and low-end market. This project is also funded by the University Community Transformation Centre (UCTC) under the Malaysian Ministry of Higher Education. This project has helped solve the community's issues of poverty by increasing their income revenue and help to uplift the current economic state of the community.



#### 4. Improvement of *Bahulu* Shelf-life

The fifth project supported by UiTM-SISU is the Improvement of *Bahulu* (traditional cake) shelf-life is a project led by Pn. Rohasmizah from UiTM Negeri Sembilan with the collaboration of several small medium food companies producing several types of food respectively. The small-medium food companies that was involved with this project faced similar issue with the '*Botok-botok*' project, where their *bahulu* could not last for a long period of time. Hence, they collaborated with Pn. Rohasmizah and team to tackle the problem by finding ways to extend the *bahulu's* shelf-life. In return, this has increased the marketability of the product, reduced the cost of rapid food spoilage and enhanced the enterprise's revenue to a greater extent.



## 5. SI @ 1EDU Book Project

One project that is the pride of UiTM-SISU is the SI @ 1EDU book project. This book captures relevant social innovation initiatives done by the staff and students of the Faculty of Education, UiTM, which involved various parties across the university, industries and communities. The featured social innovation projects in this book have the following criteria:

- a) bridging and sharing of knowledge between the university, community and industry
- b) encourage improvement to the quality of life in terms of newly applied skills or knowledge acquired through the projects
- c) sustainable that the projects could be replicated by others including the industries and communities involved

The book was launched by the Vice Chancellor on the 13th of December, 2018 during the Innovation Month celebration held at Dewan Agong Tuanku Canselor, UiTM.



### 6. Acid to Art Workshop with Prof. John Sabraw

This workshop was conducted as one of the activities celebrating the Innovation Month in UiTM. This workshop was part of a post-conference workshop hosted by the Faculty of Education, UiTM. Prof Sabraw's work focuses on environmental issues. Collaborating with a chemist, he managed to turn acidic elements into beautiful paints. The workshop was conducted to raise the awareness of the young generations about acidic residue in the river and how pollution could be curbed. A total of 40 students and 10 facilitators from three different faculties and institutions participated in this workshop. The workshop took place on the 30th November, 2018 at the Menara Foyer, UiTM and was featured in TV3, a prominent local TV channel.



### 7. 3D Printing Workshop

Another project supported by UiTM SISU is the 3D Printing Workshop which was conducted by Mr. Wan Zharfan and Mr. Fariza from NextGen Makers. Participants were exposed to the basics of 3D printing. The workshop also included some hands on

learning on Tinkercad, an online software used in customizing and developing 3D designs.



#### 8. UiTM Celcom IoT Bootcamp

UiTM-Celcom IoT bootcamp was held in collaboration with Celcom, a leading telecommunication company in Malaysia from the 8<sup>th</sup> to the 10<sup>th</sup> of February 2019. A total of 60 secondary school students from 10 underprivileged schools were involved alongside with 12 school teachers. UiTM contributed resources and manpower with a total of 16 academic staffs and 20 voluntary student mentors from the Faculty of Electrical, Civil and Chemical Engineering. The IoT bootcamp aimed to expose the students to the wonders of the IoT and enhance the students' potential by exposing them to the concept of Design Thinking, hands on activities as well as introduction to innovation projects.



### 9. Young Digital Innovators Bootcamp

Another bootcamp-The Young Digital Innovators Bootcamp, is a training session conducted in two series, to provide hands-on Arduino at UiTM-MTDC Technopreneur Center (MTDI Space and Elab MASMED). Arduino is an open-source electronics platform that can be used to develop interactive projects. The programme participants were 60 secondary school students from two schools within the Shah Alam and Subang Jaya vicinity. The students were given the opportunity to try out and explore the platform, which may in turn help them in developing any interactive projects in the future. The logistics of this programme was handled by Dr Harnani Hassan, Dr Sukreen Hana and Mrs. Anees Abd. Aziz from the Faculty of Electrical Engineering, UiTM Shah Alam.



## 10. STEM: Math Challenge and Science of Clay

It is a common practice among UiTM students to conduct events that will encourage community participation. In this project, a group of Civil Engineering students initiated sets of workshop related to STEM (Science, Technology, Engineering & Math). More than 100 students from various schools around Klang Valley came to participate. In this sets of workshops, the participants were guided and trained on how they could be creative by playing with numbers and clay. The outcomes of the workshops include raised awareness on STEM, ability to be creative and the ability to produce or create. The project took place on the 2 November, 2018 in UiTM.



## **Achievements and Prospects for the Future**

### 1. Benchmarking Visit from Ohio University

A group of academics from Ohio University was in UiTM for an international conference. The delegates comprise Dr Brad Cohen, Vice Provost of Teaching & Learning, Prof Renee Middleton, Dean Patton College of Education, Dr Dawn Bikowski, Director of English Language Centre and Prof Dr Christine Bhat. Upon learning about social innovation initiatives in the university, the delegates were taken to visit UiTM SISU which serves as a balcony to the SI initiatives in the university. The OU delegates were impressed with the impacts of the project and found UiTM SISU to be a friendly platform for future discussions and network. Prof Middleton expressed her interest to have a similar platform in her faculty. The friendly benchmark visit took place on the 30 November, 2018.



### 2. Benchmarking Visit by the Transfer of Technology and R&D Commercialization Division, Ministry of Energy, Science, Technology, Environment and Climate Change (MESTECC) and Malaysian Technology Development Corporation (MTDC)

Since its establishment, UiTM SISU has attracted the attention of MTDC and MESTECC. As UiTM has always kept an open door concept to all external linkages,

MTDC was recognized as one of the university's strategic industry partners. Through MTDC, several discussions had been made to expose UiTM SISU to bigger audience and potential stakeholders such as MESTECC. Having immediate linkage with MESTECC promises UiTM SISU wider network and recognition among other departments within the government.

### 3. Recognition of Social Innovation as one of the key drivers to leverage UiTM as a top-notch university

Every year, the Deputy Vice Chancellor of Academic Affairs and Internationalization Office hosts Academic Conference. This year, on the 30<sup>th</sup> of April, 2019 the Academic Conference took place with the theme, "UiTM 2019 and Beyond: Earning Stripes at Greater Heights". One of the most prominent way forward highlighted by the Vice Chancellor was to transform the strengths of UiTM by moving on from Corporate Social Responsibility (CSR) initiatives to Social Innovation (SI) initiatives. The proposed emphasis on SI marks a new direction for UiTM SISU as the SI balcony and hub. It could be expected that UiTM SISU has brighter prospects laying ahead.



## **Concluding Remarks**

UiTM acknowledges the contribution and support from various users and members around the university system in making UiTM SISU one of the active entities in the university. It is the ever-growing interests and commitment from them that makes UiTM SISU maintain its relevance. The university's way forward as directed by the Vice Chancellor in 2019's Academic Conference further positions UiTM SISU as one of the key drivers in enabling UiTM to earn stripes at greater heights.

Nonetheless, UiTM SISU's utmost gratitude goes to European Union for the funding of this project through the Erasmus+ project grant. New partners from Myanmar, Thailand, Cambodia, Portugal, Spain and United Kingdom who are SI champions and the SI partnership with the non-Higher Education institutes such as SIX, Mission & Co and Friends International have been formed through this funded project. The network across South=East Asia and Europe has opened up new meanings to all projects conducted in the universities which in turn leverages the SI impact across the globe. UiTM SISU continues this partnership and network in upholding its motto, "Where challenges meet creativity".