News Release

FIRST-OF-ITS-KIND OPEN DIGITAL PLATFORM FOR SMART CITY SOLUTIONS FOR PUNGGOL DIGITAL DISTRICT

JTC inks MOU with ST Engineering with an intent to form a strategic partnership to develop an open digital platform that will transform user experiences and district-wide services.

Singapore, 10 July 2018 - JTC and ST Engineering signed a Memorandum of Understanding (MOU) today with an intent to form a strategic partnership for the design, development and deployment of an Open Digital Platform for Punggol Digital District (PDD). Under this partnership, both parties will work closely to integrate smart city solutions on to this Open Digital Platform across the 50-hectare District. Both JTC and ST Engineering will co-invest equally to bring this project to fruition.

2. The first district in Singapore to adopt an integrated masterplan approach, PDD is a multi-agency collaboration project between Infocomm Media Development Authority, JTC, Singapore Institute of Technology and Urban Redevelopment Authority. This MOU with ST Engineering is the first step towards establishing strategic partnerships with companies to develop the Open Digital Platform in PDD. Industry partners, including local SMEs, can look forward to more opportunities to further develop solutions and infrastructure for the platform, which will transform user and community experience in the future.

3. In contrast to existing business parks and large-scale districts where physical infrastructure, urban solutions and digital infrastructure are developed in silos, PDD will see the full integration of digital infrastructure from the ground up, in tandem with the physical planning and development of the District. The Open Digital Platform will integrate various smart city solutions such as facilities, building and estate management systems, district cooling system, pneumatic waste conveyancing system, autonomous goods delivery systems, access and security systems, carparks system, traffic lights system, and autonomous vehicles in PDD.

4. Integrating these solutions on a single Open Digital Platform will enable all district operations to be centralised for management. With real-time access to information on what is happening around the district, this shortens time taken by estate managers to identify and

react to potential problems. With predictive analytics and pre-emptive solutions, estate managers can proactively optimise and control resources by analysing data from sensors and IoTs across the District. The Open Digital Platform will also be interoperable with the Smart Nation Sensor Platform - developed by GovTech - to enable wider sharing of sensor data with public agencies to improve the planning and delivery of public services.

5. The Open Digital Platform also aims to transform total user experience with smart technologies in the district. For instance, tenants will enjoy seamless biometric access to facilities while their visitors experience seamless access to the premises via their mobile phones. Tenants of the JTC Business Park can also expect cost savings due to optimisation of building systems by the smart technologies.

6. To encourage academics, researchers, startups and small & medium enterprises (SMEs) to create solutions, data on the Open Digital Platform will also be made available for them to develop digital or urban solutions for PDD. Real-time and historical data from estate and building management systems will be published via an Application Programming Interface (API), on which the community is able to access information to develop digital applications or urban solutions in PDD. These data can potentially range from utilisation of facilities, electricity consumption to even equipment breakdown information from estate and building management systems. A digital twin (digital replica) of the entire district will be made available for contributors to do safe testing of solutions before deploying them.

7. JTC's Chief Executive Officer, Mr Ng Lang, said, "The Open Digital Platform in Punggol Digital District will be the first in Singapore. Besides making our work more efficient, we hope it can also enhance the convenience and experience of people working in the district. Businesses, workers, researchers, students and the general public, innovators can plug in to the Platform to access and use the data and analytics to develop solutions that will benefit the community. This also creates in Punggol Digital District an environment of innovation and collaboration that is instrumental for the digital economy."

8. President & CEO of ST Engineering, Mr Vincent Chong said, "Having implemented more than 500 smart city projects in Smart Mobility, Smart Security and Smart Environment across 70 cities, we are well aware that a Digital District is not just about technology. It is about integrating technologies to connect people in ways that can best address urban challenges and transform user experiences. This partnership is also part of our smart city drive to contribute to Singapore's Smart Nation initiative. We look forward to contributing our integrated

technology and engineering expertise, as well as our network of talent and resources towards building Singapore's first Digital District."

9. Some technologies of the Open Digital Platform will first be test-bedded at one-north, a living lab for innovations, and refined for deployment and operations in PDD by 2023. Both partners will also evaluate the potential of implementing the Open Digital Platform in other districts like the Jurong Innovation District.

10. The abovementioned strategic partnership is not expected to have any material impact on the consolidated net tangible assets per share and earnings per share of ST Engineering for the current financial year.

About JTC

Set up in 1968, JTC is the lead government agency responsible for the planning and development of industrial infrastructure to support and catalyse the growth of industries and enterprises in Singapore. Landmark projects by JTC include the Jurong Industrial Estate; the Jurong Island for energy and chemical industries; business and specialised parks such as the International and Changi Business Parks, Seletar Aerospace Park and Tuas Biomedical Park; a work-live-play-&-learn development called one-north; next generation districts including Jurong Innovation District and the Punggol Digital District, as well as the Jurong Rock Caverns, Southeast Asia's first commercial underground storage facility for liquid hydrocarbons. JTC also develops innovative space such as the JTC Surface Engineering Hub, JTC MedTech Hub, JTC Food Hub @ Senoko, and TimMac @ Kranji which incorporate innovative features and shared infrastructure and services to enable industrialists to start their operations quickly and enhance productivity.

For more information on JTC and its products and services, please visit www.jtc.gov.sg.

About ST Engineering

ST Engineering is a global technology, defence and engineering group specialising in the aerospace, electronics, land systems and marine sectors. The Group employs about 22,000 people across offices in Asia, the Americas, Europe and the Middle East, serving customers in the defence, government and commercial segments in more than 100 countries. With more than 500 smart city projects across 70 cities in its track record, the Group continues to help transform cities through its suite of Smart Mobility, Smart Security and Smart Environment solutions. Headquartered in Singapore, ST Engineering reported revenue of S$6.62b in FY2017 and it ranks among the largest companies listed on the Singapore Exchange. It is a component stock of the FTSE Straits Times Index, MSCI Singapore, SGX ESG Transparency Index and SGX ESG Leaders Index.

For more information, visit www.stengg.com.

Media contact:

Rachel Pan
Manager, Communications
JTC
Tel: +65 6883 3623, HP: +65 9173 5044
Email: rachel_pan@jtc.gov.sg

Agnes Chang
Assistant Vice President, Corporate Communications
ST Engineering
Tel: +65 6722 1689, HP: +65 98290676
Email: chang.chehhong.agnes@stengg.com

Jeanie Lee
Assistant Vice President, Corporate Communications
ST Engineering
Tel: +65 6722 1683, HP: +65 9105 3957
Email: lee.chinying.jeanie@stengg.com