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Blockchain

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1. Blockchain Market and Business Model Overview

1.1 Evolution of the Blockchain Market

Over last 12 to 24 months, the Swiss blockchain ecosystem has grown consistently and matured in terms of both substance and businesses (despite the fall in prices of digital assets since the ICO boom of 2017/2018).

According to the latest CV VC Top 50 Report, published (by CV VC AG) on 23 January 2020, the top 50 blockchain and cryptocurrency companies in Switzerland and Liechtenstein are valued at USD25.3 billion.

Funding of these companies has reached USD4 billion in total. The number of blockchain and crypto companies has reached more than 800 and the number of people employed in the blockchain ecosystem has increased to 4,400.

The Canton of Zug is the centre of the so-called Crypto Valley. Besides Zug, important technological hubs are Zurich, Geneva, Ticino, Vaud, Lucerne and Berne.

The biggest projects (valued in USD) currently being implemented in the Crypto Valley are Ethereum (USD14.4 billion), Dfinity (USD2 billion), Polkadot (USD1.2 billion), Bitmain (USD1 billion), Libra (USD1 billion), Tezos (USD 924million), Cardano (USD869 million), and Cosmos (USD818 million).

In 2019, the Swiss Financial Market Supervisory Authority (FINMA) issued, for the first time, banking and securities firms' licences to two blockchain service providers, notably SEBA Crypto AG (registered in the Canton of Zug) and Sygnum AG (registered in Canton of Zurich). These licensed companies provide digital services related to brokerage, tokenisation, asset management, banking and custody. As of May 2020, the blockchain ecosystem is still thriving in Switzerland.

Due to the outbreak of COVID-19, further fundraising rounds, or refinancing of operations, are uncertain for multiple blockchain start-ups; this will be the biggest threat to the sector for the next 12 months.

1.2 Business Models

Switzerland (as well as the global blockchain community) is awaiting the update of Ethereum's proof of work concept, that is, the transformation of Ethereum's protocol from a proof of work protocol to a fully fledged proof of stake consensus mechanism (staking platform). It is expected that once the transformation is successfully completed, the network's scalability, security and resilience will be improved. In turn, it may be a more reli-

able underlying protocol for decentralised finance applications (DeFi) that can be used by any other market participants.

In relation to trading in securities, and the clearing and settlement of securities operations, the SIX Digital Exchange (SDX) is creating a fully integrated issuance, trading, settlement and custody infrastructure for digital assets. SDX will focus on a business-to-business model and will operate as regulated financial market infrastructure (including functioning as an exchange and a centralised securities depository).

2. Regulation in General

2.1 Regulatory Overview

As of today, neither blockchain technology nor cryptocurrencies are governed by any sector-specific laws or regulation. Hence, existing laws and regulation apply to the new blockchain technology and, respectively, blockchain-based business models.

On 27 November 2019, the Federal Council proposed new rules for digital assets and submitted to the Swiss Parliament the dispatch on the draft Federal Act on the Adaptation of Federal Law to Developments in the Technology of Distributed Ledgers (*Bundesgesetz zur Anpassung des Bundesrechts an Entwicklungen der Technik verteilter elektronischer Register*).

The draft proposes specific amendments to nine federal acts – eg, the Swiss Code of Obligations, the Swiss Debt Enforcement and Bankruptcy Act, the Swiss Banking Act, the Swiss Financial Institutions Act, the Swiss Financial Market Infrastructure Act and the Swiss Anti-Money Laundering Act (AMLA) – to reflect new technological developments and to improve the regulatory framework for distributed ledger technology (DLT). Previously, the (pre-)draft was subject to public consultation until the end of June 2019 but was widely accepted by the consultation participants, such as the federal administration, cantonal administrations, market participants, leading law firms and industry associations.

The Swiss parliament has not yet reviewed the draft, but it is expected to do so in the course of 2020. The new rules will not disrupt the application of the current regime, under which several statutes must be taken into consideration. Consequently, before a blockchain-based business model is implemented or digital assets are marketed, the project owner should be aware that several statutes may apply in Switzerland (in addition to foreign laws). For example, an initial coin offering (ICO) and/or the envisaged business model may trigger licensing requirements pursuant to one or more Swiss financial market regulation (such as the Swiss Banking Act, the Swiss Collective Investment Schemes Act, the Swiss Financial Services Act, the Swiss

Financial Institutions Act, the Swiss Financial Market Infrastructures Act and/or AMLA). Initially, the FINMA clarified that the existing laws remain applicable to blockchain-based companies or cryptocurrency-related business models, subject to any changes in law or amendments to existing statutes. Going forward, market participants using blockchain technology or cryptocurrency may be subject to one or more laws as the new rules will only partially amend the existing statutes.

2.2 International Standards

In broad terms, Swiss anti-money laundering regulation has implemented the recommendations of the Financial Action Task Force (FATF). Particularly with respect to cryptocurrencies or virtual currencies and following the FATF's adoption of the guidance on the application of the risk-based approach to virtual assets (VA) and virtual asset service providers (VASPs).

FINMA published its guidance concerning payments on the blockchain in August 2019. The purpose of this guidance is to clarify and inform market participants about the regulatory requirements related to the FATF's "travel rule" which should be complied with by financial intermediaries. On 7 February 2020, FINMA further proposed to amend its Anti-Money Laundering Ordinance (AMLO-FINMA) to implement a FATF recommendation for dealing with VASPs.

Pursuant to the proposal, the threshold for customer identification in cryptocurrency exchange transactions shall be reduced from CHF5000 to CHF1000 in accordance with the FATF recommendation. Apart from FATF recommendations and as regards blockchain-based payment systems or stablecoins, FINMA made also clear that the regulatory requirements for such payment systems are based on international standards, such as the Principles for Financial Market Infrastructures (PFMI).

2.3 Regulatory Bodies

FINMA is the regulatory body most relevant to businesses or individuals using blockchain technology or operating fintech companies in Switzerland. As supervisor and regulator, FINMA is responsible for protecting investors and creditors. It also ensures that the Swiss financial market functions properly and FINMA may therefore publish guidelines, information for individuals or public warnings. In the field of blockchain and fintech, FINMA can be approached for a pre-assessment concerning tokens or business models.

2.4 Self-Regulatory Organisations

In Switzerland, there are several self-regulatory organisations (SROs) that may supervise blockchain-based businesses. As a matter of principle, blockchain-based businesses that qualify as financial intermediaries must either be licensed by FINMA – for example as a securities firm, a payment system or a fintech

company – or affiliated with an SRO. In the latter case, FINMA may only indirectly supervise blockchain-based businesses via the SRO.

Such an SRO is responsible for monitoring its member's compliance with Swiss anti-money laundering regulation encompassing, inter alia, AMLA and the SRO's rules and regulations.

Apart from these supervisory bodies, various trade groups and associations have mushroomed in the Swiss blockchain ecosystem in the last two years, for instance, the Bitcoin Association Switzerland, the Swiss Blockchain Federation, the Capital Market Technology Association (CMTA) and the Crypto Valley Association. These associations have no supervisory power, but they can participate in legal consultation processes and/or may set best practice standards on a non-binding basis. Examples of such standards are the Digital Assets Custody Standard and the (anti-money laundering) AML Standards for Digital Assets (each published by CMTA).

2.5 Judicial Decisions and Litigation

As of today, there is no Swiss court decision explicitly interpreting or determining the applicability of Swiss laws to the use of blockchain or cryptocurrencies.

The Swiss regulator has clarified, however, that the existing laws – eg, the Swiss financial market laws – are applicable to new technologies as well. In this context, the initiation of enforcement and bankruptcy proceedings vis-à-vis *envion AG* are noteworthy. The Swiss Cantonal Court of Zug dissolved *envion AG* based on Article 731b, paragraph 1, number 3 (Defects in the organisation of the company) of the Swiss Code of Obligations and ordered its liquidation in a decision of 14 November 2018. The bankruptcy proceedings of *envion AG* were conducted as ordinary bankruptcy proceedings controlled by the Bankruptcy Office of Zug (in accordance with the Swiss Debt Enforcement and Bankruptcy Act). Accordingly, the creditors were informed with a "call to creditors", which prompted more than 6,000 creditors to register their claims through an internet portal. The creditors submitted over 57 million tokens to the bankruptcy administration. In broad terms, this procedure shows that the Swiss courts and authorities apply existing principles of Swiss civil, litigation and bankruptcy law to blockchain-based or cryptocurrency business.

2.6 Enforcement Actions

In 2019, FINMA investigated approximately 60 ICOs and several cases related to secondary market activities in the crypto-area. Concerning the ICOs, FINMA identified violations of AMLA in more than ten cases and eight investigations resulted in entities, which were suspected of illegal conduct, being published on FINMA's warning list.

Enforcement proceedings were ultimately initiated against three companies. One of the companies subject to these proceedings had ignored FINMA's regulatory pre-assessment.

As regards secondary market-related financial services in the crypto-area, FINMA identified breaches of the Swiss Banking Act and/or the Swiss Stock Exchange Act, for example by a provider of token trading and custody services and by a provider of money transmitting services. Important examples of enforcement actions to better understand the "regulatory perimeter" in Switzerland are FINMA's actions against envion AG. In the envion AG case, FINMA concluded the enforcement proceedings against envion AG in March 2019 and found that:

- envion AG unlawfully took deposits from the public on a commercial basis for which it should have obtained a (banking) licence in advance;
- the repayment obligation of envion AG, vis-à-vis the token owners, who made payments in US dollars, bitcoins and ethereums to receive envion tokens, was qualified as taking deposits from the public;
- the conditions for the envion tokens issued in a bond-like form during an initial coin offering (ICO) were not equal for all investors and the prospectuses did not meet the minimum statutory requirements; and
- there was no internal audit unit as required by law.

Had it not been for the liquidation proceedings, as mentioned in **2.5 Judicial Decisions and Litigation**, FINMA could have also ordered the liquidation of envion AG due to breaches of regulatory laws. Having said that, FINMA is willing to continue to consistently take action against ICO business models that violate or circumvent supervisory laws, such as the banking, securities or anti-money laundering regulation. Ultimately, this can lead to the company being liquidated by FINMA.

2.7 Regulatory Sandbox

Swiss blockchain-based businesses that may qualify as banks can make use of the banking sandbox.

In order to benefit from the sandbox exception, the following requirements must be fulfilled:

- acceptance of deposits must not exceed the maximum amount of CHF1 million (even if such deposits are made by more than 20 depositors), provided that such deposits are not invested by the Swiss company and do not bear interest, and
- depositors must be informed (in writing) in advance that the Swiss company is not subject to FINMA supervision and that the deposits are not covered by the deposit protection scheme.

If these criteria are fulfilled, the deposit taking activity will not be deemed to be "on a professional basis". There is no other regulatory sandbox in Switzerland.

2.8 Tax Regime

In Switzerland, as of May 2020, no digital service tax applicable to blockchain-based business models or the use of cryptocurrencies has been introduced.

However, Swiss tax authorities have published guidelines as to how they may treat the use of cryptocurrencies. Notably, the Swiss Federal Tax Administration issued a working paper on 27 August 2019 regarding the taxation of cryptocurrencies and other coins or tokens based on the blockchain technology. This working paper also includes guidelines concerning the net wealth taxes imposed at a cantonal and communal level.

As a matter of principle, existing tax laws may apply to crypto business models or blockchain-based services. For example, transactions with crypto-assets will usually be out of the scope of Swiss transfer taxes. If, however, a token qualifies as a "bond-like" instrument as defined in Swiss tax practice, the trading of such an asset token can trigger Swiss securities transfer tax, should a Swiss securities dealer (as defined in Swiss tax law) be involved as an intermediary in the transaction.

Furthermore, the use of payment tokens is treated in the same manner as the use of fiat currency. The transfer of the payment tokens to a supplier of goods or services is not subject to value added tax. By contrast, the transfer of asset tokens or utility tokens may trigger value added tax consequences. For ICOs, the same principles apply: the VAT treatment of a sale of crypto-assets will depend on the characterisation of the crypto-assets sold. In this regard, the proceeds from the sale of crypto-assets constitute income for the issuer unless the asset sold is a debt instrument. In sum, possible tax consequences for the parties involved in cryptocurrencies transactions must be analysed on a case-by-case basis under current federal and cantonal tax laws (and existing guidelines).

2.9 Other Government Initiatives

In 2018, the State Secretariat for International Financial Matters established a Blockchain Task Force to look into the benefits of the technology. Based on the work of a federal expert group, the Federal Council published a report on 14 December 2018 on the legal framework for DLT and blockchain applications in Switzerland. The report was intended, inter alia, to serve as a basis for the Federal Department of Finance and the Federal Department of Justice and Police to prepare a legislative proposal.

3. Cryptocurrencies and Other Digital Assets

3.1 Ownership

In the context of cryptocurrencies and blockchain, digital assets can be divided into two types of cryptocurrency (or token) from a Swiss civil law perspective.

First, cryptocurrencies (such as Bitcoin) that primarily represent a value within the blockchain context, the value of which is limited to applications on the blockchain. Such tokens cannot be characterised as property (rights in rem), securities or uncertificated securities, or rights. There is thus no specific requirement for the valid transfer of such tokens (or claims to such tokens) from a civil law perspective. In other words: the transfer may occur without any formal requirements by making the de-facto-power-of-disposal (or access) available to the transferee or any third party.

Second, tokens that are intended to represent (tradable) rights existing outside the blockchain and fulfil the purposes of securities, for which formal requirements must be fulfilled. Such tokens (or claims to such tokens) should be structured as uncertificated securities and, strictly speaking, be assigned in writing in order for the “owner” or token holder to validly transfer the token, or the claims to the tokens. The draft of the Federal Act on the Amendment of Federal Laws in light of the Developments regarding the Distributed Ledger Technology (DLT) (*Bundesgesetz zur Anpassung des Bundesrechts an Entwicklungen der Technik verteilter elektronischer Register*) provides for so-called DLT-uncertificated securities. As a result of this, the transfer will be subject to a registration agreement but a written declaration by the token holder to assign the claims is no longer required.

However, under the draft and existing laws, the question as to when the transfer of digital assets is final remains unanswered and the answer will depend on the underlying technology. Should the creditor become bankrupt after it disposed of a digital asset, the time of the disposal and the validation of the transaction will be decisive in determining whether a claw-back is permissible.

3.2 Categorisation

In broad terms, digital assets (such as payment tokens, utility tokens and security tokens) are classified as intangible assets that can be the object of contractual agreements. The prevalent categorisation of digital assets initially stems from FINMA and distinguishes between three types of tokens: payment tokens, utility tokens and asset tokens.

This token categorisation and the treatment of tokens by FINMA are rather straightforward from a Swiss financial market laws perspective. FINMA's focus is on the economic function and purpose of a token (substance over form) and follows the principle of “same risks, same rules”, while taking into account the specific features of each project.

Payment Tokens

These are synonymous with cryptocurrencies, such as Bitcoin, and are tokens which are intended to be used, now or in the future, as a means of payment for acquiring goods or services or as a form of money or value transfer. Cryptocurrencies give rise to no claims on their issuer. Accordingly, FINMA will not treat payment tokens as securities. However, if payment tokens were to be classified as securities through new case law or legislation, FINMA would accordingly revise its practice.

Utility Tokens

These are tokens which are intended to provide access digitally to an application or service by means of a blockchain-based infrastructure. FINMA will not treat utility tokens 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 such cases, FINMA is of the view that the underlying function is to grant access rights and the connection with capital markets, which is a typical feature of securities, is missing. If, however, utility tokens, either additionally or solely, have an investment purpose at the point of issue, FINMA will treat such tokens as securities in the same way as asset tokens.

Asset Tokens

These represent debt or equity claims on the issuer. Asset tokens promise, for example, a share in the future company earnings or future capital flows. In terms of their economic function, therefore, these tokens are analogous to equities, bonds or derivatives. Tokens that enable physical assets (such as commodities or real estate) to be traded on the blockchain would also fall into this category. Hence, FINMA will treat asset tokens as securities if they represent an uncertificated security and the tokens are standardised and suitable for mass standardised trading.

3.3 Stablecoins

Stablecoins are currently not governed by any specific regulation in Switzerland. FINMA's treatment of any stablecoins under supervisory laws follows its existing approach for blockchain-based tokens.

Thus, stablecoins backed by deposits of fiat currency or by “algorithmic” stabilisation mechanism are neither per se payment tokens nor per se security tokens. In any case, stablecoin projects often give rise to potential licensing requirements.

For example, a stablecoin backed by deposits of fiat currency with a fixed redemption right of the token holder may be subject to the Swiss Banking Act. If that stablecoin project would also qualify as payment system, it may additionally be subject to the Swiss Financial Market Infrastructure Act, provided that the payment system reaches the threshold of “significant importance” to the Swiss economy. Should the stabilisation mechanism not depend on the issuance and redemption of tokens and sale or purchase of a currency but, alternatively, depend on the price development of a basket of currencies or commodities, which is managed by the system’s operator, there is the risk that the stablecoin and the issuer will be subject to the Swiss Collective Investment Schemes Act. Finally, FINMA has found that AMLA is “almost always” applicable to stablecoins and the issuer as the payment feature usually appears to be a pivotal element. Applying this approach to, for example, stablecoins linked to currencies, commodities, real estates or securities will prompt any issuer or sponsor of stablecoin projects to pre-assess the project from a supervisory perspective, in particular with respect to Swiss banking regulation, Swiss financial market infrastructure regulation, Swiss securities and funds regulation and Swiss anti-money laundering regulation.

3.4 Use of Digital Assets

In Switzerland, payments for goods and services made with cryptocurrencies are basically allowed and there are no specific, cryptocurrency-related limits. For such payments, the general principles of Swiss civil laws, notably contract law, apply. Hence, the limitations that do apply are to be found, for example, in the Swiss Code of Obligations, which sets out the material and formal requirements for the valid entry into and performance of agreements, such as purchase agreements, service agreements and employment agreements.

3.5 Non-fungible Tokens

No specific regulation applies to the sale of non-fungible tokens (NFTs). Unlike fungible tokens, non-fungible tokens are not interchangeable. NFTs are usually non-divisible in nature. They are thus amendable to blockchain projects related, for example, to digitisation of unique objects (such as pieces of art, luxury goods and real estate), digital identity and digital certifications. From a Swiss financial market supervisory perspective, it can thus not be excluded that the issuance and/or transfer of such tokens will be subject to some degree of financial market regulation. In broad terms, the general principles of law and existing statutes – regarding, for example, data protection, intellectual property, and creditor and investor protection – will apply.

4. Exchanges, Markets and Wallet Providers

4.1 Types of Markets

Markets for digital assets can be traded or exchanged peer-to-peer in the blockchain network or by using cryptobanks, cryptobrokers, crypto-exchanges, or crypto trading platforms.

Currently, the Swiss secondary market for trading digital assets consists of these market participants (or stakeholders). Further, there is a market for exchange traded products whose underlyings are bitcoins or ethereums.

4.2 On-Ramps and Off-Ramps

Usually, persons exchange fiat currencies for cryptocurrencies (and vice versa) as well as cryptocurrencies for cryptocurrencies at crypto-exchanges, cryptobanks and cryptobrokers, or crypto trading platforms. Before such persons can use the exchange or trading services of the respective platform’s operator, they must register and undergo an AML/KYC (anti-money laundering/know your customer) check. Once the onboarding procedure is completed, they may use an account or wallet provided by the platform’s operator.

The exchange or “secondary trading” of cryptocurrencies at cryptobanks and cryptobrokers or crypto-exchanges occurs as follows: either (i) the platform’s operator purchases or sells the cryptocurrencies from or to the persons as a principal, or (ii) it purchases or sells the cryptocurrencies as an agent of the customer. By contrast, the exchange or “secondary trading” of cryptocurrencies at trading platforms is usually based on a multi-party relationship. That is, crypto trading platforms automatically match the purchase or sale orders of their clients and credit or debit the respective amounts. While at centralised cryptocurrency trading platforms the accounts offered by the platform are involved, at decentralised cryptocurrency trading platforms trades are settled directly by using the customer’s blockchain address. The use of centralised cryptocurrency trading platforms is, currently, more common in Switzerland. As crypto-exchanges, cryptobanks and cryptobrokers, and centralised crypto trading platforms qualify as financial intermediaries, they are required to apply the AML-identification and monitoring rules upon the commencement of the client relationship and during the execution of money transmission transactions. As financial intermediaries, they must be directly supervised by FINMA or affiliate with a self-regulatory organisation.

4.3 KYC/AML

AMLA states that financial intermediaries are persons who, on a professional basis, accept or hold onto deposit assets belonging to others or who assist in the investment or transfer of such assets.

They include, in particular, persons who provide services related to payment transactions, in particular by carrying out electronic transfers on behalf of other persons, or who issue or manage means of payment such as credit cards, travellers' cheques or virtual currencies or accepts such virtual currencies.

In principle, persons transferring digital assets, such as payment tokens may qualify as financial intermediaries and, as such, they are subject to the simplified due diligence duties and the enhanced due diligence duties. For example, a cryptobroker must identify its customers and determine the beneficial owner of the assets with which it is dealing.

Furthermore, if legal entities are customers of a cryptobroker, the broker must determine the controlling persons of those legal entities and be provided with certain corporate documents and power of attorneys. Under certain circumstances, the cryptobroker must also clarify the economic background and the purpose of a cryptotransaction or of a business relationship (eg, if the transaction or the business relationship appears unusual or if the transaction or business relationship appears to be very risky).

4.4 Regulation of Markets

As mentioned in **3. Cryptocurrencies and Other Digital Assets**, the existing laws apply to markets for digital assets. The implementation of digital asset projects often gives rise to potential licensing requirements under financial market supervisory laws. In this respect, FINMA is the competent regulator or supervisor to monitor compliance with Swiss financial market regulation. Additionally, should there be suspected illegal conduct with respect to other areas of regulation – such as anti-trust laws, tax laws, criminal laws or unfair competition – other authorities may become involved (eg, federal or cantonal prosecutors, administrative authorities or courts).

4.5 Re-hypothecation of Assets

In Switzerland, there is no specific regulation of blockchain or cryptocurrencies applicable to re-hypothecation. Should the service of the digital asset exchange qualify as financial service, the Swiss Financial Services Act may apply.

This Act states that financial service providers may borrow financial instruments from clients' portfolios as a counterparty or act as an agent for such transactions only if the clients have given their prior and express consent to these transactions in writing or in another form demonstrable via text in an agreement that is separate from the general terms and conditions. This Act may thus limit the on-transfer if digital assets are to be borrowed from the client.

4.6 Wallet Providers

In Switzerland, there is no specific regulation of blockchain or cryptocurrencies applicable to wallet provision. In practice, cryptobanks, cryptobrokers, crypto-exchanges and crypto trading platforms as well as cryptocustodians offer custodian services. In particular, cryptocustodians (such as XAPO) are specialised companies that offer hot storage of digital assets and/or cold storage of digital assets for their clients.

Hot or cold storage solutions for private cryptographic keys must be assessed on case-by-case basis from a Swiss banking regulation perspective. As a matter of principle, if clients' assets are commingled or the service provider has the sole power of disposal over the clients' assets, there is an imminent risk for the service provider that the services will be regulated under the Swiss Banking Act.

5. Capital Markets and Fundraising

5.1 Initial Coin Offerings

In Switzerland, there is no regulation specific to initial coin offerings (ICOs). As mentioned in **3. Cryptocurrencies and Other Digital Assets**, the existing laws apply to this kind of fundraising. FINMA will apply financial market laws if the issuance of tokens and/or the commercial activity qualify either (i) as payment tokens or asset (security) tokens, or (ii) as regulated business activity (such as banking activity, securities dealing activity or financial intermediation).

As a matter of principle, FINMA will apply the principles of "substance-over-form" and "same risks, same rules". For example, FINMA will first categorise the ICOs and if, for example, the ICO qualifies as securities token offering, FINMA will analyse whether the securities offering complies with the Swiss Financial Services Act, the Swiss Collective Investment Schemes Act and/or the Swiss Financial Market Infrastructure Act (whichever is applicable). Then, FINMA will analyse the commercial activity and assess whether it is centralised or decentralised. For example, if the token issuer operates, on a commercial basis, a centralised trading platform through which the token holders may trade or exchange their tokens, FINMA may qualify the issuer as securities firm or trading facility subject to the Swiss Financial Institutions Act or the Swiss Financial Market Infrastructure Act (whichever is applicable).

5.2 Initial Exchange Offerings

In Switzerland, there is no specific blockchain or cryptocurrency regulation applicable to initial exchange offerings (IEOs). The same principles apply as mentioned in **3. Cryptocurrencies and Other Digital Assets** and **5.1 Initial Coin Offerings**.

5.3 Investment Funds

In Switzerland, there is no specific blockchain or cryptocurrency regulation applicable to crypto investment funds or collective investment schemes that invest in digital assets.

FINMA applies the existing Swiss Collective Investment Schemes Act and the respective ordinances to crypto investment funds. Such funds would qualify as alternative investment funds subject to certain investment rules. Crypto Fund AG is currently the only licensed asset manager for crypto funds in Switzerland.

5.4 Broker-Dealers and other Financial Intermediaries

In Switzerland, there is no specific blockchain or cryptocurrency regulation applicable to broker-dealers or other financial intermediaries that deal in digital assets. As a matter of principle, FINMA applies existing financial market regulation on a case-by-case basis to assess whether a licence is required.

6. Smart Contracts

6.1 Enforceability

In Switzerland, there are no laws, regulations or binding judicial decisions addressing the legal enforceability of smart contracts. Swiss legal doctrine largely agrees that a smart contract is not a contract in the sense of the Swiss Code of Obligations.

Due to the automated character of a smart contract, the application of civil law principles concerning the formation and execution of traditional contracts to smart contracts raises questions. According to the prevailing doctrine, a computer system lacks the legal personality required to enter into a contract. There might also be legal uncertainty due to the pseudonymity that the users or participants in blockchain networks have, even their legal capacity to initiate transactions, which are then automatically executed by the smart contract, could be questioned. The legal validity of arrangements related to smart contracts is not, however, *prima facie* excluded.

6.2 Developer Liability

As existing legal principles apply to the blockchain technology, the legal risk that developers be held responsible for losses, as injuring party or tortfeasor based on contractual or tort law (eg, liability for programming errors, technical program effects, or any technical flaws), cannot be excluded.

Furthermore, pursuant to the draft Federal Act on the Adaptation of Federal Law to Developments in the Technology of Distributed Ledgers (*Bundesgesetz zur Anpassung des Bundesrechts an Entwicklungen der Technik verteilter elektronischer Register*), the obligor under a ledger-based security is liable for damage

to the acquirer arising out of information that is inaccurate, misleading or in breach of statutory requirements, unless the obligor can prove that he or she acted with due diligence. Consequently, if an obligor were to use a specific blockchain technology in order to issue tokens, it might be held liable if that technology had flaws and caused losses to the token holders.

7. Lending, Custody and Secured Transactions

7.1 Decentralised Finance

The operation of decentralised finance (DeFi) platforms is not prohibited in Switzerland. In Switzerland, there is no specific blockchain or cryptocurrency regulation applicable to DeFi platforms. As mentioned in **3. Cryptocurrencies and Other Digital Assets** and **5. Capital Markets and Fundraising**, FINMA applies existing financial market regulation on a case-by-case basis to assess whether a licence is required for the platform's operation. As a matter of principle, there is the risk that cryptocurrency lending activities will be subject to the Swiss Banking Act.

7.2 Security

A lender can take collateral for a loan in the form of a pledge or a transfer of "ownership" of claims by entering into a separate security agreement. Claims can either be pledged or assigned for security purposes.

Under current Swiss laws, the requirements are that the security agreement must be valid and in writing. The assignment for security purposes also requires the assignor to sign the assignment itself. As this signing requirement is impractical with regard to digital assets, the draft Federal Act on the Adaptation of Federal Law to Developments in the Technology of Distributed Ledgers (*Bundesgesetz zur Anpassung des Bundesrechts an Entwicklungen der Technik verteilter elektronischer Register*) clarifies that the pledge or assignment of cryptocurrencies and tokens need no longer be in writing in order to be valid.

7.3 Custody

Professional investors must have a valid transfer agreement which should be in writing under current Swiss laws (as discussed in **7.2 Security**). A custodian may qualify as financial intermediary and be subject to Swiss financial market regulation, notably Swiss anti-money laundering regulation. Hence, a custodian will be required to affiliate with a self-regulatory organisation. Should that custodian take deposits, it may also be required to obtain a licence as a fintech company or bank in Switzerland.

8. Data Privacy and Protection

8.1 Data Privacy

The exercise of data subjects' rights is particularly demanding and subject to general principles of Swiss civil law, notably the Swiss Federal Act on Data Protection.

According to the Swiss Federal Act on Data Protection, data subjects have a legal right to information, rectification, revocation and deletion. The right to information entitles data subjects to request information from the data controller on whether data relating to them is being processed. The other rights of data subjects are essentially aimed at correcting false, incomplete and/or redundant data. Since public blockchains do not have a central control body and there is consequently no central person responsible for data protection, the enforcement of these rights (including the "right to be forgotten") are de facto impossible.

Hence, the blockchain should be designed in a way to comply with Swiss laws and regulation. For example, if the person concerned consents to data processing before using a blockchain or blockchain-related product, the specific processing of that individual's data, within the scope of those application and to the extent of this consent, is not unlawful. Further, "chameleon hash functions" may enable data on a blockchain to be deleted under certain conditions, or the storage of data off-chain, while limiting the on-chain data to hash values may be a permissible privacy design under Swiss privacy laws.

8.2 Data Protection

In principle, when personal data is processed, the Swiss Federal Act on Data Protection applies. Accordingly, and firstly, personal data is all information relating to an identified or identifiable person.

A person is identified when information clearly establishes the identity of that individual. The person is identifiable if that individual can be inferred on the basis of additional information. The existence of personal data must be assessed on a case-by-case basis and in consideration of the specific circumstances.

Therefore, it cannot not be excluded that data stored on blockchains, or blockchain-related products or services, can be regarded as personal data if there is actual or legal access to additional information that enables the person concerned to be identified. Secondly, processing of data means any operation with personal data, irrespective of the means and procedures applied, in particular the collection, storage, use, modification, disclosure, archiving or destruction of personal data. Data processing in that sense occurs when a node is added to a

blockchain, and the block is duplicated and saved again. Processors of this data are all participants in the system (namely the initiator of a transaction, the receiver, and the party who validates a transaction under the consensus mechanism). Swiss law requires each of these processors to comply with the principles of transparency (recognisability of data procurement and its purpose), purpose limitation, proportionality, correctness and security of the data.

9. Mining and Staking

9.1 Mining

Mining activities are allowed in Switzerland. Mining of cryptocurrencies, confirming transactions and validating blocks do not per se constitute financial services, nor are they deemed regulated activities subject to Swiss financial market regulation.

That said, if, for example, a mining company domiciled in Switzerland validates transactions and is rewarded with cryptocurrency (such as bitcoins), that company should not qualify as financial service provider or financial intermediary.

However, if the mining company involves third party assets and carries out the mining activities on behalf of others, it may be deemed a financial intermediary, which could trigger licensing or registration activities subject to Swiss financial market laws. As a matter of principle, FINMA applies existing financial market regulation to any crypto business model if required.

9.2 Staking

Staking activities are allowed in Switzerland.

The staking process and activities do not per se constitute financial services, nor are they deemed regulated activities subject to Swiss financial market regulation. For example, the Cardano Foundation, which is domiciled in Switzerland, has developed a proof of stake (PoS) consensus protocol.

Furthermore, Ethereum intends to migrate from a proof of work (PoW) to a PoS consensus protocol. Depending on the business models using such protocols, Swiss financial market regulation may apply, for example if the tokens created on a PoS consensus protocol qualify as securities then the respective operations by the token issuer would resemble the activities of an asset manager. In such a case, the Swiss Financial Institutions Act and the Swiss Collective Investment Schemes Act may apply. As a matter of principle, FINMA applies existing financial market regulation to any crypto business model if required.

SWITZERLAND LAW AND PRACTICE

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Pestalozzi is a multicultural Swiss business law firm that has focused on high-end work for domestic and international clients since 1911. Pestalozzi lawyers are strong and empathic personalities who are singled out by a truly independent approach in their advice and representation of their clients' interests. The firm guides and supports its clients in their strategic business decisions, anticipates their future challenges and helps them solve their critical issues. Being fully integrated, Pestalozzi encounters no internal limits in shaping the most

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