

Security Tokenization Potential Outside of Cost: Benefits, Market Development, and Strategic Opportunities

비용 외 증권 토큰화의 미래 가능성: 혜택, 시장 발전 및 전략적 기회

Lee, Hyun Woo

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1 EMBA, Aalto/aSSIST University; hyundarang@gmail.com

* Correspondence hyundarang@gmail.com

Abstract: Background/Purpose: Security tokenization—the creation of security tokens (STs) representing ownership of traditional or alternative financial assets on blockchain infrastructure—has attracted growing institutional attention as a mechanism for enhancing capital market efficiency. While cost reduction through intermediary elimination is widely discussed as the primary benefit, this study investigates the full spectrum of value creation potential from security tokenization beyond cost savings, including fractional ownership democratisation, liquidity enhancement, transparency, smart contract automation, and novel market use cases. **Study Design/Methodology/Approach:** This study employs a structured literature review and ecosystem analysis methodology, synthesising academic research, regulatory frameworks, market data, and industry case studies across key jurisdictions (United States, European Union, Switzerland, Singapore, South Korea) to develop a comprehensive assessment of ST potential, barriers, and strategic opportunities. Market projections, regulatory developments through January 2025, and emerging use cases (tokenised real estate, fractionalized small business ownership) are examined. **Findings:** Security tokens provide five primary value dimensions beyond cost savings: (1) fractional ownership enabling democratised access to high-value assets; (2) enhanced liquidity through 24/7 global trading without intermediary constraints; (3) blockchain-immutable transparency increasing stakeholder trust; (4) smart contract automation reducing human error and administrative burden in compliance and corporate actions; and (5) novel market structures enabling new asset classes (e.g., fractionalized restaurant/bakery ownership). The ST market is projected to grow from USD 2.15 billion (2023) to USD 24 billion (2027), with optimistic scenarios projecting USD 16 trillion by 2030. Regulatory fragmentation across jurisdictions remains the primary barrier to faster adoption. **Originality/Value:** This study provides a comprehensive multi-dimensional analysis of ST value beyond the cost reduction narrative, identifies jurisdiction-specific regulatory positioning, and proposes novel application frameworks—particularly for small business tokenisation as a culturally resonant use case in food culture-driven consumer markets. The study contributes a strategic framework for platform developers, institutional investors, regulators, and corporate issuers seeking to participate in the ST ecosystem.

Keywords: security tokens; blockchain; tokenization; fractional ownership; smart contracts; capital markets; digital assets; DeFi; regulatory framework; financial innovation

1. Introduction

Blockchain technology's maturation has enabled a new class of financial instrument: the security token (ST), a digital representation of ownership rights in a real-world asset—equity, debt, real estate, art, or operating businesses—recorded on a distributed ledger. The transformative potential of STs lies in their capacity to make traditionally illiquid, high-minimum-investment assets accessible to a broader investor base through fractional ownership, while simultaneously improving the efficiency, transparency, and auditability of asset issuance, trading, and custody.

The prevailing narrative around STs focuses on cost reduction: by eliminating or reducing the role of traditional intermediaries (custodians, clearing houses, transfer agents, compliance officers) through blockchain automation, issuers and investors can reduce fees across the value chain. Initial public offering underwriting fees typically consume approximately 7% of capital raised; ST issuance can reduce this substantially. However, this cost-centric framing understates the full value creation potential of the technology. This study examines the comprehensive value proposition of security tokenisation across five dimensions and explores the market structure, regulatory environment, and strategic opportunities that define the ecosystem's trajectory.

2. Technology Foundation

2.1. Blockchain as the Enabling Infrastructure

Security tokens are issued and traded on permissioned or public blockchain networks. The blockchain's immutable distributed ledger ensures that all transactions are verifiable, tamper-proof, and auditable without reliance on centralised record-keeping. Smart contracts—self-executing code deployed on the blockchain—automate compliance verification (KYC/AML checks, investor accreditation), corporate actions (dividend distribution, voting rights management), and transfer restrictions. Cryptographic security (private key ownership, multi-signature authorisation) protects token ownership against unauthorised transfer. The result is a system in which trust is protocol-based rather than institution-based, reducing counterparty risk across the transaction lifecycle.

2.2. Value Dimensions Beyond Cost

Fractional ownership: High-value assets can be divided into large numbers of tokens, each representing a proportional ownership stake. A KRW 100 billion real estate asset divided into 10,000 tokens at KRW 10 million per token becomes accessible to investors who could not otherwise participate. This democratises access to asset classes—commercial real estate, private equity, art, infrastructure—previously available only to institutional or ultra-high-net-worth investors.

Enhanced liquidity: Traditional alternative assets suffer from illiquidity: transaction periods for real estate commonly range from weeks to months, with high transaction costs. STs enable continuous global trading on secondary markets without intermediary settlement delays, compressing transaction times and enabling price discovery across a broader investor base. The expansion of the investor base itself reduces volatility through diversification.

Transparency and security: All ST transactions are permanently recorded on-chain and verifiable by all authorised participants. This immutable audit trail significantly reduces fraud risk, simplifies regulatory reporting, and builds investor confidence relative to opaque traditional structures. The blockchain record cannot be altered retroactively without consensus from the network—a fundamental security advantage over centralised ledger systems.

Smart contract automation: Compliance verification, dividend distribution, voting rights allocation, and corporate event management can be automated through smart contracts, eliminating manual processing, reducing human error, and substantially reducing middle- and back-office headcount requirements. For investment banks—where middle/back-office functions represent the largest staffing categories—this represents a structural cost and efficiency opportunity beyond simple fee reduction.

3. Market Structure and Ecosystem

3.1. Key Players

The ST ecosystem comprises issuance platforms (Securitize, Polymath, tZERO), trading and secondary market venues (tZERO ATS, INX), custody providers (Anchorage Digital, BitGo), compliance technology providers, and traditional financial institutions expanding into tokenised assets. BlackRock's BUIDL tokenised money market fund (launched March 2024, reaching USD 500 million+ in assets within weeks) and Fidelity's exploration of tokenised fund structures represent the most significant institutional validations of the technology to date.

3.2. Market Projections

Market projections for the ST space vary widely, reflecting the blue-ocean nature of the sector: from USD 2.15 billion (2023) to USD 24 billion (2027) under conservative scenarios, and potentially USD 16 trillion by 2030 under optimistic projections assuming broad regulatory harmonisation and institutional adoption. The wide range reflects uncertainty around regulatory timeline, institutional adoption pace, and the extent to which tokenisation reaches the retail investor base.

3.3. Regulatory Landscape by Jurisdiction

United States: The SEC regulates STs as securities under existing frameworks (Securities Act 1933, Securities Exchange Act 1934). Regulation D exemptions and Regulation A+ enable private and limited public issuances. The absence of comprehensive bespoke ST legislation creates uncertainty; however, the Howey Test framework provides a relatively clear basis for ST classification.

European Union: The Markets in Crypto-Assets Regulation (MiCA, effective 2024) and the DLT Pilot Regime (effective 2023) provide the world's most developed regulatory framework for crypto-asset markets, including security tokens, creating greater regulatory predictability for EU-market issuers and investors.

Switzerland: FINMA's activity-based regulatory approach and the DLT Act (effective 2021) provide one of the most accommodative environments for ST issuance globally, supporting the Swiss Digital Exchange (SDX) as a major institutional ST trading venue.

Singapore: MAS's Project Guardian initiative (exploring tokenised bond and fund issuance) demonstrates proactive regulatory engagement with institutional tokenisation applications.

South Korea: The Financial Services Commission (FSC) has issued guidance on security token issuance requirements under existing securities law, with the STO market developing actively from 2023, driven by real estate tokenisation and structured bond tokenisation initiatives.

4. Emerging Use Cases

4.1. Real Estate Tokenization

Real estate tokenisation has progressed from concept to operational deployment across multiple jurisdictions. In the US, platforms like RealT and Roofstock enable fractional ownership of residential rental properties with daily dividend distributions. In Europe, Brickblock and Tokeny have executed tokenised commercial real estate transactions. These deployments demonstrate the technology's capacity to solve commercial real estate's traditional illiquidity problem while enabling income distribution automation through smart contracts.

4.2. Small Business Tokenization: A Novel Application

The tokenisation of small business ownership interests—restaurants, bakeries, specialty food businesses—represents an underexplored application with significant market potential. The global food culture phenomenon (evidenced by Netflix's 'Black and White Chef' achieving record viewership, celebrity chef culture, and social media-driven food content) demonstrates intense consumer interest and emotional investment in food businesses that conventional equity markets do not capture. A tokenisation model for food businesses could enable: (1) consumers who are brand advocates to become financial stakeholders; (2) small business owners to access capital without traditional bank financing constraints; and (3) token holders to receive economic benefits (dividends, discounts, loyalty rewards) aligned with the business's financial performance. This model could extend to cultural industries more broadly, creating new asset classes at the intersection of consumer engagement and financial investment.

5. Barriers and Challenges

Despite significant potential, ST adoption faces several structural challenges. Regulatory fragmentation across jurisdictions increases compliance complexity for cross-border issuances. The absence of universal KYC/AML standards for blockchain-based systems creates operational uncertainty. Secondary market liquidity for smaller ST issues remains limited, creating a valuation discount relative to comparable liquid instruments. Investor education gaps—particularly regarding private key custody and smart contract risk—limit retail adoption. Infrastructure interoperability between different blockchain networks is nascent. These barriers are reducing over time as regulatory frameworks mature, institutional adoption increases, and technical standards develop.

6. Strategic Implications

For institutional issuers, the strategic priority is identifying asset classes where tokenisation's liquidity and accessibility benefits command a valuation premium that justifies implementation investment—commercial real estate, private equity, and infrastructure represent primary candidates. For platform providers, the priority is regulatory compliance infrastructure that enables cross-border issuance and trading at acceptable compliance cost. For regulators, the priority is international coordination to develop common standards that enable market development without sacrificing investor protection. For financial institutions, the priority is identifying internal operations (custody, clearing, compliance, dividend administration) where smart contract automation provides the

highest efficiency gains.

7. Conclusions

This study has demonstrated that the value proposition of security tokenisation extends substantially beyond cost reduction to encompass fractional ownership democratisation, liquidity enhancement, transparency improvement, smart contract automation, and novel market structure creation. The ST market's projected growth from USD 2.15 billion to potentially USD 16 trillion reflects the technology's capacity to restructure capital market infrastructure across traditional and alternative asset classes. Regulatory maturation—particularly the EU MiCA framework and Korea's STO guidance—is reducing the primary barrier to faster adoption. Novel use cases in small business tokenisation, food culture-driven consumer investment, and real estate democratisation represent the leading edge of a broader transformation in how assets are created, managed, traded, and held. Future research should examine empirically the valuation impact of tokenisation on asset prices, the long-term behaviour of fractional ownership investor bases, and the regulatory harmonisation pathways most likely to unlock the technology's full potential.

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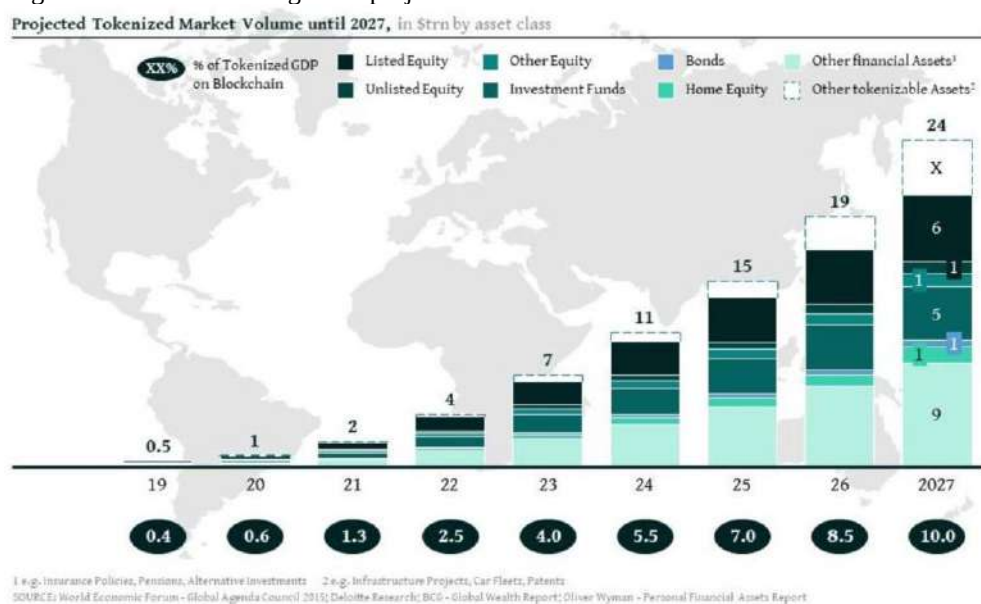
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<Figure 1> What is a security token



Source: 101 Blockchains

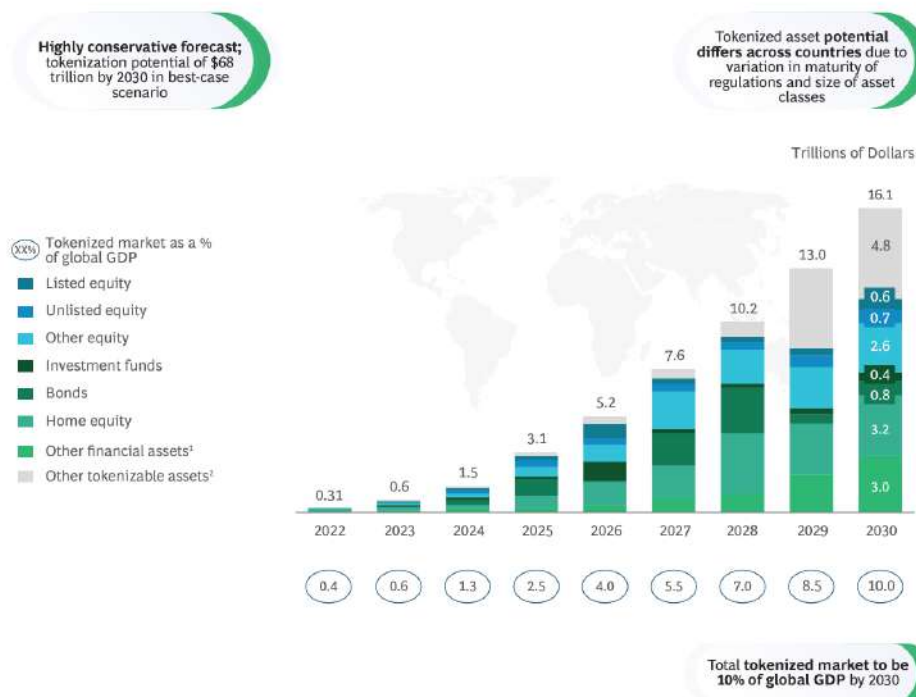
<Figure 2> Finoa's market growth projection



Source: Finoa.IO

<Figure 3> BCG's market projection

Tokenization of global illiquid assets estimated to be a \$16 Trillion business opportunity by 2030



Source: World Economic Forum – Global Agenda Council, BCG Analysis

¹ For example, Insurance policies, Pensions, Alternative Investments; ² e.g., Infrastructure Projects, Car Fleets, Patents

Note: The analysis does not include crypto assets

Exhibit 5: Tokenization of illiquid assets to be a \$16 trillion worth opportunity globally

Source: BCG

<Figure 4> McKinsey's market projection

Exhibit 1

Industry outlook: Base case estimate of potential value of tokenized assets by 2030 is nearly \$2 trillion.

An analysis of tokenization waves by asset capitalization potential and adoption drivers

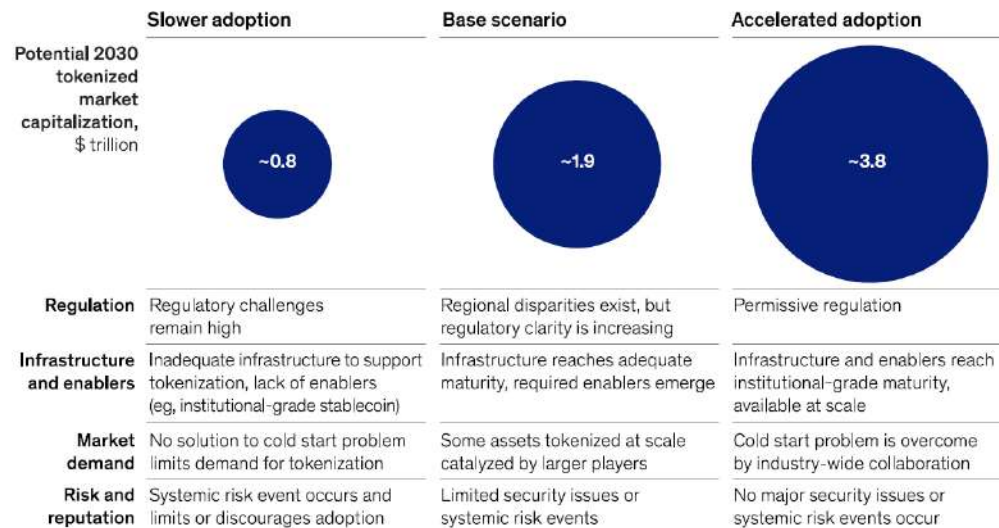
Wave	2030 tokenized asset market capitalization base case, \$ trillion	Examples of use cases driving adoption
1	Cash and deposits ¹ <i>Excluded from total</i> ~1.1	24/7 business-to-business payments
	Mutual funds and ETFs ² ~0.4	Money market fund distribution
	Loans and securitization ³ ~0.3	Streamlined warehouse lending
	Bonds and exchange-traded notes ⁴ ~0.3	Intraday repo/collateral mobility
	Alternative funds ⁵ ~0.2	Distribution and investor onboarding
2	Alternative assets ⁶ ~0.1	Liquid secondary market
	Unlisted equities ⁷ ~0.1	Liquid private markets for secondary sales
	Precious metals ⁸ ~0.1	Collateral in decentralized finance
	Publicly listed equities ⁹ <0.1	Clearing and settlement efficiencies
3	Intangible assets ¹⁰ <0.1	Real-time distribution of royalties
	Derivatives ¹¹ <0.1	Clearing and settlement efficiencies
Total value tokenized in 2030 ~1.9		

<Figure 5> Scenarios for a bear, base, bull base of adoption

Exhibit 2

The potential scale of tokenization adoption hinges on multiple factors.

Forecasts of three potential adoption scenarios, 2030, nonexhaustive



Source: McKinsey

<Figure 6> Notable players now

Some players providing comprehensive solution e.g., Sygnum, also work on tokenization

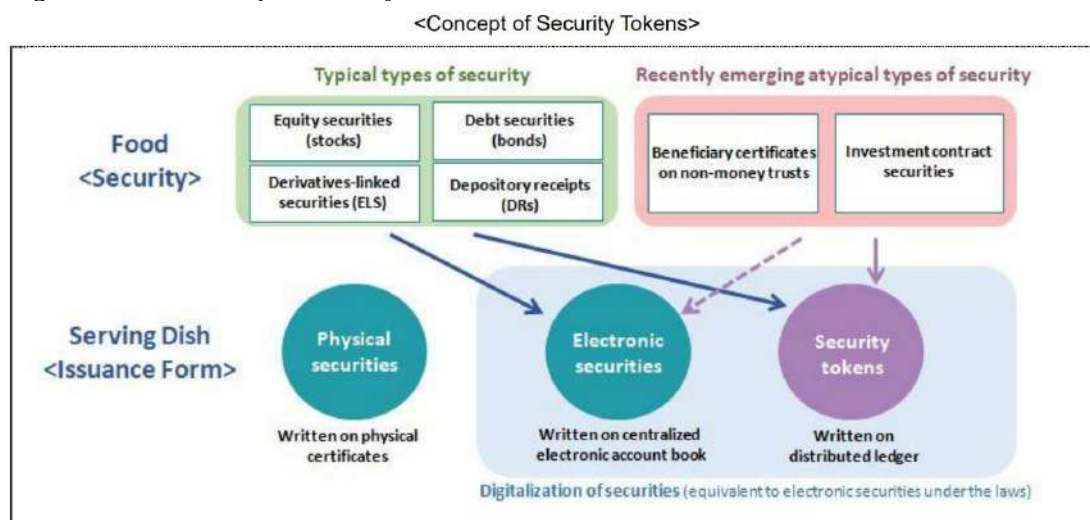
	Tokenization players across asset categories, including financial assets like equity share, private fund									Niche asset classes like real estate	
	Tzero	Consensys Codefi	Securitize	ADDX	Polymath	Securrency	BitBond	Tokeny Solutions	Tokensoft	Liquefy	Digishare
Name											
HQ	US, New York	US, New York	US, San Francisco	Singapore, Singapore	Canada, Toronto	US, Washington	Germany, Berlin	Luxembourg, Luxembourg	US, San Francisco	Hong Kong, China	Nordjylland, Denmark
Years of Establishment	2014	2017	2017	2017	2017	2015	2013	2017	2017	2018	2018
Funding	\$330.3 Mn	\$82.5 Mn	\$73.6 Mn	\$120.9 Mn	\$58.7 Mn	\$49.4 Mn	\$7.6 Mn	\$5.6 Mn	\$4.0 Mn	\$3.0 Mn	\$1.1 Mn
Team Size	~84	~5	~90	>300	~44	~71	~91	~27	~20	~8	48
Category of Play	Blockchain Infrastructure	Tokenization Platform	Primary Market	Secondary Market	Custody	Blockchain Infrastructure	Tokenization Platform	Primary Market	Secondary Market	Custody	Custody
# Tokenized Assets	4	-	115	40	225	-	5	45	50	-	-
Used Blockchain	Ethereum, Tezos, Algorand	Ethereum, Quorum	Ethereum, Algorand, Avalanche	Ethereum (Private)	Polymesh, Ethereum	Ethereum, Stellar, Ripples, Gochain, EOS	Stellar	Ethereum, Polygon	Ethereum, Stellar, Corda, Hyperledger	-	Ethereum
Token	TZROP	-	-	-	POLYX	-	BB1	-	TSFT	-	DiGi
Token Standard	ERC 20	Universal Token	DS Token Protocol	ERC 20	Polymesh, ERC 1400	CAT-20, CAT-721	Stellar Assets	ERC 3643	ERC 1404	-	Polymesh, ERC 1400
KYC/AML Compliant	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
Operates a (Secondary) Marketplace	✓	✓	✓	✓				✓			
Notable partners	Overstock	Societe Generale	Morgan Stanley, ARCA	SGX, SET, UOB	Marketend, Redswan	US Bank, State Street	Standard, Chartered, Vonovia	Principality of Monaco, Euronext	SEBA, CELO	-	iZERO

Source: Blockdata (Oct. 2021); pitchbook, BCG analysis

Blockchain Infrastructure Tokenization Platform Primary Market Secondary Market Custody

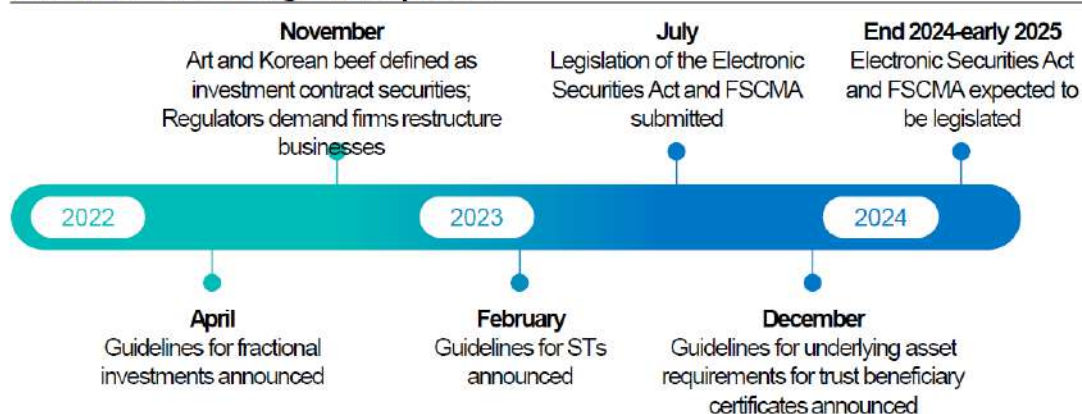
Source: BCG

<Figure 7> FSC's concept of security tokens



Source: FSC

<Figure 8> Korea's STO legalization timeline

Chart 6. Korea's STO legalization process

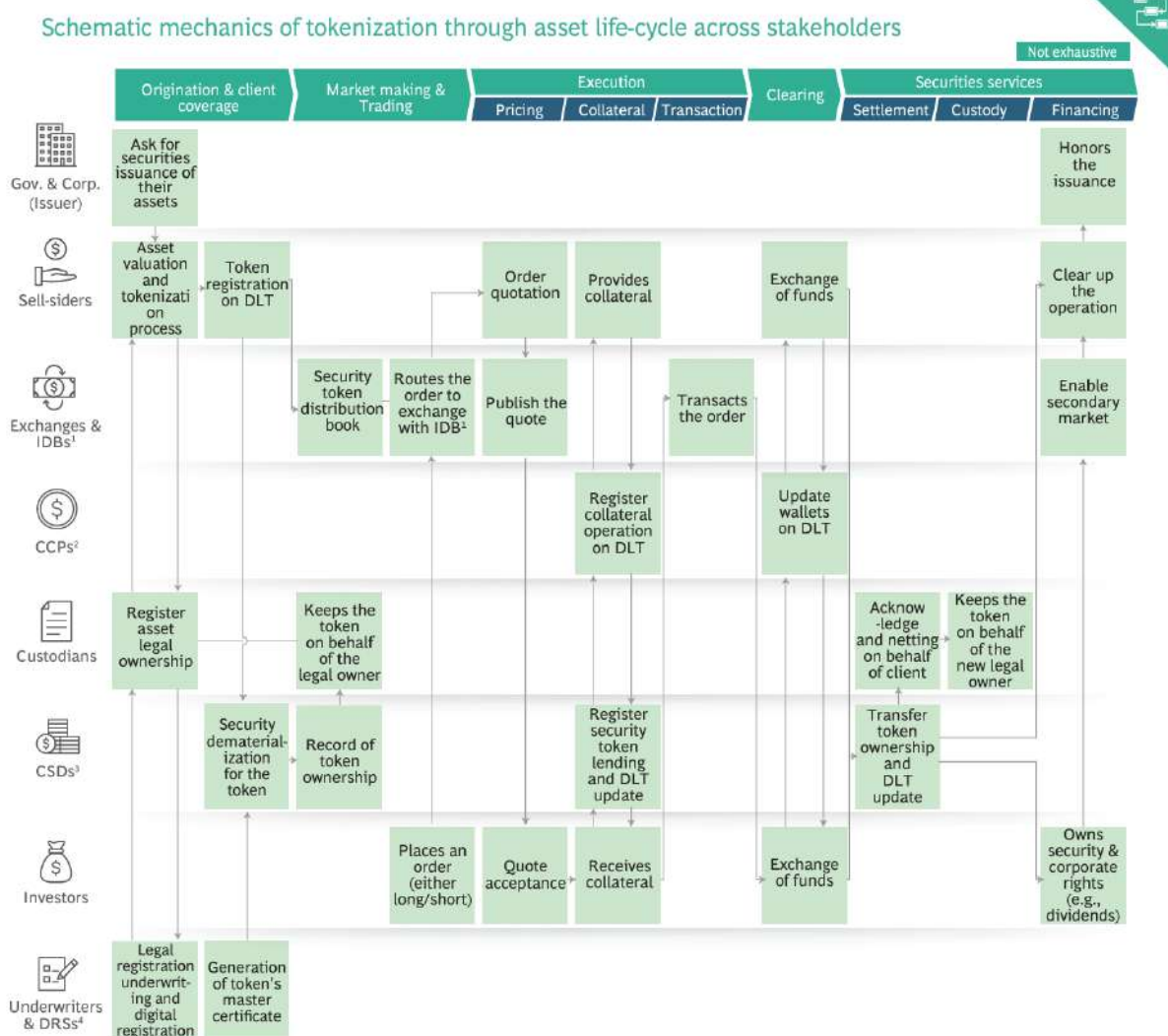
Source: FSC, Samsung Securities

<Figure 9> Korea's regulation surrounding STs

Type	Policy task	Required action	Schedule
Security Token Issuance	Embrace security tokens in the current legal system	Revise the Act on Electronic Registration of Stocks and Bonds	Submission of revision bill in H1 2023
	Create "issuer" account manager	Revise the Act on Electronic Registration of Stocks and Bonds	Submission of revision bill in H1 2023
Security Token Circulation	Apply the circulation system for investment contract securities	Revise the FSCMA	Submission of revision bill in H1 2023
	Introduce a new authorization for OTC trading brokers	Revise the Enforcement Decree of the FSCMA	Follow-up action to FSCMA revision
	Exempt sales disclosures for small-sum investors	Revise the Enforcement Decree of the FSCMA	Follow-up action to FSCMA revision
	Introduce a digital securities market	Revise the Enforcement Decree of the FSCMA	Follow-up action to FSCMA revision

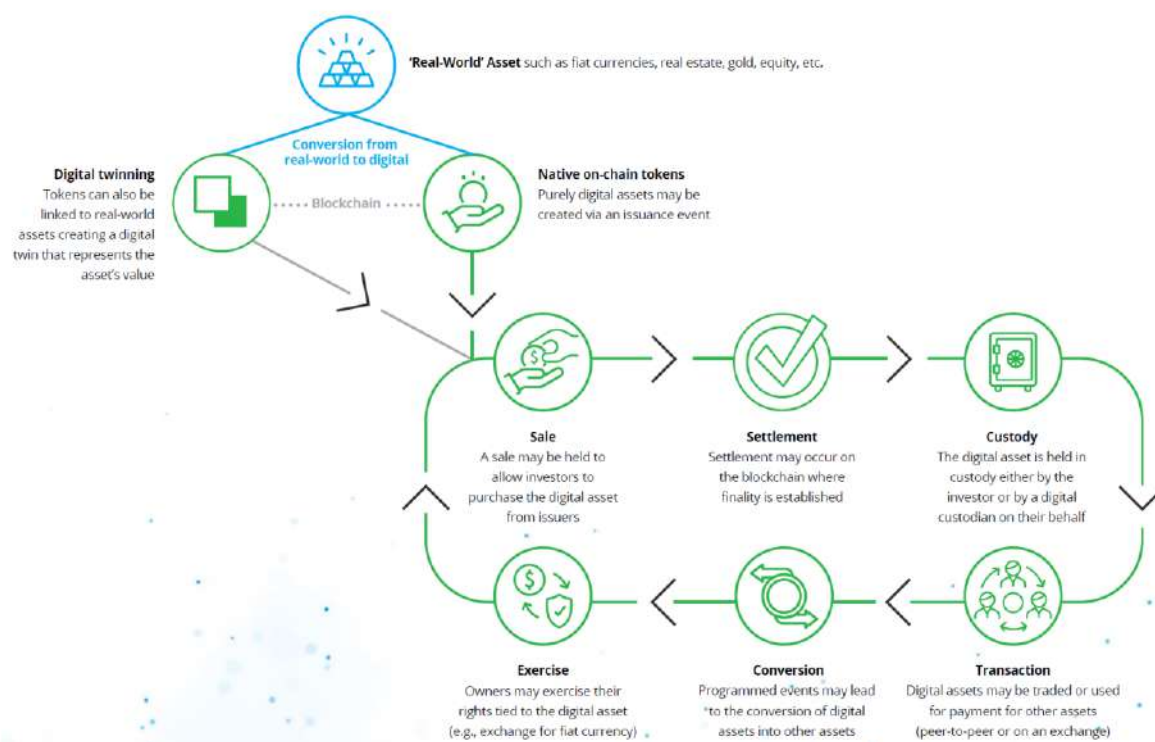
Source: FSC

<Figure 10> Tokenization process and the players



Source: BCG

<Figure 11> The tokenization lifecycle

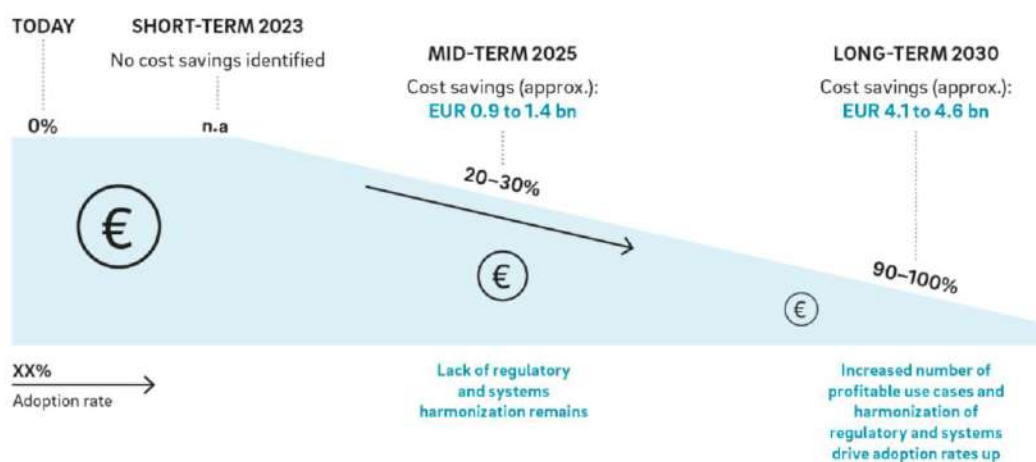
Figure 1. Lifecycle of a tokenized asset

Source: Deloitte

<Figure 12> Tokenization cost cutting

Tokenization offers total cost savings of up to EUR 4.6 billion by 2030, provided adoption rates are high

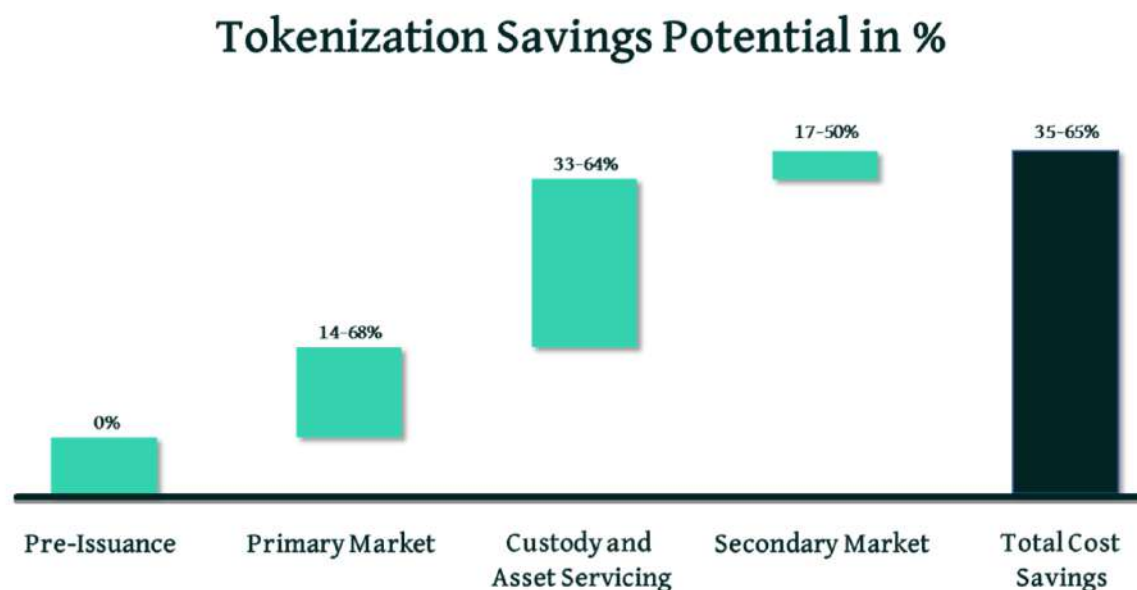
Impact of tokenization adoption on trading costs



Source: Ghent University, Keyrock, Roland Berger

Source: Roland Berger

<Figure 13> Where tokenization can help save



Source: Fiona.IO

<Figure 14> Key areas for monetization

STOs vs ICOs, TradFi

Security Tokens offer many of the Benefits of ICOs, but with clearly defined issuer obligations, investor rights and regulatory oversight

	STO	ICO	Traditional Listing
Regulated	✓	✗	✓
KYC/AML	✓	✗	✓
Issuer Obligations	✓	✗	✓
Investor Rights	✓	✗	✓
24 Hour Trading	✓	✓	✗
Withdrawal	✓	✓	✗
P2P Trading	✓	✓	✗
Self Custody	✓	✓	✗
Global Liquidity	✓	✓	✗
Issuance Cost	Low	Low	High
Asset Type	Equity, Debt, Funds, REITS	Early stage, speculative	Equity, Debt, Funds, REITS

Source: Bitfinex