Leveraging technology for innovative healthcare solutions at Republic Polytechnic Technology Day 2014

Novel strategies and innovative technologies introduced, targeted at addressing healthcare and wellness concerns

Singapore, 1 October 2014 – Republic Polytechnic (RP) held its tenth annual Technology Day featuring innovative projects, industry expert speakers and discovery workshops run by RP's faculty. 500 participants attended the event which was themed 'Innovations for the Health and Wellness Industries', focusing on enhancing the quality and affordability of healthcare through technology and service innovations.

Innovations for the Health and Wellness Industries

RP's Technology Day on Health & Wellness is in line with Singapore's thrust to address key issues arising from an ageing population, sedentary lifestyles and affluent diets. Singapore's Ministry of Health has rolled out the "Healthcare 2020" Masterplan aimed at improving the quality of the nation's healthcare system with accessible and affordable options. Rapid advances in technology are revolutionising the management of healthcare and will play an increasingly important role in driving new healthcare solutions. Some examples include automated outpatient pharmacy systems, giving patients and the public better understanding of their health conditions through mobile medical apps and more integrated usage of patient data for more efficient analysis of medical conditions.

Guest-of-Honour Mr Zee Yoong Kang, Chief Executive Officer, Health Promotion Board spoke on how technology and innovations will shape the future of solutions that will help Singaporeans to live long and live well. **Mr Zee stated, "We want to go upstream to ensure that Singaporeans can live quality lives even as they live longer. To achieve the common goal of a healthy population, the government has to work together with academia and industry for innovative solutioning. Together, we can**

build sustainable ecosystems and create products for healthy living which are not only accessible but attractive to the individual."

Senior business leaders and industry partners also contributed and spoke at keynote presentations and panel discussions. They included delegates from SPRING Singapore, Symrise Asia Pacific, Tan Tock Seng Hospital, Alexandra Health System, and the Agency for Integrated Care who further inspired the discussion on technology innovations and smart technology in the health and wellness industries.

"Over the past decade, RP Technology Day has been established as an important platform for our partners in industry and academia to come together to share their technology, knowledge and industry insights. This year, we explore the application of technology, knowledge and innovation in addressing challenges faced by the healthcare and wellness sectors," said Mr Yeo Li Pheow, Principal/Chief Executive Officer, Republic Polytechnic.

Joint innovation with industry partners

To foster deeper industry collaboration and engagement, RP also signed a Memorandum of Understanding with National Instruments Singapore to set up a LabVIEW Academy in RP's School of Engineering (SEG). SEG has previously partnered with National Instruments to integrate National Instruments' unique LabVIEW system design software into its curriculum. The new facility will equip students with industrial certifications as well as skills which would encourage engineering discoveries and technological innovation in the electronics and electrical engineering industries.
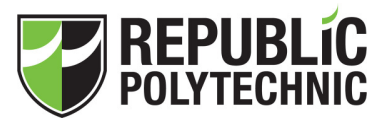
A Memorandum of Agreement was also inked between RP's Centre for Enterprise and Communication and Ebenezer NDT Services, to provide opportunities for industry mentorship and networking support for RP student and alumni start-ups, as well as prototyping and test bedding of technology for products and services.

Mr Yeo added, "Not only does Technology Day bolster and strengthen Republic Polytechnic's partnerships and links with the industry, it is also a good opportunity for us to showcase RP's capabilities where we present innovative ideas to industry partners for product commercialisation or further research and development."

To facilitate multi-disciplinary sharing, the event saw all six of Republic Polytechnic's schools, namely School of Applied Sciences (SAS), School of Engineering (SEG), School of Sports, Health and Leisure (SHL), School of Infocomm (SOI), School of Hospitality (SOH), School of Technology for the Arts (STA) as well as its Centre for Enterprise and Communication (CEC) gathered in a single setting to share their insights on how technology innovations are shaping the healthcare industry.

Staff research projects

This year's Technology Day also showcased innovative staff research projects. These included a wireless low cost bed-based weight measurement system for long-stay patients and the bedridden, which will be tested at Khoo Teck Puat Hospital in a ward setting; a wireless biodata-monitoring system for mass evacuations currently being tested by the Singapore Civil Defence Force (SCDF); preformulated solid pharmaceutical drugs which can help increase drug efficacy; and healthier food options including a tasty and easy-to-prepare vitamin-fortified porridge and a nutritious soy-derivative product, Okara.

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About Republic Polytechnic

The first educational institution in Singapore to leverage Problem-Based Learning approach for all its diploma programmes, Republic Polytechnic (RP) has six schools and two academic centres offering thirty-seven diplomas in Infocomm, Engineering, Applied Science, Technology for the Arts, Sports, Health & Leisure, Events and Hospitality, Enterprise, and Communication. Republic Polytechnic is committed to nurturing innovation and entrepreneurial learning in an environment that develops problem-solving skills and lifelong learning opportunities. Its holistic, broad-based curriculum, covering culture, enterprise development and cognitive processes, prepares students for an active and meaningful role in society. Republic Polytechnic strives for excellence and has achieved various international and national accreditations, including ISO9001, ISO14001, OHSAS 18001, SS540, Singapore Quality Class, People Developer, Innovation Class, and Service Class.

For more information, visit www.rp.edu.sg

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Appendix: Highlights of RP projects

Low Cost Wireless In-Bed Patient Weight Measurement System

Aim: Fluctuations in a patient's weight provide important information for medical assessment such as medication dosage, fluid loss and even BMI health computation. Current hospital facilities necessitate the movement of a patient from one bed to another to be weighed. This new solution is low-cost and convenient, allowing any hospital bed to be turned into a weighing bed. This also reduces the risks of accidents, while improving manpower productivity of healthcare professionals.

Bio-monitoring Network for Evacuation Deployments

Aim: During emergency evacuations, manual monitoring of individual casualties is a labour intensive and time-consuming process. Thus, this innovative wireless monitoring system allows for mass-scale monitoring of casualties' bio-data, enabling the response team to attend to casualties in a more productive and effective manner.

Okara-Tempeh for Elderly Food

Aim: Okara is a by-product of soybean processing and is usually discarded as a waste material. With the help of technology, the RP team is enhancing the nutritional value of Okara, allowing it to be reused as an ingredient in food manufacturing..

2-Minute Porridge

Aim: RP has created a low-calorie porridge fortified with dietary fibre and protein. The tasty and nutritious recipe was conceptualised with the nutritional needs and dietary preferences of the elderly in mind.