

Media Release

Singapore, 13 February 2017

GovTech Partners with Eight Institutes of Higher Learning to Develop Deep Technical Capabilities in Students to Help Build a Smart Nation

The Government Technology Agency of Singapore (GovTech) announced the signing of six individual Memorandums of Understanding (MOU), and two Memorandums of Intent (MOI) with eight Institutes of Higher Learning (IHLs) today.

These agreements between GovTech and each IHL will share a common goal – to develop the technology ecosystem by enhancing the capabilities and competencies of the students, IHLs, and commercial entities through opportunities offered by the public sector to work on smart technologies.

Providing Hands-on Opportunities for 300 Students

GovTech aims to provide training opportunities for about 300 students, through these agreements. GovTech will provide students exposure through internships, attachments, final-year projects, and tech-related competitions in which they will work on technological solutions for problems faced by public agencies. Students will also be invited to seminars, workshops and courses organised by GovTech. They will work on areas including cyber security, data analytics, internet-of-things and other emerging technologies. Such work exposure aims to complement the recent Committee on the Future Economy recommendations for young workers to attain deep skills and industry-relevant expertise in order to give them an edge in a technology driven future.

The IHLs (in alphabetical order) are:

- Institute of Technical Education
- Nanyang Polytechnic
- Ngee Ann Polytechnic
- Republic Polytechnic
- Singapore Institute of Technology
- Singapore Polytechnic
- Singapore University of Technology and Design
- Temasek Polytechnic

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Integrating the IHLs into the Current Partnership Ecosystem

GovTech will continue to tap on its current InnoLeap programme, which connects IHLs to Research Institutes (RIs) and commercial entities to work together on challenges faced by public agencies. The sharing of such challenges is carried out through thematic workshops, sharing sessions, and one-to-one consultation clinics. Since its launch in August 2014, InnoLeap has conducted 21 sessions, involving about 1,000 participants from over 70 organisations and close to 90 public agencies. GovTech will work closely with these eight IHLs in the subsequent sessions.

Ms Jacqueline Poh, Chief Executive, GovTech, said, “We believe that an active partnership between public agencies, academia and commercial entities can help us create the best digital services for citizens and smart solutions for our city. This set of agreements will not only give us the opportunity to do that, but also allow us to help develop our next generation of tech talent, which is key to building Singapore into a Smart Nation.”

Annex A – Factsheet on MOU/MOIs with IHLs

Annex B – Factsheet on InnoLeap

Annex C – Quotes from IHLs

ISSUED BY COMMUNICATIONS AND MARKETING GROUP
GOVERNMENT TECHNOLOGY AGENCY OF SINGAPORE

About Government Technology Agency of Singapore

The Government Technology Agency of Singapore (GovTech) is a statutory board formed in October 2016 after the restructuring of the Infocomm Development Authority.

GovTech works with public agencies to develop and deliver secure digital services and applied technology to individuals and businesses in Singapore. GovTech builds key platforms and solutions needed to support Singapore as a Smart Nation. As a leading centre for information communications technology and related engineering such as the Internet of Things, GovTech also enhances the capabilities of the Singapore Government in these domains.

For more information, please visit tech.gov.sg or follow us on [Facebook.com/GovTechSG](https://www.facebook.com/GovTechSG) and Twitter [@GovTechSG](https://twitter.com/GovTechSG).

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FACTSHEET

Memorandums of Understanding/Intent with Institutes of Higher Learning

One of GovTech's strategic objectives is to lead the digital transformation for the public sector to realise citizen-centric services for a Smart Nation. To achieve this, GovTech works with public sector agencies, Institutes of Higher Learning (IHL), Research Institutes (RI), commercial entities and citizens, in the co-creation of solutions for deployment. In the process, GovTech seeks to build capabilities within organisations and develop an ecosystem of partnerships for the co-creation of solutions.

Creating an Eco-system for the Co-creation of Solutions

Within this ecosystem, public sector agencies will share challenges they face via problem statements at thematic workshops, sharing days and one-to-one consultation clinics organised under GovTech's InnoLeap programme. These allow GovTech to understand the challenges facing public sector agencies and citizens so as to be able to explore innovative solutions with the IHLs, RIs and commercial entities for adoption. Solutions that are commercialised will also provide commercial entities with potential opportunities.

Benefits to the different stakeholders include:

- Universities and RIs will be able to build their research capabilities by looking into possible solutions for challenges faced by public sector agencies.
- Polytechnics and commercial entities will be able to obtain practical experience managing such translational R&D projects and build technological capabilities. For commercial entities, this also means business opportunities should the solutions be deployed for public sector agencies or commercialised locally and overseas.
- ITE will be able to build their capabilities through its involvement in the project maintenance.
- Students from IHLs working on such projects are able to obtain practical research and project work experience.

Signing of Memorandums of Understanding/Intent (MOU/MOI) with IHLs

This set of MOU/MOIs demonstrates GovTech's commitment to work with the IHLs to develop the ecosystem by enhancing the capabilities and competencies of the students, IHLs and commercial entities through learning and business opportunities, led by public sector demand.

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Beyond the opportunities to co-create technological solutions, GovTech will raise interest in technological education and participation by co-organising events such as conferences and competitions, as well as provide opportunities for students to gain hands-on experience through final-year projects, internships and attachments. An estimated 300 students will be trained through these efforts as part of the MOU/MOIs.

Opportunities with the IHLs

- Singapore Institute of Technology

Potential Projects:

1. Cyber-physical security vulnerability assessment and penetration testing (e.g. Ethical hacking, which aims to mitigate the threat of attack by finding loopholes before attackers do)
2. Smart assisted healthcare to enable active ageing (e.g. enabling elderly patients to self-administer physiotherapy exercise, which will help improve the patient to physiotherapist ratio)

- Singapore University of Technology and Design

Potential Projects:

1. Automated detection and execution of security measures to protect wireless network from adversary attacks (e.g. enabling proximity secure services in Internet of Things (IoT) wireless networks)
2. Adaptive network management protocol (using machine learning-based context aware techniques) to improve IoT system energy efficiency and robustness

- Nanyang Polytechnic

Potential Projects:

1. Using machine learning to enhance accuracy of abnormality detection for video analytics systems (e.g. improving accuracy level for actual public sector specific use cases)

- Ngee Ann Polytechnic

Potential Projects:

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1. Video analytics, specifically, facial recognition technology for contact tracing (e.g. locating elderly with dementia, tracking of people during epidemic outbreaks, purposes for homeland security)

- Republic Polytechnic

Potential Projects:

1. Agile mobile application development (e.g. for crowd seating management and bus tracking that were used during National Day Parade)
2. Education through gaming technologies (e.g. Virtual Reality game to improve awareness of fire safety, 3D interactive games to encourage interaction between neighbours in public housing)

- Singapore Polytechnic

Potential Projects:

1. Using SP's User-Centric Conceive and Design framework to address public sector agencies' challenges and develop solutions for deployment (e.g. development of past projects like the Ministry Of Manpower's Automatic Card Scanning Machine)

- Temasek Polytechnic

Potential Projects:

1. Smart office optimisation projects (e.g. smart room booking system, smart power distribution box for energy management, indoor air quality monitoring, and smart sanitization)

- Institute of Technical Education

Potential Projects:

1. Using immersive technologies (Augmented Reality, Virtual Reality, Mixed Reality) in teaching

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InnoLeap

As Singapore moves toward becoming a Smart Nation, GovTech is placing greater emphasis on encouraging the spirit of innovation within the public sector. Today, there are many innovative ideas and solutions developed by Research Institutes (RIs), Institutes of Higher Learning (IHLs), and commercial entities that are looking to solve real-world problems. The InnoLeap programme brings together public sector agencies with challenging problem statements and RIs, IHLs, and commercial entities with innovative solutions. The aim is for all parties to build a deeper understanding of hurdles, solutions and cultivate opportunities for collaboration. Commercial entities will also be provided with potential business-to-business opportunities.

The InnoLeap programme offers a series of platforms which serve as a catalyst for transforming problem statements into innovative solutions in a digital ecosystem. These highly interactive platforms raise awareness of technologies and facilitate the exchange of business needs and technology ideas between public sector agencies and solution providers. Through these, challenges and problem statements are identified for innovative solutioning and implementation.

InnoLeap Platforms

- **Thematic Workshops** - Thematic workshops are conducted every two to three months based on themes identified from agencies' demand. In these workshops, participants from the agencies will meet companies with innovative products or solutions. Each participant must bring along problem statements relating to their area of work (be it a longer term issue, or immediate operational issue) for in-depth discussion with the technology companies and to explore potential collaboration & pilots.
- **Sharing Day** - Sharing days are organised to raise the level of awareness of emerging technologies amongst officers in Government agencies. Companies are invited to share their solutions and technologies related to a specific theme. Each company will be given a specific time period for presentation and demonstration of their solutions. At the end of the session, time will be allocated for consultation with the companies. Sharing days can be organised for different groups, ranging from a particular agency, to a group of agencies for a specific domain.
- **Clinics** - 1-1 consultation clinics are conducted with agencies where GovTech works together with the agencies to understand the problem statements and facilitate the link up with companies to explore potential collaboration and pilots.

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Quotes from Institutes of Higher Learning (IHLs)

Institute of Technical Education

"This collaboration between GovTech and ITE presents excellent opportunities for our staff and students to broaden their learning and apply their skills in Design Thinking, robotics, augmented and virtual reality in the development and delivery of real-world solutions for the industries." - Ms Low Khah Gek, CEO, ITE

Nanyang Polytechnic

"Our staff and students are adept at exploiting disruptive technologies such as the Internet of Things to co-create innovations for businesses. We also lead the IoT Open Innovation Community which brings together more than 140 enterprises with diverse IoT capabilities into an ecosystem. We are pleased to collaborate with GovTech where our expertise will be used to explore innovative ways to enhance public service delivery." - Ms Jeanne Liew, Principal & CEO, Nanyang Polytechnic

Ngee Ann Polytechnic

"The collaboration with GovTech dovetails well with one of Ngee Ann Polytechnic (NP)'s key thrusts in nurturing a culture of innovation and preparing our students for the digital economy. Our Smart Learning Spaces can be the testbed for Smart Nation projects, particularly those involving cyber security and forensics, video and data analytics, and the Internet of Things. We will also look into co-developing programmes to equip both NP students and adult learners with the right skills for the smart workforce. We look forward to the partnership that will enable our students to gain invaluable industry exposure, build their competencies in future skills and develop innovative solutions that address real-world challenges." - Clarence Ti, Principal, Ngee Ann Polytechnic

Republic Polytechnic

"This partnership will allow our infocomm and engineering students and staff to contribute towards the development and implementation of citizen-centric solutions. The collaboration activities, which include internships, final-year and test-bedding projects will provide our students with valuable industry exposure that is aligned with Singapore's Smart Nation Drive. We are pleased to collaborate with GovTech in leveraging technology to enhance the delivery of services in the public sector." - Mr Yeo Li Pheow, Principal/CEO, Republic Polytechnic.

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Singapore Institute of Technology

“SIT continues to play a role in the Smart Nation ecosystem where the public, private and education sectors come together to co-create technological solutions for the future of Singapore. SIT will focus on strengthening cyber physical securities in non-enterprise infrastructure including the Internet of things, which are often vulnerable to hackers. Aside from focusing on keeping Singapore’s cyber ecosystem safe and running, we are confident that SIT’s partnership with GovTech will also provide opportunities for multi-disciplinary collaborations in other areas like healthcare innovation and active aging.” - Associate Professor Ivan Lee, Vice President (Industry & Community), Singapore Institute of Technology

Singapore Polytechnic

“We are pleased to collaborate with GovTech as it will enable our staff and students from the engineering and technology diploma courses to develop solutions that can impact the future needs of society. It also augments our effort to nurture our students to not only acquire new skill sets but apply them to real world problems through internships and final-year projects. We appreciate this opportunity to align our students to the Smart Nation Initiative.” - Mr Soh Wai Wah, Principal & Chief Executive Officer, Singapore Polytechnic

Singapore University of Technology and Design

“SUTD aims to train technically-grounded leaders and innovators that help better the world by design, therefore it is synergistic for SUTD to collaborate with GovTech as not only does it allow our faculty members and students to tap on GovTech’s leadership and experience in Singapore’s push towards becoming a Smart Nation and Digital Government; it also enables them to develop relevant and key technological solutions for the Government of Singapore, with special focus in the areas of Internet of Things, Artificial Intelligence, data analytics and cyber-physical security, where SUTD has already established strong research capabilities in.” - Professor Chong Tow Chong, Provost, Singapore University of Technology and Design

Temasek Polytechnic

“Temasek Polytechnic is actively contributing to the Smart Nation initiative in the education space, working on proof-of-concept solutions that leverage on Internet of Things (IoT) technologies, cybersecurity and analytics. This collaboration with GovTech is a timely one as it creates excellent opportunities to deepen our engagement with the government sector and for our students to work on actual use cases.” - Peter Lam, Principal & CEO, Temasek Polytechnic

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