

Immediate Release

Hong Kong LSCM Innovative Technology Carnival **Local Robotics Technology Triumphs With Creativity and** **Imagination Breakthroughs in Life Style**

(17-Mar 2016, Hong Kong) The LSCM R&D Centre is launching the kick-off ceremony of “Hong Kong LSCM Innovative Technology Carnival” with the theme of "Industrial Intellectualization & Technological Innovation Era" at the Stars Atrium, Plaza Hollywood today. The event will be held from 17th to 20th March. Miss Annie CHOI, Commissioner for Innovation and Technology said, “Robotics Technology is a high value-added industry that the government places special emphasis on. With the recent development of Internet of Things (IoT), it will enhance the industry’s competitive edge.

This year, LSCM R & D Centre has invited the students of Diocesan Boys’ School and the Hong Kong Institute of Vocational Education to bring their designed robots to play games with the audience. The highlight will be the game between the Badminton Robot and the Hong Kong Badminton team player Miss Pui-yin Yip. Besides, the “4D Food Printer” which is developed from 3D printing technology is a revolution to food making. Every item inside the menu can be “printed” by the food printer. This exhibition will also showcase the insertion Telerobots and other RFID technology which are frequently applied in industrial sector.

Dr. Sunny CHAI, Chairman of The Board of Directors of LSCM R&D Centre, said, “The Hong Kong industrial development is restricted by land resources and labour costs. LSCM R&D Centre has been promoting robotic technology, hoping to bring “reindustrialization” a step forward.”

Insertion Telerobots applied in Hong Kong Industry

The definition of industrial robot does not mean a human-like appearance, but a pre-programmed device which execute its mission automatically. Telerobot can replace human to handle heavy, dangerous, monotonous, and repetitive tasks. Telerobot does not sleep, take rest, resign, strike nor overtime payment hence ensures the stability of the production line. Even if the production process changes, only the programming needs to be modified ,saving much time for re-training. The Telerobot in the past are bulky thus unsuitable for use in the confined space in Hong Kong. In the Carnival, the Telerobot with embedded sensors can carry the goods around automatically. The Telerobots are small in size and driven by electricity. It is quiet when working and can be used in any light industry in Hong Kong.

Autonomous Guided Vehicles for Warehouse Management

The latest **AGV** is able to navigate around the warehouse by following tags embedded on the floor with the deployment of Ultra-wideband UWB, to ensure its navigation scope to be within 10 cm and enhance its collision avoidance capability. The robot navigates around on a predestinated route. It can do inventory stock taking and move around with a maximum loading of 100KG. It is like an automated warehouse

worker. To keep pace with the fast development of worldwide e-commerce, the demand on warehouse management is extremely high to minimize order processing time. The AGV developed by LSCM R & D Centre is suitable for use in local warehouse, factory and mass retailing shop. AGV does not only carry goods, but can do inventory stocktaking tasks during closing time.

4D Food Printer revolutionizes the image of chef

Innovation performs magic to our life. “4D Food Printer” is not only a gimmick but also opens up a grand new path for food industry. Derived from the concept of 3D printer, 4D food printer combines robotics technology, flavour, taste, food styling, information collection and processing all in one. It can make a cake, a piece of chocolate, pizza or even the molecule cuisine through different combination of sprinklers. The demonstrated 4D Food Printer is the first to use camera scanning application, which transfers the contour of human face into data and spout the corresponding image in chocolate lines on the surface of cake, biscuit and prawn crackers in less than one minute. Once an ideal formula is found, sweets, chips, baked food, fruits, vegetables and dairy food can be decomposed into powder or slurry and “reproduced” by the food printer. A number of international high-end restaurants and bakeries have already co-operated with food printer manufacturers to develop customized products.

Local youth develop sport robots

There are several inter-school or academic robotic competitions in Hong Kong, which is the cradle of technology and engineering talents. For example, in Diocesan Boys’ School, there is a robotics team formed for extra-curricular activities. The Design and Technology teacher will give basic knowledge of mechanic engineering and programming and guide the students to make their own robots using Lego blocks. Diocesan Boys’ School Robotics Team had defeated several worldwide elites and eventually won the bronze medal at the last World Robot Olympiad Football Competition at Doha, Qatar. Students regard this international game as a valuable experience to learn from other top tier designs and improve themselves. Football competition also requires instant reaction to tackle problems. For example, students must have full preparation on programming to face different sensors restrictions of every match, and they have to improve their charging device when the battery endurance was limited.

Hong Kong Institute of Vocational Education (Tsing Yi) won the silver medal of last Robocon Hong Kong Contest. Their robotics team was formed by the students of electronic engineering and mechanical engineering. Robocon Hong Kong Contest has different themes every year. Last year each team had to design two badminton robots to play against other local university teams. Mechanical engineering students designed the robot outlook while the electronic engineering students were responsible for the computer programming. They had to consider the mobility and stability of the robots, position of serving balls and the swing strength, suspension system which isolate vibrations, lighting at the field and the wind direction. Students had to learn cooperation, integrate creativity and theory, and finished a robot with limited resources and time. This kind of competition would benefit students who look for a career in mechanical engineering.

Smart Home supervise elderly safety

The elderly population is growing every year. Strengthening elderly care services at home is the ultimate goal. Infrared Thermal Sensing System can effectively collect the data of the elderly's daily behavior and detect whether there is any home accidents occurred through a special image monitoring system. The alert system is directly linked to default notification unit (e.g, family, social worker) and will send out an alarm notification when there is an abnormal situation.

About LSCM R & D Centre

The Hong Kong R&D Centre for Logistics and Supply Chain Management Enabling Technologies (LSCM R&D Centre) was founded in 2006, with funding from the Innovation and Technology Fund of the HKSAR Government, and co-hosted by The University of Hong Kong, the Chinese University of Hong Kong and the Hong Kong University of Science and Technology. It aims to strengthen the local Logistics Industry by providing a one-stop shop for technology transfer and commercialization, and reinforce the cooperation between the industry and research institutes, to bring about meaningful and significant benefits to the community.

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