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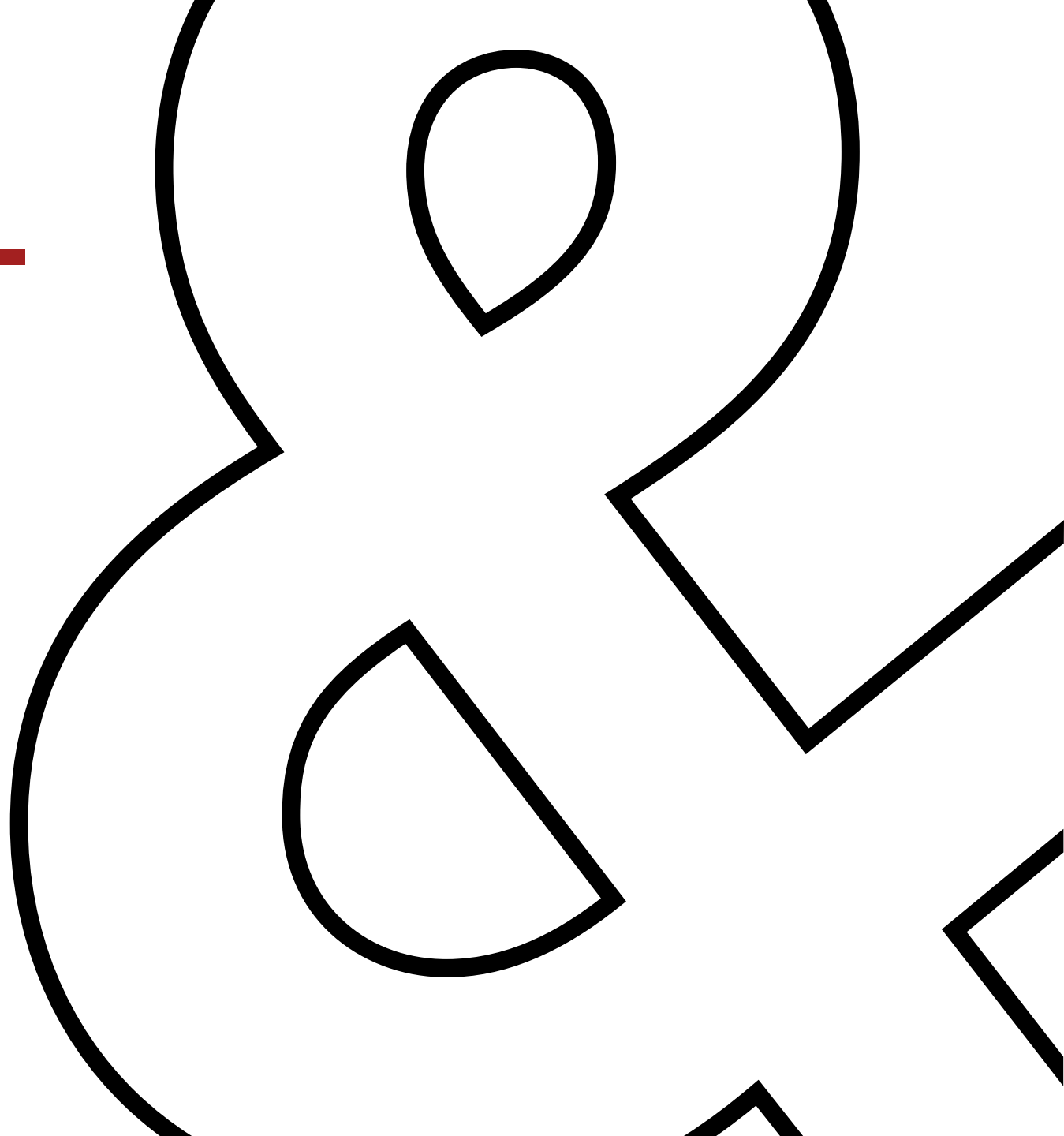
4th ICO / STO Report

A Strategic Perspective

March 2019 Edition

In collaboration with:

Crypto Valley



Executive Summary

ICO / STO Report March 2019 – Global Status-Quo

ICO / STO Facts & Figures	• In 2018, over **1'132 ICOs / STOs** have happened successfully, which is twice as much as in 2017 (total of 552) • Total amount raised has nearly tripled to almost **USD 20bn** compared to 2017 (total of USD 7bn) • However, **two unicorn ICOs** (EOS USD 4.1bn & Telegram USD 1.7bn) accounted for over 5.8bn of the 2018 volume • In H2 2018, **numbers and volume of ICOs** / **STOs declined sharply**, reflecting both the shift from ICO to STO and the "crypto winter"
STOs & Tokenization of Assets	• Security Token Offerings (STOs) are not fundamentally different from ICOs, but a **more mature and regulated form**, as the underlying tokens provide different financial rights, including dividends or shares • STOs **combine many features of ICOs** (e.g. low entry barriers for investors) as well as **traditional Venture Capital** / **Private Equity fundraising characteristics** (e.g. regulations based on local security laws, incl. KYC / AML) • **Tokenization of Assets** (i.e., process of converting an asset into a digital token on the blockchain system) is another trend and expands from commodity tokenization (e.g. gold, oil) to tokenization of intangible goods (e.g. music rights)
Regulatory Environment	• Jurisdictions continue to pass specific **crypto assets and tokenization laws** across all continents • As a global trend, jurisdictions **leverage existing security regulations as "STO framework"**, allowing management of cross-boarder complexity
Infrastructure "Level Up"	• As STOs are becoming fully regulated, the corresponding **infrastructure must "level up"** – e.g., for trading and exchange, incumbent exchanges are entering the crypto space • Moreover, **additional services will be demanded by market participants**, such as flexible custody solutions, market data services (MDS), reliable rating services & quality research as well as technical standards & APIs

Source: Strategy& analysis

In 2018, over 1'132 ICOs / STOs have collected nearly USD 20bn, despite declining numbers in H2 2018

Definition & Characteristics

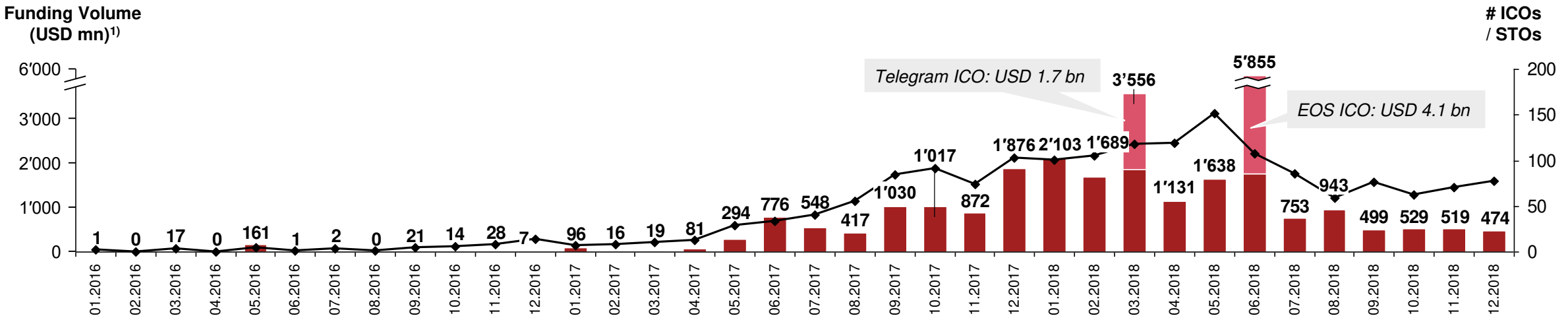
Initial Coin Offering ("**ICO**", also token launch or token generation) is a term describing a **limited period** in which a **company** sells a predefined number of **digital tokens** (coins) to the **public**, in exchange for cryptocurrencies or fiat currencies.

Security Token Offering ("**STO**") is a sale of tokens with features comparable to classic securities that are fully regulated and accepted within at least one jurisdiction. Prospectively, ICOs / STOs are increasingly an **alternative** to classic debt / capital-funding as performed today by Venture Capital / Private Equity firms and banks.

ICOs / STOs Development

Year	Ø Duration/ ICO (d)	Ø USD mn/ ICO[1)]	Total # ICOs	Total volume (USD mn)[1)]
2013	41	0.4	**2**	**0.8**
2014	68	3.8	8	30.5
2015	32	1.0	10	9.9
2016	39	5.1	49	252
2017	29	12.8	552	7'043.3
2018	58	12.3[2)]	1'132	19'689.3
All	**47.5**	**12.1[2)]**	**1'753**	**27'025.8**

Monthly ICOs / STOs Numbers and Volume



1) Calculations based on currency exchange rates on end date of ICO. As Ether and Bitcoin exchange rates are highly volatile, actual and current market capitalization of the companies today may differ significantly from figures shown in the table. ICO funding amount until 31.12.2018 considered. 2) Not considering Telegram and EOS.
Source: Strategy& analysis

Since May 18, the first STO, tZERO, has entered the top 15 of the biggest ICOs / STOs

Overview: 15 Biggest ICOs / STOs Overall Since 2016

#	Name	Total Raised Amount (USD mn)[1]	End of ICO (month)	Focus	Industry	Country
1	**EOS**[2] 1 Year ICO	4'100	06.2018	Blockchain infrastructure for decentralized apps	BC infrastructure	Cayman Islands
2	**Telegram**	1'700	03.2018	Tokens to enhance messenger ecosystem	Social media	British Virgin Islands
3	**TaTaTu** NEW ICO	575	06.2018	Social entertainment on the Blockchain	Entertainment	Cayman Islands
4	**Dragon**	320	03.2018	Decentralized currency for casinos	Gambling	British Virgin Islands
5	**Huobi Token**	300	02.2018	Coin for South Korean crypto exchange	FinTech	Singapore
6	**HDAC**	258	12.2017	IOT platform backed by Hyundai BS&C	Internet of things	Switzerland
7	**Filecoin**	257	09.2017	Decentralized market for data storage	Data storage	USA
8	**Tezos**	232	07.2017	Blockchain infrastructure for decentralized apps	BC infrastructure	Switzerland
9	**Sirin Labs**	158	12.2017	Secure open source consumer electronics	Consumer electronics	Switzerland
10	**Bancor**	153	06.2017	Enabling direct conversion between tokens	FinTech	Switzerland
11	**Bankera**	151	03.2018	Banking for the Blockchain era	FinTech	Lithuania
12	**Polkadot**	145	10.2017	Interoperability protocol across multiple Blockchains	BC infrastructure	Switzerland
13	**The DAO**	143	05.2016	Decentralized autonomous organization	Venture Capital	Switzerland
14	**Polymath**	139	01.2018	Security token platform	FinTech	Barbados
15	**tZERO** NEW STO	134	08.2018	Security token trading platform	FinTech	USA

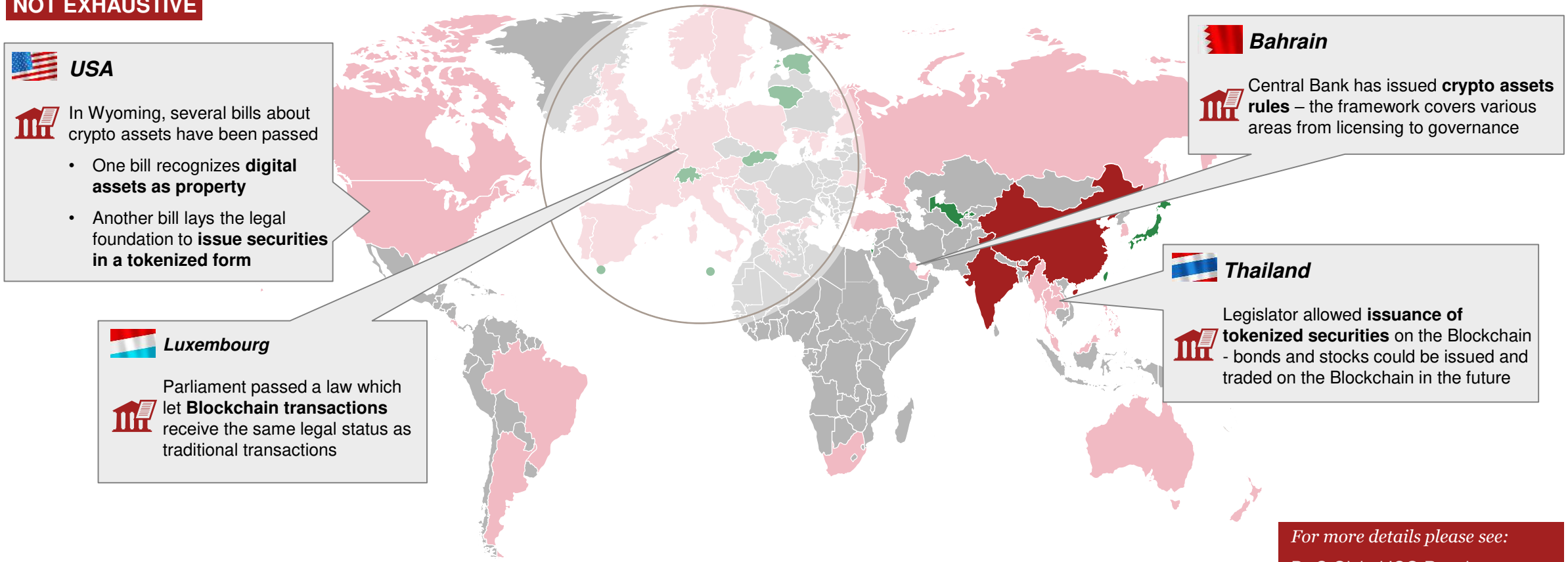
not live anymore

1) Calculations based on currency exchange rates on end date of ICO. As Ether and Bitcoin exchange rates are highly volatile, actual and current market capitalization of the companies today may differ significantly from figures shown in the table. ICO funding amount until 31.12.2018 considered. 2) EOS conducted a two-phased ICO. In the 1st phase (5 days in June 2017), USD 185mn were raised. The second phase lasted 350 days ending in June 2018.
Source: Strategy& analysis

Jurisdictions around the globe continue to pass crypto assets and tokenization laws

PwC Global ICO Compass

NOT EXHAUSTIVE



USA

In Wyoming, several bills about crypto assets have been passed

- One bill recognizes **digital assets as property**
- Another bill lays the legal foundation to **issue securities in a tokenized form**

Luxembourg

Parliament passed a law which let **Blockchain transactions** receive the same legal status as traditional transactions

Bahrain

Central Bank has issued **crypto assets rules** – the framework covers various areas from licensing to governance

Thailand

Legislator allowed **issuance of tokenized securities** on the Blockchain - bonds and stocks could be issued and traded on the Blockchain in the future

Favorable regulation | Wary / existing regulation | Ban of ICOs

For more details please see:

PwC Global ICO Regulatory Compass: **www.pwc.ch/ico**

Source: PwC Global ICO Compass (www.pwc.ch/ico); Strategy& analysis

Security Token Offerings (STOs) are gaining in popularity, marking a new era of fully regulated securities-ICOs / STOs

Security Token Offerings (STOs)

Security tokens are asset-backed financial notes and are considered as legally binding blockchain-based investment contracts. They may provide various different financial rights to investors including dividends, shares and other financial instruments, depending on design.

In the course of a **Security Token Offering (STO)** a company issues security tokens to investors. Thus, ICOs with a security token as issued token can be classified as STOs. However, most ICOs issued utility tokens or currencies and can't be classified as STO.

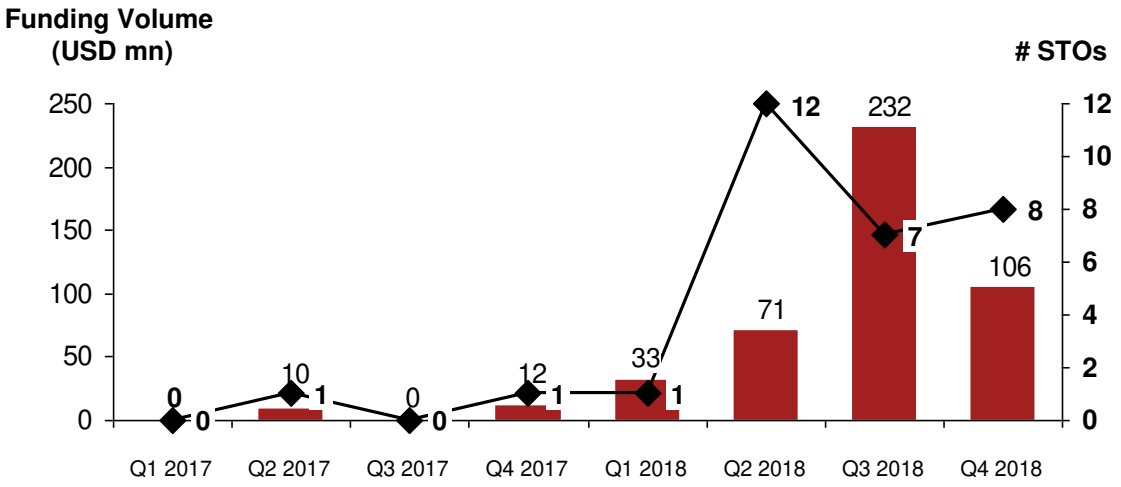
	Initial Coin Offering (ICO) *with utility tokens or cryptocurrencies*		**Security Token Offering (STO)** *with security tokens*		**Traditional Fundraising** *with shares (e.g. VC / PE financing)*
	Utility token; cryptocurrency (public tradable)	⇔	***Security token (public tradable)***	⇔	*Private company share (not public tradable)*
Investor participation	*Global participation possible, low entry barriers (e.g. fractional ownership of tokens)*	=	***Large participation possible, low entry barriers (e.g. fractional ownership of tokens)***	⇔	*Access only for qualified investors*
Capital formation process	*High cost efficiency (e.g. due to automated processes)*	=	***Better cost efficiency than traditional securities issuance***	⇔	*Complex securities regulation with high associated regulatory compliance cost*
Regulation	*Regulation still unclear in many jurisdictions*	⇔	***Regulations based on local security laws (incl. KYC / AML)***	=	*Regulation based on local / international security laws (incl. KYC / AML)*
Token application	*Various services & spending opportunities*	⇔	***Proof of ownership & application of corresponding features & rights***	=	*Proof of ownership via established custodians, incl. associated rights*
Investor rights	*No associated investor rights*	⇔	***Legally binding investor rights (e.g. ownership rights, voting rights, dividend rights)***	=	*Legally binding investor rights (e.g. ownership rights, voting rights, dividend rights)*

Source: Strategy& analysis

Jurisdictions leverage existing security regulations as “STO framework”, allowing management of x-boarder complexity

The Rise of Security Token Offerings (STOs)

STO Overview



- In **2017**, the concept of STOs was pioneered as **2 STOs** raised around **USD 22mn** in total
- In **2018**, STO figures grew exponentially to **28 STOs** and **USD 442mn** in volume
- In **2019 & 2020**, further **growth is expected**, as adaption of funding method will increase
- The biggest STO so far was **tZERO** (subsidiary of eCommerce giant overstock.com), which managed to raise **USD 134mn** in Q3 2018

Exemplary STO Jurisdictions

Switzerland	• Regulator (FINMA) distinguishes between asset tokens, utility tokens und payment tokens • Asset token based ICOs can be considered as STOs
USA	• Regulator (SEC) generally regards tokens distributed via ICOs as securities, with the exception of cryptocurrencies • Howey Test is applied to determine securities (very broad application) • Additional state regulation supporting STOs (e.g. Wyoming)
Liechtenstein	• Liechtenstein launches „Blockchain Law“ in Q1 2019, which will serve as a basis for token based fundraising • Regulator closely interacts with companies planning an STO
Germany	• Regulator (BaFIn) regards cryptocurrencies in general as financial instruments • Regulator approved first German STO in Q1 2019
Estonia	• Regulator (EFSA) categorizes tokens as follows: 1) donations, 2) utility tokens, 3) security tokens • Token can be defined as security token, if it gives the investors rights in the issuer company or is tied to profits

& *…several additional jurisdictions are currently working on STO regulations or have laws covering STOs*

NOT EXHAUSTIVE

Note: for further information see also G. Dobrauz-Saldapenna & U. Klebeck, Initial Coin Offering - Legal & Regulatory Challenges of Crossing the Borders, in: Journal of Alternative Investments, Spring 2019
Source: Strategy& analysis

Asset tokenization, i.e., the conversion of real-world assets to the Blockchain, is a dominant trend in 2019

Tokenization of Assets

Asset tokens are Blockchain-based tokens backed by a real world asset (tangible and non-tangible) and can be classified as security tokens.

Asset tokenization describes the process of converting assets into digital tokens on a blockchain.

Application Examples

Fiat currency
e.g. USD, CHF, EUR

Commodity
e.g. gold, silver, oil

Real estate
e.g. RE fund, single property

Art & collectables
e.g. paintings, old timer

Intangible goods
e.g. ownership rights for music

Benefits

Fractional ownership: *New customer groups get access to previously unattainable asset classes for investments*

Increased liquidity of assets: *Illiquid assets can now be traded and transferred 24/7 all over the globe*

Lower costs: *As intermediaries (e.g. banks, brokers, exchanges) may be removed from the value chain, related costs are lower or even disappear*

Faster settlement: *Dramatic increase of clearing & settlement speed thanks to Blockchain technology*

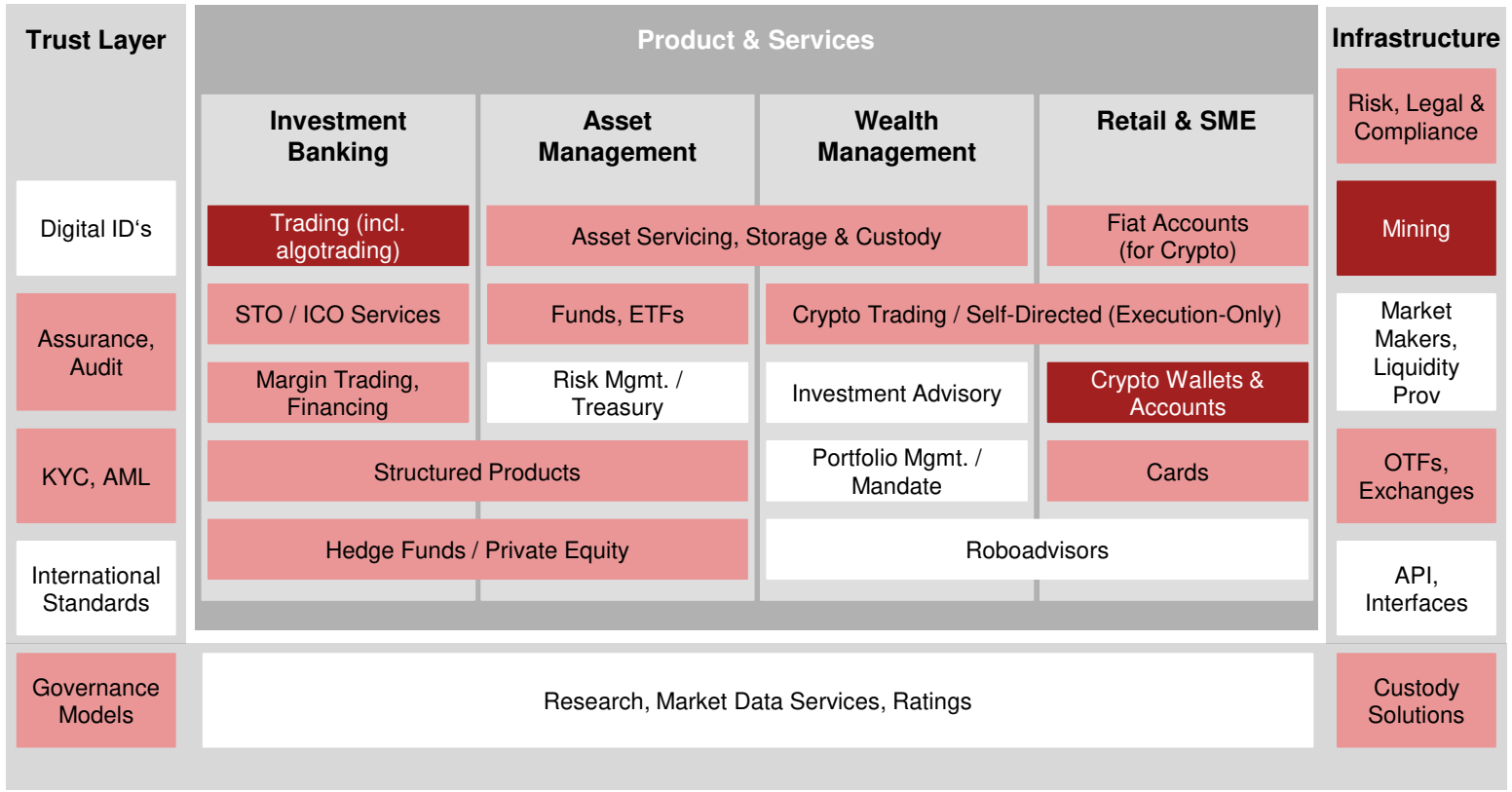
Programmability: *Smart Contracts enable an efficient management of rights (e.g. voting rights) and corporate actions over the Blockchain*

Immutable proof of ownership: *Blockchain secures traceability of every transaction and provides a "single point of truth"*

Source: Strategy& analysis

For STOs to grow further, the emerging crypto finance market infrastructure needs to develop, professionalize & “level up”

Blueprint Crypto Finance Market Infrastructure



see also 2019 Strategy& Viewpoint:
“Crypto Finance – From Hype to a New Asset Class”

Key elements of critical market infrastructure are not yet at required level of quality. The following solutions must mature for a more enhanced STO infrastructure:

- **STO exchanges**: Regulated exchange platforms (for equity trading) have to move into the crypto space *or* crypto exchanges have to reach regulatory approval to manage STOs and cooperate with the competent authorities
- **Flexible custody solutions:** Global 24/7 access combined with highest security standards will come in high demand
- **Market data services (MDS):** Professionally aggregated global real-time services for crypto assets market data will become crucial for further development
- **Reliable ratings & quality research**: The area of reliable crypto research and ratings is still nascent, but will have to mature quickly with the trend to shift ICOs to STOs
- **Technical standards & APIs:** industry standards need to emerge to interlink infrastructure building blocks, incl. APIs, ontologies, legal entity standards, etc.

Source: Strategy& analysis

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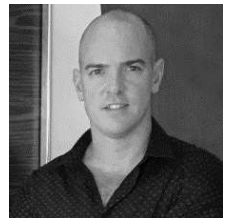

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