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News Release

1 September 2020

SGX, in collaboration with HSBC and Temasek, completes pilot digital bond for Olam International

- SGX's digital asset issuance, depository and servicing platform was used to launch and settle in parallel, the first digital bond issuance for Olam International
- This marks the first step towards wider use of smart contracts and distributed ledger technology (DLT) for the Asian bond market

Singapore Exchange (SGX), working together with HSBC Singapore and Temasek, has completed its first digital bond issuance on SGX's digital asset issuance, depository and servicing platform, successfully replicating a S\$400 million 5.5-year public bond issue and a follow-on S\$100 million tap of the same issue by Olam International.

An Asia first for a syndicated public corporate bond, this digital bond marks another milestone in SGX's use of digital asset technology, by streamlining processes for issuers, underwriters, investors and ecosystem participants across primary issuance and asset servicing.

SGX utilised DAML, the smart contract language created by Digital Asset, to model the bond and its distributed workflows for issuance and asset servicing over the bond's lifecycle. SGX's solution uses smart contracts to capture the rights and obligations of parties involved in issuance and asset servicing, such as arrangers, depository agents, legal counsel and custodians.

The digital bond used HSBC's on-chain payments solution which allows for seamless settlement in multiple currencies to facilitate transfer of proceeds between the issuer, arranger and investor custodians.

Key efficiencies observed within the pilot include timely ISIN (identifier) generation, elimination of settlement risk (for issuer, arranger and investors), reduction in primary issuance settlement (from 5 days to 2 days) as well as automation of coupon and redemption payments and registrar functionality.

Building on this digital issuance, SGX will work with issuers, arrangers, custodian banks and investors to digitalise bond issuance, depository and asset servicing, progressively growing the fixed income ecosystem.

Lee Beng Hong, Senior Managing Director, Head of Fixed Income, Currencies and Commodities (FICC), SGX, said, "We are very excited that this collaboration with HSBC and Temasek has led to the successful completion of the first digital syndicated public corporate bond in Asia. Debt capital markets globally are characterised by deeply engrained legacy systems and processes which can be made faster, more accurate and efficient with this new technology. DLT and smart contracts are rapidly evolving technologies, and our vision is to fully digitalise the end-to-end corporate bond

issuance and asset servicing process. We look forward to playing a part in strengthening the fixed income market infrastructure of Singapore, Asia's fixed income hub for bond issuers."

David Koh, Head of Global Liquidity and Cash Management, HSBC Singapore, said, "We're proud to be working closely with SGX and Temasek to drive faster, more transparent, and fully secure settlements for bond issuers and investors. This first digital bond issuance for Olam International shows how our on-chain solution can fulfil payment needs in DLT-based ecosystems, and demonstrates our desire to shape and participate in the next generation of asset networks, to better service our securities services clients. We look forward to bringing this technology to our clients in Singapore and beyond."

Chia Song Hwee, Deputy Chief Executive Officer at Temasek, added, "Innovative technologies such as blockchain technology are key enablers that can transform processes and systems to create game-changing opportunities. We are pleased to have partnered SGX, HSBC and Olam in this initiative. The successful bond issuance validates the potential for issuances of other assets and products, and marks an important milestone towards improving financial processes and workflows."

N Muthukumar, Managing Director and Group CFO of Olam International, said, "Olam is delighted to pilot Asia's first digital bond in close partnership with SGX, Temasek and HSBC. Going digital will make the entire process more efficient and transparent for all parties – issuers like us receive our funds more speedily, investors get their bonds more quickly while the arrangers, custodian and banks benefit from the reduced probability of error and speed. This is in line with Olam's focused push into digitalisation as part of our refreshed strategy, to grow sustainably and live our purpose of re-imagining global agriculture and food systems."

"The bond market is one of the last bastions of risk, holding on to paper and manual processes," said Yuval Rooz, Co-founder and CEO, Digital Asset. "Despite the growth in electronic bond trading, there are still many aspects that require manual intervention. SGX's DAML smart contract solution solves a major pain point market participants have been working to fix for years. We look forward to our continued work with SGX as they move to digitise the end-to-end bond issuance process."

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About Singapore Exchange

Singapore Exchange is Asia's leading and trusted market infrastructure, operating equity, fixed income, currency and commodity markets to the highest regulatory standards. As Asia's most international, multi-asset exchange, SGX provides listing, trading, clearing, settlement, depository and data services, with about 40% of listed companies and over 80% of listed bonds originating outside of Singapore.

SGX is the world's most liquid international market for the benchmark equity indices of China, India, Japan and ASEAN and offers commodities and currency derivatives products. Headquartered in AAA-rated Singapore, SGX is globally recognised for its risk management and clearing capabilities. For more information, please visit www.sgx.com.

The Hongkong and Shanghai Banking Corporation Limited

The Hongkong and Shanghai Banking Corporation Limited is the founding member of the HSBC Group, which serves its customers through four global businesses: Retail Banking and Wealth Management, Commercial Banking, Global Banking and Markets, and Global Private Banking. HSBC serves customers worldwide from offices in 65 countries and territories in its geographical regions: Europe, Asia, North America, Latin America, and Middle East and North Africa. With assets of US\$2,728bn at 30 September 2019, HSBC is one of the world's largest banking and financial services organisations.

About Temasek

Temasek is an investment company with a net portfolio value of S\$306 billion¹ as at 31 March 2020.

Our three roles as an Investor, Institution and Steward, as defined in our Temasek Charter, shape our ethos to do well, do right and do good.

Six structural trends help shape our investment direction in Temasek: longer lifespans, rising affluence and sustainable living drive social progress, enabled by technological solutions for sharing economies, smarter systems and a more connected world.

We actively seek sustainable solutions to address present and future challenges, as we capture investment and other opportunities that help to bring about a better, smarter and more sustainable world.

Headquartered in Singapore, we have 11 offices around the world.

For more information on Temasek, please visit www.temasek.com.sg

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¹ The preliminary portfolio performance is based on Temasek's unaudited consolidated financial statements for the fiscal year ended 31 March 2020. You may refer to the press release [here](#) for more information.