



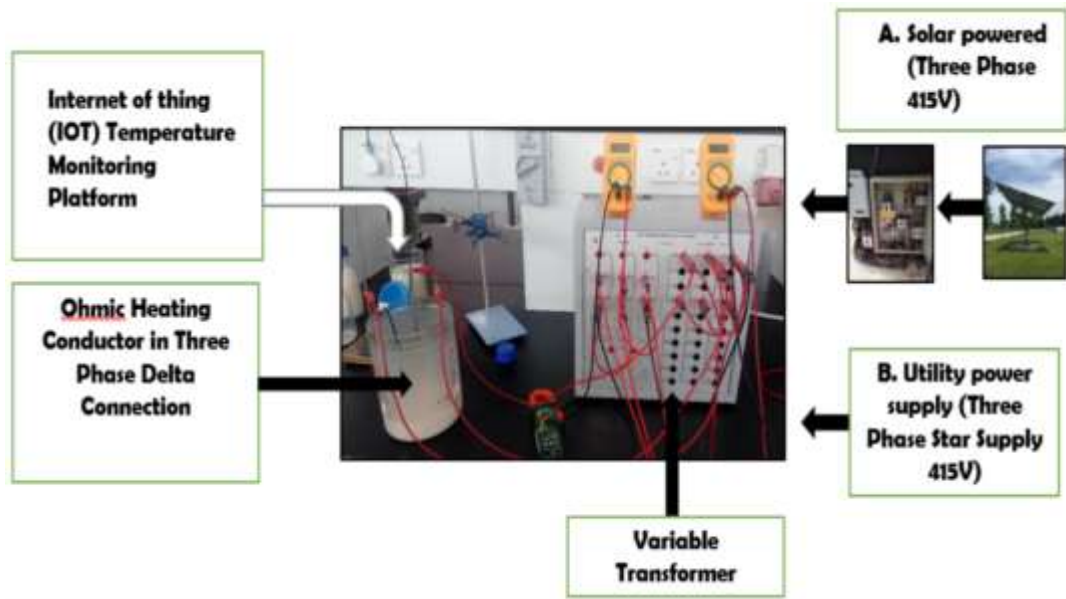
A.P. Ir. Dr. A.Razak Yaacob, Mr. Tonny Ling Heng Hew, Mr. Ashraf A.Razak

KUALA LUMPUR, 22 February 2020 – UCTS participated in the Malaysia Technology Expo (MTE) 2020. This year, only one team participated and has won the Bronze Medal. Malaysia Technology Expo (MTE) is an international event where inventors get an opportunity to connect with the marketplace and demonstrate their ideas to various manufacturers, distributors and businesses. MTE 2020 was held at the World Trade Centre, from 20th to 22nd February 2020 and had become one of the region's most recognised and respected international invention exhibitions and provide opportunity for start-ups or people looking for investors to invest on their innovations and designs.

The bronze medal was won by Assoc. Prof. Dr. Ir. A. Razak Yaacob, Mr. Tonny Ling Heng Hew and Mr. Ashraf A. Razak from School of Engineering and Technology for their invention titled “Integrated Ohmic Heating System for Industrial Application”. Ohmic Heating (OH) is a method where alternating current is passed through a particulate food medium acting as a resistance between positive and negative electrodes which in turn volumetrically heats up the entire mass of the food systems. This is an electrical circuit model that can verify the main electrical characteristics of an Ohmic heating process on particulate foods. The model needs a variable transformer to supply alternating current to the electrode of the Ohmic cell and the particulate food sample. The Ohmic Heating (OH) test equipment tool prototype can be used for other industrial applications.

The system can solve the issues of waste product disposal management in a timely manner or converting waste to something that will give economical value to the society. Thus finding a method or process for liquid particulate (e.g. Empty Fruit Brunch waste) that takes advantage of the benefit of volumetric heating effect that occurs during ohmic heating will make it possible to achieve the ‘zero waste’ target for the nation. This ohmic heating is further enhanced with the emerging of IR 4.0 that will help in the controlling

of parameters for the ohmic heating process to work in the way that the industry want it to happen.



Integrated Ohmic Heating System Platform

The Integrated Ohmic Heating System using a phase to phase electrical configuration with three electrodes is equipped with IoT control module. The heating system can be powered from power utility grid as well as the solar power as required by the targeted application. The ohmic heating system can conduct rapid repetition of the heating rate experimentation process and exploring the use of uniform Ohmic heating for various industrial applications.

The prototype is now in the process of applying IP rights. In the near future, UCTS is planning to shortlisted more products to be commercialised as one of the ways for research to benefit the industry and society.