Digital transformation and distributed networks @ Deutsche Börse

Annual AECSD Training Seminar

23 June 2021
Distributed-Ledger technology (DLT) offers strong benefits for financial markets: data consistency, audit trail and smart objects

- DLT networks generate high efficiencies where multiple parties having low level of trust, transact with each other and where same transaction data is stored across separate (legacy) systems/databases.

Due to these strong benefits, financial markets are moving towards decentralised network infrastructure, redefining the role of FMIs.
Digital financial market infrastructure D7 to cater for a broad variety of use cases

Core beliefs
- Digital and faster
- Highly automated and cost efficient
- Modular and flexible
- Integrated/ accessible/ open for variety of connectivity formats
- Open for other platforms, networks and partners

Core competencies of Deutsche Börse
- Organization of markets
- Standardization
- Running of business networks
- Running of legal frameworks
- Ensuring interoperability of networks

Technology:
- Infrastructure (on premise, cloud - multi provider)
- Platform operation (environments, deployment, escalation management, BCP, back-up, etc.)
- Development (DLT protocols, programming languages, …)

Shared support services:
- Notary, digital identity, oracle
- Smart contract libraries
- Cross DLT transaction manager
- …

Shared business services:
- Digital custody
- Payment
- Smart financial product
- …

Offered under one D7 Rulebook as umbrella for all Use Cases (Trusted Third Party)
HQLAx: accelerating collateral mobility

Operating Model

- Trade execution
- Record of ownership of baskets of securities
- Holds baskets of securities at triparty agents and custodians on behalf of participants
- Triparty agents and custodians

HQLAx Secures EUR 14.4m Series B Funding from BNY Mellon, Goldman Sachs, BNP Paribas Securities Services, Citigroup and Existing Shareholder Deutsche Börse

JANUARY 11, 2021
FundsDLT: the digital fund market place

Through its partnership with FundsDLT, Clearstream brings a plug-&-play digital experience to its institutional clients and their customer base by streamlining end-to-end investment funds processing, complementing our Execution, Distribution and Data offering.
Retail Structured Products: our proposal for a digital post-trade platform bringing significant efficiencies for market participants

D7 high-level architecture model based on Retail Structured Products use case:

- **Scope:** Digital Securities, Digital Assets, Stable Coins, Crypto Currencies
- **Coverage:** Entire value chain of issuance, custody, settlement/payment, asset servicing
- **Jurisdiction:** Regulated in DE and Lux
- **Governance:** Joint rulebook
- **Connecting and enabling:** Central and decentral digitization (enterprise DLT solutions, CBDC and Crypto Currencies), legacy infrastructure
- **Serving:** Clearstreams CSDs, ICSDs as well as shared infrastructure for custodians, business networks etc.

...reusable for other (digital) asset classes
Blockbaster IV project proved the issuance and DvP settlement of an electronic security on DLT

- Joint project of Deutsche Börse, Deutsche Bundesbank, German Finance Agency joined by 6 banks*
- Issuance of a public bond as 'e-security' on a DLT
- Settlement of primary and secondary market transactions on DLT
- Cash side settled in central bank money (TARGET2) via a so-called 'trigger solution'
- Technical proof of concept; the concluded trades were not legally binding

* Barclays, Citibank, Commerzbank, DZ Bank, Goldman Sachs, Société Générale
Further information on Deutsche Börse DLT activities

Joint projects with Commerzbank and MEAG
Deutsche Börse Group - Commerzbank, Deutsche Börse and MEAG to reach further step in post-trade services using distributed ledger technology (deutsche-boerse.com)
Deutsche Börse Group - Commerzbank and Deutsche Börse execute legally binding securities settlement using distributed ledger technology (deutsche-boerse.com)

Collaboration in Switzerland
Deutsche Börse Group - Deutsche Börse, Swisscom and partners successfully settle securities transactions via tokens in Switzerland (deutsche-boerse.com)

Collaboration with Bundesbank („Blockbaster“)
Deutsche Börse Group - DLT-based securities settlement in central bank money successfully tested (deutsche-boerse.com)
Deutsche Börse Group - Deutsche Bundesbank and Deutsche Börse publish concept study on DLT-based collateral management (deutsche-boerse.com)
Deutsche Börse Group - Deutsche Bundesbank and Deutsche Börse successfully complete tests for blockchain prototypes (deutsche-boerse.com)

HQLAx
Deutsche Börse Group - HQLAx Secures EUR 14.4m Series B Funding from BNY Mellon, Goldman Sachs, BNP Paribas Securities Services, Citigroup and Existing Shareholder Deutsche Börse (deutsche-boerse.com)
Deutsche Börse Group - Commerzbank, Credit Suisse and UBS execute first live transactions on the Deutsche Börse-HQLAx securities lending platform (deutsche-boerse.com)

FundsDLT
Zürcher Kantonalbank, Clearstream and FundsDLT process blockchain-based fund transactions
Thomas Wissbach

Senior Vice President
New Digital Markets

thomas.wissbach@deutsche-boerse.com

+49 172 6199850
All intellectual property, proprietary and other rights and interests in this publication and the subject matter hereof are owned by DBAG or its affiliates and subsidiaries or used under authorization by their respective owners, including, without limitation, all patent, registered design, copyright, trademark and service mark rights. While reasonable care has been taken in the preparation of this publication to provide details that are accurate and not misleading at the time of publication Deutsche Börse AG and its respective subsidiaries, servants and agents (a) do not make any representations or warranties regarding the information contained herein, whether express or implied, including without limitation any implied warranty of merchantability or fitness for a particular purpose or any warranty with respect to the accuracy, correctness, quality, completeness or timeliness of such information, and (b) shall not be responsible or liable for any third party's use of any information contained herein under any circumstances, including, without limitation, in connection with actual trading or otherwise or for any errors or omissions contained in this publication.

This publication is published for information purposes only and shall not constitute investment advice respectively does not constitute an offer, solicitation or recommendation to acquire or dispose of any investment or to engage in any other transaction. This publication is not intended for solicitation purposes but only for use as general information. All descriptions, examples and calculations contained in this publication are for illustrative purposes only.

This publication may only be reproduced with prior consent by Deutsche Börse AG.