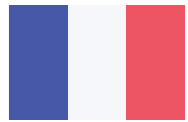# SWISS DLT BILL

Mapping legislation and technology with Hyperledger Fabric

2021, Igor Ioshpa

The adoption of DLT

France 2018

Decree No. 2018-1226, allowing for DLT representation and transfer of ownership of financial securities.

Germany 2019

Blockchain Strategy and Key-issues paper on the regulatory treatment of electronic securities and crypto tokens

Italy 2019

Law No. 12/2019 with Decree Law No. 135 defined DLT and smart contracts

United Kingdom 2019

Legal statement on cryptoassets and smart contracts by UK Jurisdiction Taskforce

EU DLT Pilot Regime 2020

EUR-Lex - 52020PC0594 - EN - EUR-Lex (europa.eu)
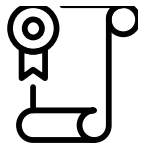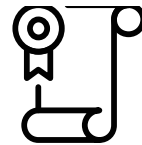Proposal / pilot

Switzerland 2021

Swiss Federal Act on the Adaptation of Federal Law to Developments in Distributed Ledger Technology (DLT bill)
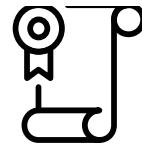
Swiss DLT bill

Not just a set of definitions — the entire country's legislation is adapted
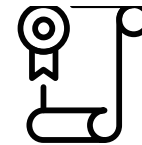
Code of Obligations
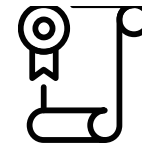
Debt Enforcement and Bankruptcy laws

Financial services and banking regulations

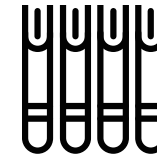Anti-money laundering law

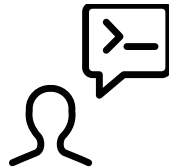Financial market regulations

Mapping technology to legislation

Certification materials, infodecks and reports for regulatory authorities

Constant monitoring of legislation changes

Common framework documentation is developer-centric

R&D have to understand the legal language

Framework compliance and infodeck templates

Certifying the framework

Standardized infodeck templates

	Payment tokens	Tokens which are intended to be used, now or in the future, as a means of payment for acquiring goods or services or as a means of money or value transfer
	Utility tokens	These tokens intended to provide access digitally to an application or service by means of a blockchain-based infrastructure
	Asset tokens	Asset tokens represent assets, such as a debt or equity claim on the issuer, therefore, these tokens are analogous to equities, bonds or derivatives

Decentralization: Validation

"Its integrity is secured through adequate technical and organizational measures, such as joint management by several independent participants, to protect it from unauthorized modification."

Swiss DLT bill

- Transaction validation, block creation and ledger bookkeeping are separated into different types of nodes

- Nodes of each type may be operated by independent entities

- The ledger (including smart contracts) is stored independently by multiple validators

- The ledger snapshot can be compared with other nodes to verify the consistency and integrity
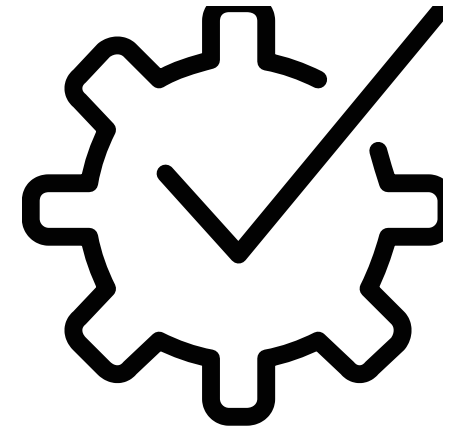
Smart contracts

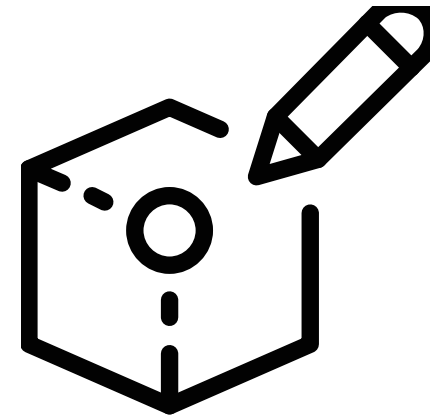*"The content of the rights, the functioning of the ledger and the registration agreement are recorded in the ledger or in linked accompanying data."*

Swiss DLT bill

Smart contracts are natively built into the ledger in form of chaincode

Due diligence & AML

"The financial intermediary must identify the beneficial owner with the due diligence required in the circumstances."

🇨🇭 *Federal Act on Combating Money Laundering and Terrorist Financing*

- User identification and permissions are HLF foundational elements
- The client's identity is included in a transaction and written to the ledger

Transparency

"Creditors can view relevant information and ledger entries, and check the integrity of the ledger contents relating to themselves without intervention by a third party."

Swiss DLT bill

- Every participant can personally monitor the ledger contents and integrity without participating in endorsement process

- Ledger snapshots as additional means of checking integrity of the entire validators' network

- Data privacy is ensured by cryptographical means

- The code of smart contracts is written with general-purpose programming languages
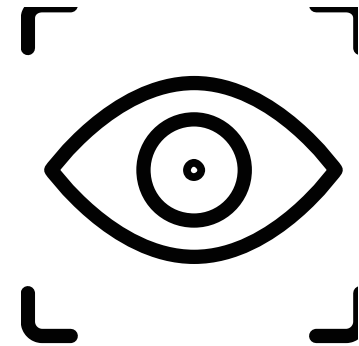
Decentralization: Consensus

"Its integrity is secured through adequate technical and organizational measures, such as joint management by several independent participants, to protect it from unauthorized modification."

"It uses technological processes to give the creditors, but not the obligor, power of disposal over their rights"

Swiss DLT bill

- Not possible to push unauthorized transactions

- Sufficient number of participants is required to update chaincode

What if we want to build a public permissioned blockchain?

BFT-Smart is the proposed ordering service consensus for Hyperledger Fabric

Byzantine fault-tolerant (BFT) ordering service for Hyperledger Fabric proposal

⚠ DLT operator / issuer relationship

"The obligor must ensure that the securities ledger is organized in accordance with its intended purpose. In particular, it must be ensured that the ledger operates in accordance with the registration agreement at all times."

"The obligor under a ledger-based security or a right that is offered as such must inform each acquirer of ... the mode of operation of the securities ledger and the measures taken in accordance with Article 973d paragraphs 2 and 3 to protect the operation and integrity of the ledger.

The obligor is liable for damage to the acquirer arising out of information that is inaccurate, misleading or in breach of statutory requirements"

Swiss DLT bill

- Responsibilities of the issuer
- No clear distinction between platform operator and issuer

⚠ DLT trading facility license

"A DLT trading facility is a commercially operated institution for multilateral trading of DLT securities whose purpose is the simultaneous exchange of bids between several participants and the conclusion of contracts based on nondiscretionary rules"

🇨🇭 *Swiss DLT bill*

- MTF (multilateral trading facility) — suitable for regulated institutions, private persons not allowed

- OTF (organized trading facility) — suitable for banks or securities dealers and may admit private clients

⚠ DLT and real world

"When a bona fide acquirer of a certificated security and a bona fide acquirer of the ledger-based security have a conflicting claim to the same right, the former takes precedence over the latter."

🇨🇭 *Swiss DLT bill*

- Trust needs to be built
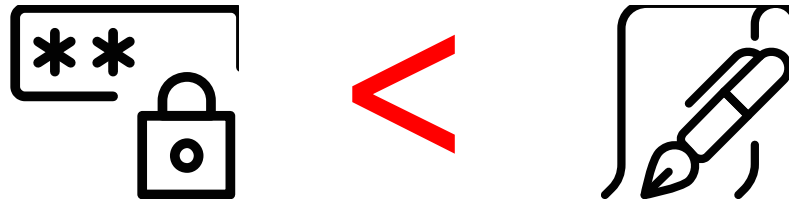
⚠ Wallet recovery

"The beneficiary of a ledger-based security may demand that the court cancel the security, provided that he or she furnishes credible evidence of his or her original power of disposal and of the loss thereof. Following cancellation of the instrument, the beneficiary may also exercise his or her right outside the ledger or, at his or her own expense, demand that the obligor allocate a new ledger-based security."

"The functioning of the ledger and the registration agreement are recorded in the ledger or in linked accompanying data"

🇨🇭 *Swiss DLT bill*

- Keep calm and don't panic — key loss is not the end

- Benefits of a permissioned system

Open points