How do ICOs work? – launching your ICO in Switzerland.

August 2018

pwc

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Introduction

With the increased popularity of crowdfunding, ICOs have become the next big thing in gathering the funds and capital needed to start a business. 2017 saw ICOs explode in popularity, possibly due to the dominance of cryptocurrencies and blockchain in the media or simply owing to the fact that they provide contributors with an easy way to support a project.

Technology that makes ICOs possible

ICOs take advantage of blockchain technology. Blockchain is unique in that all of the blocks of data are linked together to form a public database. The database is considered public because it is shared with hundreds or even thousands of computers. Think of these computers as servers for the blockchain or the database. Any changes made to the public database need to be verified by more than 51% of the computers on the network. If the change is not confirmed, it cannot be made. This makes it extremely hard to hack the database, because the hacker would have to take control of 51% of the computers at the same time. A variety of companies and institutions own these computers. The fact that a single institution does not control all of the nodes is referred to as decentralisation. That means that blockchain is a more secure database that isn't owned by a unique entity, and everyone can make changes as long as 51% of owners agree that the change is valid.

The database changes in question refer to various transactions being made. In the case of Bitcoin, these transactions are people selling or buying bitcoins, and the database keeps track of how much bitcoin each person has. However, blockchain can keep track of much more than just transactional data: it could be virtually anything as long as there's something that represents the value of an object or service.

For example, the transactional value could represent a car or an electrical bill. Of course, there is no way to place these values onto a blockchain physically. Instead, something that represents the value of those things is needed. One such tool representing value could be a token.

Tokens and smart contracts

Tokens are created to represent the value of something. These tokens cannot be applied directly to the blockchain, as blockchains can typically only process transactions of their own cryptocurrency – like Ether on the Ethereum blockchain and Bitcoin on the Bitcoin blockchain.

Token transactions must be processed using an application. The applications that tokens use are called smart contracts. In 1994 Nick Szabo (a cryptographer) had a vision. He wanted to create contracts based on computer code. These contracts would be activated automatically when certain conditions were met. Furthermore, there would be no way to cheat these conditions, because all of them would be stated in computer code.

Because a trusted third-party is no longer needed when making contracts, these contracts (or transactions) can automatically execute themselves on a trusted network. Computers are in full control of this network. The essential characteristics of a smart contract are as follows:

1) **They can automatically process transactions**
2) **The transactions are triggered only when the right conditions are met.**
   Imagine it like this: "WHEN Peter pays 100 Ether into the smart contract, THEN John's house token is sent to Peter."
3) **Smart contracts use blockchain technology, so the conditions of the smart contract cannot be changed.**

ICOs are already taking advantage of smart contracts and blockchain technology to crowdfund projects. A smart contract and a token for that smart contract are needed when creating an ICO. The next step is to define the smart contract conditions. For example: IF 0.1 ETH is sent to the smart contract, THEN the smart contract will send 1 token to the address that sends the 0.1 ETH. This ensures that everyone who participates the in ICO will always get the correct amount of tokens. There is no human interaction, and no manual distribution. The smart contracts are usually publicly available as well, so all participants can review the terms of the smart contract.

The two most common reasons people participate in ICOs are as follows:

1) **The token can be used on the application once it the final product is ready.**
2) **As the popularity of the project grows, the price of the tokens or coins could increase. As more people will want to use the services, demand goes up.**

Mastercoin, the first ICO

Think of ICOs as a blockchain version of Kickstarter. The critical difference is that they automate the entire crowdsale process in a secure, trustless way. However, it all started with the first ICO held by Mastercoin back in July 2013.

Mastercoin made its white paper public in January 2012, proposing that the existing Bitcoin network could be used as a protocol layer for higher-level protocols. The goal was to enable new rules for contracts. This would allow people to create new currencies without the need for a separate blockchain. This is similar to what Ethereum is doing right now; Ethereum is even being referred to as Mastercoin 2.0. Also, though the white paper has been public since January 2012, the fundraising to make this project a reality did not start until 31 July 2013. This was when J. R. Willett, the man credited with inventing the ICO, began what became the first ICO ever.

The first ever Mastercoin transaction was recorded on 15 August. The network was put to the test with 1 test Mastercoin being sent. After the test phase, Mastercoin was opened to the public and has continued to receive a steady flow of funding. However, the most significant wave of investors was exposed to Mastercoin during a presentation to BitAngels. BitAngels were the first investor network and incubator created to invest exclusively in cryptocurrency startups. BitAngels were interested in Mastercoin and were on board with the project.

During the fundraising, Mastercoin set up a Bitcoin address; if someone sent BTC to the address before 31 August, they would get 100x the amount of Mastercoins. So, if someone sent 0.01 BTC to the address, he or she would get 1 Mastercoin back. At the end of the Mastercoin ICO, they had raised around 4,700 BTC, which was valued at roughly $500,000 at the time. For comparison, 4,700 BTC is valued at around $41 million at the time of writing. At its all-time high, Mastercoin traded at 0.25 BTC to 1 MSC. In 2015, however, Mastercoin changed its name to Omni and started rebranding. Its goal was to leave behind all of the bad press, criticism and community outrage levelled at Mastercoin and start fresh. As a result of the rebranding, several of the remaining Mastercoin leaders – including chief architect JR Willet, CTO Craig Sellars and board member and BitAngels co-founder David Johnston – have migrated to Omni. Sadly, the project has lost a lot traction and left people unsatisfied. Mastercoin or Omni is only valued 0.0041 BTC to 1 OMNI coin today. However, this has not stopped people contributing to the ICO model.

This method of fundraising proved to be an effective way to crowdfund a project. Instead of turning to private investors that would contribute large sums of money, Mastercoin managed to successfully reach its funding goal by collecting funds from over 500 smaller investors from all around the world.

The biggest ICOs of all time

			Total raised amount (USD mn)[1]	End of ICO (month)	Focus	Industry	Country
1	EOS [2]	1 Year ICO	4,100	6.2018	Infrastructure for decentralised apps	BC infra-structure	Cayman Islands
2	Telegram	New	1,700	3.2018	Tokens for messenger	Social media	British Virgin Islands
3	Dragon	New	320	3.2018	Decentralised currency for casinos	Gambling	British Virgin Islands
4	Huobi Token	New	300	2.2018	Coin for South Korean crypto exchange	FinTech	Singapore
5	HDAC	New	258	12.2017	IOT platform backed by Hyundai BS&C	Internet of Things	Switzerland
6	Filecoin		257	9.2017	Decentralised market for data storage	Data storage	USA
7	Tezos		232	7.2017	Platform for decentralised apps	BC infra-structure	Switzerland
8	Siri Labs	New	157.9	12.2017	Secure open source consumer lectronics	Consumer electron-ics	Switzerland
9	Bancor		153	6.2017	Enabling direct conversion between tokens	FinTech	Switzerland
10	Bankera	New	150.9	3.2018	Banking for the blockchain era	FinTech	Lithuania
11	Polkadot		145.2	10.2017	Simultaneous use of multiple blockchain	BC infra-structure	Switzerland
12	The DAO		142.5	5.2016	Decentralised autonomous organisation	Venture capital	Switzerland
13	Polymath	New	139.4	1.2018	Security token platform	FinTech	Barbados
14	Basis	New	133	4.2018	Stable coin without price volatility	FinTech	USA
15	Orbs	New	118	5.2018	Public blockchain for decentralised apps	BC infra-structure	Israel

1) Calculation based on currency exchange rates on end date of ICO. As Ether and Bitcoin exchange rates are highly volatile, actual and current market capitalisation of the companies today may differ significantly from figures shown in the table. ICO funding amount until

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

The differences between Ethereum and EOS

Projects like DAO or Filecoin have used the Ethereum network to organise their ICOs. However, there are Ethereum alternatives out there. One of these alternatives is EOS.

EOS is one of the newest blockchain projects to have entered the cryptocurrency market. The goal of EOS is to build a robust network that is capable of processing millions of transactions per second. However, EOS has not yet finished building its product. At this stage, everything is just theoretical. The most exciting thing about EOS is that it wants to build a platform that functions like an operating system. Hence, the name E-OS. The ability to process millions of transactions per second would solve a big problem, as although other blockchains can recognise smart contracts, none of them can perform this task quickly enough. For example, even though Ethereum is the most popular smart contract blockchain, it can only handle 15 transactions per second.

EOS (like many other smart contract blockchains) is often referred to as the "Ethereum Killer" because it can do everything that Ethereum can, but faster. Being able to process data faster helps EOS with the "Scalability" issue Ethereum is currently facing. Scalability is one of the most important things to consider when analysing the potential of a blockchain project. Since Ethereum is still only able to process about 15 transactions per second, it runs into issues when more operations need to be handled. The more transactions that are queued up, the longer the completion time for each transaction. Although the EOS network has not been built yet, the EOS ICO (initial coin offering) has been very interesting for a couple of reasons.

The ICO that EOS is organising to fund its project started on 26 June 2017, with a projected end date of 1 June 2018. This makes the EOS ICO a total of 350 days long, currently the longest-running ICO ever.

EOS had raised an incredible 7,162,546.39 ETH going into its final day, meaning it has so far raised $4,201,836,214 ($4.2 billion) at the current Ethereum price of $586. This makes it not only the longest-running ICO, but also one of the most successful ICOs of all time. After the EOS ICO has finished, it will have released 700 million of its tokens, which is equal to 70% of the total token supply. EOS has some experienced team members, including Daniel Larimer, who was also a co-founder at both BitShares and Steem. Larimer's cryptocurrency projects are now worth billions of dollars.

Using the ICO model, the business allows worldwide participation, and its ease of involvement makes sure people who might not have considered investing before can do so. Fundraising through the ICO model shows that, given the proper conditions, the investor market is a lot bigger than previously thought by companies looking for financing. The main attraction of ICOs is that investors can see the results of their investments real time – Since they are trading one currency for another, and all of the data is public. As investors, they can track the price of their investment, and make decisions based on public opinion or the progress of the team.

The differences between Ethereum and NEO

Another cryptocurrency that has been vying for the No. 1 spot is NEO. NEO has been on the rise and has gained a lot of ground on Ethereum. However, as EOS is working on increasing the number of transactions processed, NEO is doing much more. The key differences between NEO and Ethereum could be summarised as follows:

1) **NEO has found instant support among the developer community because it supports programming in multiple languages like C++, C# and Java. On the other hand, to create a project on the Ethereum network, a relatively new language explicitly created for smart contract development called Solidity needs to be used.**

2) **Transaction speed: NEO can handle about 10,000 transactions per second, while Ethereum is limited to 15 transactions per second.**

3) **The NEO blockchain has two different coins – NEO and GAS. Ethereum only has Ether. Anyone who holds NEO in their wallet gets rewarded in the form of GAS. You can think of NEO as the stock of a company and GAS as the dividend.**

4) **Ethereum (Ether) is divisible into smaller units (gas), but NEO is indivisible. So, transfers of 10.5 NEO or 1.2 NEO are impossible, as it only exists in whole numbers.**

5) **NEO is the first and most significant Chinese cryptocurrency and is allegedly supported by the Chinese government. Ethereum, on the other hand, isn't supported by the Chinese government. NEO has an excellent opportunity to capture the massive Chinese market and other Asian markets.**

Difference between tokens and coins

When talking about NEO, Ethereum and EOS, it is essential to mention the difference between coins and tokens. The best way to distinguish coins and tokens is by analysing the cryptocurrency itself. Coins are native to their blockchain, like Bitcoin. Whereas tokens have been built on top of another blockchain. So, Ether would be a coin, because it has a native blockchain. However, if the Ethereum network is utilised and a new cryptocurrency is created on top of the Ethereum network, it is considered a token.

Creating your cryptocurrency

When creating a cryptocurrency, it is essential to decide if a separate blockchain is needed. Because this decision drastically changes the creation process. Making a cryptocurrency with a separate blockchain requires more funding and time. However, if a separate blockchain is not needed, a token can be created instead. This way, rather than building a separate blockchain, an app is built. This app runs on an existing blockchain – like Ethereum or NEO. The main things that needed to be considered before creating a cryptocurrency should be:

1) **The idea: What problem does the project solve, and how is it different from existing solutions?**

2) **Developers: /if an ERC20 token is being made (on the Ethereum network), developers who are proficient in Solidity will be needed. If an NEP-5 token is being made, developers specialising in programming languages such as C++ and Java will be required. Furthermore, the developers will also need to create a smart contract if an ICO will be organised to crowdfund.**

3) **A code audit performed by professionals: If security issues emerge part-way the project, this could spell its demise. An examination decreases the chance of projects getting hacked.**

4) **An informative summary of the project: Having an informative white paper, roadmap or pitch-deck allows potential contributors to get better acquainted with the project.**

White papers should be easy to read, concise and go over all of the major points of the project. A white paper provides potential contributors with all of the required information about your project. When a potential contributor reads through the white paper, they should not have any lingering questions. The best white papers are also original, they are easy to read and understand, and they outline all of the significant points in sequence. Some of the best white papers also contain graphs/charts/illustrations that give contributors a better insight into what the problem is and how the project intends to solve it.

A white paper should generally be formatted as a PDF. This ensures that the white paper is easy to distribute, yet is hard to edit. White paper edits are frowned upon in the cryptocurrency community as it gives the impression that the team did not pay enough attention while outlining its mission or now wants to change the product they set out to make.

Avoid fluff and redundancy. A longer white paper does not mean a better white paper. As potential investors spend time and energy reading through the white paper, it is best to keep it relevant, explaining all of the significant points in as few pages as possible.

The white paper should reflect and take advantage of ICO's worldwide appeal. Translating the white paper into multiple languages can significantly increase the reach of the project and help investors from non-English speaking countries better understand the plan.

Perfecting your white paper is no easy task. However, a genuine team should not run into any problems assembling the information they need to construct a great white paper. White papers help finalise the vision and work out all of the details ahead of time.

Google, Facebook, Mailchimp and Twitter ICO ban

ICOs have come a long way since their inception in the summer of 2013. Raising such large amounts of money that is very hard to trace or recover because most transactions are anonymous has not been without its downfalls, however. Google, Facebook, Mailchimp and Twitter have already banned ICO advertisements. In the wake of this ban, some social networks have tweaked their rules a bit. For example, Facebook remains strict on its no-ICO ad policy, but has now relaxed the ban to allow ads that promote cryptocurrency and related content from pre-approved advertisers. The ban resulted from fraudulent ICOs crowdsourcing their projects and subsequently running off with all the money. These fraudulent ICOs are the reason why extra effort has been put into protecting less infor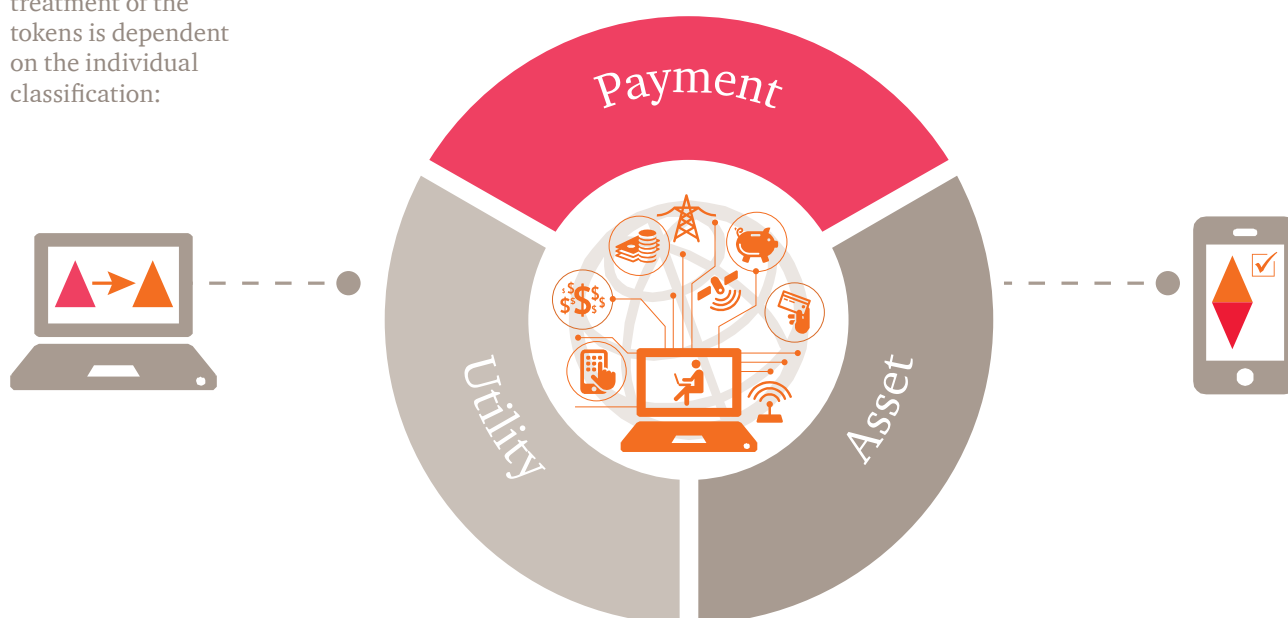med users. The advertisement ban also directly impacts various ICO marketing efforts, which in turn has boosted the popularity of new platforms for advertisements. Like LinkedIn, paid ads are still banned, but cryptocurrency communities still exist. Engaging with these communities could open up like-minded cryptocurrency/blockchain enthusiasts to back your project. Other channels like Telegram, which allows users to create groups with up to 100 thousand members and offers instant messaging, have played a major role in the cryptocurrency community. Moreover, actively participating in Reddit discussions can expose a project to one of the biggest audiences in the world. All in all, the social media ban has affected the cryptocurrency market in one way or another. However, Facebook or Twitter are not the places where most cryptocurrency enthusiasts hang-out; these were used more to target new customers.

Launching an ICO in Switzerland

"Crypto nation" Switzerland has positioned itself as one of the leading ICO hubs in the world by creating a favourable ecosystem for blockchain technology and cryptocurrencies. In January 2018 the Swiss State Secretariat for International Finance (Staatssekretariat für internationale Finanzfragen, SIF) reported that it would set up a working group on blockchain and ICOs. The working group will work together with the Federal Ministry of Justice and FINMA and involve interested businesses. It will study the legal framework for financial sector-specific use of blockchain technology with a particular focus on ICOs and report back to the Federal Council, the Swiss government, by the end of 2018.

The Swiss Financial Market Supervisory Authority FINMA has published guidelines ("FINMA ICO Guidelines"), dated 26 February 2018, setting out how it intends to apply existing financial market legislation on handling enquiries regarding the applicable regulatory treatment of ICOs. The FINMA ICO Guidelines complement FINMA's earlier Guidance 04/2017, published on 29 September 2017.

The regulatory treatment of the tokens is dependent on the individual classification:

Classification of tokens	Regulatory treatment
Payment tokens	There are various legal opinions as to whether tokens of this kind constitute securities. Some assert that all types of tokens should be considered securities; others disagree. Given that payment tokens are designed to act as a means of payment and are not analogous in their function to traditional securities, FINMA will not treat payment tokens as securities. This is consistent with FINMA's current practice (e.g. in relation to Bitcoin and Ether). If payment tokens were to be classified as securities through new case law or legislation, FINMA would accordingly revise its practice.
Utility tokens	Utility tokens will not be treated as securities if their sole purpose is to confer digital access rights to an application or service and if the utility token can actually be used in this way at the point of issue. In these cases, the underlying function is to grant access rights; the connection with capital markets, which is a typical feature of securities, is missing. If a utility token additionally or only has an investment purpose at the point of issue, FINMA will treat such tokens as securities (i.e. in the same way as asset tokens).
Asset tokens	Generally, FINMA treats asset tokens as securities. Asset tokens constitute securities as defined by Article 2 (b) FMIA if they represent an uncertificated security and the tokens are standardised and suitable for mass standardised trading. An asset token also qualifies as a security if it represents a derivative (i.e. the value of the conferred claim depends on an underlying asset) and the token is standardised and suitable for mass standardised trading. In the case of the pre-financing and pre-sale phases of an ICO which confer claims to acquire tokens in the future, these claims will also be treated as securities (i.e. in the same way as asset tokens) if they are standardised and suitable for mass standardised trading.
Hybrid tokens	Hybrid tokens are asset and utility tokens which also classify as payment tokens, or vice versa. Hence, the individual token classifications are not mutually exclusive. In these cases, the requirements must be met cumulatively.

Even though Swiss law is favourable to ICOs, it is important to consider the full range of legal and regulatory factors when planning an ICO in Switzerland.

Building on our in-depth knowledge of the ICO space, our global network and reputation, and our strong relationship with regulators and authorities, we are well positioned to support you in launching your ICO in Switzerland.

In view of your objectives for the ICO, we will undertake the following services:

Phase 3: Implementation

- Registration of the company with an SRO for anti-money laundering ("AML") purpose, incl. preparation/collection of all necessary forms and enclosures compliant with Swiss law, incl. preparation of policies as far as necessary
- Support in discussions with SRO, if necessary
- Setting up adequate know-your-customer ("KYC") and AML procedures compliant with Swiss law and the regulation of the respective SRO for the token sale
- Support in drafting the contractual framework based on Swiss law, incl. forms covering the token sale
- Support in drafting the non-disclosure agreement ("NDA") based on Swiss law covering registration on the website
- Drafting the disclaimers for the website based on and compliant with Swiss law
- Further legal and regulatory support as far as necessary for the ICO

Phase 1: Structure

- Conduct a workshop with you in order to determine the final tax, legal & regulatory structure of the ICO and the qualification of the tokens
- Prepare a tax & regulatory memorandum outlining the tax, legal and regulatory requirements to be complied with
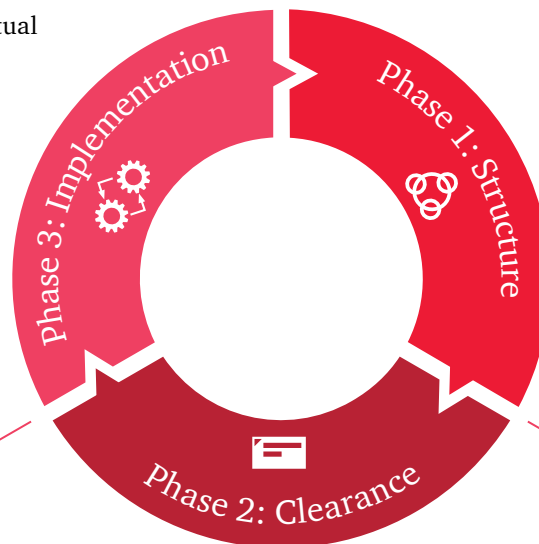
Phase 2: Clearance

- Prepare an application to FINMA with the aim to receive a written ruling regarding the regulatory treatment (regulatory clearance)
- Support in discussion with FINMA, if necessary
- Prepare a cantonal tax ruling to confirm the income tax treatment of the ICO and subsequent operations
- Prepare a VAT ruling to confirm the VAT treatment of the ICO proceeds and the overall VAT position on the Swiss entity
- Prepare a federal tax ruling (if required) to confirm the withholding tax and stamp duty questions (it will be determined in Phase 1 together with you whether or not such a tax ruling is necessary depending on the token model and the operations)

More information about the PwC Legal Switzerland ICO offering and the regulation of ICOs around the world can be found here: https://www.pwc.ch/en/industry-sectors/financial-services/fs-regulations/ico.html

PwC's end-to-end approach for supporting an ICO

Legal/Tax

Business registry and set-up, incl. complex legal entity structures, trusts, cross-border business

Corporate governance & corporate actions, incl. contracts, bylaws and statutory requirements

Support and counsel in **litigations** and intermediation of disputes

Tax structuring and advice (cantonal, federal, international) for all relevant tax categories

Regulatory

Regulatory strategy and advice for all relevant regulations

Compliance, KYC and AML support, incl. turnkey-solutions for digital client on-boarding or industry utilities

Facilitation & support on interactions with regulators (Switzerland and all international jurisdictions)

End-to-end services in receiving **licenses** from regulators

Corporate Finance

Presale and public sale strategy, incl. ICO marketing advisory

Pricing of ICO, valuation of token utility and business model

Sale characteristics

Fundraising with institutional investors

Business Strategy

Design of **overall business strategy & ICO strategy**

Business, financial and target operating model (incl. value for client)

Design and review of **token economics** (e.g. usage and functionality)

Timing of ICO, detailed analysis of the market situation

Project management/ PMO services

Technology

Web agency services (end-to-end), incl. UX design, coding, services, maintenance

Data & analytics services, incl. AI/ML, Quant, Algorithms

Technical support, coding, Blockchain-as-a-Service, integrated technology solutions

Assurance

Risk management and assurance services and solutions for all relevant risk categories

Cybersecurity strategy and services, incl. forensics in fraud or malicious attacks

Financial advice and audit/ assurance services (incl. full/partial audits based on legal requirements)

ICOs

Legal/Tax · Regulatory · Corporate Finance · Business Strategy · Technology · Assurance

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