

Programme Outline

In order to maximise the interactions between companies and potential end users, the visit programme will consist of 3 segments:

Segments	Description	Details
<p>1)Sharing/Presentation by technology providers/robotics companies</p> <p>26 Nov (AM) @ EDB/ Centre of Innovation-Supply Chain Management (COI-SCM) @ Republic Polytechnic</p>	<p>Each technology provider will be given 5-10 min each to present/share on their robotics technologies/solutions to potential end users.</p> <p>(To be confirmed) Companies can also showcase/ demo their solutions at a mock-up site/warehouse at COI-SCM @ Republic Polytechnic.</p>	<p>In addition to the representatives from the testbeds below, attendees (potential lead demand/end users) will also include:</p> <ul style="list-style-type: none"> • DHL Supply Chain • Avnet • Panalpina • Kuehne + Nagel • Yusen Logistics • PSA • SingPost • Watsons • CP Group • Kuok Singapore • Innovate Jardines • F&N • URC • Wilmar • PSA International
<p>2)Site Visit</p> <p>26 Nov (PM), 27 Nov, 28 Nov (PM)</p>	<p>Visit by technology providers/robotics companies to the testbed sites to have a first-hand understanding of end users' requirements and problem statements</p>	<p>Site Visits (to be confirmed) to the following:</p> <ul style="list-style-type: none"> • Decathlon • Lazada • RedMart • DB Schenker • Yusen Logistics

		<ul style="list-style-type: none"> • Bollore Logistics • LF Logistics • Centre of Innovation for Supply Chain Management (COI-SCM) @ Republic Polytechnic • SATS • Changi Airport Group (CAG)
3)1-1 Meetings 28 Nov (AM)	Companies may wish to set up separate 1-1 meetings with potential end users to follow up on interests	

Lead demand/test beds' interest in robotics/ automation

Organisations	Level of participation	Description	Problem Statements/Areas of Interest & Recent News
Decathlon	Attendance at presentation session and site visit	www.decathlon.com Decathlon is a largest sporting goods retailer in the world with over 1400 stores in 45 countries. Decathlon manages a global complex supply chain and has deployed RFID technology to streamline and improve product tracking since 2010.	Areas of interest include autonomous inventory management solutions for stores. Deployment of automation technologies: <ul style="list-style-type: none"> • http://www.traxa.it/en/news-en/decathlon-rfid-technology-results-sales-improved-11-reduced-the-rate-of-9-of-commodity-losses/ • https://www.essentialretail.com/news/decathlon-extends-pos-technology/
Lazada	Attendance at presentation session and site visit	www.lazada.com Lazada is the number-one online shopping and selling destination in Southeast Asia, present in Indonesia, Malaysia, the Philippines, Singapore, Thailand and Vietnam; with 300 million SKUs available.	Areas of interest include robotics and automation solutions for: <ol style="list-style-type: none"> 1) Picking and consolidation, especially for high-value items 2) Goods-to-man transportation (such as autonomous guided vehicles) 3) RFID tracking 4) Worker tracking 5) Automated packing 6) Increasing productivity and safety 7) Theft eradication
Bollore Logistics	Attendance at	www.bollore-logistics.com/	Areas of interest include automation solutions for: <ol style="list-style-type: none"> 1) Full carton picking from racks

	presentation session and site visit	<p>Bollore Logistics is the transport and logistics business unit of Bollore Transport & Logistics, a fully owned subsidiary of the Bollore Group.</p> <p>Committed to digital transformation, Bollore Logistics aims to tap on this growing opportunity in the sector to create added value in its product offerings. In Asia, Bollore Logistics operates in 24 countries, with strong growth seen in Singapore and Hong Kong in 2015.</p>	<ol style="list-style-type: none"> 2) Value added service labelling 3) Loose picking from shelves 4) Un-stuffing palletization of loose cargo 5) Transfer of pallets or cartons from one floor to another one in multi-storey warehouses
SATS	Attendance at presentation session and site visit	<p>https://www.sats.com.sg/Pages/Home.aspx</p> <p>SATS is the chief ground handling and in-flight catering service provider at Singapore Changi Airport. SATS controls about 80% of Changi airport's ground handling and catering business. SATS invested \$18 million last year in new production line to increase total airline catering capacity. SATS had established an in-house Technology Innovation Centre to look at the co-development, testbedding and deployment of innovative solutions.</p>	<p>Summary of SATS' call for collaboration in Feb 2016: https://svrobo.org/singapore-robotics-challenge/</p> <p>The 6 areas of interests are:</p> <ol style="list-style-type: none"> 1) Odd size baggage transportation 2) Intelligent Cargo Import Terminal 3) Meal Carts Transportation 4) Arrival Baggage Delivery 5) Special Services (Wheel Chair) 6) Cargo Documents Delivery
PSA International	Attendance at presentation session (tbc)	<p>https://www.globalpsa.com/</p> <p>PSA is one of the leading global port groups, with port projects spanning across Asia, Europe and the Americas. With excellent connectivity and as one of the world's largest refrigerated container ports, PSA is the world's busiest transshipment hub accounting for almost one-seventh of the world's total container transshipment throughput.</p>	<p>PSA and Ministry of Transport (MOT) started trials on autonomous truck platooning technology for transporting cargo between port terminals: https://www.singaporepsa.com/images/2017/nr170109.pdf</p> <p>PSA is keen to explore enabling technologies to achieve the port 2030 vision: http://www.businesstimes.com.sg/infographics/singapore-port-2030</p>

Changi Airport Group (CAG)	Attendance at presentation session (tbc)	http://www.changiairport.com/corporate Changi Airport serves more than 100 airlines and registered a record of 58.7million passengers. To embrace innovations and technology to enhance productivity, CAG launched a \$50 million Changi Airport Living Lab programme in partnership with EDB, to drive innovation over the next five years and develop technology for airport operations.	Changi Airport Living Lab Programme: http://www.channelnewsasia.com/news/singapore/changi-airport-edb-launch-s-50m-programme-to-develop-technology/3415002.html Baggage Handling <ul style="list-style-type: none"> • Robotic arms or automation systems to reduce manual labour in baggage handling and enable all-weather airport operations • Exoskeleton to augment human for baggage handling operations Customer service and retail <ul style="list-style-type: none"> • Language translation bots e.g. real-time translation for speech to text and vice-versa • AI Concierge e.g. offer shopping recommendations to passengers based on understanding of their preferences and needs • Self-check out with automated bagging/ sealing of LAG duty-free items
Centre of Innovation for Supply Chain Management (COI-SCM) @ Republic Polytechnic	Attendance at presentation session and site visit	http://www.rp.edu.sg/COI-SCM.aspx COI-SCM help end users develop and deepen supply chain and logistics expertise through innovation in process and technology. With solutions spanning from transport optimisation to automation & engineering, the centre has worked on more than 200 projects in collaboration with both solution providers and end users.	Note: COI-SCM@RP are potential local partners/receptacles for you. They can help reach out to potential end users, perform test bedding, performance evaluation and application of funding for end users.

