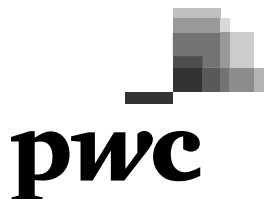


Initial Coin Offerings

&

A strategic perspective



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Executive Summary

Since our last report in Dec 2017, ICOs have gained further momentum and are emerging as a workable, alternative form of crowdfunding

ICO Report June 2018 – Overall Situation

- As predicted in our Q4 2017 report, the phenomenon of Initial Coin Offerings (ICOs) has seen a small dip since Dec 2017, but is rapidly gaining traction again:
 - In the first 5 months of 2018, a total of 537 ICO's with a volume of USD 13.7 bn have been closed successfully – which is more than all pre-2018 ICOs combined
 - Since November 2017 several large scale ICOs have entered the Top 15, dwarfing previous records from 2017 – with Telegram (USD 1.7 bn) and EOS (USD 4.1 bn), the first true ICO Unicorns have appeared
- The US, Switzerland and Singapore remain key global ICO hubs, however, over the past months, the UK and HK gained significant ground
- ICO regulation continues to emerge around the globe: many jurisdictions have issued their respective guidelines and crypto-regulation. By now, three models are emerging:
 - the US (securities-driven)
 - Europe (balanced)
 - Asia (binary)
- Strategically, ICOs continue to crowd out traditional VC funding, especially in technology and Blockchain-related startups. Hybrid models (combining classic VC/PE funding and ICO) are increasingly establishing themselves as a valid funding alternative

The show must go on: within the first 5 months of 2018, more money has been raised with ICOs than in all years before

Definition & characteristics

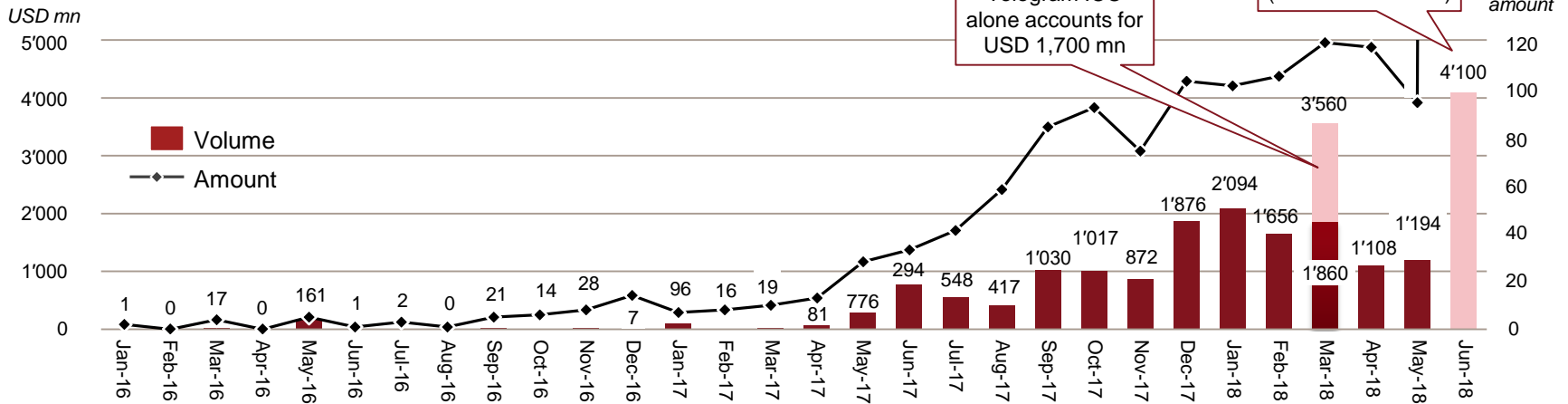
Initial coin offering ('ICO', also token launch or token generation) is a term describing a **limited period** in which a **company** sells a predefined number of **digital tokens** (crypto coins) to the **public**, typically in exchange for major cryptocurrencies or increasingly against FIAT currencies.

ICOs are inconsistently regulated across the world, and, depending on the jurisdiction, they can take different forms including a **security, utility token or digital currency**. Prospectively, ICOs are increasingly an **alternative** to classic debt/ capital-funding as performed today by Venture Capital/ Private Equity firms and banks.

ICO development

Year	Ø duration/ ICO (d)	Ø USD mn/ ICO	Total # ICOs	Total volume (USD mn)
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	252.0
2017	29	12.8	552	7,043.3
YTD 2018	48	25.5	537	13,712.8
All	38	18.2	1,158	21,049.4


Monthly ICO number 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 29.05.2018 considered.
Source: PwC Strategy& analysis

Telegram & EOS have introduced the era of 'ICO Unicorns' with a record breaking USD 1.7bn and USD 4.1bn (estd.)

Overview: 15 biggest ICOs overall since 2016

			Total raised amount (USD mn) ¹	End of ICO (month)	Focus	Industry	Country
1	EOS²⁾	1 Year ICO	4100.0	06.2018	Infrastructure for decentralized apps	BC infrastructure	Cayman Islands
2	Telegram	NEW	1700.0	03.2018	Tokens for messenger	Social Media	British Virgin Islands
3	Dragon	NEW	320.0	03.2018	Decentralized Currency for Casinos	Gambling	British Virgin Islands
4	Huobi Token	NEW	300.0	02.2018	Coin for South Korean crypto exchange	FinTech	Singapore
5	HDAC	NEW	258.0	12.2017	IOT platform backed by Hyundai BS&C	Internet of Things	Switzerland
6	Filecoin		257.0	09.2017	Decentralized Market for Data Storage	Data storage	USA
7	Tezos		232.0	07.2017	Platform for decentralized apps	BC infrastructure	Switzerland
8	Sirin Labs	NEW	157.9	12.2017	Secure open source consumer electronics	Consumer electronics	Switzerland
9	Bancor		153.0	06.2017	Enabling direct conversion between tokens	FinTech	Switzerland
10	Bankera	NEW	150.9	03.2018	Banking for the Blockchain era	FinTech	Lithuania
11	Polkadot		145.2	10.2017	Simultaneous use of multiple Blockchain	BC infrastructure	Switzerland
12	The DAO		142.5	05.2016	Decentralized autonomous organization	Venture capital	Switzerland
13	Polymath	NEW	139.4	01.2018	Security token platform	FinTech	Barbados
14	Basis	NEW	133.0	04.2018	Stablecoin without price volatility	FinTech	USA
15	Orbs	NEW	118.0	05.2018	Public Blockchain for decentralized apps	BC infrastructure	Israel

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 29.05.2018 considered.

Petro, the acclaimed USD 5bn ICO by the Maduro government of Venezuela was not considered, as the political opposition claims that the funds did not reach Venezuela

2) EOS conducted a two-phased ICO. In the 1st phase (5 days in June 2017), USD 185 mn were raised. The second phase lasted 350 days, ending in June 2018.

Source: PwC Strategy& analysis

While USA, CH and SGP have been clearly the main ICO hubs in 2017, countries like UK and HK are gaining ground in 2018

Countries with most ICO traction

Leading ICO countries in 2018 (based on funding volume)

Country	Raised USD mn	Closed ICO	Planned ICOs
Cayman Islands	4,254	10	16
British Virgin Islands	2,227	16	2
Singapore	1,192	53	52
USA	1,092	56	50
UK	507	48	51
Switzerland	456	28	36
Estonia	323	31	40
Lithuania	259	6	5
Israel	226	5	5
Hong Kong	223	20	15

Leading ICO countries in 2017 (based on funding volume)

Country	Raised USD mn	Closed ICO	'Unclosed' ICOs
USA	1,722	87	40
Switzerland	1,462	33	1
Singapore	641	35	13
Russia	438	57	43
China	306	14	2
UK	275	26	23
Japan	195	6	6
Canada	163	10	5
Cayman Islands	162	3	0
USA	1,722	87	40

Source: PwC Strategy& analysis

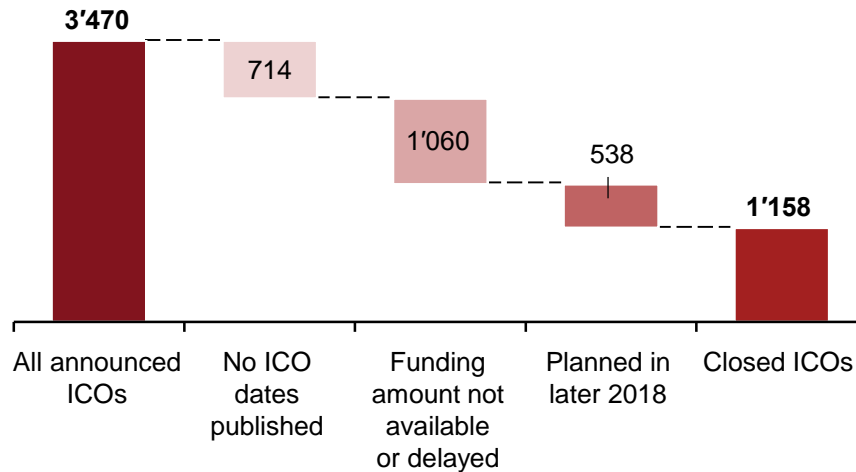
Key Take-Aways

- **USA** remains a **leading ICO destination**, reinforced by clear and firm regulatory requirements (e.g. KYC)
- Within **Europe**, **Switzerland** stands out as the ICO capital, but in 2018, **UK** has gained terrain in terms of volume and numbers
- Across **Asia**, **Singapore** is the main ICO hub, followed by **Hong Kong**
- **Cayman Island** and **British Virgin Islands** rank among top ICO countries volume-wise, as they hosted Unicorn ICOs EOS (USD 4.1bn) and Telegram (USD 1.7 bn)
- **Other countries** not known for being large financial markets also appear among top ICO countries (e.g. **Estonia, Lithuania, Israel**)
- **"Dormant ICOs"**: In 2017, many planned ICOs did not happen in the end or were not further publicly documented or communicated

To date, around a third of all announced ICOs have successfully closed the funding round

What happens before and after an ICO

Total announced ICOs (all years)

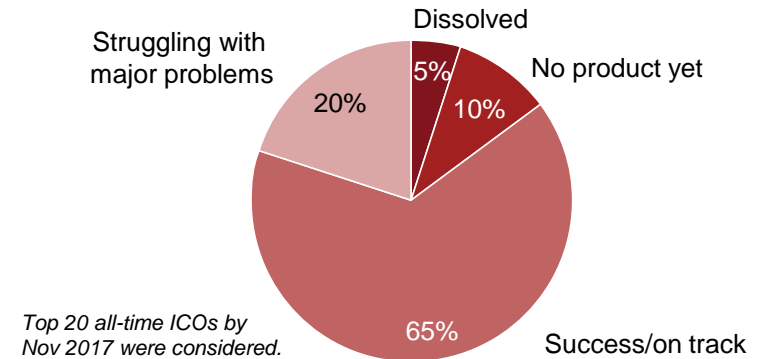


Analysis of ICOs ex-ante

- Around a third of all announced ICO projects close successfully
- Many projects are delayed and loose momentum during ICO preparation processes – reasons can reach from legal struggles to problems within the ICO project team
- ICOs for which no funding amount is available are believed to be cancelled – however, it can't be excluded that those project continued away from public attention

Note: Available ICO data by 29.05.2018 considered.
Source: PwC Strategy& analysis

Status of top 20 closed ICOs (funding volume)












Analysis of ICOs ex-post

- The majority of top funded ICO projects are on track and the product is further being developed – only few have no product yet
- Some companies that launched ICOs struggle with major difficulties such as legal or governance issues
- ICO projects with smaller scale funding than the top 20 have a higher tendency to get off track or even dissolve – reasons can be manifold (e.g. legal, team, technical, product, etc.)

The USA has a new & centralized securities regulation, while CH and SGP continue their focus on regulating ecosystems

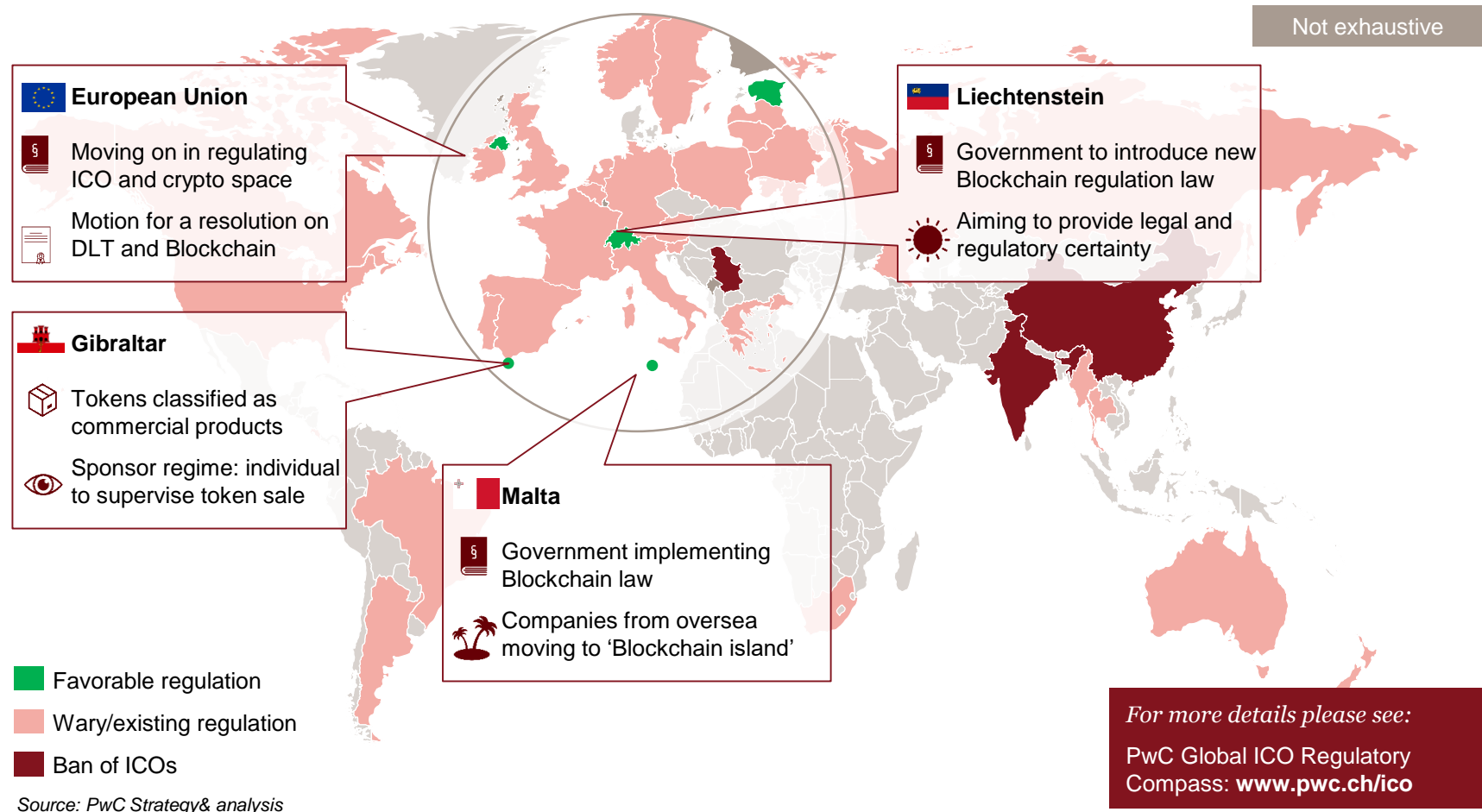
Global ICO hubs

 USA	 Switzerland	 Singapore
<p> Overall positive attitude, but market still awaits more clarity on protectionary regulations</p> <p> All tokens treated as securities as per current communications</p> <p>Cryptocurrency & exchange</p> <ul style="list-style-type: none">• Each of the 50 states can have their own regulations (e.g. BitLicense)• SEC retains jurisdiction over ICOs and definition of security tokens• FinCEN requires all exchange to register <p>ICOs</p> <ul style="list-style-type: none">• Definition of security very broad (e.g. Howey Test)• Strict SEC rules have dissuaded international issuers from raising capital from participants in the US to date <p>Implications</p> <ul style="list-style-type: none">• ICOs are increasingly beginning to register with the SEC• Market awaits further regulatory clarity and alignment of state and federal rules	<p> Overall positive attitude towards cryptocurrencies</p> <p> Tokens treated as assets</p> <p>Cryptocurrency & exchange</p> <ul style="list-style-type: none">• No special license required for cryptocurrency businesses• Favorable treatment in line with Swiss Anti-Money Laundering Act <p>ICOs</p> <ul style="list-style-type: none">• Swiss Financial Market Supervisory Authority (FINMA) reviews new ICOs on a case-by-case basis• Focus on AML and security regulations• Regulations depend on function of tokens (payment, utility or asset/ security tokens) <p>Implications</p> <ul style="list-style-type: none">• Zug/ Zurich well known as “Crypto Valley” with established ecosystem• Favored choice for many ICOs, especially EU and Asia based projects	<p> Overall positive attitude towards cryptocurrencies</p> <p> Tokens treated as assets</p> <p>Cryptocurrency & exchange</p> <ul style="list-style-type: none">• Overall favorable regulatory treatment• Monetary Authority of Singapore (MAS) report (Nov 2017) issued guidelines and will not regulate virtual currencies, but rather the involved activities• MAS mandated that intermediaries of cryptocurrency transactions (incl. ICO) need to implement stricter due diligence and AML procedures <p>ICOs</p> <ul style="list-style-type: none">• MAS continues to monitor ICO industry• More targeted legislation may be issued if necessary <p>Implications</p> <ul style="list-style-type: none">• Become a jurisdiction of choice for ICOs• Established crypto/ Blockchain ecosystem

Source: PwC Strategy & analysis

Liechtenstein, Gibraltar and Malta follow in the footsteps of Switzerland to position themselves as ICO-friendly hubs

PwC Global ICO Compass



Source: PwC Strategy & analysis

ICOs disrupt traditional VC funding – hybrid models are ‘en vogue’ as they combine smart money & community support

New archetypes of fundraising

	Traditional VC funding	Hybrid funding	Pure ICO funding
Funding rounds & collected funding	<p>Seed Series A Series B Series C IPO</p> <p>Relative funding amount per round</p>	<p>Seed Series A optional ICO</p> <p>Relative funding amount per round</p>	<p>ICO Add. ICO optional Add. ICO optional</p> <p>Relative funding amount per round</p>
Funding rationale	Receive initial funding after business plan, prototype and team validation	Receive initial funding after business plan, prototype and team validation – ICO funding to grow business further & raise more funds	Receive funding based on whitepaper, founder team and idea – additional ‘ICO’ only if necessary (rare)
Pros & cons	<ul style="list-style-type: none"> + Investors cautiously validate ideas before committing funds + Founders cautious with spending money – Founders often focused on next funding round (hinders innovation) 	<ul style="list-style-type: none"> + Founders get “smart money” as well as crowd support (first customers) + VCs validate seriousness of business, crowd validates idea & market potential + Founders are free to innovate – Potential conflicts between shareholders and token holders 	<ul style="list-style-type: none"> + Founders get crowd support + Founders are free to innovate – Governance risks if no framework – Transparency risks on use of proceeds and product development
Initial Investors	<p>Business Angels Venture capitalists</p>	<p>Business Angels Venture capitalists Tech-savvy BC/ crypto-community</p>	<p>Tech-savvy BC/ crypto-community</p>

Summary: After ICOs went through a hype-cycle in 2017, they are becoming more mature and established in 2018

Summary and ICO best practices

Fundraising process

- **Structured fundraising rounds with caps** of funding increase transparency and need-based funding of projects
- **Combination with VC funding** to diversify funding sources and validate project with professional investors (e.g. offering pre-sales to VCs)
- **“Less promotion is better promotion”**: avoidance of over-promoting ICO aggressively as it dilutes credibility of project; more focus on pre-sale phase with targeted investors

Investor relations

- **Interactive protocol** to solve certainty of participation and certainty of valuation problem by specifying desired purchase quantity at each valuation via smart contract techniques
- **Lock-up period for tokens** requires investors to weigh benefits/ risks of investment decision more carefully
- **Transparent communication** while and after ICO (e.g. what happens with tokens and potential legal issues)

Legal setup

- Careful **evaluation and selection of jurisdiction**, where company/ foundation to issue tokens should be set up
- **Stronger focus on governance** and legal entity set-up
- **Pre-registering requirement** for investors combined with **KYC/ AML investor identification** limits max. purchase by investor solving distribution problem (e.g. Sybil attacks) without need for uncapped ICO

Business

- **Staggered release of funds** to development team including voting mechanisms ensures appropriate use of funds and increases accountability for efficient allocation of resources
- **More focus on cybersecurity** pre- and post-ICO
- Increasingly, **traditional businesses and start-ups** are looking at ICOs (as a pure form of crowdfunding/-lending)
- More focus on **building communities of interest & thriving ecosystems** vs. pure tech development

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Strategy



Project Management



Issuing Entity Tax



Personal Tax



Accounting Advisory



*Code & Security
Review*



*Governance /
Controls*



Legal Services



Deals



*Technology
Development*