ID2S

ID2S Platform Blockchain usage

20th November, 2019
ECSDA 2019 Conference

ID2S as an Issuer CSD

- is an **Issuer CSD**, initially designed to service Money Market instruments (commencing with NEU CP)
- is an **authorized Central Securities Depository** in France, licensed under CSDR, and supervised by AMF and BDF
- operates initially in EUR in Central Bank Money, aiming to expand the model to other currencies
- provides **core CSD services**, supporting use of TARGET2-Securities (T2S)
- ID2S will provide **ancillary asset servicing**, initially adapted to NEU CP (coupon payments, redemptions etc.), and Middle Office services to support Trading Venue (NowCP)
- ID2S is set to start full operations as of **November 2019.**

2019

1. Same Day Issuance and Settlement
2. Integrated, standardised flows supporting all actors (Issuer ➔ IPA, Investor ➔ Custodian) in the issuance and distribution process
3. Real-time allocation and distribution of security details (ISIN in < 5 seconds)
4. Settlement in Euro Central Bank Money / TARGET2-Securities (T2S)

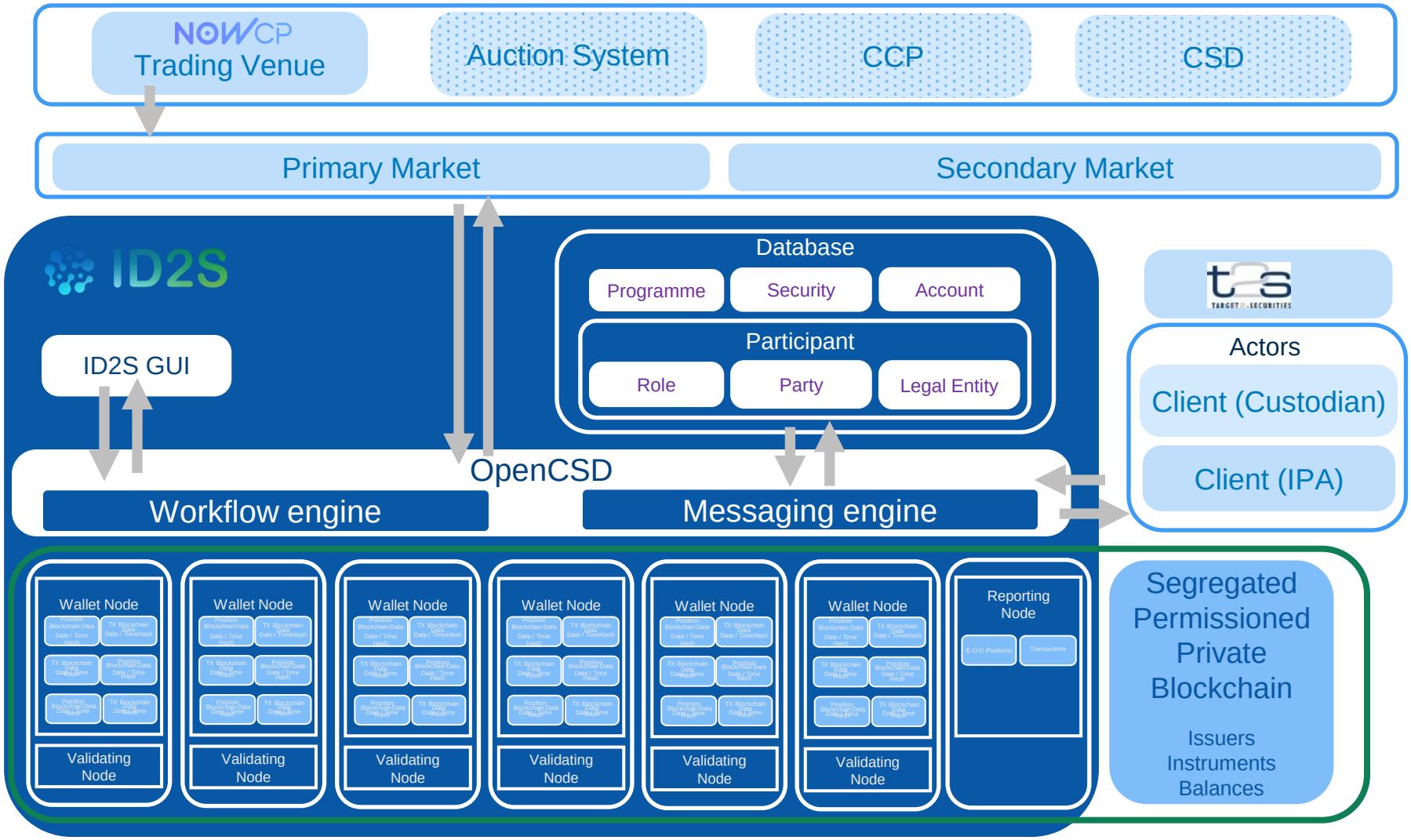
2020

5. Eurosystem eligibilty
6. Interoperability with other T2S CSDs (supporting wider distribution, access to other Issuer CSD, …)

Technology platform must :

- ✓ operate in highly regulated environment
- ✓ support secure, high performance environment
- ✓ support existing FMI standards (market, messaging, …)
- ✓ allow for (relative) ease of adoption by clients
- ✓ support evolutionary path for future products & services

Technical overview – leveraging blockchain Phase 1



Blockchain Phase 1- Operating Considerations

Why Blockchain ? ID2S platform has been designed to inter-operate with existing market infrastructure standards (such as T2S, SWIFT, …) and actors**,** leveraging blockchain to **support rapid development of a secure, auditable platform for data sharing and asset transfer**. ID2S approach is evolutionary, building on core blockchain.

Key Blockchain properties are built around :

- ✓ **Integrity.** Data is replicated across Nodes using cryptographic hashing
- ✓ **Consensus.** Validation of state changes based on each Validating Node participating in consensus process
- ✓ **Resilience.** Each node of the blockchain maintains a full copy of the blockchain ledger
- ✓ **Security**. All data recorded on the ID2S blockchain is encrypted using recognised and trusted techniques, standards and protocols. The entire system is fully permissioned meaning that only known, identified and permitted participants can interact with ID2S

Operating Considerations. Blockchain has been designed to operate 24 x 7, but will always defer to T2S as 'source of truth'. End-of-Day process required to affirm positions and transactions. Development of Reporting Node to improve performance on calculation of E-O-D positions and Transactions.

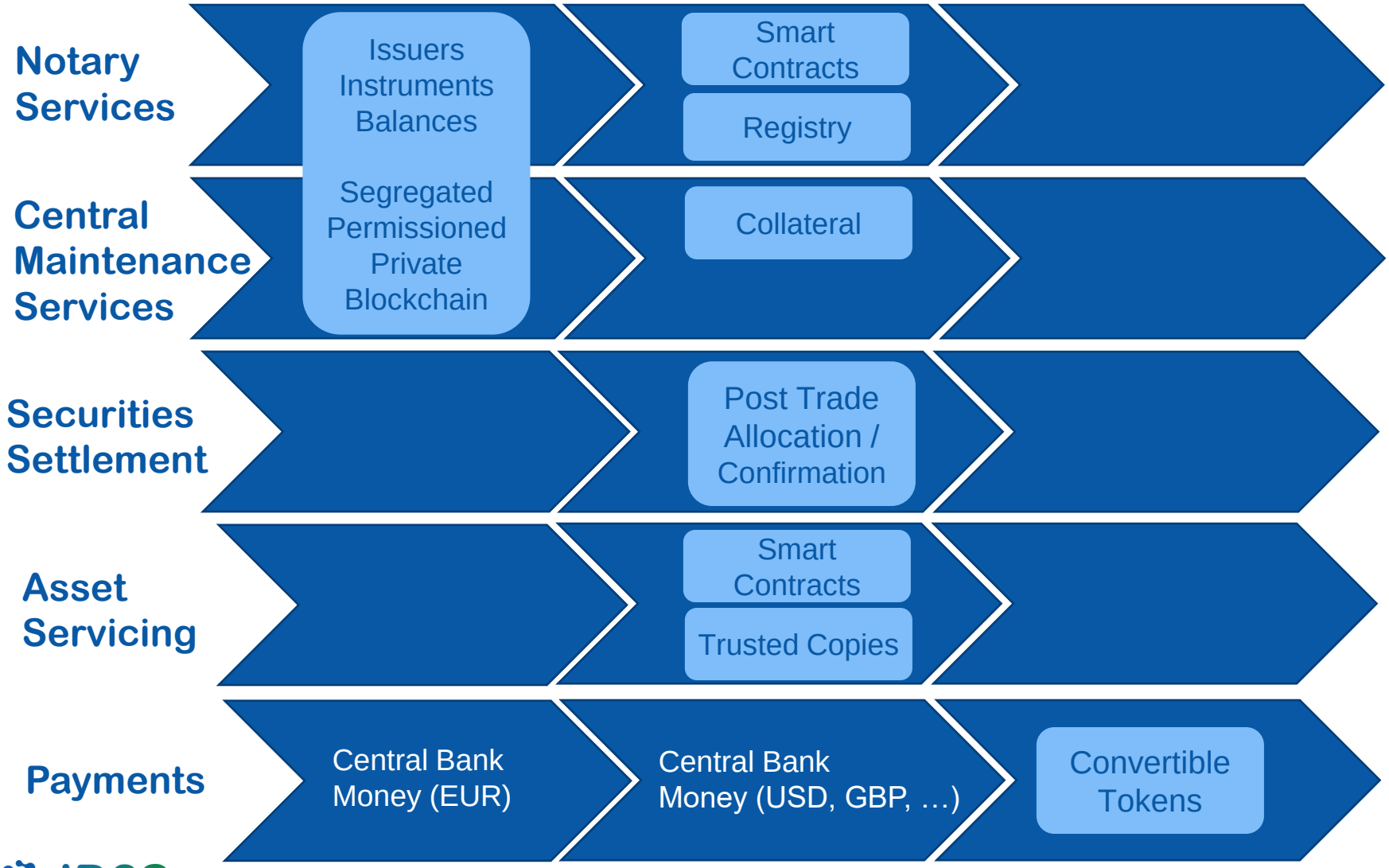
Success factors – pre-conditions for future development

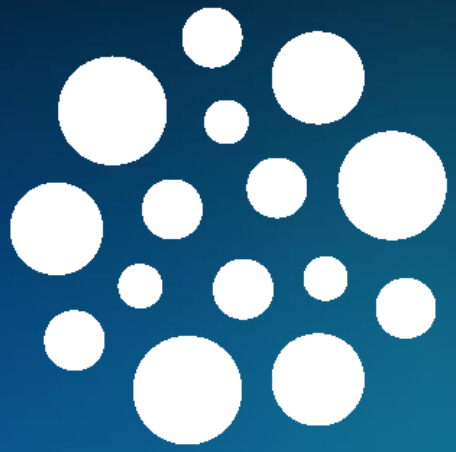
Evolutionary approach, gradually differentiating from existing CSDs / iCSDs.

Development of ID2S OpenCSD and wider usage of blockchain must ensure compliance with design principles:

- **interoperability** with legacy systems and the **scalability** of transaction processing*f*
- **re-use of established business definitions** to facilitate interoperability amongst blockchain implementations
- **transaction finality** to be defined in compliance with existing regulations and laws
- **regulatory and legal frameworks** will need to aligned*f*
- as far as can be achieved, **adoption of Open Source code** to enable wider integration across platforms allowing widespread usage of blockchain technology, or at a minimum, **standardized procedures** for established products deployed as certified code libraries
- **security and privacy of data** stored on public blockchains and permissioned ledgers
- strong governance that **protects the interests of lawful participants**
- strong governance that comprehensively **assesses all types of risk** including transaction risk, concentration risk, credit and insolvency risk, business and operational risk, cyber risk and regulatory / compliance risk.

Possible evolution paths of blockchain functionality





Thank you