NEWS RELEASE

'Liquidity Alliance' builds blockchain solution for cross-border collateral transfer

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- Four international CSDs develop a Blockchain prototype in cooperation with Deutsche Börse
- Targeted ‘LA Ledger' solution to provide fast and efficient mobilisation of collateral

Four members of the ‘Liquidity Alliance' (LA), an international group of central securities depositories (CSDs), are cooperating with Deutsche Börse to launch an initiative leveraging blockchain technology to ease cross-border mobilisation of security collateral. With the planned solution, The Canadian Depository for Securities Limited (CDS), Clearstream (Luxembourg), Strate (South Africa) and VPS (Norway) want to overcome existing hurdles when moving collateral across various jurisdictions, making the transfer faster and more efficient.

Following the financial crisis, regulators increasingly require market participants to provide collateral to mitigate risks in the financial system. The Dodd-Frank Act in the U.S. and EMIR in the EU are two important frameworks in this regulatory overhaul leading to a growing demand for high-quality collateral to which access is limited. CSDs are already supporting the market today with real-time collateral management to ensure that exposures can be covered sufficiently and that local collateral can be quickly transferred where it is needed.

Being jointly provided by regulated market infrastructures, the Distributed Ledger Technology (DLT) based ‘LA Ledger' prototype will enable a centralised, faster and more efficient allocation of fragmented security positions to cover financial obligations of market participants in multiple jurisdictions. The decentralized character of DLT

(blockchain) allows for direct interaction between participants giving it the potential to simplify complex processes.

The ‘LA Ledger' will initially be implemented as a prototype based on the Hyperledger Fabric blockchain. Validation by regulatory authorities and market participants will start in the second quarter of 2017.

"With this initiative, we pursue an innovative partnership approach that will allow us to jointly embark on distributed ledger technology with a use-case that is highly relevant to the wider industry", said Glenn Goucher, President and Chief Clearing Officer, CDS.

"LA Ledger is designed to simplify cross-border collateralisation away from using multiple complex and non-standardised links towards smooth movement across various jurisdictions", added John-Arne Haugerud, CEO VPS.

"We look forward to engaging with regulators and market participants to validate the proposed solution", added Monica Singer, CEO Strate. "We are convinced that integrating this new technology into a permissioned environment of neutral regulated entities is the right way forward."

"We are proud to be part of this exciting LA Ledger initiative which is adding another leading edge solution to our award-winning suit of collateral management services to the benefit of our mutual clients", commented Philippe Seyll, Co-CEO Clearstream Banking S.A. at Deutsche Börse Group.

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About the Liquidity Alliance

The Liquidity Alliance was established in January 2013 with the aim of providing a platform for CSDs to collaborate on collateral management. It gives members an opportunity to exchange information, identify common needs and extend global collateral solutions while encouraging the development of informed research.

The founding members of the Liquidity Alliance were ASX, a financial infrastructure in Australia, Cetip, Latin America's largest central securities depository and Brazil's largest private asset clearinghouse, Clearstream, the German central securities depository and Luxembourg-based international central securities depository, Iberclear, the central securities depository in Spain, and Strate, the central securities depository in South Africa. Associated members include CDS, the central securities depository in Canada, SGX, a financial infrastructure in Singapore, and VPS, the central securities depository in Norway.

About Deutsche Börse Group

Deutsche Börse Group is one of the largest exchange organisations worldwide. It organises markets characterised by integrity, transparency and safety for investors who invest capital and for companies that raise capital – markets on which professional traders buy and sell equities, derivatives and other financial instruments according to clear rules and under strict supervision. Deutsche Börse Group, with its services and systems, ensures the functioning of these markets and a level playing field for all participants – worldwide.

About CDS and TMX Group (TSX:X)

The Canadian Depository for Securities Limited (CDS) is Canada's national securities depository, clearing and settlement hub for domestic and cross-border depository-eligible securities.

TMX Group's key subsidiaries operate cash and derivative markets and clearinghouses for multiple asset classes including equities, fixed income and energy. **Toronto Stock Exchange**, **TSX Venture Exchange**, **TSX Alpha Exchange**, **The Canadian Depository for Securities**, **Montréal Exchange**, **Canadian Derivatives Clearing Corporation**, **NGX**, **Shorcan**, **Shorcan Energy Brokers**, **AgriClear** and other TMX Group companies provide listing markets, trading markets, clearing facilities, depository services, data products and other services to the global financial community. TMX Group is headquartered in Toronto and operates offices across Canada (Montréal, Calgary and Vancouver), in key U.S. markets (New York, Houston) as well as in London, Beijing and Singapore. For more information about TMX Group, visit our website at **http://www.tmx.com**. Follow TMX Group on Twitter: **@TMXGroup**.

About Strate

As South Africa's Central Securities Depository (CSD), Strate is licensed to be the independent provider of post-trade products and services for the financial markets. Strate is internationally recognised as a Financial Market Infrastructure (FMI) that is trusted to use its state-of-the-art technology, international expertise and sound risk management framework to support and promote the safety and efficiency of the financial markets.

Strate provides electronic settlement for securities - including equity, bond and derivative products (such as warrants, Exchange Traded Funds (ETFs), retail notes and tracker funds) for Africa's largest stock exchange, the JSE, as well as money market securities for the South African market and equity instruments for the Namibian Stock Exchange. It has collateral management and a corporate actions product range available within its portfolio of value-added services and Strate provides services to issuers for their investors in terms of the Companies Act (2008) and the Financial Markets Act (FMA) (2012).

www.strate.co.za

About VPS

Verdipapirsentralen ASA (VPS) was incorporated in 1985 in connection with the introduction of electronic securities registration to replace physical securities in Norway. VPS is part of the Oslo Børs VPS group.

VPS is the only central securities depository in Norway, and provides an efficient infrastructure and services for the settlement of transactions in securities and the registration of ownership rights over securities. The company offers registration for all the major types of financial instruments that are traded in Norway, namely shares, bonds, equity certificates, short-term bonds and funds. VPS offers a range of products that is extensive even by international comparison.

VPS delivers its services for investors and issuers through a network of investment firms, banks and fund management companies. These entities, acting as account operators, are responsible for customer relationships with investors and issuers, and manage day-to-day access to VPS services.

Further information: **www.vps.no**