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INTERNATIONAL MARITIME ROBOTX CHALLENGE DEBUTS IN SINGAPORE

Three-day event engages the public and stimulates excitement in science and engineering through maritime robotics competition and Science & Technology showcase

SINGAPORE, 24 OCTOBER 2014 – The inaugural Maritime RobotX Challenge, which is jointly organised by the National University of Singapore (NUS) Faculty of Engineering, Science Centre Singapore (SCS) and the Association for Unmanned Vehicle Systems International (AUVSI) Foundation, opened its doors to the public today, and expects to receive more than 5,000 visitors over the three days. Spectators had the rare opportunity to view innovative Unmanned Surface Vehicles (USVs) in action at The Float @ Marina Bay, some of which could in the future be used in search and rescue operations, surveillance purposes, or even track oil spills and monitor marine life.

Maritime RobotX Challenge 2014 also features a captivating science and technology showcase comprising Robots Live! demonstrations, a LEGO robots showcase, recycled materials workshops and cardboard sculpturing sessions.

The exciting event was officially opened by Major-General (NS) Ng Chee Khern, Permanent Secretary (Defence Development) of the Ministry of Defence and Second Permanent Secretary (Health) of the Ministry of Health.

In his keynote speech, MG(NS) Ng highlighted that technology was a critical factor in overcoming Singapore's lack of natural resources and manpower constraints. Citing autonomous technology in the Singapore Armed Forces (SAF) as an example, he noted how unmanned aerial vehicles have enabled the Army's scout teams to see further in reconnaissance missions. "Unmanned technology is a key transformational enabler for the 3rd Generation SAF," said MG(NS) Ng. He added that Singapore has built up a robust defence ecosystem and the Ministry of Defence remained committed to attracting more students to join the fields of science, technology, engineering and mathematics (STEM) to meet Singapore's future demands.

Professor Chan Eng Soon, Co-Chair of Maritime RobotX Challenge 2014 and NUS Vice Provost (Special Duties) said, "We are delighted to host the first-ever Maritime RobotX Challenge in Singapore. Conceptualised as an experiential learning platform, the event brings together the complementary pairing of an international university maritime robotics competition and a

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Science & Technology Showcase, which we hope will ignite an enduring passion for science and engineering among students. By bringing participants and experts from all over the world, Maritime RobotX Challenge seeks to foster a culture of international collaboration and exchange of science and engineering knowledge. We are heartened by the interactions that the event has facilitated so far and we look forward to a very fulfilling event in the days ahead.”

15 USVs put to the test

Over the past five days, more than 175 university students, from five countries across three continents, focused their energies on priming their USVs for a series of maritime surface vehicle missions, such as demonstrating autonomous navigation and control, identifying marked docking bays, and docking. Each task was designed to reflect concepts similar to real life issues, with hopes that the students’ creations would provide guidance on solving current-day challenges in real-world applications of USVs.

Mr Daryl Davidson, Executive Director of the AUVSI Foundation said, “The teams participating in this year’s Maritime RobotX Challenge represent some of the top engineering universities in the world, and we have indeed been impressed by the innovativeness of participants, the calibre of their robotics skills, and the level of commitment that they have demonstrated over the past five days. Their creations present new opportunities for the use of robotics in various areas, and we look forward to adapting their knowhow for future developments.”

From the initial 15 teams, only six will be selected for the finals which will take place on 26 October 2014. Results will also be announced that evening. The top team will receive a cash prize of S\$20,000.

Inspiring Science & Technology Showcase to ignite interest in Science & Engineering

International experts from various parts of the world will host a variety of demonstrations and workshops that will acquaint attendees with combat robots, LEGO robots, scrap metal art and cardboard sculptures.

Associate Professor Lim Tit Meng, Chief Executive of SCS said, “Science Centre Singapore is delighted to be part of a larger event that furthers our ambition to inspire a love for science and engineering. We hope that visitors will recognise the role of science in exciting activities such as combat robot battles, LEGO robot development and tinkering through this international event, and as a result develop interest in science.”

For the first time in Singapore, visitors will get to witness heavyweight and featherweight combat robots battle in the ring, in spectacular displays presented by Robots Live. Creator of world-champion combat robot, Storm II, Ed Hoppitt will also conduct educational lectures on how to build combat robots.

LEGO robots experts from Canada, Denmark, Greece and The Philippines, will also showcase more than eight robots that they have each personally created, and guide budding roboteers on how they can create complex robots, based on LEGO Mindstorms functionalities.

Additionally, the Tinkering Gallery will offer hands-on activities from The Tinkering Studio at Exploratorium, San Francisco, and visitors can also learn to create beautiful objects out of scrap or recycled materials and try out cardboard sculpting.

Visitors keen on attending the various demonstrations and workshops can register onsite during the event.

Another highlight of the Science & Technology Showcase is the SeaPerch, an underwater robotics programme, where visitors would get to build an underwater Remotely Operated Vehicle, and acquire basic skills in ship and submarine design.

Additionally, PUB, NUS and the Singapore-MIT Alliance for Research and Technology (Smart) will showcase a robotic sensor that can be deployed for quick, in-situation water-quality surveillance.

The Maritime RobotX Challenge will be held from 24 to 26 October 2014, 9am to 6pm at The Float @ Marina Bay. Admission is free. The event is supported by the Office of Naval Research of the United States and Future Systems and Technology Directorate of the Ministry of Defence (Singapore).

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About Maritime RobotX Challenge

Maritime RobotX Challenge, comprising of an international university maritime robotics competition and science and technology showcase, is a biennial experiential learning platform that leverages STEM education, promotes the love for and highlight the importance of Science and Engineering in the area of defence technology R&D.

The Challenge will be held in Singapore at The Float @ Marina Bay from 24 to 26 October 2014. Visitors will witness the innovativeness and creativity of local and international university students as their specially designed Unmanned Surface Vehicle compete against each other, and experience the fun and excitement of Science and Engineering through the Science and Technology showcase.

The event is organised by the National University of Singapore (NUS) Faculty of Engineering, Science Centre Singapore (SCS), as well as the Association for Unmanned Vehicle Systems International (AUVSI) Foundation.

For more information, please visit

http://www.eng.nus.edu.sg/ero/Maritime_RobotX_Challenge_2014.html.

About the organisers

National University of Singapore (NUS)

A leading global university centred in Asia, the National University of Singapore (NUS) is Singapore's flagship university, which offers a global approach to education and research, with a focus on Asian perspectives and expertise.

NUS has 16 faculties and schools across three campuses. Its transformative education includes a broad-based curriculum underscored by multi-disciplinary courses and cross-faculty enrichment. Over 37,000 students from 100 countries enrich the community with their diverse social and cultural perspectives.

NUS has three Research Centres of Excellence (RCE) and 24 university-level research institutes and centres. It is also a partner in Singapore's fifth RCE. NUS shares a close affiliation with 16 national-level research institutes and centres. Research activities are strategic and robust, and NUS is well-known for its research strengths in engineering, life sciences and biomedicine, social sciences and natural sciences. It also strives to create a supportive and innovative environment to promote creative enterprise within its community.

For more information, please visit www.nus.edu.sg.

Science Centre Singapore

Science Centre Singapore is a non-formal educational institution and a leading regional Science Centre. A custodian of creativity and innovation, the Centre has captured the evolution of scientific developments through unique and relevant exhibitions and shows.

The Centre houses 14 exhibition galleries with more than 1,000 exhibits, another 30,000 sq metres of outdoor exhibition space showcasing the Waterworks exhibition, Ecogarden and Kinetic Garden as well as the Omni-Theatre — Singapore's only dome-shaped, 5-storey high IMAX theatre.

The Centre and its partners have played a pivotal role in transforming the way students and the public interact with and learn about science & technology. Together with the Omni-Theatre and Snow City, it has engaged and enriched more than 29.5 million students and visitors since 1977.

This year, the Centre launched an "I Love SCS" campaign to share our love for science with everyone and demonstrate the many things to love about the Science Centre. The Science Centre, Omni-Theatre and Snow City received 1.26 million visitors for FY2012/2013.

For more information, please visit www.science.edu.sg.

Association for Unmanned Vehicle Systems International Foundation

The AUVSI Foundation is a charitable organization that was established to support the educational initiatives of the Association for Unmanned Vehicle Systems International (AUVSI). The AUVSI Foundation focuses on the future of the robotics industry by developing programs that will attract and equip students for a career in this rapidly growing field.

Through a variety of efforts, the AUVSI Foundation provides students with the opportunity to experience fun, hands-on robotics activities that promote STEM education (science, technology, engineering and math).

The Foundation hosts robotics competitions that challenge students to apply their engineering skills in the development of autonomous ground, air and maritime vehicles. To date, the AUVSI Foundation has awarded nearly \$1.5 million in prize money to participating schools since the competitions began in 1991.

For more information, please visit <http://www.auvsifoundation.org/home>.

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