Digital Assets, Blockchain & Tokenization – Disruption oder Hype?

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Investmentforum

pwc

Drivers of change in the traditional Banking Industry

Technology	Customer	Market
The emergence of **new, non-traditional competitors** is changing the definition of financial services and applying pressure on traditional banks	Retail customers' willingness to switch relationship banks is growing, partly due to **lack of positive and relationship-building interactions**	Banks are seeing a **rapid decline in the number of branches** making an omni-channel setup essential
Comparability and digitalization have led to significant changes in banks' value chains	Customer centricity is the new guiding star to **strengthen customer loyalty and reach new target groups**	**Margins have been steadily decreasing** and are expected to continue decreasing for the foreseeable future due to rising interest rates, interconnectedness, and market uncertainties

Our PwC Crypto Hedge Fund Report* highlights key themes, mitigation actions and sentiments of the market

Key topics

Crypto hedge funds are demanding reg. requirements of trading venues:

- **Segregation of assets** (75%)
- **Financial audits** (62%)
- **Statement of reserve assets** (60%)

Crypto hedge funds place increased importance on **platform security** when selecting a trading venue (110% YoY increase).

Previously, **liquidity** was the only dominant factor.

Preparation for market dynamics

Increased use of **standard liquidity management tools.**

Improved **counterparty risk management processes**: 53% of crypto hedge funds reported taking action to update their policies.

Increased **sophistication of custody solutions**: use of multiple types of custody. 67% use a third-party custodian.

Increased **use of DEXs**: 44% of crypto hedge funds trade on DEXs (2021: 31%).

Key findings from our survey

The market events of 2022 **slowed institutional adoption** of crypto-assets, with **reputational risk** seen as the greatest barrier to investment.

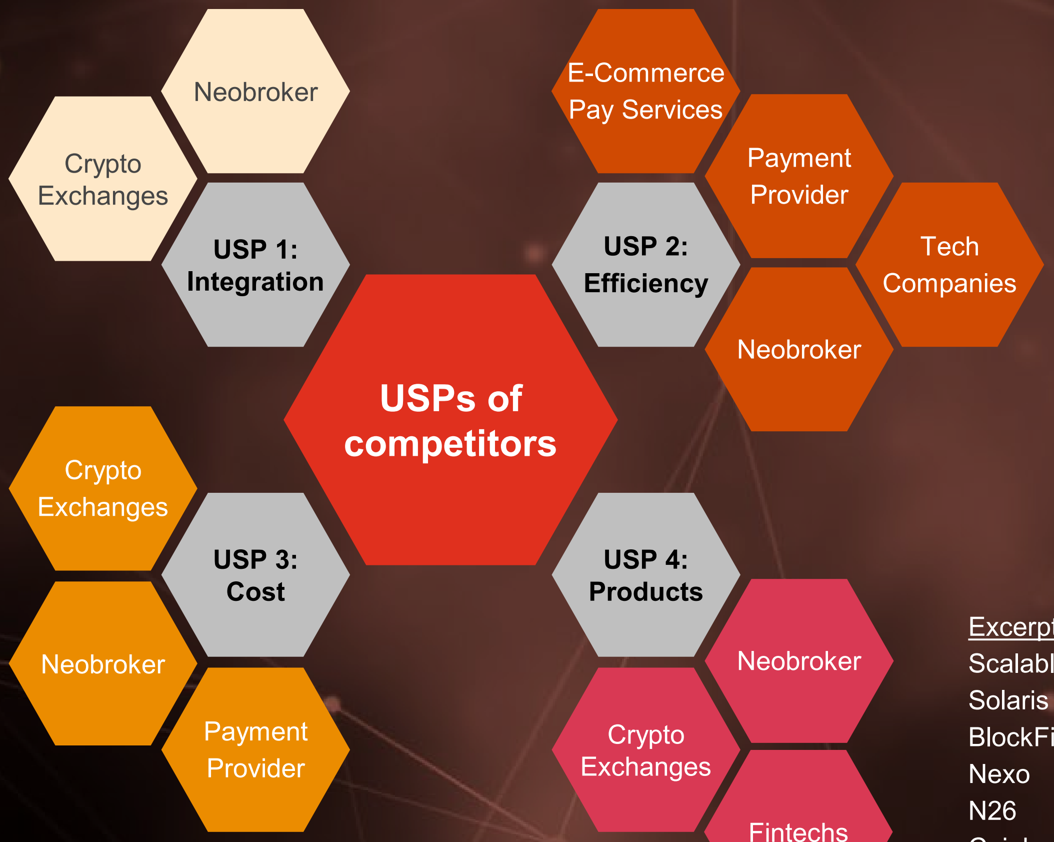
The number of **traditional hedge funds** choosing to invest in crypto-assets has reduced from 37% last year to 29% this year.

Regulatory tightening in the US for crypto-assets has led to traditional hedge funds to state that they may **reconsider the viability of their crypto-assets strategy.**

New competitors exert **pressure** on incumbents

Non-exhaustive list

Excerpt:
NYDIG
Bitpanda
Gemini
coinbase



Excerpt:
Amazon Pay
Klarna
Square
PayPal
Google Pay
Apple Pay
NYDIG
Trade Republic
C24

Excerpt:
Gemini
Kraken
Binance
Trade Republic
Scalable Capital
Bitpay
Ripple
Tether

Excerpt:
Scalable Capital
Solaris Digital Assets
BlockFi
Nexo
N26
Coinbase
BSDEX

Regulatory development provides increasing **legal clarity**

Jan 2009
Initial release of **Bitcoin**

Dec 2011
BaFin qualified **Bitcoins**/crypto currencies **as financial instruments**

Aug 2019
2nd BaFin statement on qualification as **security vs. capital investment**

Sep 2019
Blockchain Strategy of the German Government

Jan 2020
BaFin-license requirement for **crypto custodian service** and crypto asset as new definition of financial instrument under German Banking Act

Sep 2020
MiCAR: EU Commission – crypto regulation proposal

Jun 2021
Electronic Securities Act in force (eWpG). Introduces Electronic and crypto bearer bonds and electronic fund units

Jul 2021
Fund Location Act (FoStoG) in force: Allows investments in crypto assets for special AIF

Sep 2021
Draft regulation on ***Kryptofondsanteile* (KryptoFAV)**: Allows distribution of crypto fund units via crypto register

Oct 2022
- **MiCAR**: Framework **harmonizing issuance and trading** on a pan-EU level
- **eWpRV**: Requirements for electronic securities registers

Apr 2023
European Parliament **approves MiCAR**, paving the way for the 2024 law as supplemented by various RTS and ITS

Aug 2023
Draft of **Financing for the Future Act (ZuFinG)** proposes to enable public funds to invest up to 10% in crypto

Approval of **MiCAR** further provides clarity for the regulatory framework in Europe

Key Next Steps

MiCAR published in the OJ	MiCAR entry into force	Stablecoin date of application	FULL application date of MiCAR
09 June 2023	**30 June 2023**	**30 June 2024**	**30 December 2024**
Publication of MiCAR's final text in the Official Journal marks the conclusion of the legislative process and introduces a new chapter into the EU's Single Rulebook.	The Regulation came into force on the 20th day after its publication in the OJ	The provisions in Titles III and IV regarding ARTs and EMTs will begin to apply already 12 months after entry into force	The remaining provisions of Titles I, II, V, VI and VII will apply 18 months after entry into force as transitional measures end and Member States will have implemented MiCAR in its entirety. Various RTS/ITS to be published by then.

6

MiCAR harmonizes the fragmented digital assets regulation we have today

Regulatory Framework

- **A new chapter in the EU's Single Rulebook:** MiCAR creates a comprehensive regulatory and supervisory framework for previously unregulated crypto-assets.
- **Seen this before:** The regulated activity and services governed by MiCAR are largely similar to those falling under the currently applicable body of EU financial regulation (notably MiFID II as amended by IFR/IFD).
- **Scope**: MiCAR is applicable to crypto-asset service providers (CASPs) and crypto-asset issuers (CAIs) operating in or across the EU.
- **Regulatory arbitrage:** Legal certainty boosts Europe's advantage over restrictive jurisdictions.
- **Balance**: MiCAR aims to strike a fair balance between addressing different levels of risk posed by each type of crypto-asset and the need to foster financial innovation:
    - Technology neutrality
    - Asset class and jurisdiction agnostic
    - Level playing field.

MiCAR also defines the foundation for supervision of crypto issuers & service providers

The Anatomy of MiCAR

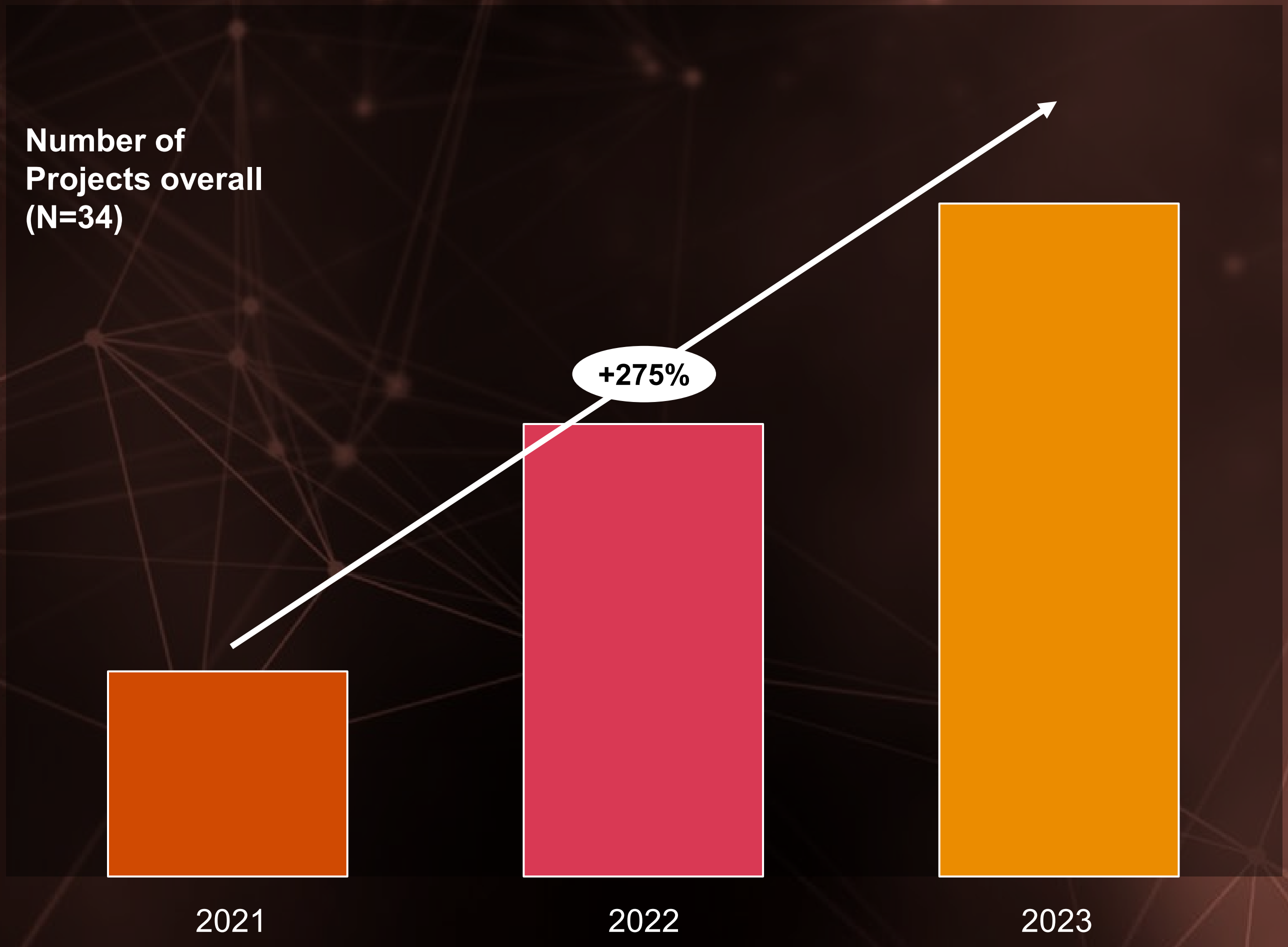
- **Mimicking existing EU financial regulation:** parallels to regulation of ‘traditional’ financial services, i.e.: authorisation requirements, governance and disclosure (ongoing) obligations, crypto-asset white papers and much more…
- **Better toolkit for NCAs:** MiCAR equips national competent authorities with a comprehensive toolkit to address many of the risks related to crypto-assets, issuers and relevant service providers.
- **Quantum leap:** Although a quantum leap in the right direction, MiCAR is not a one-size-fits-all cure to all risks in the crypto-asset marketplace.
- **Dynamic:** As the crypto universe continues to evolve, MiCAR has provided itself and regulators with flexibility such as to respond to ongoing and material developments.
    - ESMA + EBA mandated to issue guidelines on qualification of crypto-asset (likely to relieve future tensions with and between MiFIR/ MiFID II + IFR/FD)
    - MiCAR lends regulators and private market actors clear boundaries while protecting EU market participants in an effort to completing CMU step by step.

MiCAR protects investors and strengthens market integrity

Key Impacts under the MiCAR Regime

- **CASPs:** Firms that qualify as CASPS have thus far been operating in the regulatory void. MiCAR introduces a new authorisation and ongoing operational and compliance frameworks in addition to costs - depending on the type of activity.
    - Greater playing field in the entirety of EU (a single EU crypto-asset market)
    - EU Commission: future benefits outweigh short-term costs
    - ➡ CASPs will have to take certain steps to become aligned with the new regime.
- **CAIs:** Firms that qualify as CAIs are facing rising compliance costs, i.e.;
    - mandatory transparency and disclosure requirements
    - introduction of a crypto-asset white paper.
- **Investors:** Winners! MiCAR introduces a set of increased investor protection rules as well as market integrity provisions which collectively reduce the risks.
    - ➡ Worldwide benchmark crypto-asset marketplace in terms of investor friendliness

Tokenized Assets are entering the market



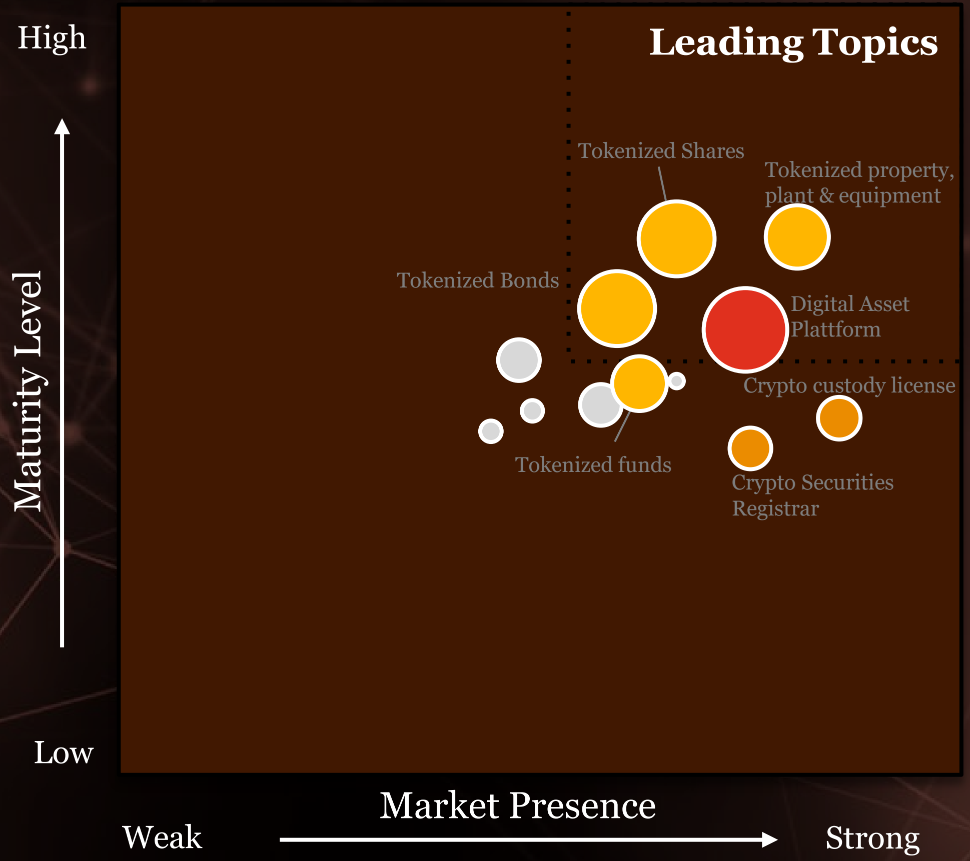
Source: PwC Analysis

Excerpt:

- DekaBank Deutsche Girozentrale
- Deutsche Bank AG
- Hauck Aufhäuser Lampe Privatbank AG
- Siemens AG

The market seems to have found its **Go-to-Solutions**

Early Leaders Emerge in the Race for Tokenized Products



1. **Tokenized Financial Instruments**
2. **Digital Asset Platforms**
3. **Regulatory Functions**

Regulatory Background

Distribution of crypto fund units ("tokens") via crypto register is now possible

Tokenization of Fund Units in Germany:

Bearer bonds, digital stocks and funds shares can be issued without the need of a dedicated deed ('*Urkundenerfordernis*'). The recently amended legislative framework in Germany (eWPG, KryptoFAV) foresees two options for the issuance of digital securities:

Central register (CSD)

- Global certificate ("Globalurkunde") at CSD not required (paperless version of existing process)
- Electronic central register for fund units at CSD is possible

Decentral register (crypto register)[1]

- Without CSD
- Based on a DLT infrastructure
- Crypto register must be maintained by custodian
- Fund shares can be distributed as tokens (possible advantages in issuance and trading)

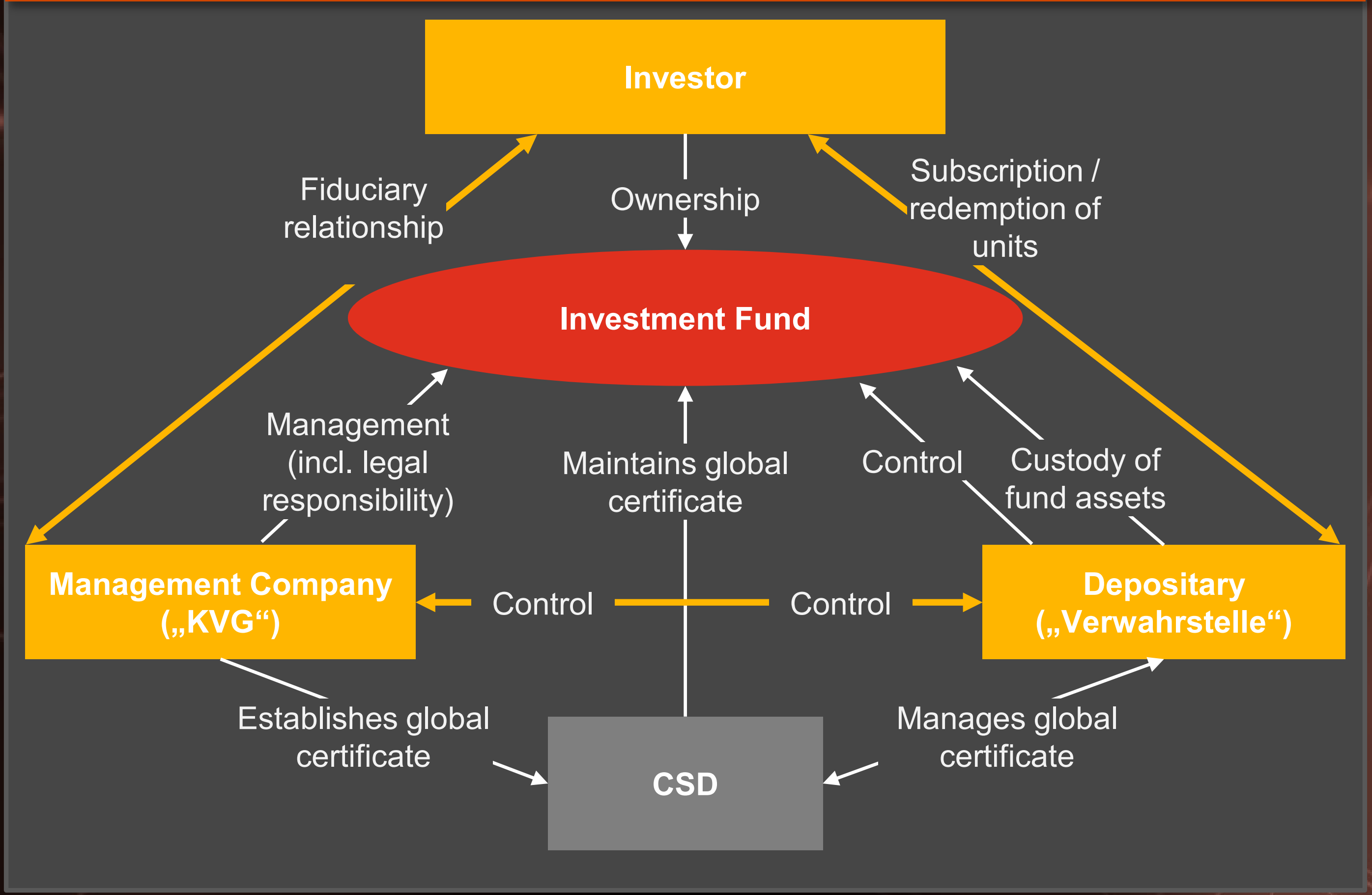
Excursion Luxembourg:

- The legal framework in Luxembourg grants transactions conducted on the blockchain the same legal status as traditional execution.
- Digital fund distribution via tokens on a blockchain is hence possible in principle
- Due to the lack of an overarching regulation a number of practical questions (e.g. role of transfer agents) remains unresolved

[1] Made possible by „Verordnung über Kryptofonds-Anteile (KryptoFAV)", September 2021

Asset Managers can profit from these developments (1)

Today's complexity can be reduced with the tokenization of fund shares



Advantages of tokenized Fund Shares

1. Issuance of **Fund Share Tokens** on an eWPG compliant decentralized **Crypto Register** leads to significant reduction of cost and improves time to market
2. Fund Shares issued as tokens on a Crypto Register (Blockchain) can be directly **traded on the Blockchain** – just as any of those many other tokens already traded today
3. **Smart Contracts** allow for efficient and effective custody events (income payments, splits, etc.)
4. **Unique data repository** will significantly reduce **reconciliation efforts,** in particular with the depositary (Verwahrstelle)

13

Asset Managers can profit from these developments (2)

Fund Setup

- No more need for global certificate; deploy smart contracts instead?
- What type of blockchain is appropriate?
  - ➢ Private: who runs the blockchain? Depositary, ManCo? Need to connect multiple custodians? Privacy concerns (transaction history; GDPR for retail investors)
  - ➢ Interoperability of private/ public blockchains
- General advantage of DLT: one shared truth among parties (DLT is broader than blockchain)

Subscription Processing

- “Unit” could be any number of tokens; even fractionalized tokens/ shares possible
- Fractionalized ownership possible for (il)liquid assets
- Possible reduction of settlement cycle to T+0 (potential “real-time NAV” in far future)
- Limited impact on fund accounting in current scenario
- Balance sheet of funds could evolve → further breakout sessions required for deep dive

Account Opening & Subscription

- Investors will no longer need a custody account for fund units – a ManCo wallet could hold crypto assets and tokens for clients
- Type of blockchain impacts wallet requirements
- What is the onboarding process - and what are the requirements for a ManCo client wallet?
- Privacy concerns regarding observability of transaction history

Settlement

- Different settlement cycle in fiat vs. digital currency (CBDC)
- If subscription happens in smart contract: all steps could be triggered automatically (DvP with CBDC; however could still work with fiat currency)
- Switch between funds could be triggered automatically and avoid conversion risks & currency related fees
- Challenges of a company stablecoin: liquidity, scalability, limited use

Asset Managers' options for a strategic development

Services

- Fund issuance & distribution
- Fund administration and reporting
- Ramp-on / ramp-off on multiple trading venues
- Trading desk
- Dedicated customer service

Fund Manager

- Diversify the portfolio by investing in crypto-assets

1 Service Outsourcing

Go-to-market: short-term

Full outsourcing of the entire service to an external crypto custody provider and white-labeling of an existing solution

User connectivity
Processes & operations
DLT operations

2 Tech Outsourcing

Go-to-market: medium-term

Outsourcing of the technological components provided by an external crypto custody provider. Clients relationship and risks are fully managed by the asset manager.

User connectivity
Processes & operations
DLT operations

3 Internal Solution

Go-to-market: long-term

Internal development for the entire service, including the definition of business model and the development of custody technology.

User connectivity
Processes & operations
DLT operations

The future outlook looks **promising** for tokenization

EUR 918 mln

Projected market volume for security tokens in Europe by 2026*

Global Reach

Tokenization of securities has the potential to provide liquidity and funding to emerging and isolated markets

Market Parity

Security token market volume (50.39%) could reach parity with cryptocurrency market volume (49.61%) in Europe by 2026*

Regulatory Evolution

Digital assets friendly regulation, e.g., through a fast implementation of MiCAR (2024), will fuel regulatory arbitrage and provide innovative markets with a competitive advantage over more restrictive geographies

* Report: Tokenization in Europe – Current state and future outlook, from 2021 to 2026

Thank you

Andreas Traum
Partner
Capital Markets

+49 160 94873173
andreas.traum@pwc.com

Dimitri Gross
Director
Technology Consulting

+49 1516 2674981
dimitri.gross@pwc.com

Dr. Thomas Schönfeld
Director
Asset Management

+49 171 3399739
thomas.schoenfeld@pwc.com

Dr. Michael Huertas
Partner
FS Legal

+49 160 97375760
michael.huertas@pwc.com