

Getting robotic help on farms

KUALA LUMPUR — For Mohd Ashraf Shuib, farming has always been a part of his life. The 36-year-old has been helping out his family at the paddy fields and rubber estate in Abi Kampung Tengah, Kangar, Perlis, from a young age.

After completing his degree in Human Resources at Universiti Putra Malaysia in 2005, he went back home to farm rock melons and cucumbers using the fertigation technique.

He is currently working on growing bananas on a hectare of land while also farming guava on a small scale in Padang Lati, Perlis, to generate extra income.

Encouraging technology usage

That is not all that this hardworking agro-entrepreneur is doing. He has also been encouraging local farmers to utilise technology to ease the farming process.

An area of concern for Ashraf is the indiscriminate usage of pesticides as they are known to be harmful to human health.

“As a farmer, I understand the need for pest control. Spraying organic or chemical pesticides once a week can reduce risk of attacks on plants.

“However, the lack of manpower sometimes prevents farmers from

applying pesticides optimally or at the recommended amounts and intervals. This is where robots come in,” Ashraf told Bernama in an interview recently.

With the help of his friends Ahmad Aizhad Abd Razak, 29, and Mohd Firdaus Ibrahim, 27, they developed the “Farm Assist Robot for Multi Operation” (Farmo) that helped with various farm work, including the application of pesticides.

They were also lucky enough to gain financial backing and design expertise for the robot from local entrepreneur Jefri Efendi Mohd Salih. The 39-year-old has long hoped that local farmers would be bold enough to try using robotic technology for their farming activities.

The first version of Farmo (Farmo v1) was launched on Oct 2010, followed by version 2 (Farmo v2) seven years later in Aug 2017. The third version of the robot (Farmo v3) was recently launched on Dec 5.

Jefri invested a total of RM 50,000 for research and development of the three Farmo models.

Automatic function

Farmo’s main function is to spray pesticides on plants. This prevents farmers from being exposed to dangerous

chemicals during the activity.

However, the robot can also be used to cut grass, carry harvest and monitor a farm by video streaming.

Farmo can be controlled via remote control from as far as 100 metres away. It can also turn 360 degrees to allow for optimal movement on the field.

Farmo v3 uses caterpillar tracks to allow it to move better on terrains like vegetable farms, rubber holdings and oil palm holdings.

The robot uses rechargeable batteries and can be operated for two hours on a full charge.

With a capacity for 30 litres of pesticide, the robot is capable of spraying two rows of plants simultaneously. This not only gets work done in half the time but saves 30 per cent of the chemical used as the application is done more efficiently.

Cost to the farmer

“The biggest challenge in developing Farmo is finding a cost-effective combination of design and technology to allow for the production of an affordable robot for farmers. Using low-cost technology is an important element of Farmo,” said Ashraf.

He said that Farmo was designed

using components easily available in the market to ease maintenance and repair for buyers.

Meanwhile, Mohd Firdaus said he was thrilled to be part of the team as he had always wanted to contribute to the agricultural sector by introducing new technology.

The young man from Johor, who is currently pursuing a degree in Mechatronic Engineering in Universiti Malaysia Perlis (UNIMAP), hoped that Farmo would be used nationwide and across Southeast Asia.

Team member Ahmad Aizhad, a graduate of UNIMAP in mechatronic engineering found the development of Farmo to truly test his ability in building a robot using locally-sourced components.

For the record, 90 per cent of the components that make up Farmo is made and sourced locally.

Farmo v1 is no longer on sale while Farmo v2 is on sale for RM3,999. The latest version of Farmo, v3, is available for RM6,999.

Further information on Farmo can be retrieved by visiting www.farmo-robot.com. Those interested in purchasing the robot can also do so online via the website. — Bernama