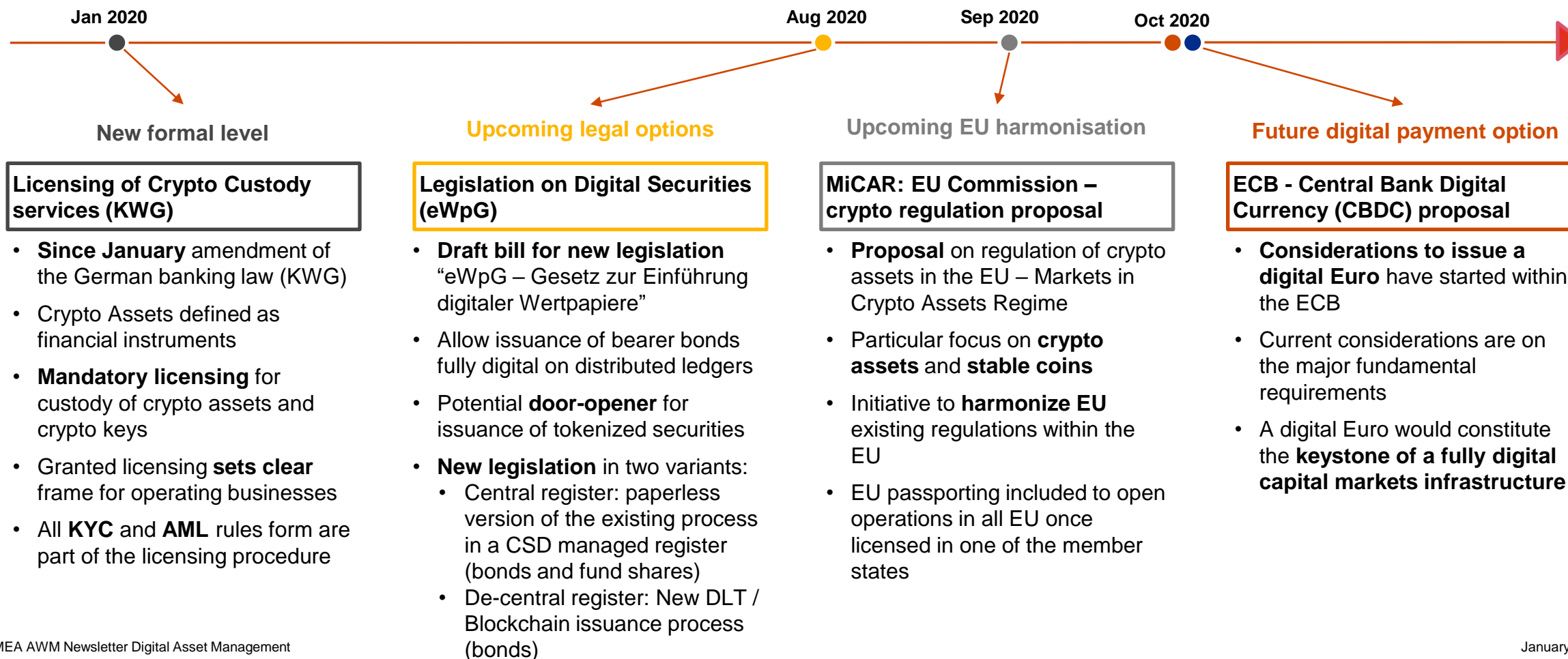


Digital Asset & Wealth Management

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There is significant evolution in the crypto landscape – market players must take this into account when shaping their strategy



Impact on Asset Managers comes on three dimensions: Investment, Distribution and Administration

Crypto Asset Investment

- **Crypto Assets** can be custodied under **BaFin license** and with **KWG compliance** since Jan 2020
- This might ignite the availability of a **new asset class** for both, retail and institutional investors
- Asset Managers will have to **offer** these new assets **to their clients**
- In particular, this requires corresponding **market information** and **asset valuation capabilities**
- Additionally, the corresponding **operating models** – where much of the technology effort is with the custodian in this case – need to be established

Crypto Token based Fund Share Distribution

- While the current legislation for **electronic securities** (eWpG) on the **Blockchain** in Germany is restricted to bearer bonds, expectations are high that **fund shares will follow very soon***
- As soon as this extension is set in place, **fund shares** can be distributed as **tokens**, allowing to profit from the advantages in both, fund **share issuance and trading**
- Fund shares issued as tokens will allow to **address new clients** and might further **open up markets** for international fund distribution
- Asset Managers should take this into account in their fund distribution strategy

DLT/Crypto based Fund Administration

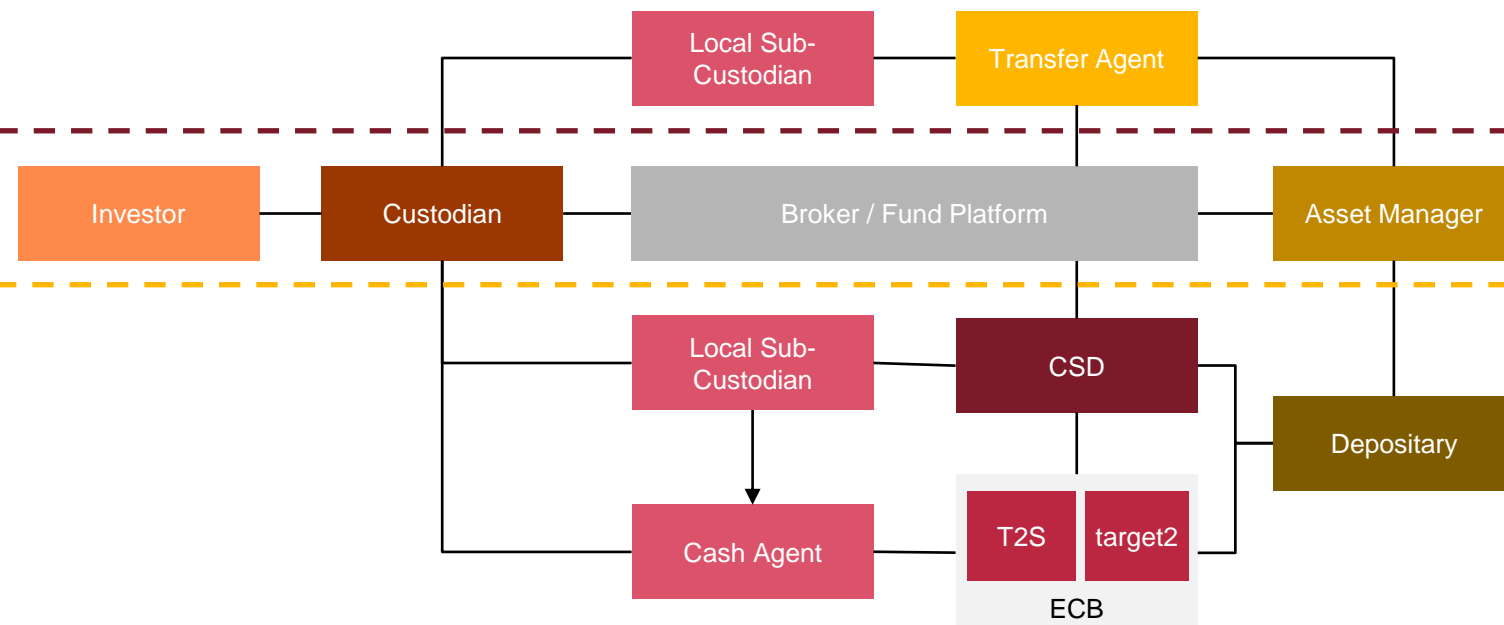
- Placing fund administration on DLT / Blockchain based technology might reveal **further optimization potential** and **efficiency gains**
- If the assets contained in the fund are kept in a DLT/Blockchain environment, this immediately brings **significant reduction of reconciliation efforts** due to inherent properties of the Blockchain where every node has an identical copy of the complete history
- This topic is however still **very far in the future** and **many open questions** must be solved before starting to construct corresponding legal foundations

Fund share distribution today involves many parties along the value chain – very similar to classical securities trading

1. Already the standard case involves a number of service providers besides the investor
2. Duration from conclusion of the trade until final settlement with the parties is 2 days (“T+2”)
3. In Transfer Agent (TA) markets, TA receive fund orders and process these with the asset manager
4. Duration from order matching to delivery varies – in off-shore markets, the period can be long
5. In both variants, workflow is distributed and all involved parties impose fees for their services

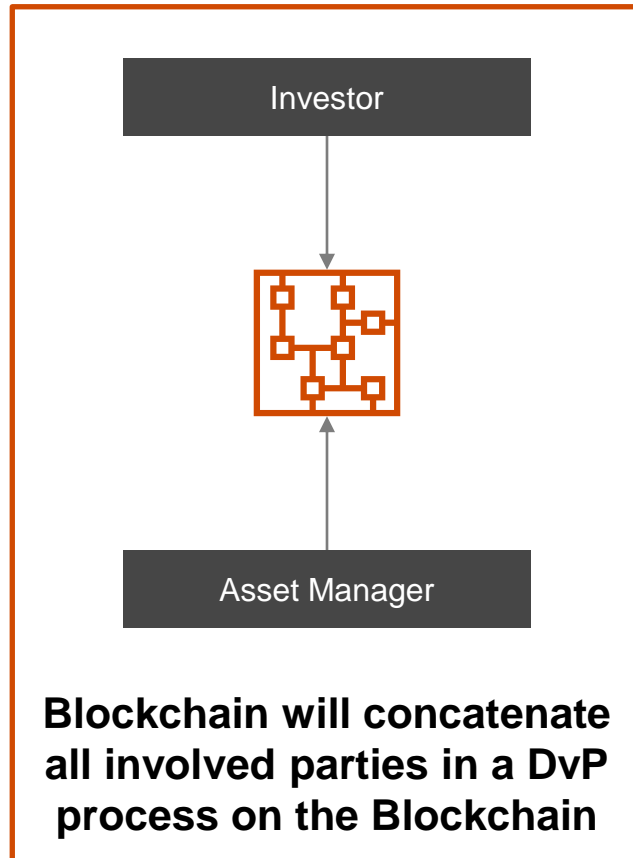


TA-based markets



CSD-based markets

For many, the digitized land of plenty looks as follows:



But:

1. This sketch covers the pure delivery process only
2. It neglects a number of major needs that the market players have in this context:
 - Fund share register management and client notifications/reporting
 - Provision of liquidity, credits, ...
 - Client identification and KYC/AML compliance
 - Settlement facilitation (securities borrowing & lending, ...)
 - Market data, research
 - Tax services
 - ...

Many of these services will not become obsolete just because of Blockchain!

Establishing fund share trading in a DvP process on the Blockchain will make a few process elements obsolete ...

1

From the pure perspective of fund shares' trading, **neither the TA nor the CSD is needed any longer** in order to execute the process between buyer and seller. Tokenized fund shares – as soon as allowed by legislation – can be directly issued on a Blockchain, using well established mechanisms of token trading as known from many other use cases

2

Assuming that the process will take place on a private Blockchain (or in a context where KYC is ensured), then the node id's of all parties active in the process will be automatically stored as a part of the Block registration, **making separate registration obsolete.**

3

Blockchain does not have any position keeping. Rather, there is the **storage of the complete transaction history** of any token back to its first creation. Positions must always be calculated based on the transaction history. Service providers (as e.g. wallet providers) may (and do) of course perform these calculations regularly and offer position reporting services thereupon. This is however not comparable to the legal status of the positions kept and reported from classical TA or from CSD custody statements.

4 ...



... while others will still be needed also in Blockchain world

Liquidity

- Unless the current way of securities trading will be completely turned upside down, liquidity will remain a scarce good
- Liquidity provision services will thus remain a major requirement

Collateral

- Provision of liquidity comes along with the need to provide valuable high quality collateral
- Collateral providers and collateral management services will therefore continue to play an important role in the capital markets processes

Tax Services

- Tax regulation is agnostic towards the underlying technology
- Tax obligations will therefore not substantially change in the Blockchain world
- As today, many market participants will rely on third party tax service providers, in particular for trading activities outside their home country

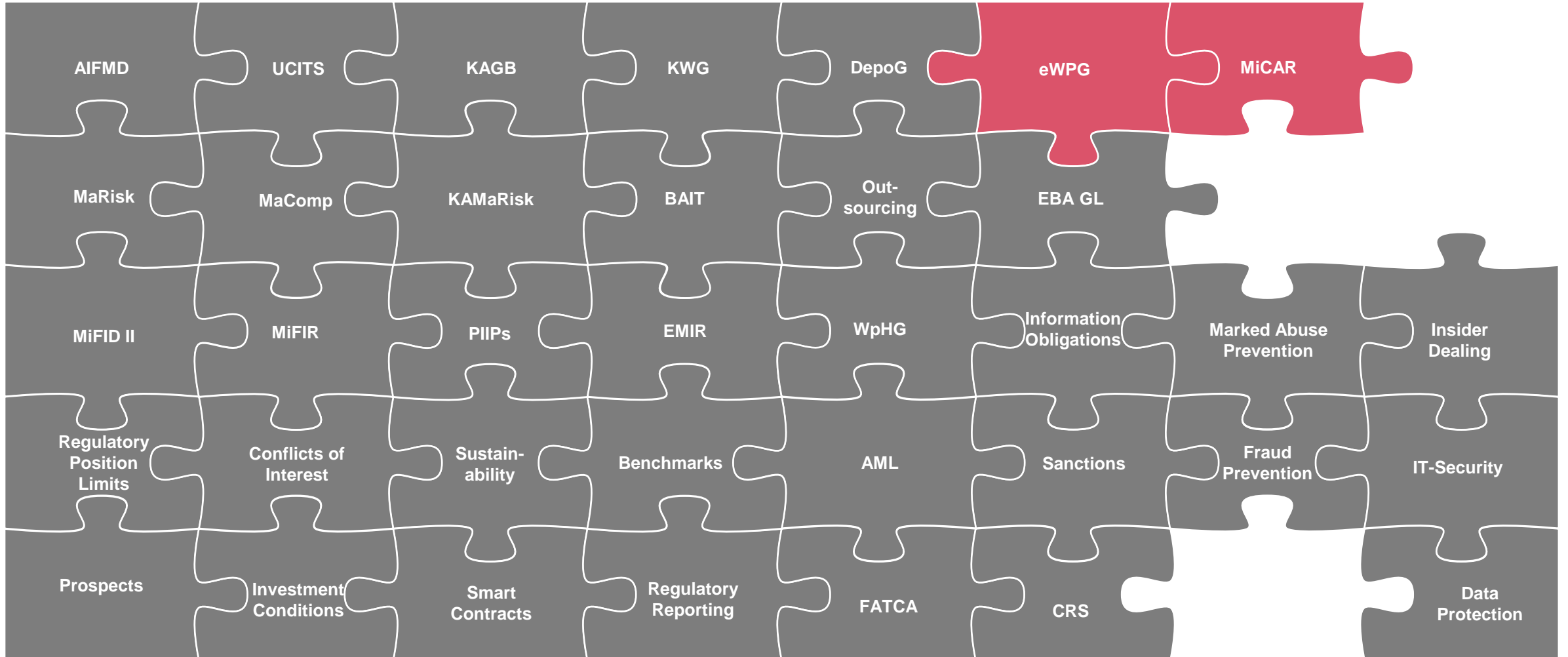
Local Custody

- Local custody services are widespread for players acting outside their home territory
- Apart from specialization resulting in improved efficiency, in some markets hurdles are very high for getting access to the local CSD
- Relevance of local custody services will strongly depend on how Blockchain based securities trading is implemented across different jurisdictions

CA processing

- Finally, CA processing already today is one of the most complex and error-prone parts of the overall capital markets value chain
- Depending on how securities trading will be implemented, CA services are thus most likely to be still needed
- Intelligent and consistent implementation of smart contracts within the CA process could relieve this burden considerably, however

... and compliance topics will also have to be covered in a DLT/Blockchain environment ...



... do you have the licenses and efficient compliance procedures for your new role?



Do you hold the right BaFin licenses?

- If parties within the ecosystem restructure their value proposition, they will have to assure that they hold the proper BaFin licenses to do so
- The license requirement for certain services might make it still reasonable to buy services from third parties, especially considering the related organizational and operational requirements
- Licenses are typically held for the formal administration of the funds, the portfolio management, the custodian services, any intermediary / brokerage services
- New BaFin licenses as crypto custodian or registrar for crypto assets under the upcoming regulations for electronic securities might be required
- BaFin remains 'technical neutral'. Hence, the regulatory requirements will remain if current organization and operative structures are shifted to less parties due to DLT / Blockchain solutions



Do you have efficient compliance procedures?

- Parties that might appear obsolete in a DLT / Blockchain set-up might provide additional compliance services; such auxiliary service might become their new core services
- The regulatory compliance requirements will remain in a DLT / Blockchain infrastructure
- The remaining parties have to consider if it makes sense to handle the compliance issues on their own or if third parties might be a more efficient source
- Next to transparency obligations and information security (e.g. smart contract hacking), AML / KYC compliance forms a major part of such compliance services

Regulatory compliance will remain an important issue with DLT / Blockchain asset management. It can be expected that the regulator will make checks and balances part of the future regulation of crypto fund shares.

Providers of Crypto Assets Services are confronted against a catalogue of AML requirements by the GwG* (excerpt)

1

Risk Management

- Effective risk management that is appropriate and effective to the nature and scope of the business
- A member of the management level is responsible for the risk management and for the compliance according to the German Money Laundering Act
- To mitigate possible risks in smart contracts a security by design on additional perimeters like oracle links need to be implemented. In addition a formal verification shall be made on the contract code.

2

Risk Analysis

- Identify and assess the risks of money laundering and terrorism financing regarding transactions
- The risk analysis must be documented and must be regularly reviewed and updated as necessary
- The current version of the risk analysis shall be at disposal to the supervisory authority on request
- Risk criteria need to be updated permanently to align on the dynamic nature of the crypto market and still maturing regulations. FATF has defined a set of red flag indicators for crypto assets.

3

Safeguards

- Establish adequate business and customer-related internal safeguards to manage and mitigate the risks of money laundering and terrorism financing through policies, procedures and controls
- Measures are adequate if they correspond to the risk situation and sufficiently cover it
- The functionality of the internal security measures must be checked regularly and updated if necessary
- New processes like key ceremony and transfer of private keys to “cold storage” needed to be implemented also additional security mechanisms need to be in place to cover also possible cyber attacks.

4

Customer Due Diligence

- Obligation for identification of contractual partners
- Information on the purpose of the intended type of business relationship must be obtained and evaluated, and the status of Politically Exposed Persons (PEP) must be clarified in addition to other risk-relevant aspects
- The obligations include the implementation of Enhanced Due Diligence (EDD) as well as respective measures
- New market player requires changes on screening and transaction monitoring as well. New data sources like dark net, social networks, scam traces are necessary to fulfil proper due diligence

5

Transaction-Monitoring

- Due to full digital nature of the asset it is possible to trace every transaction back to the genesis block and thus ensure the detection of intersections with crime. On the other side this is also much easier to blur the traces by e.g. swapping the tokens over DeFi. The AML System shall handle also this case.
- There is also a change in the responsibilities. E.g. the crypto asset service provider has to check also the deposit transactions to fulfill
- In this context, customer profiles must be compared with the respective transaction behavior

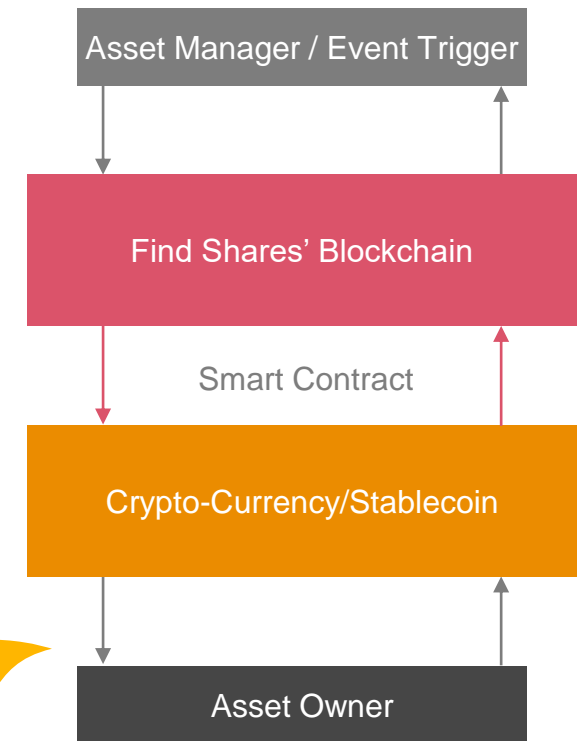
6

Suspicious Activity Reporting

- Suspicious activities must be reported immediately to the Financial Intelligence Unit (FIU), independently of the value of the asset or the amount of the transaction
- The report must be submitted electronically via the platform “goAML”
- The execution of a reported transaction is only allowed if, after 3 working days, no prohibition issued by the FIU or the dept. of public prosecution

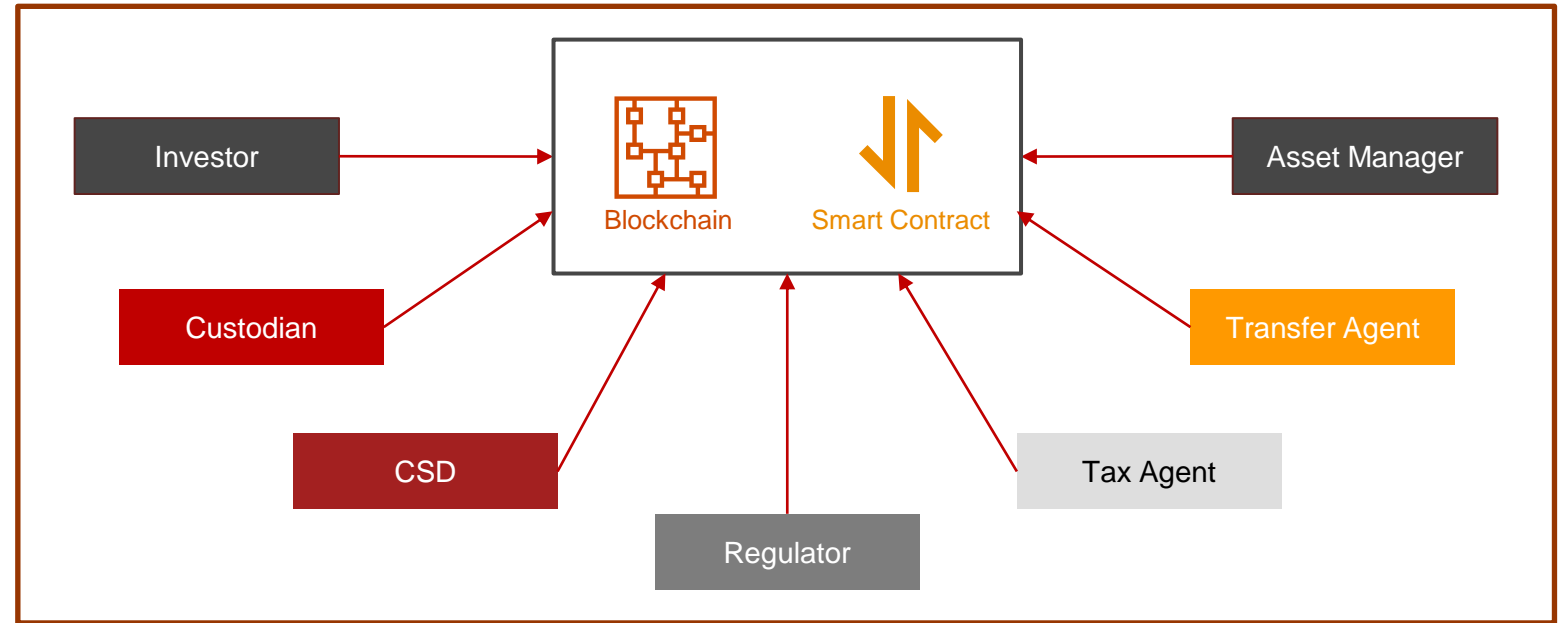
... but, as today, investors will still expect e.g. income or from their tokenized investments or the need to process share splits

1. Today's processing of income and share splits are intrinsically asynchronous: the event is triggered by the asset manager who provides cash on a dedicated account with either the Transfer Agent or via the CSD and the associated Central Bank accounts – cash distribution is then organized by either the TA or by the CSD and the custodians
2. In the crypto-world, there is the chance to technically trigger both, payments and token splits with smart contracts triggered by an external trigger (fired by the issuer/lead manager), which then automatically triggers
 - the distribution of the funds via the associated crypto currency in case of income events
 - the generation of new tokens according to the split conditions and transfers them to the right owners according to their holdings



The Ecosystem will thus be a decisive factor

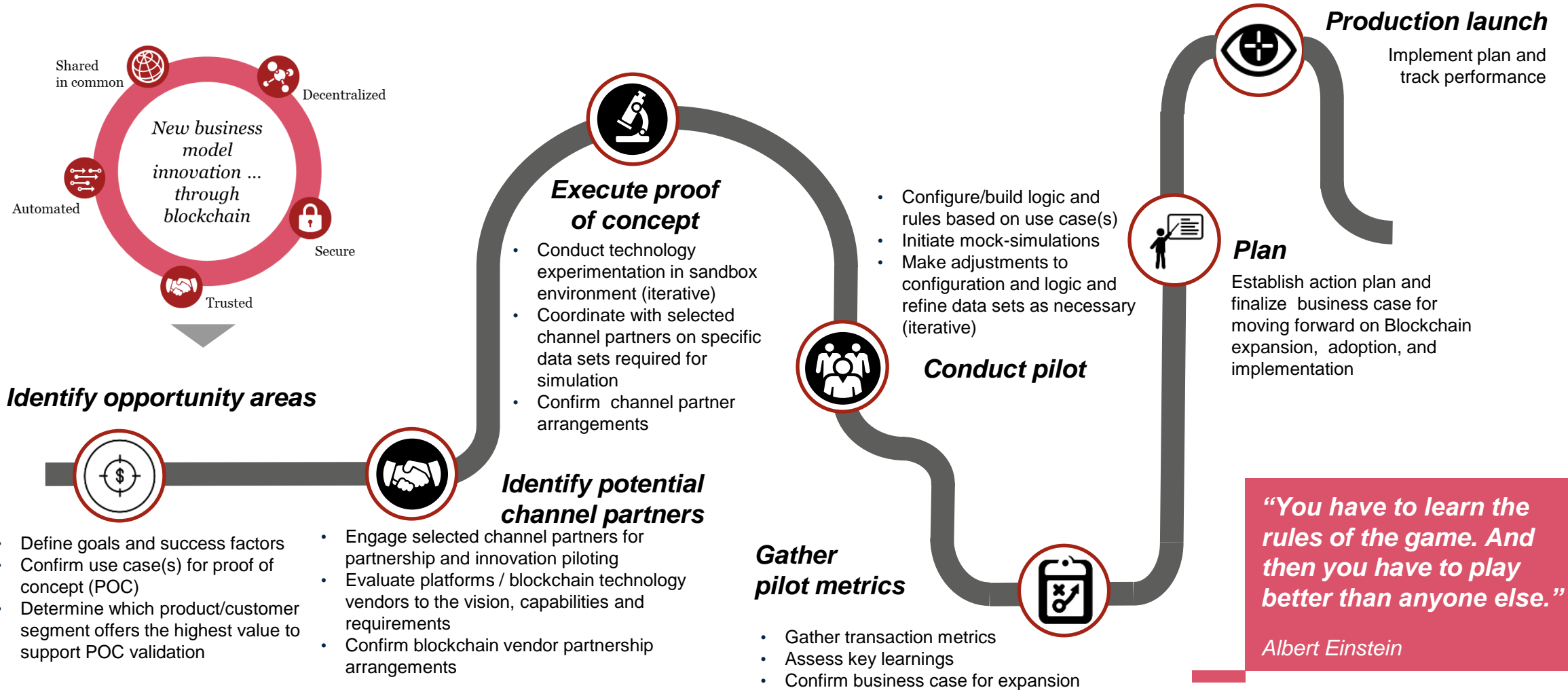
As with most disruptions in the Tech world, the existence of a corresponding ecosystem will make the difference



- The “land of plenty” is not as plentiful as thought in the first view, if not a number of “extras” are provided
- Blockchain based fund distribution in the institutional world will work only, if these services are addressed in the Blockchain world, too
- Today’s use cases often focus on the pure basic transaction

➔ Market players don’t need technology, they need solutions!

So what about my business?



Thank you!

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