

**Annex 3****FACTSHEET*****IDA Lab on Wheels*****Background**

The Infocomm Development Authority (IDA) Lab on Wheels was launched in November 2014 by the Minister for Communications and Information, Dr Yaacob Ibrahim. One 40-seater bus was retrofitted to be a mobile tech lab to bring technology closer to primary schools and the community with the aim of exciting students and the public in technology. This is continuously achieved through workshops conducted on the bus and showcasing interesting and innovative activities.

The bus offers engaging and experiential activities such as coding games, robotics, 3D technologies, electronics, programming of drones and experimenting with wearables with the aim to nurture young tech talents.

**Achievements of the IDA Lab on Wheels**

As of May 2016, the IDA Lab on Wheels has reached out to 90 primary schools and more than 25,000 students. The workshops conducted on-board the bus during curriculum time gave students a better appreciation of coding, computational thinking as well as help in fostering the makers' mentality.

The activities were designed with industry partners such as Microsoft and Autodesk to expose students to a variety of software and hardware such as Kodu Game Lab by Microsoft and Autodesk's Tinkercad. To-date, the programme has 18 activities and includes new categories such as programming a drone and experimenting with wearables.

To ensure that students continue their learning journey after the bus, students are encouraged to visit free online resources such as Code.org and Codecademy. They

are also encouraged to sign up for the Code for Fun programme, which is a 20-hour initiative under the Code@SG movement.

In addition to schools, the bus also reached out to community organisations. This was to ensure that everyone including the community is part of the beneficiaries of this educational and experiential mobile platform.

The outreach was in the form of events which included 3D modelling workshops for the elderly held in conjunction with the Intergenerational IT Bootcamp, as well as workshops with banks such as UOB and Barclays to train their staff as volunteers to reach out to students. Close to 30 community events were conducted since the bus' inception.

In 2016, one more bus was retrofitted and launched to reach out to primary schools. A second bus was added due to the high demands and popularity of the first IDA Lab on Wheels bus. With an additional bus, longer lessons can be conducted and more young students can be reached to educate them on tech.

### **Reaching out to Secondary Schools and People with Special Needs**

In addition to reaching out to students and the community, IDA also sees the opportunity to expand the initiative to different groups of people such as the disabled, to expose them to technology. The IDA recognised this and decided to expand the IDA Lab on Wheels programme much further.

This year, from May 2016, the IDA Lab on Wheels programme will be expanded and extended to secondary school students and people with special needs following its initial inception. Two buses will be specially designed with activities to meet their learning needs.

The new Secondary School Lab on Wheels buses have been outfitted as fabrication labs, featuring 3D printers and scanners and laser cutters. With help from industry partners, the new labs feature cutting edge technologies such as advanced robotics, data analytics tools and Internet of Things sensors and solutions as well as virtual reality gadgets.

To-date, 19 Secondary schools have signed up and 22 schools are currently on the waiting list. The schools that have signed up include Bukit View Secondary, Bishan Park Secondary, Singapore Chinese Girls' School as well as Spectra Secondary.

In addition, one of the secondary school buses is designed with the theme of being inclusive – for example, being wheel-chair accessible, outfitting the bus with assistive tech gadgets and relevant content to reach out to the special needs community. To

create a wider impact, the IDA is collaborating with SG Enable, an agency dedicated to enabling persons with disabilities, to reach out to this community and bring technology to their doorstep. In addition to showcasing assistive tech gadgets, customised curriculum will be developed for the different special needs such as cerebral palsy and autism. There will also be occupational therapists on-board to assist in the workshops. The inclusive bus will travel to Special Education Schools that cater to different groups of children with distinct needs.

The new buses will also reach out to the community and can be customised for various tech themes, such as Internet of Things and Virtual Reality (VR). For instance, a VR theme week at a community centre or shopping mall will showcase various VR technologies, gadgets, and its applications on-board the bus.

The programme has been greatly supported by industry partners, from Multinational Corporations to local tech companies. Please see **Annex 3A** for details of the companies' contributions.

## Annex 3A

### List of Industry Players Involved in the Development of IDA Lab on Wheels

Partner	Write-up
Asus	Asus will be providing technology and equipment such as laptops and All-in-One devices to enhance the learning experience on the IDA Lab on Wheels.
Autodesk	Students can unlock their creativity and cultivate a love for design through Autodesk's free-to-use Fusion360 software.
Duck Learning	Duck Learning will be lending their expertise in Lego Education curriculum as well as the latest Lego Wedo sets to ignite student's engagement and provide hands-on learning opportunities through real life problem solving.
EP-Asia	EP-Asia's robotic sets will allow students to discover how fun programming is with user-friendly and customisable lesson plans.
Epson	Epson's short throw projector will be used to facilitate workshops and curriculum onboard.
Huawei	The IDA Lab on wheels is powered by Huawei's high speed internet connectivity via Huawei 4G devices. Huawei will also be providing wearables to allow students and the public to understand more about wearable technology.
IBM	IBM will be developing curriculum to engage students about the concept of Internet of Things.
Intel	Intel will contribute their expertise in creating robust learning syllabi through student-friendly hardware like the Galileo Development Board.
Makey Makey	Makey Makey will be providing hardware for students to experiment with projects to learn about electronics, makers' mentality as well as programming.
Microsoft	Microsoft's Project Spark software aims to sow seeds of interest in students for coding through its simple visual programming language designed for creating complex games.

OSVR	OSVR will be loaning their Virtual Reality headsets to educate students and the public on the possibilities of virtual reality.
Playware	Playware's 3DHive Invent will be offered as an activity to teach students about coding and game logic.
Relsig	Relsig will lend its support by loaning one set of Nao robot which will encourage students to understand more about advanced and social robots.
SAP	SAP will provide their expertise in creating customized curriculum and software to help students understand and appreciate Data Analytics.
Smart Ed Global	Smart Ed Global will be providing the IDA Lab on Wheels mini drones to get students to understand the practical uses of drones as well as how drones can be programmed.
StarHub	StarHub has equipped the IDA Lab on Wheels with high-quality 4G mobile broadband connectivity on the go.
Tinker Tanker	TinkerTanker will partner IDA Lab on Wheels to be a partner in curriculum development to excite students about STEM education.
Unity	Unity will be providing software and a knowledge share which is suitable for Secondary School students to learn about game development. Unity will also provide the Secondary School Grant program to all Secondary Schools in Singapore.
V3 Teletech	V3 Teletech will be employing smart dustbins to explain how sensors are used to improve waste management. They will also provide their proprietary equipment and software for tracking and intelligent surveillance for the IDA Lab on wheels.

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