SMART VALOR

Decentralized Marketplace
for Tokenized Alternative Investments

Whitepaper

Version 0.9.8 – November 2018



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SMART VALOR

The company name stands for Smart Securities, tokens representing securities, which are issued on the blockchain and governed by smart contracts.

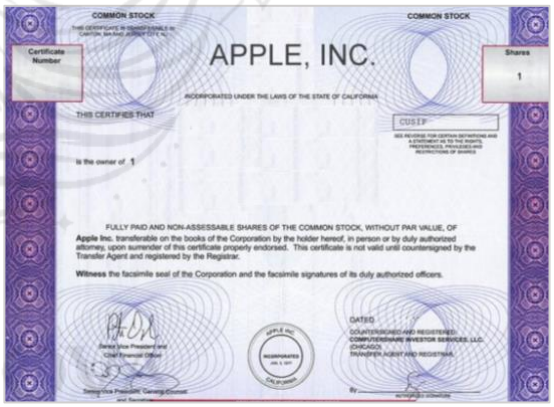
SMART

As in Smart Contracts

```
contract AppleX is ERC20Token {
 function transfer(address _to, uint256 _value)
public returns (bool) {
require(_value <= balances[msg.sender]);
balances[msg.sender] =
balances[msg.sender].sub(_value);
balances[_to] = balances[_to].add(_value);
```

VALOR

As in Securities (in Switzerland)



SMART **Securities**

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Summary

SMART VALOR AG is a Swiss company, founded in Zug in April 2017. It is the first decentralized global **marketplace for tokenized alternative investments.**

The mission of the company is to give access to **digital assets** to people around the world in an easy, secure and compliant way. The company utilizes blockchain technology to **democratize access to wealth**.

Building on the Swiss crypto-friendly regulation, the **VALOR Platform** is an online investment platform with a focus on alternative investments such as:

1. **Cryptocurrencies and non-security tokens** (protocol, utility, and payment tokens)
2. **Asset-backed security tokens** such as equity in young companies, real estate, crypto funds, venture capital, and private equity funds

As of August 2018, the team consists of 37 full-time contributors, led by co-founders Julien Bringer, Thomas Felber, Olga and Oliver Feldmeier, with offices in Zug (CH), Munich (GE), and Paris (FR). Its investors and advisory board comprises of senior figures from blockchain, banking, and investor spaces such as Markus Rinderer, and David Johnston.

SMART VALOR is currently head-quartered in Thomson Reuters Labs in Baar (Kanton Zug). It has been selected out of hundreds of applicants as one of the five companies hosted by the **Thomson Reuters Incubator**. It has also been nominated as **top 10 European tech startups of 2018 by Forbes**.

SMART VALOR operates as **Financial Intermediary**, having been accepted as member of the VQF SRO, an officially recognized self-regulatory organization pursuant to the **Swiss Anti-Money Laundering Act**.

The staged launch of the VALOR platform is scheduled to proceed in the fourth quarter of 2018.

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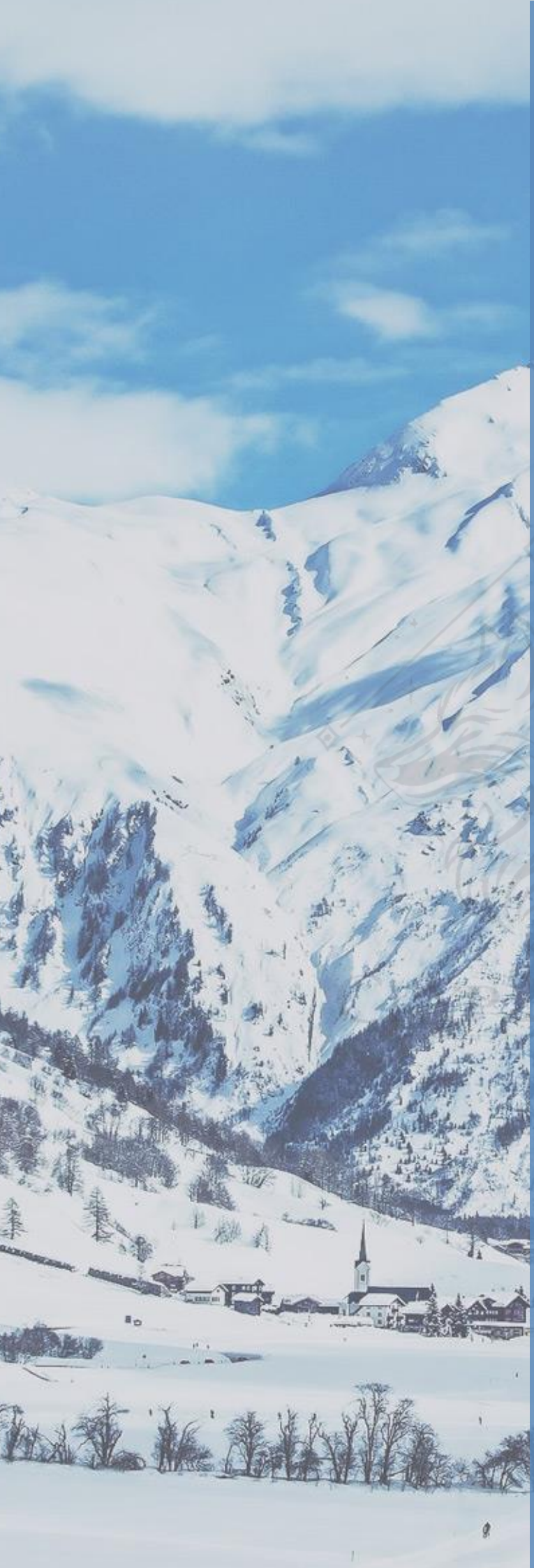
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For to be free is not merely to cast off one's chains, but to live in a way that respects and enhances the freedom of others.

Nelson Mandela

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1. The problem, the opportunity and company mission

1.1 SMART VALOR's mission

The mission of the company is to give access to digital assets to people around the world in an easy, secure and compliant way. Utilizing blockchain technology, the company will democratize access to wealth.

Beyond digital assets, the company deploys tokenization to real-world assets making exclusive investment opportunities more widely accessible and simple. Where you are in the world and the extent of your wealth should not matter. The VALOR Platform will democratize access to great investment opportunities and borderless wealth – independent of local limitations and the dominance of Wall Street.

Just as the internet democratized access to information, blockchain will democratize access to value and money. SMART VALOR believes that freedom of financial choice is as much a human right as freedom of speech.

1.2 The problems SMART VALOR aims to solve

Today, investing in new digital assets such as cryptocurrencies, protocol tokens, and ICOs is subject to high danger of hacking, poor user experience, and legal uncertainty[1].

- On the legal side, the majority of investment platforms and exchanges in the crypto asset space run as unauthorized businesses[2], holding limited legal obligation to users of these platforms.
- As of today, USD2.3 billion in crypto assets have been lost in various hacking attacks[3]. This is often due to the lack of a standard system-level and software security measures, insufficiently secure wallets and usage complexity.
- In most cases, users need technical skills to be able to generate transactions, operate wallets and store the related cryptographic keys. For traditional investors looking to gain exposure to this new asset class this is simply not a viable option.

Beyond new digital assets, the space of alternative investments such as real estate, venture capital and private equity is currently accessible only to big investors due to the high minimal stakes and **illiquid nature** of these investments. Tokenization is set to solve this problem by making alternative investments fractional, accessible and more liquid.

Lastly, the access to investment opportunities and protection of a stable and independent jurisdiction is a privilege of people in the developed world. The legal framework of banking systems in such countries as Switzerland and Liechtenstein protects the privacy and safety of

1 The Financial Technology Law Revie. (2018). Thomas A Frick, p.5

2 Forex, options binaires, biens divers, produits dérivés sur crypto-actifs : la liste noire des sites internet. (2018). Retrieved from https://www.amf-france.org/Epargne-Info-Service/Proteger-son-epargne/Listes-noires?#title_paragraph_4

3 USD2.3 Billion in Losses Highlights Crypto's Moral Hazard. (2018). Retrieved from https://www.bloomberg.com/view/articles/2018-06-11/-2-3-billion-in-losses-highlights-crypto-s-moral-hazard

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clients. Additionally, the open approach of financial supervisory authorities to crypto businesses, makes it an ideal place to resolve the problem of access, legitimacy and data protection in the crypto space.

1.2.1 Shortcomings of today's financial system

In a broader context, there are several shortcomings of today's financial system, which blockchain technology can help to mitigate.

Figure 1:
Shortcomings of today's financial system

EXPENSIVE INTERMEDIARIES	▪ Multiple layers of intermediaries charge fees throughout the financial system. ▪ The sheer quantity of intermediaries creates unjustifiable economic slack and burdens on society.
WEALTH REDISTRIBUTION	▪ Regular banking crises redistribute wealth between insiders and ordinary citizens through government bailouts. ▪ In developing countries, governments use inflation as a mean of wealth redistribution from poor to rich.
INEFFICIENT INFRASTRUCTURE	▪ Access to banking and financial products is limited in most countries outside of the developed world. ▪ Money transfers and transaction settlements are slow and expensive due to complex institutional landscape and legacy.

The SMART VALOR team believes that it is a basic human right for people all over the world to possess and make their own decisions about their money and investments. This is especially true in developing countries, where there are multiple interferences that make it impossible for people to manage their wealth efficiently and safely.

Some countries impose **capital controls** which prevent their citizens from transferring their own money abroad or investing in specific assets. Many countries use **inflation** to solve economic problems, while ordinary people bear its cost. Additionally, pension reforms and **misappropriation of assets** can happen at any time, wiping out an individual's wealth.

Members of business and government elites can usually protect their wealth. Safe havens like Switzerland, the UK and Hong Kong have become some of the largest centers for **offshore wealth management**. Beyond safety, access to attractive investment products, especially in the alternative investment space, remains a **privilege of the few**.

1.2.2 Changing the status-quo

SMART VALOR believes that cryptocurrencies and blockchain technology have arrived to challenge this status-quo. Today, anybody anywhere can buy Bitcoin or Ether and invest in attractive startups alongside Silicon Valley investors.

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However, this process - referred to as Initial Coin Offering (ICO) - currently suffers from **regulatory uncertainty.** Regulation significantly lags behind the development enabled by blockchain technology. In this context, Switzerland has emerged as one of the global leaders in the blockchain space, as it benefits from its fundamentally liberal and principle-based regulatory approach. Switzerland became the second largest country in terms of ICO volume and home to many high-quality ICOs such as Bancor, Status, Cosmos, etc., who raised a total of USD1.06 billion last year[4].

As political leadership in Switzerland announced plans for the country to become one of the leading nations in this field (**'Crypto Nation Switzerland'**)[5], the Swiss financial regulator created 'ICO Guidelines' which are targeted at enabling legitimate innovators to run compliant fundraisings[6]. The dedicated Blockchain taskforce created by the State Secretariat for International Financial Matters (SIF) is working on creation of further regulatory adjustments[7]. In Liechtenstein, the government is also working on new Blockchain Law, which is expected to become effective in 2019.

1.3 Tokenization: a technology-driven, tectonic shift

Frequently, the invention of distributed ledger technology (blockchain) is compared to the introduction of internet and TCP/IP protocol in the early nineties. In the same way the internet enabled global access to information, blockchain is set to enable global access to value, finance, and money. In this sense, the blockchain is essentially the **internet of value**[8].

The first effects of it are just starting to take shape in the form of remittances and globally crowdfunded projects. This is just the beginning. As cryptocurrencies evolve and ownership of real assets transform with tokenization, the fundamental change it drives will reverberate through every branch of the financial system.

In this context, SMART VALOR has chosen to focus on building a decentralized marketplace for **tokenized alternative investments** that will enable the **democratization** of access to wealth.

Traditional alternative investments like private equity, venture capital, and real estate represent in many cases attractive investment opportunities. However, these are less liquid assets that are not easily accessible to average investors. Many real-world assets, such as real estate, art, diamonds and gold, are difficult to physically divide or transfer. Buyers and sellers often exchange written contracts that usually represent the entire asset. These paper trails can make keeping track of complex legal agreements difficult. High value, unavailability of fractional ownership, non-fungibility and high transaction costs lead to many of these assets being illiquid and excluded from trade.

This is where tokenization comes in. Tokenization is the representation of rights to an asset through a **cryptographic token issued on the blockchain**. Tokens are a frictionless way to transfer the ownership of any asset.

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[4] The State of the Token Market: A Year in Review and Outlook. (2018). FabricVentures and TokenData

[5] A banking centre seeks to reinvent itself. (2018). Retrieved from https://www.economist.com/finance-and-economics/2018/02/24/a-banking-centre-seeks-to-reinvent-itself

[6] FINMA, E. (2018). FINMA publishes ICO guidelines. Retrieved from https://www.finma.ch/en/news/2018/02/20180216-mm-ico-wegleitung

[7] Blockchain/ICO working group established (2018) Retrieved from https://www.efd.admin.ch/efd/en/home/dokumentation/nsb-news_list.msg-id-69539.html

[8] Q&A with Olga Feldmeier, Cryptoqueen and CEO SMART VALOR (2018) Forbes retrieved from https://www.forbes.com/sites/montymunford/2018/07/30/qa-with-olga-feldmeier-cryptoqueen-and-ceo-smart-valor/ - 5e3f64d73bcd

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1.3.1 Benefits of tokenization

Migrating assets to the blockchain offers several major advantages over traditional securitization or other forms of digitalization. These advantages are summarized here.

Figure 2:
Advantages of Tokenization

DECENTRALIZED RECORD OF OWNERSHIP	SMART CONTRACT-BASED EXECUTION	24/7 ACCESS
No need to trust a bank or any other centralized institution to keep a safe record of the ownership of your assets.	Self-executing securities based on smart contracts will allow for more complex conditional payment structures to be reflected and automated.	Just as with cryptocurrencies, tokenized investments can be traded anytime, from anywhere in a global P2P network.
INSTANT EXECUTION	**FRACTIONAL OWNERSHIP**	**ENHANCED LIQUIDITY**
The blockchain accommodates both transfer transactions and a record of ownership. Transfer of ownership is instant (instead of the 2-3 days settlement time on today's stock exchanges).	Tokens represent a tiny fraction of the asset's value, making investing in that asset more affordable to a wider group of investors.	Tokens can be traded at any time. This creates greater liquidity in traditionally illiquid asset classes like private equity and physical assets.

The major advantage of tokenization is that the digital representation of the ownership rights is created on a public blockchain[9]. A public blockchain is a globally accessible ledger, with decentralized management operated by a network of peers which comply within an open source protocol. This network acts as the same place for the record of ownership and its transfer.

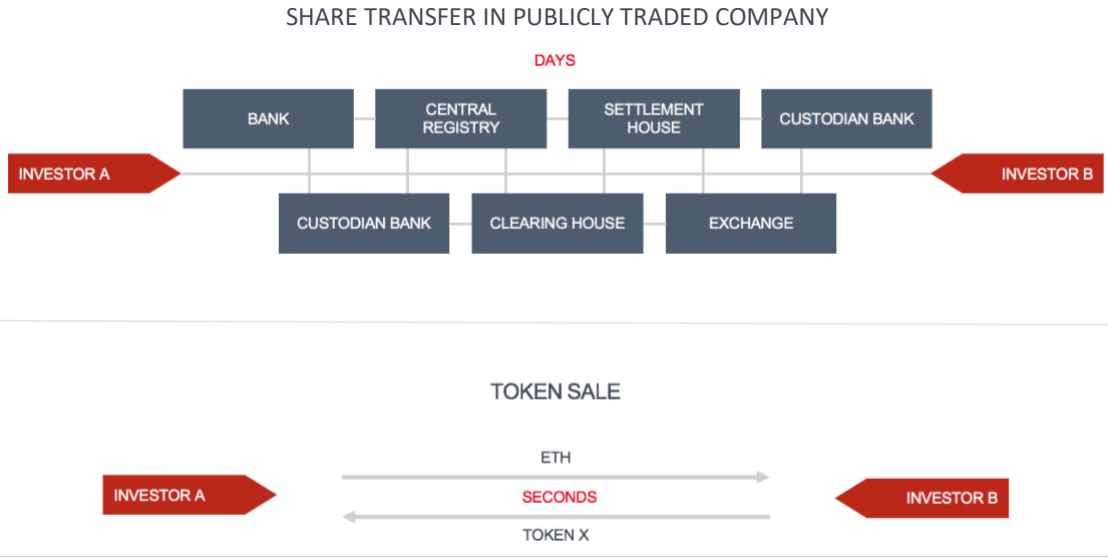
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The transfer of ownership of any asset-backed token issued on the blockchain can be equally **fast, secure and cost-efficient** as the transfer of Bitcoin or Ether on their respective networks. Figure 3 illustrates the difference between an exemplary share transfer via traditional process versus blockchain.

Figure 3:
Share transfer via traditional (top) versus blockchain (bottom) technology

[9] Prableen Bajpai, C. (2018). Blockchain. Retrieved from https://www.investopedia.com/terms/b/blockchain.asp

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In addition to the advantages mentioned above, the global distribution of security tokens can be significantly simplified. "When securities are tokenized, compliance can be automated, which means that regulated trade will no longer be restricted to walled gardens. Security tokens will be able to trade anywhere, including decentralized exchanges. Further, baking compliance into the token could help market participants navigate the extremely complex task of selling securities across borders"[10].

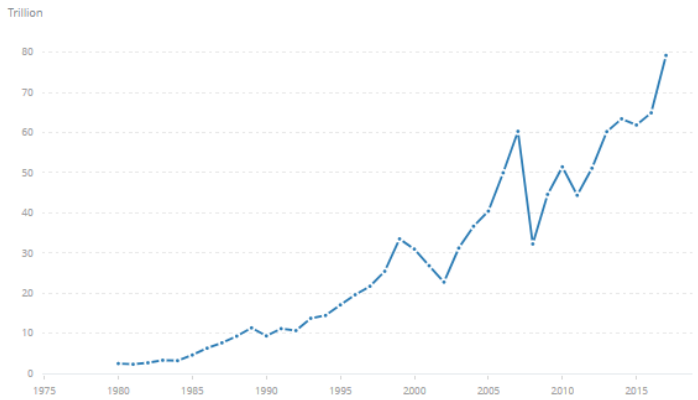
The **potential of securitization on the blockchain** is massive, which is why many exchanges and banks have started to build their own applications on private blockchains. The size of the opportunity becomes apparent when looking at the size of the market capitalization of listed companies worldwide, which recently reached USD79.2 trillion after considerable growth in the last 30 years as illustrated in Figure 4.

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[10] McKeon, S. (2018). The Security Token Thesis. Retrieved from https://hackernoon.com/the-security-token-thesis4c5904761063

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Figure 4:
Market capitalization of listed companies worldwide -1975-2017.[11]



In comparison, the crypto asset market capitalization represents only around 0.4% of today's equities market. As **tokenization of real-world assets takes off** and ICOs morph into the new form of IPO, the **digital asset market capitalization is set to grow exponentially**.

1.3.2 Challenges of tokenization

In a network that powers tokenized assets, consistency is key. The protocols underneath public blockchains enable the **secure, immutable and consistently reliable** execution of transactions and smart contracts. In dealing with real world assets represented by tokens new challenges arise. One of them is ensuring consistency between the physical asset and its digital token[12].

The tokenization of real-world assets is an ongoing challenge that requires innovative solutions. These solutions need to incorporate technology with new business processes - and in some cases - new legal forms. Clearly defined legal models need to be put into place to protect both the asset seller and the investor. To manage these challenges, the VALOR Platform incorporates additional auditing procedures. These procedures vary across different investment types.

For example, today the number of shares issued by a certain company is recorded in a public company registry in the country where the company is domiciled. As these entities move to a blockchain-based solution, the change of ownership will be directly registered in the public ledger without any time lag. The first implementation cases are already in progress today, such as a company registry in Switzerland[13] and a real estate registry in Sweden[14]. As more and more centralized registries for all sorts of assets move on-chain in the coming years, consistency between tokens and their underlying assets will become less and less of an issue.

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[11] The World Bank. Market capitalization of listed domestic companies (current USUSD). Retrieved from https://data.worldbank.org/indicator/CM.MKT.LCAP.CD?end=2017&start=1975&view=chart

[12] This consistency is needed to avoid the situation in which an asset could be represented through redundant tokens and sold many times on different market places.

[13] Moi, G. (2017). *Proof of concept (POC): Blockchain for das Handelsregister des Kantons Genf* [PDF]. Retrieved from https://www.bj.admin.ch/dam/data/bj/staat/rechtsinformatik/magglingen/2018/01b-moi-d.pdf Note: This consistency is needed to avoid the situation in which an asset could be represented through redundant tokens and sold many times on different market places

[14] Anand, S. (2018). A Pioneer in Real Estate Blockchain Emerges in Europe. Retrieved from https://www.wsj.com/articles/a-pioneer-in-real-estate-blockchain-emerges-in-europe-1520337601

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"We're moving into a period of human history whereby very large numbers of people can become owners of wealth through distributed ledger technology.

Enabling access to the world's financial markets and therefore the universe of investment opportunities, from conventional investments to participation in mass collaboration ventures, microlending schemes, blockchain IPOs, and reputation-based microlending, will open access to capital.

Don & Alex Tapscott
Blockchain Revolution.

"

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2. What is the VALOR Platform and who is it for?

The VALOR Platform is an **online investment platform with focus** on digital assets such as:

1. Cryptocurrencies and non-security tokens (protocol, utility and payment tokens)
2. **Asset-backed security tokens** such as equity in young companies, real estate, crypto funds, venture capital, and private equity funds

All investments on the platform are created in a form of token, a cryptographic object issued on the blockchain, powered by smart contracts.

All these investments belong in the space of alternative investments. Therefore, the VALOR Platform is positioned as a marketplace for tokenized alternative investments. It is operated by SMART VALOR AG, a Swiss company founded in 2017 in Zug (CH)[15].

SMART VALOR operates as Financial Intermediary, being accepted as member of the VQF SRO, an officially recognized self-regulatory organization pursuant to the Swiss Anti-Money Laundering Act.

The unique service proposition of the VALOR Platform is an easy, secure and compliant access to alternative investments for investors independent of their wealth or destination.

For traditional investors it solves **the problem of legitimacy and security** in the crypto space. Additionally, it gives them access to alternative investments, which are not available for them today. This USD7 trillion industry is today accessible to only rich and influential people in developed countries. The tokenization of assets is a *gamechanger* which will democratize access to wealth, independent of net-worth and location.

2.1 What is the product offering?

The VALOR Platform will be rolled out in two major stages. In the beginning, it will focus on **cryptocurrencies and non-security tokens.** The reason for the staged approach is the regulatory approval process. In August 2018, SMART VALOR received Financial Intermediary status in Switzerland which enables it to offer non-security tokens.

In the **second stage of the roll-out**, after receiving a bank license, the VALOR Platform will focus on **security tokens**. Within the security token space, the platform will focus on tokens backed by equity in young companies, crypto funds, real estate, venture capital, and private equity.

2.1.1 Cryptocurrencies and non-security tokens

Investments in **cryptocurrencies and other non-security tokens** are on an extensive growth trajectory. Within the last two years, the total market capitalization went from USD12 billion to 252 billion, reaching 828 billion in between (as of 7th August 2018). Although it fell significantly from the once-achieved peak, the annual growth of the last 12 months reached 252%. This kind of

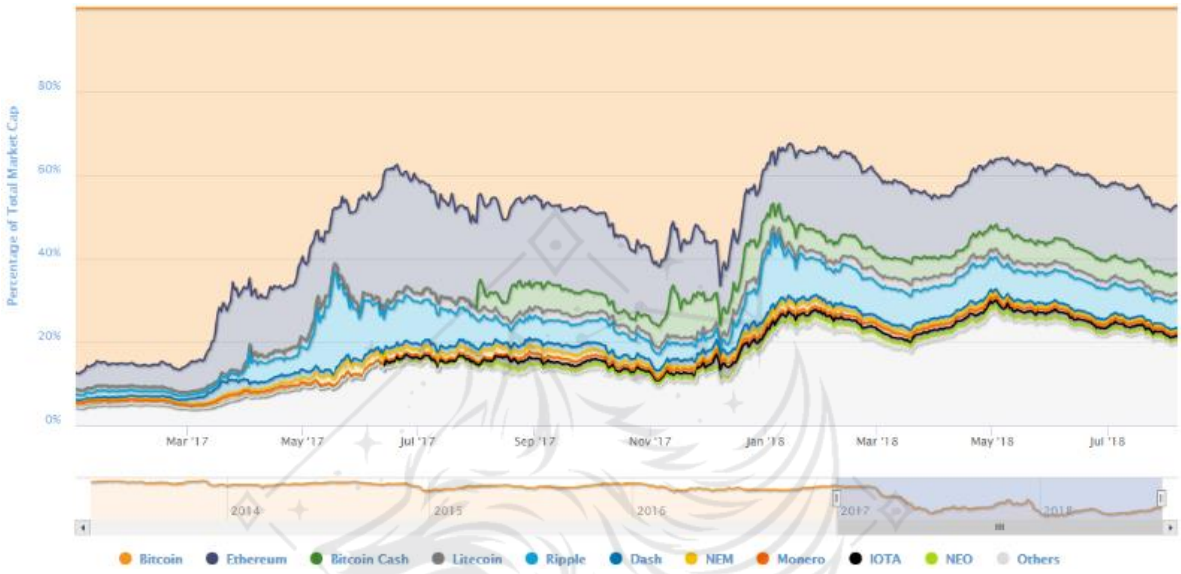
[15] Commercial registry certificate of SMART VALOR AG. Retrieved from https://zg.chregister.ch/cr-portal/auszug/auszug.xhtml?uid=CHE-306.481.585

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growth attracted a significant number of investors. The volume traded daily grew from USD3.7 billion to USD11 billion despite the bearish market.

Beyond cryptocurrencies, there is another crypto asset class of non-security tokens such as protocol tokens, payment and utility tokens often issued in ICO. These assets constitute an expanding share of the total crypto market capitalization. Within the last year alone, their share of total market capitalization grew by around a multiple of 3, expanding from ca. 11% to 30%.

Figure 5:
Crypto market composition[16]



The performance of crypto assets during the last years was beyond anything imaginable in traditional capital markets. Last year, Bitcoin achieved a 1'369% annual growth, while all crypto assets combined recorded a 707% return. SMART VALOR estimates cryptocurrencies to grow further while Bitcoin has a good chance of establishing itself as a store of value (digital gold)[17].

As more legal clarity is being brought to the cryptocurrency space, the interest from traditional and institutional investors keeps rising. This investor segment will however only consider platforms that provide fully compliant and secure ways to invest in these crypto assets. This is the business opportunity SMART VALOR is focusing on initially.

2.1.2 Asset-backed security tokens

Alternative investments are a rapidly-expanding USD7 trillion industry of highly profitable but less liquid assets, which are not easily accessible to most investors[18]. Private equity (PE) and venture capital (VC) is the biggest category representing around one third of all alternative investments.

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[16] Global Charts | CoinMarketCap. (2018). Retrieved from https://coinmarketcap.com/charts/

[17] Hunter, J. (2018). Ein Detail macht Hoffnung, dass der Bitcoin zurückkommt — stärker als je zuvor. Retrieved from http://www.businessinsider.de/der-bitcoin-2018-4?IR=TUSD
Anthony Cuthbertson (2018) BITCOIN PRICE RISES USD500 IN 24 HOURS Retrieved from https://www.independent.co.uk/life-style/gadgets-and-tech/news/bitcoin-price-latest-rise-ethereum-cryptocurrency-market-value-news-live-a8314206.html

[18] Preqin. (2017). 2017 PREQIN GLOBAL PRIVATE EQUITY & VENTURE CAPITAL REPORT; The definition of alternative assets in this report does not include real estate.

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The problem with participation in this class of investments is that the entry threshold is very high, typically several million dollars. The other limitation is that VC/PE stakes are highly illiquid investments, where investors are usually bonded for 5-10 years. This makes PE inaccessible and unattractive to affluent and high-net worth investors who prefer higher liquidity.

Putting these kind of investments on the blockchain has the potential to make this asset class more liquid and more accessible. In this case, a certain tranche of the fund can be issued in a form of a token that represents a more liquid portion of the fund. The first examples of VC funds going through the ICO route include Blockchain Capital[19] and Science.

The potential of tokenization in **real estate** is even greater. There are estimates that the global value of real estate is three times bigger than the global annual GDP, reaching above USD217 trillion[20]. It is in this industry where crowdfunding reached its highest levels in the last 5 years. This growth is expected to continue with experts predicting it could reach USD300 billion by 2025[21]. Beyond 'traditional' alternative investments, there is the whole range of assets that can be made accessible in the form of tokenized investments such as intellectual property rights, patents, art, rare metals, and direct investments in tech startups. Alongside the native digital assets, the broad variety of these alternative investments defines the product spectrum of the VALOR Platform.[22]

2.1.3 Tokenization of currencies



SMART VALOR's approach to the Tokenized Swiss Franc (CHFt)

In general, SMART VALOR does not act as the asset issuer (tokenized assets do not belong to SMART VALOR), whereas the tokenization of the asset is merely a service provided by SMART VALOR to the asset issuer. One exception to this general principle is the case of tokenized Swiss Franc.

The national currency issued by the Swiss National Bank has established itself as one of the most stable currencies. Whereas USD has lost over 96% of its value during the last hundred years, the Swiss Franc has established itself as 'safe-haven' currency. With that it is likely to become one of the future alternative reserve currencies to fill the space of the diminishing dominance of USD.

Looking at the relative strength of CHF to USD, it becomes obvious that the USD lost 77% of its value in relation to the CHF during the last 50 years. Around 50 years ago, 1 US dollar would cost 4.4 CHF, while today it is down to only 0.99 CHF.

[19] Blockchain Capital Raises USD150 Million, Looks Beyond Financial Services. (2018). Retrieved from https://www.coindesk.com/blockchain-capital-raises-150-million-looks-beyond-financial-services/

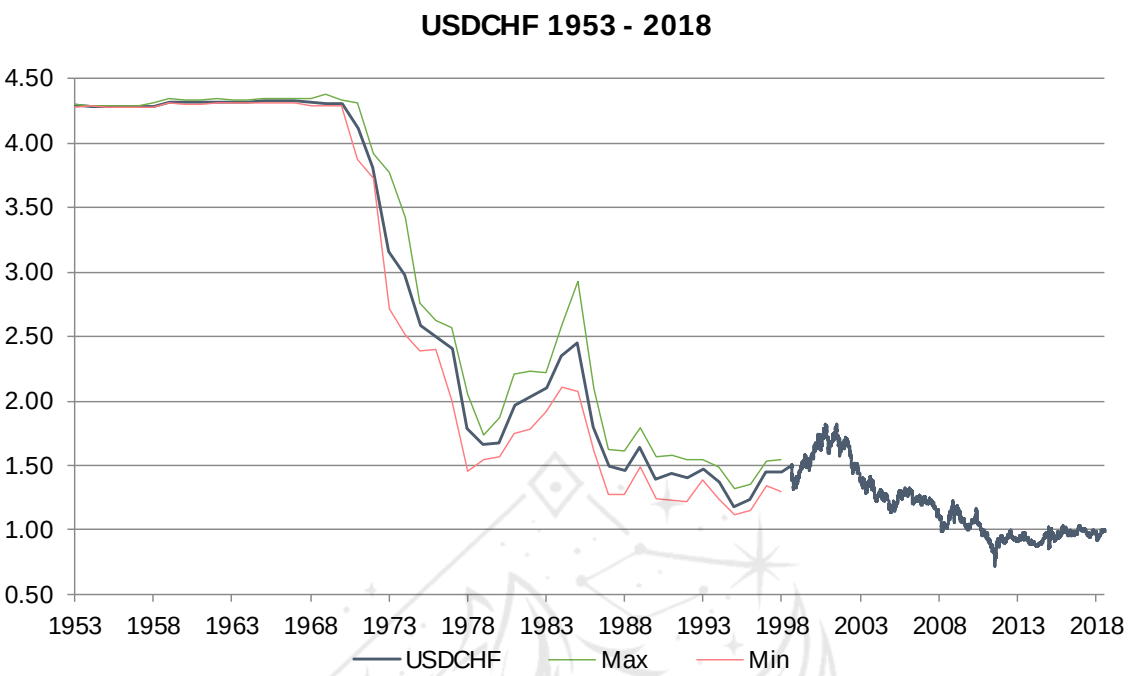
[20] World real estate accounts for 60% of all mainstream assets. (2018). Retrieved from http://www.savills.com/_news/article/105347/198559-0/1/2016/world-real-estate-accounts-for-60--of-all-mainstream-assets

[21] Real Estate Crowdfunding: 3 Trends to Watch in 2017. (2017). Retrieved from https://www.forbes.com/sites/navathwal/2017/02/17/real-estate-crowdfunding-3-trends-to-watch-in-2017/ -238ece203b4b

[22] Refer here to Chapter 3.2 Product Spectrum

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Figure 6:
Price of US dollar in Swiss Franc (CHF)[24]



SMART VALOR's approach to the Tokenized Swiss Franc (CHFt)

SMART VALOR has taken the approach to create the Tokenized Swiss Franc (CHFt) as a fully collateralized token, 100% backed by Swiss Francs (CHF), issued by the SMART VALOR bank, which is currently in the process of going through the licensing application.

SMART VALOR observes that currently there is no stablecoin issued by a banking institution. The first mover advantage in this context is enormous and initiates fast scaling and the network effect. In general, in the space of protocols, cryptocurrencies and payments, once the adoption of a certain standard takes place, it becomes difficult for late entrants to impose a different standard even if it provides a better functionality.

The CHFt will be issued as token with the major goal of being deployed on tokenization platforms, decentralized exchanges and traditional crypto exchanges. The difference between CHFt and Tether can be summarized as follows:

1. Fully collateralized token 100% backed by real Swiss Franc.
2. To receive CHFt, customers need to pay in the equivalent amount of Swiss Franc into the bank account of the SMART VALOR bank.
3. A legally binding contract ensures that at any time SMART VALOR will pay out the full amount of Swiss Franc to the holder of CHFt.
4. To purchase CHFt online, the customer needs to go through the KYC/AML procedure according to the applicable anti-money-laundry requirements.

More details on the SMART VALOR stablecoin will be presented in a separate White Paper.

[24] SMART VALROR research as of 07.08.2018.Price source Thomson Reuters Eikon and fxtop.com

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2.2 Who is the VALOR Platform for?

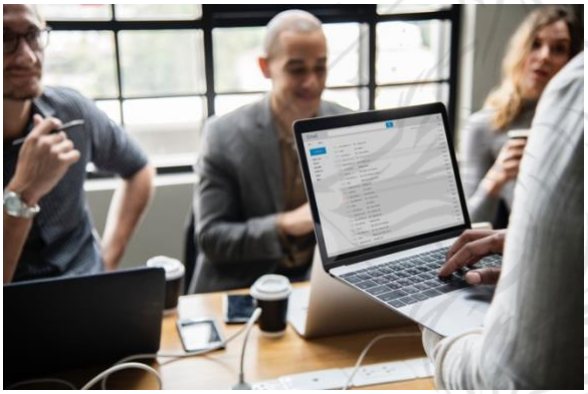
The VALOR Platform caters to two major group of customers: investors and asset issuers.

For **individual investors** the VALOR Platform is positioned to offer secure access to digital assets and the best tokenized investments. VALOR Platform customers consist of three different groups:



1. **Traditional investors** who aim for **exposure to new digital assets** in a secure, compliant way. These investors are interested in more long-term investments, have limited technical background and prefer a simple user interface.

They tend to have limited experience with digital assets but are open to **alternative investments.**



2. **Crypto investors** from all over the world who want to diversify into more stable alternatives such as real estate and private equity deploying cryptocurrencies. Many of them come from developing countries and see an additional advantage in a safe-haven jurisdiction that can protect their privacy and wealth.

These two groups of investors hold an average of USD0.5-5 million net liquid assets, represent the next generation of mobile first and are open to non-traditional investment opportunities.



3. **Institutional investors,** such as independent wealth managers, family offices, hedge funds, and smaller banks. For them, the VALOR Platform acts as a **product shelf** for digital assets **custody provider** for storing their crypto assets.

On the opposite side of the marketplace, there is another segment of customers, referred to as **asset issuers.** They can be any type of a private company, fund, real estate developer or other player offering investment products to the public. The **core value propositions** of the VALOR Platform for them are:

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1. Issuance of their asset-backed tokens (creation of a smart contract, legal structuring due diligence, etc.)
2. Initial listing on the VALOR Platform
3. Secondary trading of the listed tokens

The key benefit for the asset issuer is **access to a new investor base**. For example, for a crypto fund it can give access to the USD4 trillion heavy Swiss-based global investor pool. On the other hand, for the provider of real estate in Switzerland, it gives **access to a global investor base** which would like to access this opportunity via the cryptocurrency rails.

The tokenization functionality enables the asset issuer to offer the previously not-very-liquid and inaccessible investment, in the form of an **asset-backed token, which is much easier to handle than a limited partner paper contract** in the millions of dollars.

2.3 What is the value proposition for core customer groups?

The core value proposition **for investors** is to offer secure access to digital assets, unlocking previously inaccessible investment opportunities. Due to SMART VALOR's location in Switzerland, they have the additional advantage of safe-haven wealth protection in a stable and independent jurisdiction which respects data privacy.

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2.3.1 Service offering of the VALOR Platform for investors

Figure 7:
Service offering for investors

Primarily for traditional investors without exposure to crypto	1. **Secure and compliant access to new digital assets** Improve performance of your portfolio through adding new alternatives such as cryptocurrencies, protocol tokens, crypto funds and other tokens in a secure and compliant way. 2. **Simple and cheap way to structure a portfolio** Use diversification portfolio management tools and indexing to create your optimal portfolio of alternative investments at a low cost.
Primarily for traditional and crypto investors	**3. Access to previously unavailable investments** Use your crypto assets to diversify your portfolio with stable tokenized alternatives such as tokenized real estate, private equity, even gold, with a relatively small overall portfolio size.
Primarily for affluent investors from emerging countries	4. **Access to safe-haven wealth protection** Hold your assets in a safe jurisdiction, switch to a more stable alternative, such as tokenized real estate, tokenized precious metals or simply the world's most stable currency, the Swiss Franc. **5. Better access through cryptocurrency and mobile payments** Bring your capital into the VALOR Platform through cryptocurrency (Bitcoin, ETH or any other cryptocurrency) or via credit cards, mobile wallets like Skrill, Yandex Money and others.

Additional advantages come from the fact that the VALOR Platform is a blockchain-based platform, which enables consistently reliable, transparent and verifiable records of ownership. Participants will benefit from performance and data transparency enabled by the blockchain. There is no need to trust one centralized entity. The VALOR Platform is run on a combination of a public blockchain and highly scalable permissioned solution.

2.3.2 Service offering of the VALOR Platform for asset issuers

The core value proposition for asset issuers is an opportunity to access and engage with new investor audiences and raise funds faster through guided, fully compliant asset tokenization.

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Figure 8:
Service offering for asset issuers

1. Tokenization machine	Asset issuers such as private companies, VC firms or funds can use the VALOR Platform to issue their tokens easily and distribute them to the global community of investors.
2. Creation of a secondary market for tokens	The VALOR Platform performs as the marketplace for initial listing and secondary trading of asset-backed tokens and coins. Blockchain-enabled real-time execution and settlement allows for automated 24/7 trading and higher liquidity.
3. Compliance and legal	The VALOR Platform executes client onboarding (KYC and AML) in accordance with respective regulations. The compliance requirements will be embedded in a smart contract allowing white labeling of wallets. Through the company's partners, it offers a simple and standardized set-up of legal entities and structures to issue security tokens.
4. Custody for crypto assets	The VALOR Platform provides secure crypto asset custody solutions and escrow services[23].
5. Banking services	Once cleared through the licensing process, SMART VALOR AG will be offering banking services such as bank accounts and payments to asset issuers and partners within the VALOR network.

2.4 What the VALOR Platform is: Summary

The VALOR Platform has four core distinctive characteristics:

1. Blockchain-based securitization
   Creation of smart contract-based securities enable more efficient, instant and secure transfer of value.

2. Focus on alternative digital assets
   Focus on crypto and alternatives such as tokenized real assets and funds.

3. Democratization of access to wealth
   Give people around the world an opportunity to protect and grow their assets independent of where they are or how wealthy they are.

4. Fully compliant licensed platform
   The VALOR Platform is one of the first fully compliant, licensed investment platforms for the issuance and distribution of security tokens.

[23] For more details about our custody Vault solution please refer to 4.5 Security and custody.

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“Bitcoin will do to banks what email did to the postal industry.”

Rick Falkvinge,
Founder of the Swedish pirate party

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3. Business and go-to-market strategy

3.1 Business model design

The VALOR Platform business model is a multi-sided marketplace for investments. On one side of this market there are asset issuers who can offer their investment products in the form of a token. On the other side of the marketplace there are investors who can invest through the VALOR Platform and receive rewards for contributing to the growth of the platform.

Additionally, there are contributors, facilitators, and service providers who are all involved in the process of value creation on the VALOR Platform. Since most of these players are dispersed globally and represent independent entities, this is referred to as the VALOR network. The network is built on principles of decentralized value creation. It is powered by its own currency, the VALOR token. The principles of the VALOR token economy are described in Chapter 6.

The core value proposition for various players on different sides of the market can be summarized as such:

Figure 9:
Value proposition of the VALOR Platform



INVESTORS
Unlock previously inaccessible investment opportunities and safe-haven protection for their wealth.



SERVICE PROVIDERS
Cement their position at the forefront of new financial technology by promoting their support services to a captive audience.



ASSET ISSUERS
Access and engage with new investor audiences - and raise funds faster through guided, fully compliant asset tokenization.



COMMUNITY CONTRIBUTORS
Help to shape the future of finance. They earn monetary rewards for their participation and contribution.

To enable the decentralized value creation on the VALOR Platform, SMART VALOR is

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implementing a **task marketplace** where contributors can engage in performing different tasks, for example such as:

- Referring an asset to be considered for listing
- Voting on an asset that has been suggested for listing
- Contributing to the due diligence and collecting material data
- Writing an investment review suggestion
- Submitting performance predictions
- Building an educational library for digital assets
- Sharing their successful investment strategies

The key advantage for community members is that they can **earn rewards** for contributing their expertise and create their own **publicly verifiable reputation**.

How does it work?

A good example is the participation in asset performance reviews. Here an expert can submit a 12-month performance prediction for a specific asset, for example. If he has profound asset-specific expertise, he will probably be able to give a more probable performance prediction. If the prediction is right within a specific range, the smart contract will unlock, and the expert will be paid. The quality of the prediction automatically builds the expert's reputation. In this way, smart contracts enable a completely independent, automated process of price discovery, reputation building, and contributing expertise in a decentralized way.

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To summarize, the VALOR network is designed to enable **a truly decentralized marketplace in which a large part of overall value is contributed by independent entities**. Blockchain technology makes it possible by extending the spectrum of tasks far beyond programming work to many other activities, which are today delivered only within centralized financial institutions, such as banks.

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3.2 The product spectrum

The product spectrum of the VALOR Platform can be categorized in terms of asset classes which will be rolled-out at different stages of the platform implementation. This categorization is in correspondence with the regulatory requirements for issuance and distribution of different types of tokens.

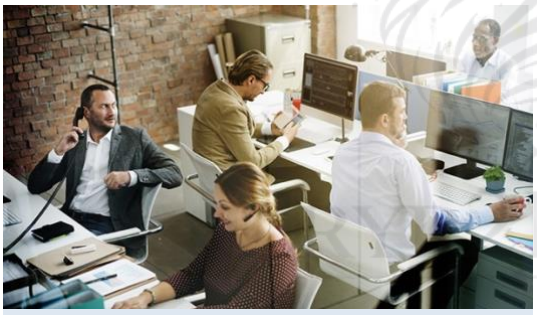
Figure 10
Asset class coverage



BLOCKCHAIN INFRASTRUCTURE PROJECTS
These include protocols, decentralized infrastructure (payment, storage computation) and crypto mining.



NON-BLOCKCHAIN INFRASTRUCTURE
Traditional infrastructure and project financing including renewable energy, transport, utility, healthcare, and communication.



BLOCKCHAIN AND TECH-RELATED STARTUPS
Young companies that would like to issue their shares in the form of tokens.



CURRENCIES
These include cryptocurrencies (Bitcoin, Litecoin), crypto-fiat currencies (Tether and CHFt) and stablecoins (MakerDao, Basecoin), etc.



NON-FUNGIBLE ASSETS
These include real estate, art, crypto collectibles, etc.



FUNDS
Funds refer to crypto funds, venture capital and private equity funds, etc.

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METALS AND COMMODITIES
These include diamonds, gold, and other precious metals



INTANGIBLE ASSETS
Including intellectual property rights, patents, music rights, etc.

The VALOR Platform will be launched in two-stages:

1. Cryptocurrencies and non-security tokens (protocol, utility, and payment tokens)

2. Asset-backed security tokens, such as equity in young companies, real estate, crypto funds, venture capital, and private equity

The above displayed tokenized assets will be offered on the VALOR Platform after the full launch in 2019. The full roll-out can be viewed in 5.2 Implementation roadmap.

Since all these assets have very different characteristics, the tokenization or securitization of each will follow a different procedure. Thus, it will be very difficult for any singular player to develop and implement a broad variety of such tokenization approaches. This is the reason behind the emergence of providers specialized on one asset class, such as art, real estate or commodities.

SMART VALOR is not striving to cover tokenization of all those diverse assets within the whole range of the value chain. The company sees a bigger opportunity in partnering with specialized platforms. **The mission of SMART VALOR is to give investors better access and a broad offering of tokenized alternative investments**. Therefore, SMART VALOR will not issue any of its own assets but only tokenize assets of third parties. The only exception to this rule is CHFt, which is needed on the platform to power smart-contract based actions and faster interaction with other platforms.

This strategy can be better understood if the process of tokenization is broken down into several steps of the overall value chain. The tokenization of assets follows several phases such as:

1. Set-up phase: selection of asset, creation of legal entity, registration, financial and legal due diligence, etc.
2. Structuring of token issuance, creation of token, development of smart contact embedding of legal modalities into smart contract, etc.
3. Initial public listing of a token
4. Secondary offering of the token
5. Servicing of the token and redemption

For most assets, SMART VALOR will focus only on phases 2-5 and partner with other players during phase 1. For example, a real estate crowdfunding specialist may use **VALOR Platform** to tokenize particularly large or prominent property, while the whole set-up process (selection,

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registration, legal set-up, structuring) is led by this provider. Another example would be a specialized platform for commodities and metals. If there is a new attractive offering, the VALOR Platform may serve as a distribution partner for primary or secondary listing.

However, within certain asset classes, such as funds, SMART VALOR is aiming at covering a larger part of the value chain. For example, a venture capital fund might use the legal set-up service within SMART VALOR's network in addition to the tokenization service of the VALOR Platform and holding the initial listing on the platform.

3.3 Targeted investor segment and potential market size

The VALOR Platform seeks to attract both type of investors: individual and institutional, such as family offices, asset managers, and banks.

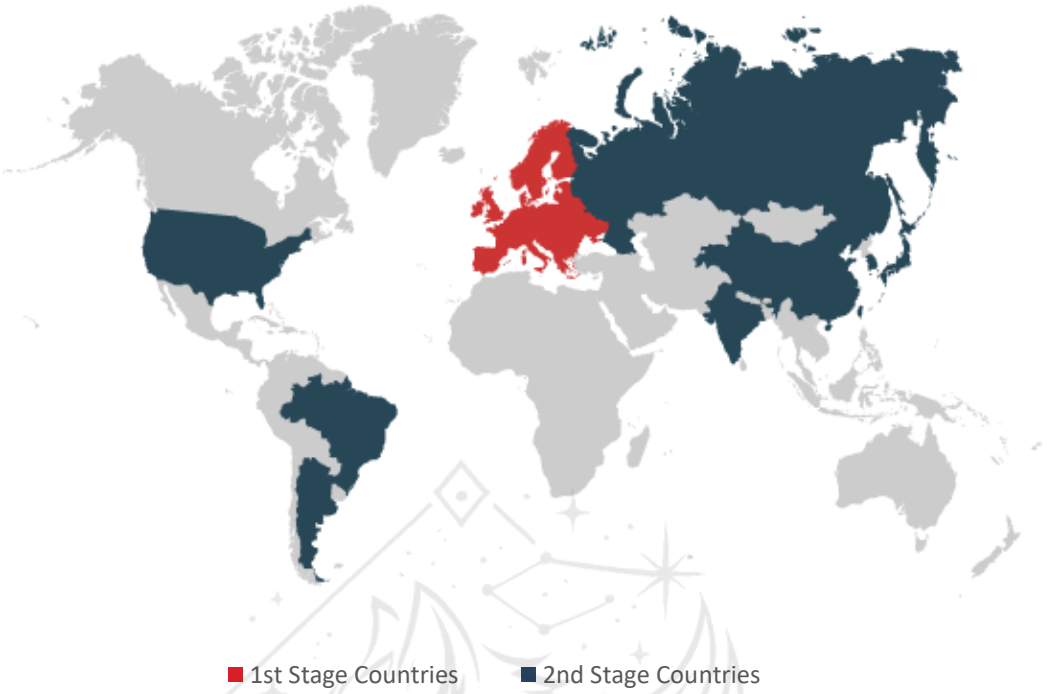
On the side of **individual investors,** the major focus is on following two groups:

1. **Traditional investors** who aim for **exposure to the new digital assets** in a secure, compliant way. These investors are interested in more long-term investments, have limited technical background and prefer a simple user interface. They tend to have limited experience with digital assets but are open to **alternative investments**.
2. **Crypto investors** from all over the world who want to diversify into more stable alternatives such as real estate and private equity deploying cryptocurrencies. Many of them come from developing countries and see the additional advantage in a safe-haven jurisdiction which can protect their privacy and wealth.

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Figure 11:
Global footprint with staged regional focus



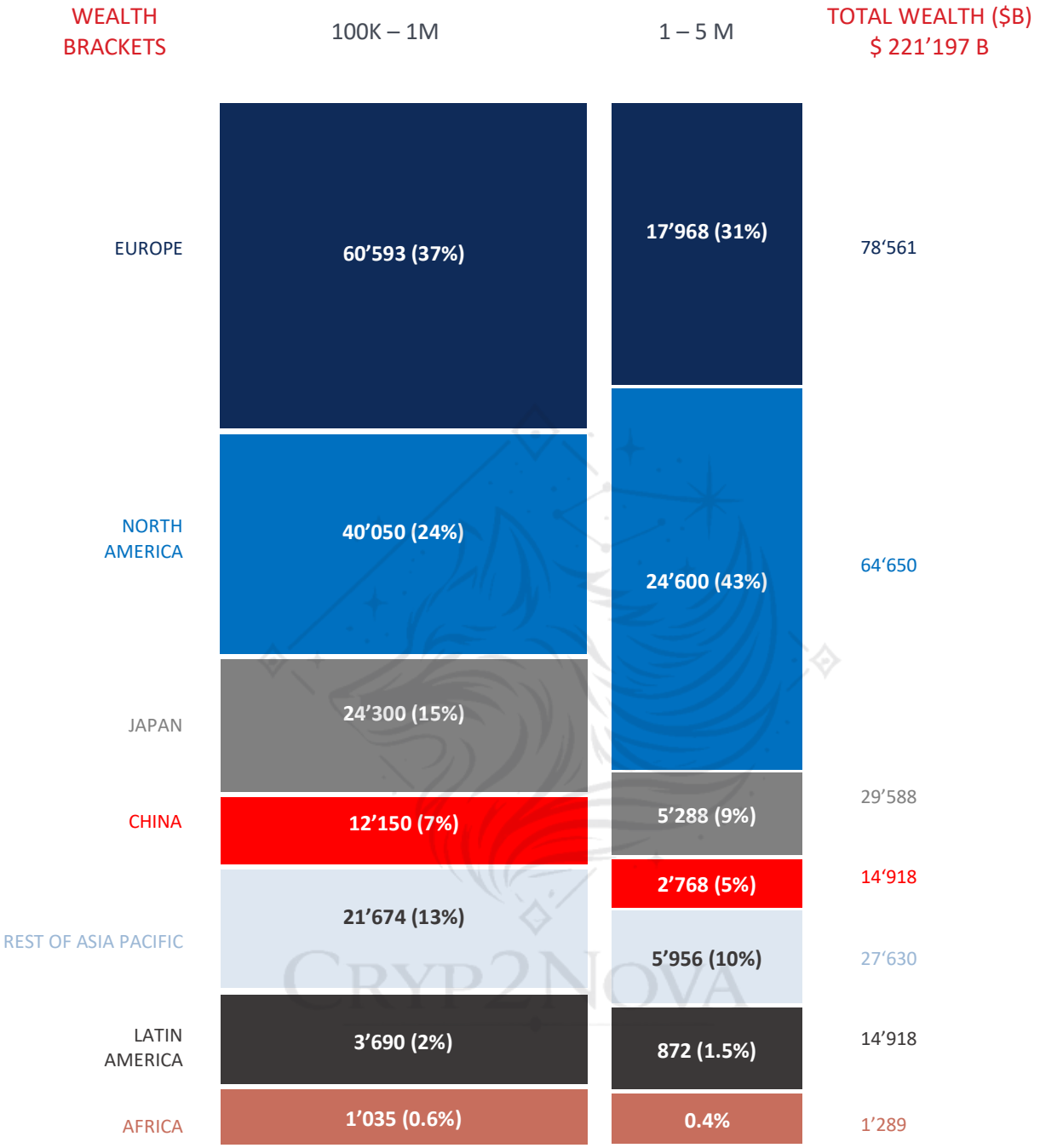
Strategically, the VALOR Platform is positioned as a **global online investment platform**. However, during the initial roll-out stage it will focus its efforts on "home-turf", which is Switzerland, Liechtenstein, the EU and the UK. The analysis of the regional distribution of wealth shows that the major opportunity for the 'retailization' of alternative investments lies in exactly this region.

Here the total wealth of USD78 trillion is concentrated in the segments of affluent and (lower) high net worth individuals. Therefore, the company's marketing efforts will be focused on this region. This is also in alignment with its regulatory approach, as active promotion and distribution of investment products constitutes an activity which needs to be licensed by local regulators.

The second stage of the roll-out will concentrate on cross-border business in following countries: Japan, South Korea, China, India, Hong Kong, Singapore, Argentina, Brazil, Russia, and the US. These countries are not only very active in the cryptocurrency space, but also hold around USD120 trillion wealth in SMART VALOR'S targeted segment.

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Figure 12:
Investor target segments by net liquid assets[24]



Source: World Bank, IMF, Credit Suisse, Global Wealth Report 2016

[24] Credit Suisse. (2017). Global Wealth Report 2017: Where Are We Ten Years after the Crisis? Retrieved from https://www.credit-suisse.com/corporate/en/articles/news-and-expertise/global-wealth-report-2017-201711.html

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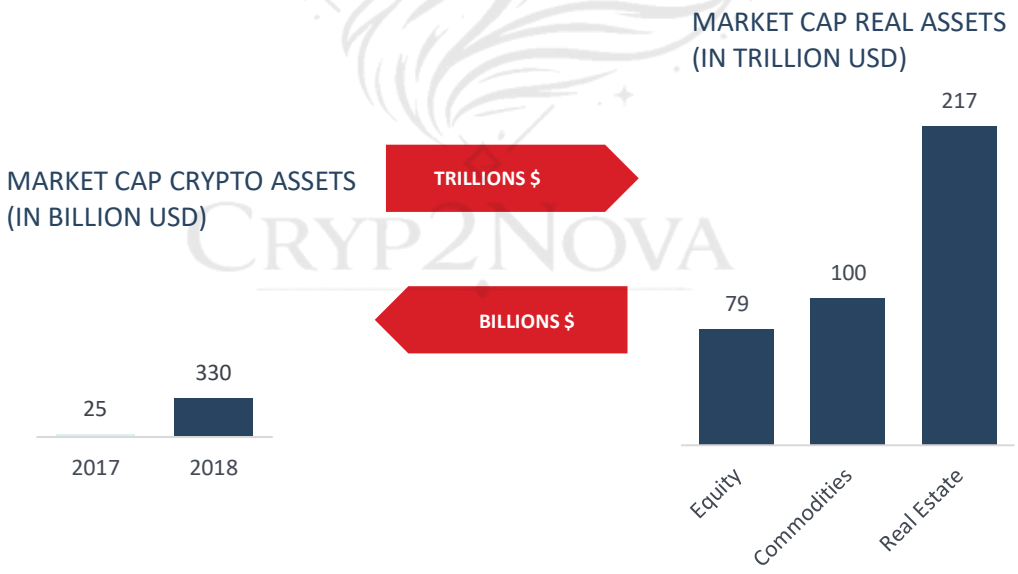
In terms of the wealth segment, SMART VALOR will focus on investors with net liquid assets (NLA) in the range of USD 100'000 to USD 5 million.

Historically, this wealth segment has been underserved by traditional Swiss banks and therefore presents an extraordinary opportunity. As the top-down revenue pool sizing estimate: if the share of alternative investment in the portfolios of the investors in this segment is assumed to equal 3% on average, while digital assets and tokenized alternatives could represent 10%, this results in a total asset pool of USD234 billion in Europe alone[25]. This estimate does not take into account additional flows which will be generated as institutional investors start to open up to the digital asset class.

If the VALOR Platform were to gain 20% market share as the first mover in this space, it would result in an accumulation of USD46.8 billion in assets under management (AuM), which at a profit margin of 0.5%, could result in **USD234 million annual profit within 2-3 years of operation** only in the core European market. The global wealth and presence in the above-mentioned top 10 focus countries could triple that number.

Another approach to revenue sizing is to look at the size of the digital assets today and make projections about its growth. Looking at the development of the last two years, it becomes apparent that digital assets today are at the very beginning of their exponential growth, which will be enabled by further development and application of blockchain technology. Yet even though the total crypto market capitalization reached USD830 billion at the peak this year, it stands in contrast to the USD79 trillion traded in public equity. Assuming that even a small fraction of other asset classes such as real estate, private and public equity are tokenized, the size of tokenized assets could easily reach USD10 trillion in 2020.

Figure 13:
The size of the opportunity - crypto versus real assets[26]



[25] Estimate derived from USD78 trillion x 0.1 x 0.03 = 234 billion

[26] ICO report, PWC Switzerland retrieved from https://www.pwc.ch/de/press-room/press-releases/pwc_mm_icoreport_de.pdf?utm_source=PwC%20CH%20Social%20Media. Preqin reports, world bank research reports, CoinDesk

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The obvious winners of this tectonic shift will be marketplaces, exchanges and wallets. This was confirmed by Goldman Sachs purchasing crypto exchange Poloniex through its company Circle earlier this year[27]. Further proof is the explosive growth of platforms like Binance, Huobi, Bibox, Kucoin and other crypto exchanges. Coinbase is reported to have accumulated over 12 million users, while adding 50,000 new users daily during the peak times. Moreover, traditional exchanges such as NYSE, ASX and SIX announced their plans and are already working on applying the tokenization of assets[28].

Here it is important to note that SMART VALOR does not compete with traditional exchanges pursuing tokenization of already listed public companies. Its focus is on the niche market of alternative investments which goes beyond equity and bonds traded on traditional exchanges.

The company believes that the trend of tokenization which started with ICOs, has the potential to extend into VC, crypto funds and ultimately the PE sector as well. This is where it holds maximum added value, as tokenization of these relatively illiquid investments has the potential to significantly improve accessibility for lower wealth investors with a shorter investment horizon.

In terms of size, the Private Equity industry is big, growing beyond USD2.5 trillion total assets. It also exhibits strong performance: over the last 15 years, PE generated average annual returns of 14.5%, compared with only 7% in the public equity market.[29] PE is therefore very well suited to improve the overall performance of an investment portfolio and diversify risk.

As ICOs are likely to morph into a new form of IPO and further disintermediate VC players[30], there is a big revenue potential in this space. Within the next three years, the tokenization of **VC and PE** funds could reach up to USD112 billion, as demonstrated in Figure **14**.

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[27] Reuters. (2018). Goldman-backed startup Circle buys Poloniex cryptocurrency exchange. Retrieved from https://www.reuters.com/article/crypto-currencies-circle/goldman-backed-startup-circle-buys-poloniex-cryptocurrency-exchange-idUSL8N1QG43V

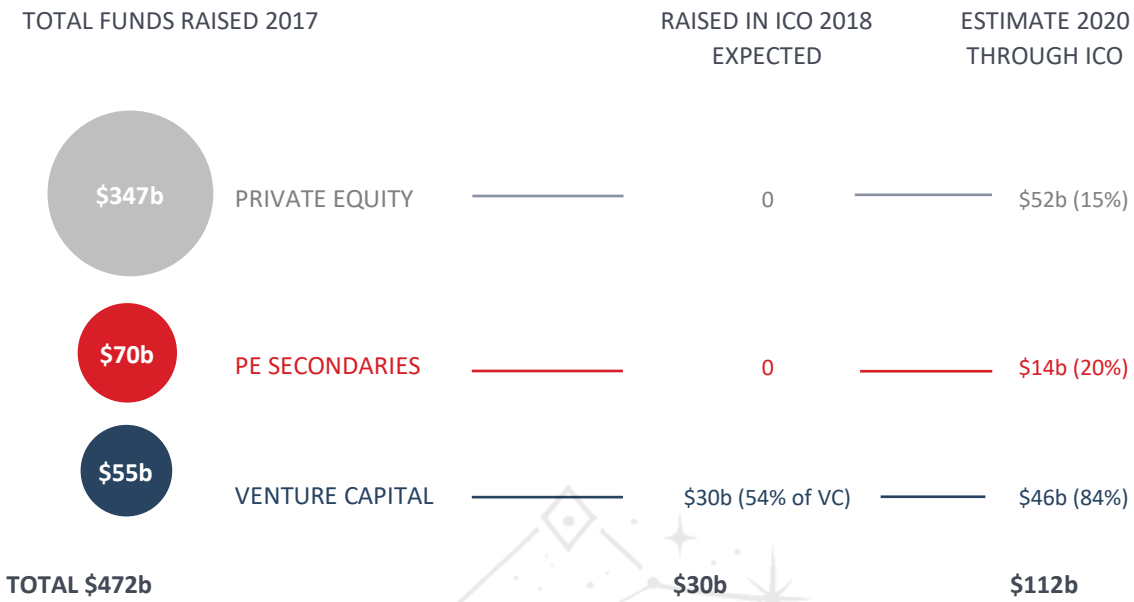
[28] Smart Valor (2018) https://smartvalor.com/as-traditional-investors-get-on-board-lets-remember-the-bigger-picture/

[29] Preqin. (2017). 2017 PREQIN GLOBAL PRIVATE EQUITY & VENTURE CAPITAL REPORT

[30] Mangrove Capital Partners. Tokenization: The implication for Venture Capital Industry [PDF]. Retrieved from http://docs.wixstatic.com/ugd/59bcf2_9c2ec55330ae40dd82c5d09993065bd0.pdf

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Figure 14:
Estimation of VC and PE tokenized fund issuance



3.4 Revenue and distribution model

Positioned as a multisided marketplace, the VALOR Platform holds the advantage of multitudes of revenue streams including the following:

- Listing fees for initial placement of tokenized assets
- Transaction fees accruing from buy/sell transactions
- Custody fees for providing storage solution for crypto assets
- Servicing fees for opening and maintaining banking accounts for investors and partners[31]
- Commission on the provision of services delivered through the VALOR network partners and community contributors

[31] After receiving a banking license through SMART VALOR AG

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The VALOR Platform's distribution model consists of own and third-party channels:

Figure 15:
Distribution channels

1. Own distribution channels	▪ Online - the marketplace ▪ Offline - conferences, roadshows and events
2. Connecting to other platforms and networks	▪ Through a decentralized exchange model and atomic swaps
3. Traditional third-party distribution channels	▪ Banking institutions ▪ Independent wealth managers, etc.

Starting with centralized exchange functionality, the platform is planning to move into the space of **decentralized auctions and asset swaps**. Here, investors onboarded to the VALOR Platform can use their wallets to participate in investment opportunities on other open platforms. This will **significantly enlarge the scope of the financial product offering**. The prerequisite however, is the compatibility with KYC/AML procedures as well as investment suitability requirements. **This is a new promising area for decentralized investment platforms in which the VALOR Platform is set to play a leading role.**

3.5 Competitive advantage

The tokenization of assets and distribution of digital assets is a very new field, which has not yet been accessed by established financial institutions like banks and asset managers. Currently most of the new tokenization platforms are operating in stealth mode or limited to the non-security token space. Very few are considering traditional alternative investments for tokenization.

The two major challenges for all these business models are security and solving the regulatory issues on the way to enable global listing of security tokens. SMART VALOR is uniquely positioned in Switzerland, where the trusted relationship with authorities has been built over years of close collaboration.

Positioning itself as the **quality place** for tokenized assets, focusing on **security**[32] and fully **compliant** operations, SMART VALOR is leveraging its base in Switzerland, one of the most crypto-friendly jurisdictions with impeccable reputation and status of the 5th largest global banking center specialized in wealth management.

Therefore, SMART VALOR is building on three core competitive advantages:

1. Unique application of blockchain technology
2. Technical security expertise in the crypto space
3. Regulatory and reputational advantages

SMART VALOR's technical team consists of leading experts in the IT technology and security field. Additionally, the company is partnering with several security providers, including the leading provider of exchange software, and other members of **Ethereum Alliance.** As the first step,

[32] Smart Valor. (2018). SMART VALOR leads the way on crypto custody, joining Ledger Vault. Retrieved from https://smartvalor.com/smart-valor-leads-the-way-on-crypto-custody-joining-ledger-vault/

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SMART VALOR has built a working prototype on permissioned blockchain for issuance of securities in a secure and compliant way[33].

Additionally, jointly with its partners, SMART VALOR has implemented functionality of the centralized exchange and complemented it with its own development in the field of decentralized exchange functionality and smart-contract-based auctions. While focusing on issuance and distribution of blockchain-based securities provided by third parties, there will be several platform-native assets such as VALOR token and CHFt.

The implementation of the **Tokenized Swiss Franc (CHFt) has a purpose** to act as the settlement layer not only within the VALOR Platform, but also be easily deployable on other investment platforms and exchanges. The deep tech expertise in tokenization of assets represents one component of the SMART VALOR competitive advantage.

In addition to this, there is a wide range of advantages connected to the regulatory and reputational advantages of being in Switzerland/Liechtenstein.

To better understand the strategic positioning of SMART VALOR, it is necessary to summarize the advantages of Switzerland as the core legal jurisdiction and home base for its platform.

Switzerland is one of the top five global banking centers and the worldwide leader in offshore wealth management, holding around one quarter of all global offshore assets (ca. USD4 trillion)[34].

Switzerland is in an unchallenged position due to its political stability, safe-haven currency and excellent reputation.

Over the last two years, there was a sharp turn in the direction of regulatory policy concerning blockchain in Switzerland. The Swiss government took the decision to liberalize regulation to promote Switzerland to a leading center of crypto finance. Swiss ex-president, and current Finance Minister Johann Schneider-Ammann even proclaimed 'Crypto Nation' Switzerland beginning in 2018[35].

The first major milestone in the Swiss regulatory space was licensing approval for one of the largest Bitcoin custodians, Xapo. This case was led by Olga Feldmeier (CEO of SMART VALOR) and became one of the most decisive moves taken by Swiss regulator FINMA to signal the willingness of the regulator to open the doors to global crypto businesses[36].

Furthermore, FINMA demonstrated openness to the crypto industry as the country became the largest hub for ICOs[37]. Recently, FINMA issued ICO guidelines[38] which provide clarity on the country's regulatory approach to token sales. It emphasizes that FINMA wants **to enable compliant ICOs** for legitimate innovators[39]. It continues to pursue prudent, principle-based,

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[33] Publicly accessible prototype can be found under https://smartvalor.io/#/home

[34] The share of offshore wealth is currently estimated around USD2.4, which is almost two times bigger than the next largest off-shore centre UK (USD1.3t) and Hong Kong (USD0.8t) BCG (2017). *Global wealth 2017* [PDF] (p. 14).

[35] Why Switzerland should become a Crypto Nation. (2018). Retrieved from https://www.swissinfo.ch/eng/olga-feldmeier_why-switzerland-should-become-a-crypto-nation/43849344

[36] Bitcoin firm gets approval to operate in Switzerland. (2017). Retrieved from https://www.reuters.com/article/us-swiss-bitcoin-xapo/bitcoin-firm-gets-approval-to-operate-in-switzerland-idUSKBN15B1QB

[37] Financial Times. (2018). Switzerland embraces cryptocurrency culture. Retrieved from https://www.ft.com/content/c2098ef6-ff84-11e7-9650-9c0ad2d7c5b5

[38] FINMA. (2018). FINMA publishes ICO guidelines. Retrieved from https://www.finma.ch/en/news/2018/02/20180216-mm-ico-wegleitung/

[39] Feldmeier, O. (2018). Switzerland can become one of the top three crypto hubs in the world. Retrieved from https://www.cnnmoney.ch/shows/living-markets/videos/olga-feldmeier-ceo-smart-valor-blockchain

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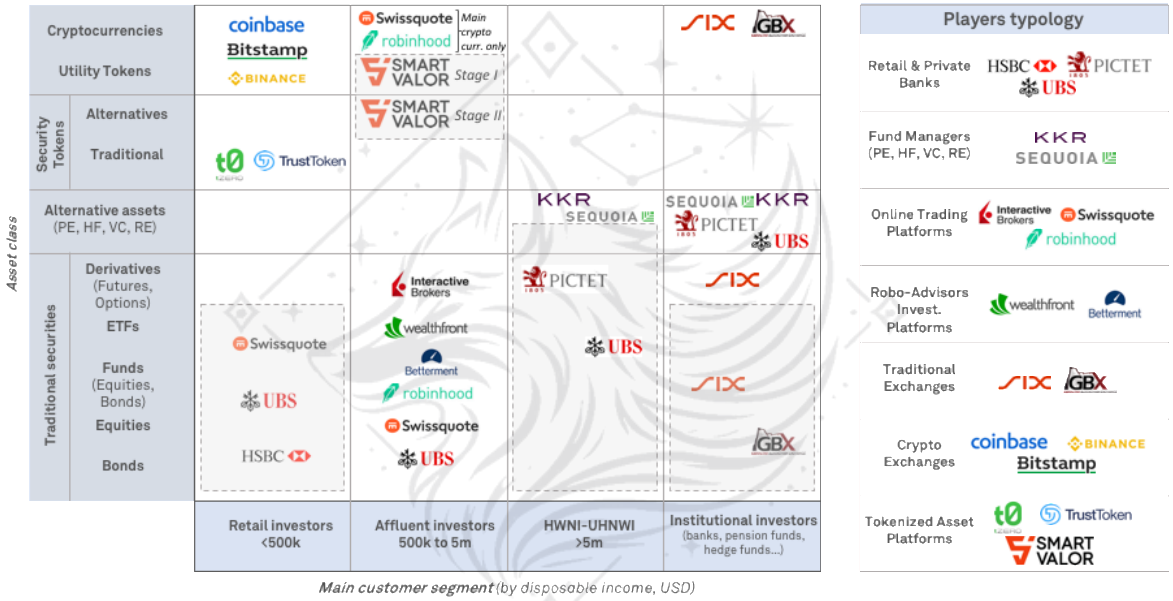
technology-neutral regulation, which is currently the only sensible approach due to the very early stage of this technology[40].

The country's focus on quality ICO companies is in full alignment with the SMART VALOR approach. The goal of the VALOR Platform is to become the place for listing of the best companies and projects.

3.6 Strategic competitive positioning

To better understand how the VALOR Platform is different from other players in the space, it is helpful to visualize its place in the product-client segment matrix as shown below:

Figure 16:
Strategic positioning of the VALOR Platform in a product-client segment view



In this illustration, it is easy to see that the VALOR Platform is not comparable neither with crypto exchanges such as Binance nor traditional exchanges such as NYSE or SIX. Obviously, it is also very different from traditional banks. Its business model is closer to wealth management platforms (roboadvisors), the key difference is that it is **focused exclusively on digital assets and tokenized alternative investments.**

3.6.1 Competitive landscape: incumbents

In relation to existing financial institutions, SMART VALOR is primarily a **challenger to traditional Swiss banks**, which are today among the largest and **most profitable global players** in the whole financial services industry[41].

[40] Feldmeier, O. (2018). What the swiss crypto regulation brings. Retrieved from https://www.fuw.ch/article/what-the-swiss-crypto-regulation-brings/

[41] The Boston Consulting Group. (2017). Global wealth 2017 - Transforming the Client Experience [PDF]. Retrieved from http://image-src.bcg.com/Images/BCG-Transforming-the-Client-Experience-June-2017_2_tcm20-161685.pdf

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The difference is fundamental and is summarized along the five criteria including distribution channel, product, service model, organizational structure, and approach to scaling.

Figure 17:
Cornerstones of SMART VALOR's business model vs. Swiss private banking

SWISS PRIVATE BANK	CORNERSTONES OF BUSINESS MODEL	VALOR PLATFORM
▪ Limited access: Swiss private banks do not accept foreign clients below $5m ▪ Only fiat currencies via banking accounts	ACCESS	▪ Open access: no minimal contribution requirements ▪ Cryptocurrencies & mobile payment/wallets alongside traditional fiat bank accounts
▪ Alternative investments accessible only for upper high-net-worth ▪ Banks' own product push	PRODUCT	▪ Alternative investments in the form of tokens: fractional, liquid, real-time ▪ Investments are issued by independent third parties
▪ Client-advisor centric model	SERVICE	▪ Self-directed investor (roboadvisor, algorithmic)
▪ Centralized, closed entities owned by shareholders ▪ Proprietary development	STRUCTURE	▪ Decentralized marketplace with distributed token holders ▪ Partially proprietary and partially open-source software development
▪ Dependent on legacy systems and processes ▪ Slow and expensive (client onboarding 10 days)	SCALE	▪ Scalable, lean blockchain-based infrastructure ▪ Efficient processes, instant onboarding

3.6.2 Competitive landscape: challengers

On the side of disruptive newcomers, currently there are very few projects in the space that have comparable product-segment focus as the VALOR Platform. Being a Swiss company with **deep roots in Swiss private banking** and the **cryptocurrency industry**, SMART VALOR sees a major opportunity in the intersection of these two.

Comparable business models vary between platforms strictly focused on provision of tokenization services (Polymath), Cryptocurrency exchanges expanding into distribution of other crypto assets

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(Binance), alternative liquidity providers (BANCOR) and a multitude of US-focused businesses (T-Zero). The full list and comparative analysis are provided in Appendix II.

Challengers

Polymath



TrustToken



LATOKEN



Lykke



Gibraltar Blockchain Exchange



tZERO



BnkToTheFuture



Bancor



Binance



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"With a currency based on cryptographic proof, without the need to trust a third party middleman, money can be secure and transactions effortless."

Satoshi Nakamoto,
Founder of Bitcoin

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4. The technology behind the VALOR Platform

SMART VALOR established a strong tech team of 20 led by two co-founders Dr. Julien Bringer and Thomas Felber[42]. Currently there are 7 developers working full time on the implementation of the VALOR Platform. Additionally, the company is extending its blockchain capabilities through partnerships with several technology providers such as **Ledger[43] and one of the** leading providers of exchange solutions. SMART VALOR is also member of the **Ethereum Alliance** and other associations**.**

As the first step, the VALOR team has built a working prototype on permissioned blockchain for issuance of securities on the blockchain in a secure and compliant way[44]. Jointly with its partners, SMART VALOR has implemented functionality of the centralized exchange and complemented it with their own development in the field of decentralized exchange functionality and smart-contract-based auctions.

The team has designed a system that relies on an initial set of core functionalities and multiple connections to the ecosystem, with the following philosophy:

- Blockchain-agnostic (internally and in terms of interfaces to external)
- Hybrid approach to enable trading
- A fully licensed and centralized **exchange** functionality for tokenized securities and cryptocurrencies has been built
- Supporting decentralized price discovery, trade, and settlement directly on-chain
- Security-driven
- Open source for a significant part of the development
- Open APIs for 3rd party developers
- Interfaces to data feeds, oracles and ecosystem participants

4.1 Platform layers

The VALOR Platform consists of the several layers depicted in Figure **18**.

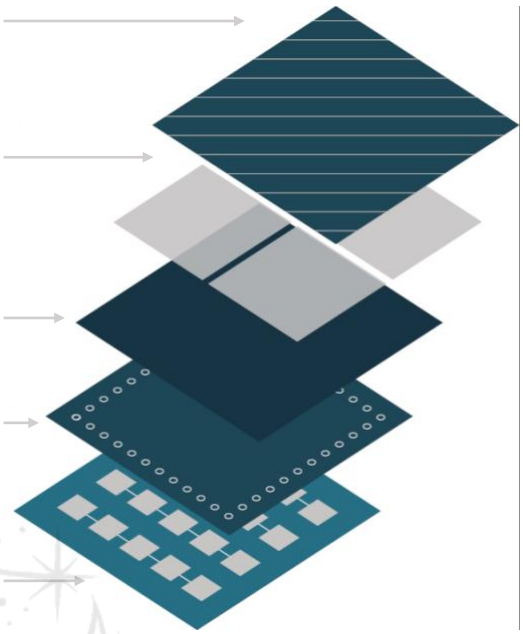
The system is both a platform with applications, services and interfaces (including interfaces with permissionless blockchains like Ethereum), and a network, as the company embeds their own consortium blockchain with nodes that will be distributed among key network participants. The consortium blockchain addresses the need to cope with today's regulatory constraints (e.g. controlling the transaction source and recipient for some assets) and to track all unitary operations more efficiently. Nevertheless, the interface with an external permissionless blockchain will be exploited to anchor the state of the VALOR Chain regularly.

[42] For more information regarding the professional background of two co-founders please refer to the Section 9 "About Smart Valor"
[43] Refer here to the Section 6 "Security"
[44] Publicly accessible prototype can be found under www.smartvalor.com

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Figure 18:
Description of the VALOR Platform layers

GATEWAYS	DMZ: Access from the external world to internal services networks.
APPLICATIONS	Business services consuming core applications and (indirectly) core layer services, catering to various business functionalities. This layer is where external developers can create and deploy their own services.
CORE APPLICATIONS	Business services consuming technical services from the core layer, supporting mission-critical business processes, such as asset issuing or bounty programs.
CORE LAYER	Main infrastructure, smart contract execution and security services that form the framework on which business-oriented services can be built.
BLOCKCHAIN NETWORK / PROTOCOL LAYER	The underlying VALOR Chain, with dedicated formal governance to manage maintenance and upgrade procedures. Integration with public Ethereum, and other public or private blockchains.



4.2 Platform components

SMART VALOR's main goal is to build the initial components and services for a fully functional network, to accelerate the go-to-market.

With the initial deliveries, third parties will be able to develop applications that offer additional components and services, with SMART VALOR continuing to bring improvement to the core platform and attached services. Some of the services and applications are provided free of charge; others can be purchased or paid for through licensing agreements.

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Figure 19:
Main components of the VALOR Platform

Consortium and public blockchain
Certain circumstances require assets to be deployed on the VALOR Chain or another private blockchain - e.g. asset issuers' requirements, regulatory constraints. In other instances, assets can be deployed to a public blockchain.

ICO platform with tokenization engine
Built-in smart contract sub-modules combine and are parameterized to represent the asset to be tokenized. The existence, legal ownership and status of the underlying assets are ensured via a dedicated process during asset issuance. This includes checking legal documents, institutional audits and notary deposits. Appropriate safeguards (e.g. custody) are taken to check that the token model/smart contract is consistent with the asset.

Governance and voting engine
As a decentralized network, the governance of a large proportion of the VALOR Platform is in the hands of the community, who can vote on decisions, contribute to polls, introduce petitions, and more. Some central responsibility is needed at the start of the platform's life, particularly around regulatory compliance matters. But once the community is big enough, with services capable of managing it, more decentralized governance will be sustainable.

Decentralized auctioning marketplace
A smart contract-enabled auction marketplace facilitates price discovery and supports liquidity in infrequently traded assets, for both investors and asset issuers.

Authentication and identity
Robust protocols are in place to authenticate and manage user IDs. Multi-factor authentication is implemented.

Portfolio management
Manage, update and review the VALOR investment portfolio from a user-friendly dashboard, available on desktop and mobile. Integrate risk analysis and performance prediction apps from the app marketplace.

App marketplace
Third party providers or individual contributors can build applications on top of the VALOR Platform. The community can purchase or license these apps via the app marketplace.

Task marketplace
The VALOR Platform enables decentralized value creation. Contribute your Participants can contribute their expertise where they can, with coding, research, performance predictions and more. Positive reviews from the community, an accurate performance prediction, etc., will build their publicly verifiable reputation and increase their earning potential.

Rewards and bounty programs
Active stakeholders can earn rewards from participating in the VALOR Platform in a way that upholds what it stands for. Examples are engagement in opinion polls, being involved in governance matters, giving input on new assets being considered for listing, providing capital and liquidity etc. The reward program can also be deployed by asset issuers.

Licensed exchange
List and trade asset tokens and cryptocurrency on the VALOR exchange, which accommodates all regulatory constraints.

Secure custody for crypto assets
Hold your tokenized assets safely and securely in VALOR accounts or wallets. The technology also interfaces seamlessly with hardware wallets.

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4.3 SMART VALOR approach to decentralized trading

The VALOR Platform follows a hybrid approach – apart from the initial centralized trading platform, decentralized trading will also be supported. The first type of decentralized trading on the VALOR Platform will be an implementation of smart-contract based auctions for less liquid assets performed on both public and consortium blockchains. The current lack of liquidity on decentralized exchanges is connected to user experience, which does not hide the complexity underneath the operations for the less tech-savvy users.

Decentralized auctions for illiquid assets can be implemented by means of smart contracts along the same lines of ENS45. These types of auctions will likely be sealed-bid auctions. In the current prototype (www.smartvalor.io) SMART VALOR has implemented the reverse Dutch auction type. This will keep bids secret in a public blockchain, where everyone can check the amount of transactions sent to the network. Bidders are not actually required to send their bids in clear text, but instead they generate salt and hash for the tuple (salt, amount) before sending it to the contract together with a sum which is always in excess to the minimum bid allowed to their actual secret bid. Locking more money than is actually offered in a bid is a way to hide the real amount. Once the bidding period closes, the bidders have to reveal their bids during the "reveal period" and the smart contract will verify the consistency among the revealed and actual bids. Once the bids are revealed and verified, the winner is selected, the trade is settled, the assets transferred and any excess money unlocked is sent back.

A great advantage of this approach is the full decentralization in the operations which are not bound by the scope of the VALOR Platform, but will allow participants from other platforms with their own wallets to directly participate in the auctions.

However, the above mechanism must be conciliated with the nature of asset-backed tokens which require a strong enforcement of regulatory aspects. For this purpose, the identities of the participants and the provenance of their assets should be managed. This does not necessarily mean that they should disclose their identities to all parties involved, but at least they must provide cryptographic proof that the funds are cleared and AML requirements are satisfied. The details of this cryptographic proof can be embedded along the same lines of verification of regulated token protocols mentioned above.

Another issue to be managed with sealed auctions on blockchain is scalability. Even in the case of a limited number of bids for a given illiquid asset, it is still inefficient to place all of them on the main chain, including those that will be discarded. Because an auction is basically a contract involving a number of bidders and one seller, it makes sense to enroll participants beforehand and to manage the bidding and revealing period in an off-chain yet decentralized way. In this regard, a side chain solution like the ones described in EOS or the Plasma chain described by Poon and Buterin[46] are promising to build the decentralized trading functionalities in a public blockchain, but within a confined environment otherwise only achievable with consortium blockchains.

[45] Ethereum Name Service. Ethereum Name Service. Retrieved from https://ens.domains/

[46] Poon, J., & Buterin, V. (2017). *Plasma: Scalable Autonomous Smart Contracts* [Ebook]. Retrieved from https://plasma.io/plasma.pdf

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4.4 The VALOR Protocol

While there are many established protocols for decentralized trading of utility tokens around, protocols to facilitate security tokens are still in their infancy. With development of the **VALOR protocol** SMART VALOR is aiming at **facilitating decentralized trading and governance of security tokens**.

A security token is in most instances modeled after existing securities - such as bonds, equities, funds, derivatives, etc. When dealing in these securities the following challenges arise:

- Adherence to Know-Your-Customer (KYC) and Anti-Money-Laundering (AML) regulations in applicable countries
- Investor suitability criteria, prospectus and solicitation requirements
- Pricing and price discovery mechanisms
- Governance procedures through voting and consensus amongst owners
- Asset type specific functionality e.g. to handle dividend payments, payment terms, reporting, staking, etc.

These challenges can be handled on the VALOR Platform through centralized services. But in order to move in the direction of decentralized trading of securities, a set of open source smart contracts will be provided. Here they are referred to collectively as the VALOR Protocol.

Currently, SMART VALOR is focusing on smart contracts for whitelisting wallets under Swiss regulatory requirements (KYC/AML, investor suitability etc.) and, as demonstrated in the current demo, on auction-based ownership transfer mechanisms. Over the coming months, SMART VALOR will be rolling out a set of smart contracts for the respective asset categories traded on the VALOR Platform (real estate, equity in startups, and special purpose vehicles/investment funds).

Further details on the VALOR Protocol will be released in a technical paper in the Q4 2018-Q1 2019 along with the code on the SMART VALOR GitHub repository.

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4.5 Security and custody

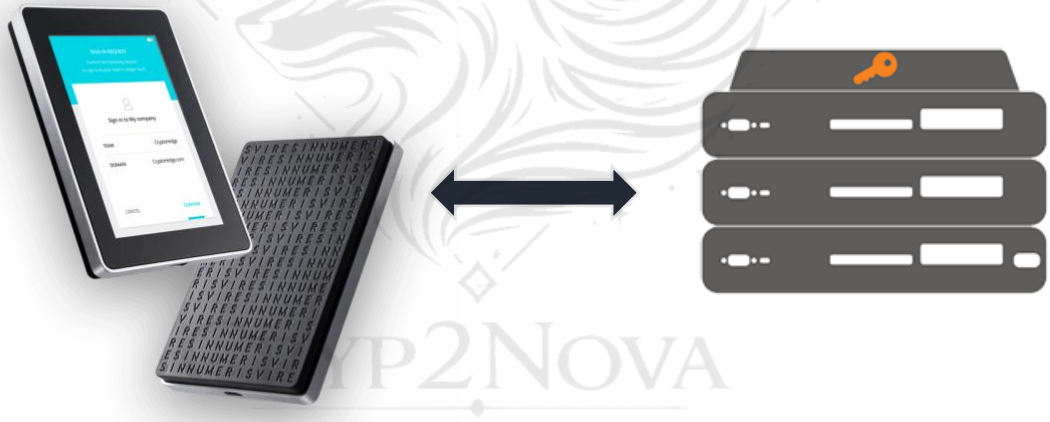
4.5.1 Custody solution for crypto assets

Maintaining the security of assets is certainly the most critical functionality in the crypto space. However, today there is no sufficiently complete solution for institutional investors, which still lack the robust compliance frameworks and security tools to safeguard assets effectively.

To provide security for the platform assets and for the user accounts, SMART VALOR has decided to deploy significant efforts in order to build its own secure custody solution. This will ensure its development on strong roots instead of starting from the ground, notably relying on several top security technology providers.

During the Consensus conference this year in New York, SMART VALOR jointly announced a partnership with Ledger for the establishment of an enterprise-grade custody solution for digital assets.[47] After selling more than one million Nano S hardware wallets for digital assets, Ledger has created an early access program for Ledger Vault. This new program provides asset security through, in particular, Hardware Security Modules (HSMs) and secure authentication of the operators to the HSMs.

Figure 20:
Enterprise-Grade Vault Solution

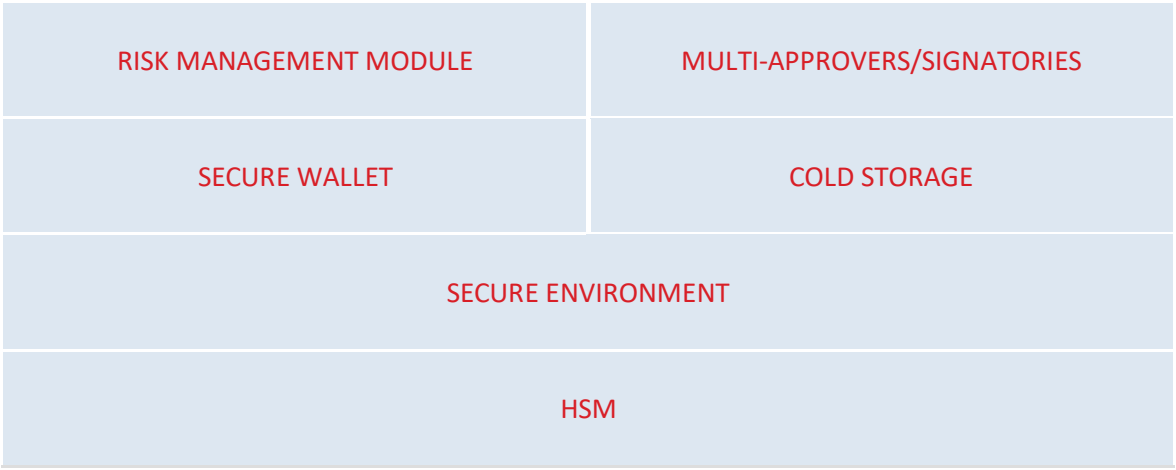


During the Q3-Q4 2018, SMART VALOR is working with Ledger to develop a set of hardware and software security features for digital assets. By combining the security of vault technology together with additional layers of security, SMART VALOR will be a secure custody for crypto assets.

[47] Smart Valor. (2018). SMART VALOR leads the way on crypto custody, joining Ledger Vault. Retrieved from https://smartvalor.com/smart-valor-leads-the-way-on-crypto-custody-joining-ledger-vault/

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Figure 21:
Elements of the SMART VALOR Secure Custody



4.5.2 Security strategy

From the very beginning, SMART VALOR identified the crucial importance of the security of the platform and its processes. Security is vital for ensuring long-term resilience for end users, for achieving the highest requirements as equivalent to current financial market practices and in meeting regulatory expectations.

As the VALOR Platform relies on blockchain technology, security is an important aspect. Some of the core known threats are: leakage of cryptographic keys, weakness of the consensus mechanism, no identity assurance, and integrity alteration of content. Nevertheless, security (and when needed, privacy) of blockchain technologies is a topic that is constantly being studied and improved on. While SMART VALOR relies on existing solutions, the team is also continuously monitoring new developments, with a view to implementing more reliable technologies as they evolve in order to rigorously eliminate security risks.

On the other hand, the security of a blockchain system cannot be reduced to the sole question of the security of the blockchain backbone. The whole system implementation and the enabled usage modes introduce many more security risks that are often hidden behind the blockchain context. They include: smart contract implementation and deployment threats, the security of compatible wallets, the high-end security of custodies, and the security measures required at the software layer, in particular for the applications and the system components interfaces.

The complexity and recentness of all but Bitcoin blockchain technologies, mean that system security is still an important challenge for a system provider. Bitcoin is in use at significant scale, its code has been extensively reviewed for almost 10 years, and its functionalities are kept simple. This is not the case for other blockchain technologies, even for Ethereum, which is the main technology used today for token generation.

These technologies offer more functionalities (e.g. smart contracts), with very recent applications built on top, and their use comes with high complexity for most users. Smart contract development programming requires a new mindset to manage actions that are, for the most part, irreversible and where bailouts are not granted. Despite this, smart contracts currently stand as the most transparent and automated way to execute complex financial transactions.

Several breaches, coins/tokens loss or theft and bugs with, for example, wallets and smart contracts (increasingly since early 2017 with ICOs) have emphasized the urgency to manage the use of blockchain technology as a complete system. This requires the implementation of

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appropriate security measures to achieve end-to-end security. The vision is beginning to be shared by different stakeholders, as illustrated by the Cryptocurrency Security Standard, which lists some good practices[48], and the new ISO standards projects under development[49] in the working group led by SMART VALOR co-founder Julien Bringer.

SMART VALOR is fully aligned with this system approach and it will be continuously addressed through overall software security, organization and risk management and by following other classical practices. The company will also implement more specific measures dedicated to its context, in particular security of wallets and secure custody. While perfect security is not possible, they will work to improve its system constantly.

Secure custody, wallet security, system security, smart contract security, strong authentication, blockchain security are the major elements that have been considered. Concerning smart contract security, this is in particular covered by security audits (internal and external), reuse of existing building blocks, release of code for community review, early deployment on testnets, formal specification up to formal validation when possible.

An overview of the main security measures in the process of implementation on the VALOR platform is provided in Appendix II. Details about some of these points are covered in ad-hoc documents that will be released on the SMART VALOR website.

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[48] Checklist. Retrieved from https://cryptoconsortium.github.io/CCSS/Checklist/

[49] ISO/NP TR 23576 - Blockchain and distributed ledger technologies -- Security of digital asset custodians. https://www.iso.org/standard/76072.html?browse=tc

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"The bitcoin world is this new ecosystem where it doesn't cost that much to start a new bitcoin company, it doesn't cost much to start owning bitcoin either, and it is a much more efficient way of moving money around the world."

Tim Draper,
Managing Partner of Draper Fisher Jurvetson

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5. Current status and implementation roadmap

5.1 SMART VALOR's regulatory approach

Building the next-generation financial institution means overcoming regulatory hurdles. Rather than applying existing inappropriate rules which would stifle the business, SMART VALOR's approach is to shape the new regulatory framework by working closely together with authorities and regulators in Switzerland and Liechtenstein.

The SMART VALOR team has an impressive track-record in overcoming regulatory challenges. The CEO and co-founder Olga Feldmeier led the licensing efforts of Xapo, which is one of the largest Bitcoin custodians today[50]. She facilitated the regulatory solution with the Swiss financial regulator, which became **one of the most important cryptocurrency regulatory case globally**[51].

Looking at the competitive landscape, today most crypto exchanges and wallets are not authorized, and act without clear regulatory approval[52]. Such practices cut short on investor protection and expose asset issuers to additional risks connected to non-compliant activity and money laundry.

SMART VALOR is clearly distancing itself from such practices. It has dedicated significant resources and time to **securing regulatory approval prior to the launch of the platform**.

In the first stage, SMART VALOR secured the approval to operate as **Financial Intermediary in Switzerland** as member of the VQF SRO, an officially recognized self-regulatory organization pursuant to the Swiss Anti-Money Laundering Act. This regulatory status enables the VALOR Platform to offer cryptocurrencies, payment, and utility tokens on its platform. This is the first major regulatory milestone along the implementation roadmap.

The second stage is the receival of a banking license. Due to the delay in the introduction of Swiss '*banking light'* license for fintech innovators, SMART VALOR took the decision to pursue a banking license in Liechtenstein. Liechtenstein has the strategic advantage of being part of the European Economic Area. This makes it a member of the European Union passporting system for banking institutions. The passporting system enables a financial institution from one EU country to operate without licensing in any of the other 28 EU countries.

A banking license as such is not needed for a marketplace. However, it has a strong strategic advantage. As significant proportion of payments into and out of the platform will be channeled through cryptocurrency, difficulties with finding reliable banking partners are expected. Receiving its own banking license will provide the VALOR Platform with independent status and reduce

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[50] Meet the Bitcoin Queen of Switzerland's Crypto Valley. (2017). Retrieved from http://www.ibtimes.com/meet-bitcoin-queen-switzerlands-crypto-valley-2621560

[51] Reuters. (2017). Bitcoin firm gets approval to operate in Switzerland. Retrieved from https://www.reuters.com/article/us-swiss-bitcoin-xapo/bitcoin-firm-gets-approval-to-operate-in-switzerland-idUSKBN15B1QB

[52] Hileman, D., & Rauchs, M. (2017). Global cryptocurrency benchmarking study [PDF]. Retrieved from https://www.jbs.cam.ac.uk/fileadmin/user_upload/research/centres/alternative-finance/downloads/2017-global-cryptocurrency-benchmarking-study.pdf

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operational risks connected with possible closure of bank accounts. This problem was exasperated during 2018 as all Swiss banks stopped working with crypto and blockchain companies[53]. Several banks in Liechtenstein remained open charging extremely high fees (of up to 2%) on ICO related capital flows.[54]

Additionally, to reducing dependency on banks, it offers a **regulatory framework for global distribution of securities**. Starting with a focus on the European Union the VALOR Platform will expand into global distribution within certain segments.

SMART VALOR will also leverage its banking license to **support the VALOR network partners with provision of banking services** such as bank accounts in payments. Near to mid-term, this setting can be considered as a significant competitive advantage of the VALOR Platform.

Finally, as the regulatory environment for ICOs and cryptocurrencies becomes more restrictive in many countries such as China, India and the USA, the number of crypto companies coming to this region continues to grow. Switzerland's regulatory advantage combined with its highly reputable banking center has already attracted more than 400 crypto companies (including Xapo, Bitmain, Bitfinex, Status, Aragon, etc.)

In most cases, these foreign players underestimate the resources and time it takes to establish trust and a working relationship with local authorities and institutions. As a native Swiss company headquartered in Swiss Crypto Valley (Canton Zug) with years of experience doing business in Switzerland, this is a strong key differentiator for SMART VALOR[55].

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[53] Olga Feldmeier: «Silent Collusion Among Banks vs Crypto». (2018). [Video]. Retrieved from https://www.youtube.com/watch?v=pcaK8rEbnCI

[54] "Switzerland seeks to regain cryptocurrency crown" (2018)Reuters, retrieved from https://www.reuters.com/article/us-cryptocurrencies-banking-switzerland/switzerland-seeks-to-regain-cryptocurrency-crown-idUSKBN1K91AY

[55] Feldmeier, O. (2018). Switzerland can become one of the top three crypto hubs in the world. Retrieved from https://www.cnnmoney.ch/shows/living-markets/videos/olga-feldmeier-ceo-smart-valor-blockchain

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5.2 Implementation roadmap

The roll-out of the VALOR Platform will be implemented in four major phases:

Phase 1: Foundation (Q2 2017 – Q1 2018) – Milestones completed

1. Team of 10 full-time contributors established
2. Financial Intermediary status[56] in Switzerland in preparation
3. Platform prototype fully functional on consortium blockchain build
4. Go-to-market focus areas:
    a. Establishment of flagship conference series Crypto / ICO Summit
    b. Brand awareness / PR (print, online, TV)
5. Key partnerships established with VC funds, technology providers, and legal advisors
6. First round of pre-sale completed (CHF 1.5m) with focus on strategic investors

Phase 2: Operational Readiness (Q2 2018 – Q3 2018) – Milestones completed

1. Team of 37 full-time contributors established
2. Financial Intermediary status (AML-license)[57] received in Switzerland
3. Banking License (Liechtenstein) and Security Dealer[58] license application in preparation
4. Development of core platform components completed, overall integration tests ongoing
5. Go-to-market focus areas:
    a. Early access user onboarding
    b. Global expansion of conference series (Crypto Summit World Tour)
6. Further partnerships with VC funds, technology provider and legal advisors
7. Second round of pre-sale completed (CHF 3.3m) with focus on strategic partners

Phase 3: Start of operations – cryptocurrencies and utility tokens (Q4 2018 – Q1 2019)

1. Team of 45 full-time contributors established, plus opening for outside developers
2. Launch of platform with core components in production – listing of VALOR token as first proof of issuance and trading capabilities followed by trading of selected cryptocurrencies, utility and payment token

[56] Under the Anti-Money Laundering Act (AMLA), financial intermediaries who are not members of a self-regulatory organization require a license from FINMA

[57] Under the Anti-Money Laundering Act (AMLA), financial intermediaries who are not members of a self-regulatory organization require a license from FINMA

[58] The operator of an Organized Trading Facility requires a license as a bank or securities dealer or authorization or recognition as a trading venue (art. 43 para. 1 FMIA)

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3. Establishment of enterprise-grade custody solution for digital assets in partnership with Ledger (as announced at Consensus in May 2018)[59]
4. Applications for Banking License (Liechtenstein) and OTF (Organized Trading Facility) completed
5. Core members of asset verticals joined the VALOR network, working groups preparing the legal frameworks for security trading
6. Go-to-market focus areas:
    a. Ramp-up of online communities and onboarding of users to the platform
    b. Brand awareness in home markets (EU, Switzerland, UK)
7. ICO completed

Phase 4: Fully licensed crypto bank (Q2 2019 – Q4 2019)

1. Team of 75 full-time, plus significant growth of external contributor team
2. Banking license in Liechtenstein granted, additional services in securitization and basic banking services
3. Begin listing and trading security tokens on the VALOR Platform
4. Extended functionality in production - collaboration tools, incentive systems, task and apps marketplace
5. Functionality for decentralized trading for selected assets enabled (smart contract-based auctions)
6. VALOR Chain operational to meet specific regulatory / compliance requirements for certain security token
7. Go-to-market focus area: growth of user base in home market plus top 10 focus countries though incentives and reward programs

Phase 5: Decentralization of trading (2020 onwards)

1. Rapid expansion of listed tokens
2. Functionality for decentralized, compliant trading is extended to securities and becomes primary method for less liquid assets (global pooling of liquidity)
3. VALOR network includes similar platforms in the US and Asia enabling cross-platform listings and distribution
4. Advanced functionality for incentivizing decentralized value creation
5. Large ecosystem established driving the open source functional extension

[59] Smart Valor. (2018). SMART VALOR leads the way on crypto custody, joining Ledger Vault. Retrieved from https://smartvalor.com/smart-valor-leads-the-way-on-crypto-custody-joining-ledger-vault/

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OFFLINE DISTRIBUTION CHANNEL ESTABLISHED

From the very beginning, while the technical platform was in development and licensing process underway, SMART VALOR started to build brand awareness and offline distribution channels. One of such is the flagship conference series Crypto Summit (www.cryptosummit.ch).

Conducted bi-annually for the first time in September 2017, the conference has established itself as Europe's premier blockchain event, held in the heart of Swiss Crypto Valley. The latest spring edition, Crypto Summit, took place in March 2018 and became the largest blockchain conference in Switzerland. The conference drew key policy makers, global industry leaders, investors and leading ICO projects from around the world with 1,400 participants from 40 countries, 34'000 via livestream, over 100 speakers and 50 exhibitors. The companies which announced their ICO at our Crypto Summit conferences have already **raised over USD300m**.

In the summer of 2018, SMART VALOR has additionally rolled-out the Crypto Summit World Tour targeted at growing its global footprint and brand recognition. Strategically, this is an important part of our distribution engine which combines offline and online channels. The next conferences are scheduled for 28-29 October 2018 and April 2019.

5.3 The VALOR Platform prototype

A first functional prototype of the VALOR Platform has been developed. The prototype was revealed at Finovate in March 2018 in London. The recording of the live demo is available on the official Finovate site:

http://finovate.com/videos/finovateeurope-2018-smart-valor/

The functional prototype of the VALOR Platform can be accessed and tested on www.smartvalor.io.

Investors can navigate within the platform to easily visualize the different investment opportunities available. They can dive into detailed information in order to conduct due diligence and manage existing and future investments.

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Figure 22:
Investment search

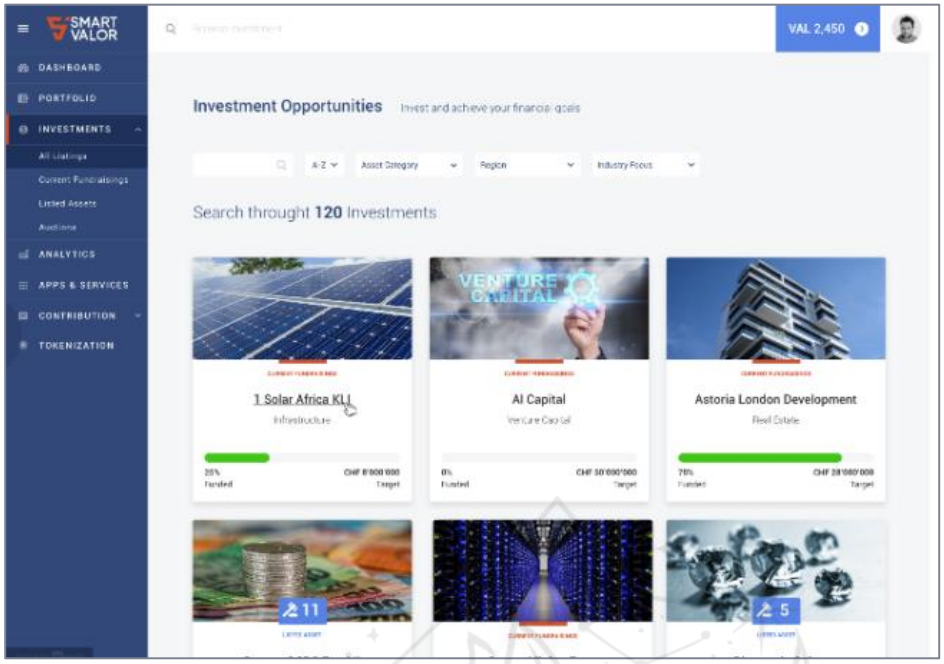
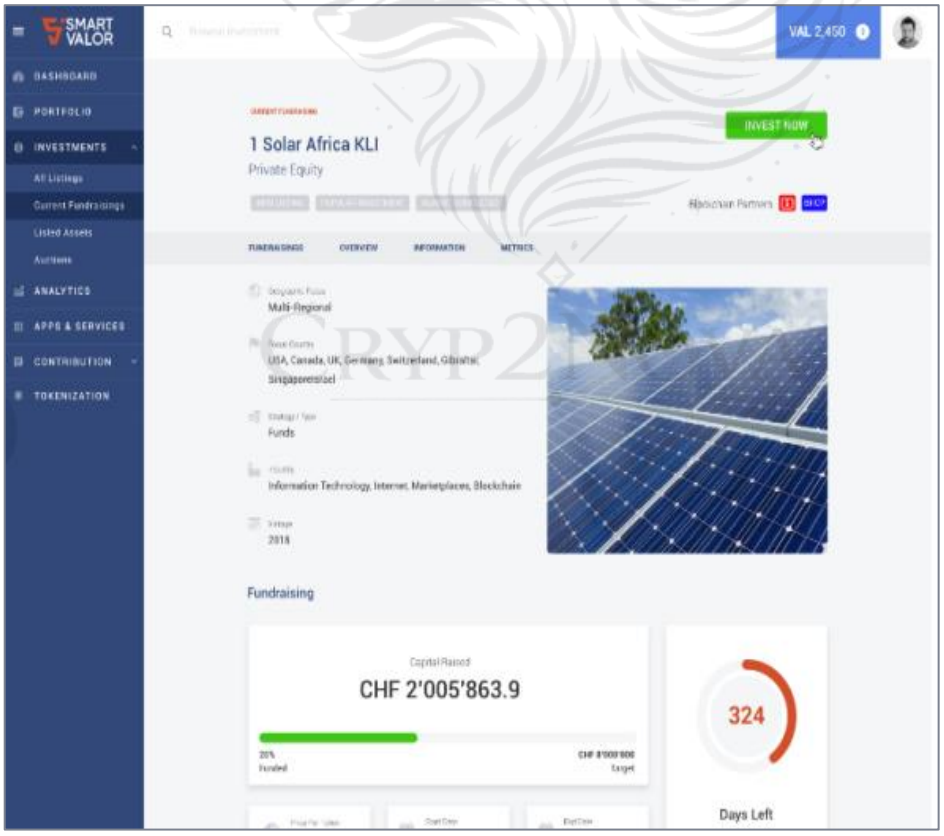


Figure 23:
Investment details



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Asset issuers will have access to the tokenization engine. In this, they can select and parameterize the smart contract representing both their asset's financial structure, and its governance model.

Figure 24:
Tokenization machine

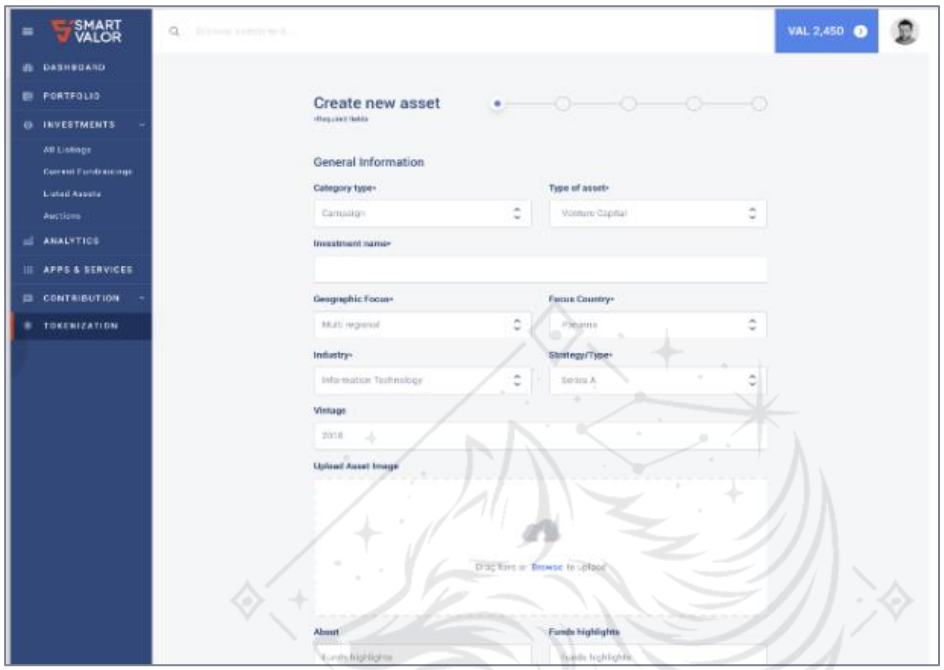
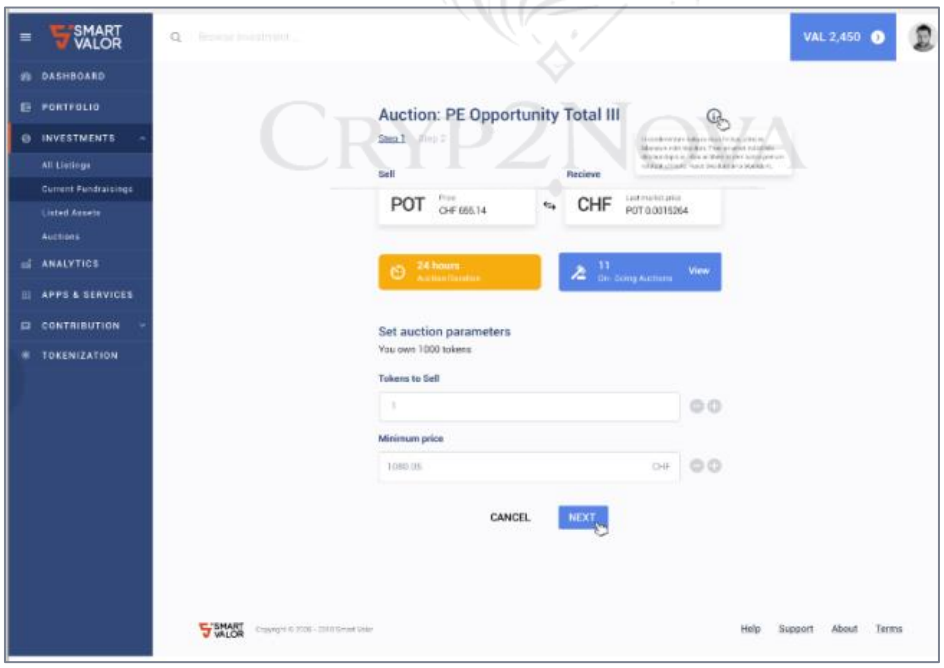


Figure 25:
User-generated auction

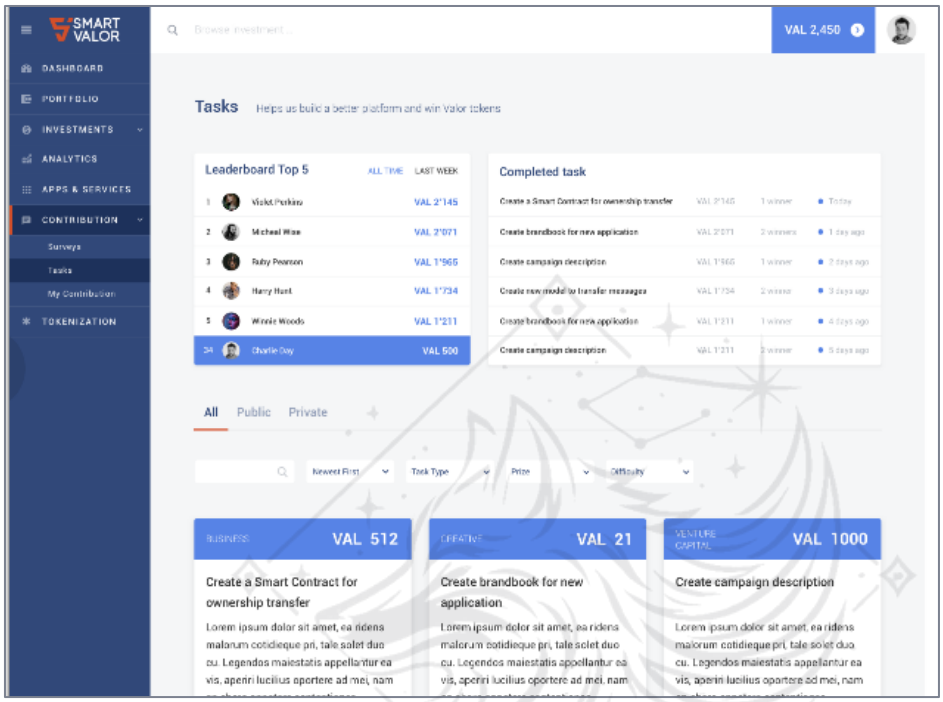


All users can participate as members of the VALOR community. Participation includes various

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activities, like surveys, ballots for deciding the next assets to be selected, prediction models, new software widgets, applications in the marketplace and so on. This participation will be rewarded. The goal is to give the community the opportunity to drive the future developments of the VALOR Platform and to ensure extensibility of the platform to new features and technologies.

Figure 26:
Tasks view



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"Whereas most technologies tend to automate workers on the periphery doing menial tasks, blockchains automate away the center. Instead of putting the taxi driver out of a job, blockchain puts Uber out of a job and lets the taxi drivers work with the customer directly."

Vitalik Buterin,
Founder of Ethereum

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6. The VALOR token

6.1 The role of the token in the business model

Most online marketplaces or networks face the challenge of scaling when they launch. Named as the chicken-and-egg-problem and translated into investment platform terminology it can be formulated like this: **an increase in the number and quality of investment opportunities offered through third party asset issuers increases the attractiveness of the platform to investors.** In turn a growing number of investors increases the attractiveness for asset issuers to place their assets on the platform.

This phenomenon is called by economists *the network effect*: the platform's value to any given user largely depends on the number of users on the network's other side.[60] Once the marketplace reaches a critical inflection point, network effects kick in and growth follows an exponential, rather than linear, trajectory.[61]

Since the VALOR Platform is a multisided marketplace, its main goal is to grow fast to achieve network effect. The new enabler of the scaling can be found in the birth of a token (crypto) economy that creates its own wealth via new business models, and peer-to-peer transactional relationships between participants.[62]

This is the main goal of the introduction of the platform native currency, the VALOR token. The design of the token is targeted at creating an incentive for participants to contribute and to benefit from the value creation on the VALOR Platform. Providing the right incentives and benefits is critical to attract a large community of investors, asset issuers and contributors. Therefore, the token functionality is structured around utility it gives to the user of the platform.

A circular token economy is created through the built-in mechanism in which participants can earn VALOR tokens for their contributions, but also spend them when using services or staking them in order to obtain special benefits. With this goal in mind, the VALOR token is a tool to achieve deeper engagement of a wider community of investors, partners and contributors, who in turn will be the key beneficiaries of the growth of the platform.

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[60] Eisenmann, T., Parker, G., & W. Van Alstyne, M. (2006). Strategies for Two- Sided Markets [PDF]. Retrieved from https://scholar.google.ch/scholar?q="Strategies+for+Two+Sided+Markets"+by+Thomas+Eisenmann,+Geoffrey+Parker,+and+Marshall+W.+Van+Alstyne&hl=fr&as_sdt=0&as_vis=1&oi=scholart

[61] Harvard Business Review. (2016). Network Effects Aren't Enough. Retrieved from https://hbr.org/2016/04/network-effects-arent-enough

[62] Mougayar, W. (2016). The business blockchain.

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6.2 Participants of the network

In a simplified sense, the VALOR network consists of the following stakeholder groups: investors, asset issuers, facilitators and contributors.

Figure 27:
Stakeholder groups

THE INVESTOR GROUP Consists of individual and institutional investors seeking to gain portfolio exposure to the new digital asset class and tokenized real-world assets. Within the group of institutional investors, in particular, SMART VALOR targets the following:	▪ Individual investors ▪ Independent wealth managers ▪ Asset management companies ▪ Family offices ▪ Venture capital and crypto funds ▪ Banks and other financial intermediaries
THE ASSET ISSUER This term is referred collectively to partners seeking to issue and distribute their tokens on the VALOR Platform. Within this group the key stakeholders are:	▪ Crypto hedge funds ▪ Venture capital and private equity funds ▪ Real estate issuers/owner ▪ Startups and growth companies and other issuers
THE CONTRIBUTORS AND FACILITATORS are a heterogeneous group of service providers such as:	▪ Placement agents and sponsors ▪ Market maker and liquidity providers ▪ Due diligence provider and legal advisors ▪ Fiduciaries and custodians for collateral ▪ Auditing firms ▪ Developer (e.g. smart contracts, apps) ▪ Individual contributors

Contributors are individuals who are participating in the VALOR task marketplace and contributing to the development of the VALOR Platform. Facilitators are companies involved in provision of services along the asset life cycle.

Certain partners can fall into multiple categories. For instance, a Venture Capital fund can use the platform for deal flow (investor), to raise capital for the fund (asset issuer), but also place portfolio companies for listing (facilitator).

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6.3 How the VALOR token is used

The token will be issued as an ERC-20 token compliant to the public Ethereum blockchain. The token is classified as a utility and payment token.

Figure 28:
How VALOR token is used

FUNCTION / UTILITY	DESCRIPTION
Membership stake	While the platform is open to members and non-members alike, holding of a certain amount of VALOR tokens ("staking") grants special benefits or access to additional functionality and services.
Loyalty and reward program	Rewards will be offered to active contributors to the network. There are various programs for the different stakeholder groups, e.g. rewards for active investors, paybacks for asset issuers, rewards for contributors of work. Membership status is needed to access most of the reward programs. Holding VALOR tokens alone without any active contribution of work/expertise will not grant any revenue participation.
Payment	VALOR token can be used to pay for the platform's service fees. Certain services (e.g. transaction fees, listing fees, application fees) are discounted when paid for with VALOR token.
Survey participation and voting	Holding VALOR tokens enables participation in surveys and voting polls. Depending on the vote, the participant's quantity of VALOR tokens will be used in weighing the results. From a legal perspective the voting results are non-binding.
Bridge currency for trading	VALOR token will be one of the bridge currencies listed on the VALOR Platform and as such will help to improve liquidity across tokenized assets.

VALOR tokens are deployed and transferred within the VALOR network. The tokens can also be circulated outside the network and beyond the circle of people registered in it. VALOR tokens will be listed for trading on the VALOR Platform as well as other major crypto exchanges.

The VALOR token has been designed to incentivize and foster the network of partners, investors, and contributor and community participation on the VALOR network. To this end, different functionalities are embedded in the token model, relevant to the different stakeholder groups and marketplace participants.

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6.4 The function of the VALOR token

Figure 29:
An overview on the functionality of the VALOR token

INVESTORS	
PRIME INVESTOR STAKE: 1'000 VALOR	PRIME INSTITUTIONAL INVESTORS STAKE: 10'000 VALOR
1. Early access to upcoming asset listings 2. Preferred access to oversubscribed listings 3. Participation in higher tier reward programs for active investors 4. Fast-track bank account opening[63] 5. Participation in voting on future development of the platform and asset listings	Same benefits as individual ***Prime Investor*** plus: 1. Introduction to early stage (pre-listing) ventures 2. Dedicated institutional account manager 3. Participation in high value institutional reward programs 4. Fast-track institutional bank account opening[64]
ASSET ISSUERS	
PARTNER STAKE: 100'000 VALOR	PRIME PARTNER STAKE: 200'000 VALOR
1. Possibility to tokenize and list assets on the VALOR Platform[65] 2. Access to the VALOR network of service providers 3. Dedicated partner account manager 4. Participation in reward/revenue sharing programs	Same benefits as ***Partner*** plus: 1. Fast-track due diligence process 2. Priority listing during high load times 3. Participation in issuance/deployment of CHFt 4. Access to "targeted" airdrop program 5. Fast track institutional bank account opening[66] 6. Preferred access to the offline distribution platform for exhibiting at conferences and private investor events
CONTRIBUTORS AND FACILITATORS	
CONTRIBUTOR STAKE: 250 VALOR	SERVICE PARTNER STAKE: 10'000 VALOR
1. Participation in task marketplace and financial rewards for contributed work (e.g. development, testing, fraud detection, investment due diligence, reviews) 2. Participation in surveys and voting on future developments and listings 3. Invitation to community events around the globe (hackathons, meet-ups etc.)	Same benefits as ***Contributor*** plus: 1. Dedicated partner account manager 2. Listing of offered services on platform 3. Priority for services procured by SMART VALOR 4. Participation in high value institutional reward programs

[63] After SMART VALOR is granted banking license
[64] After SMART VALOR is granted banking license
[65] Subject to successful due diligence
[66] After SMART VALOR is granted banking license

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Over time, as the network grows, additional utility functions will be implemented. Mainly in the area of decentralized trading of real assets, consensus algorithm of the permissioned VALOR chain, curation and prediction markets. These kinds of implementations require further research, development and also legal groundwork. SMART VALOR will contribute to this research and expect to roll out additional functionality over time.

6.4.1 The VALOR Platform membership types

Private and institutional users of the VALOR Platform can become members of the VALOR network. The membership is acquired through the staking of a certain amount of the VALOR tokens or alternatively holding the VALOR token in their VALOR user wallet. Depending on the type of membership, a specific amount of VALOR tokens needs to be staked. The minimum membership duration is 12 months. If the user decides to end the membership, the staked tokens will be released back to the user at the end of the membership period.

There are several benefits connected to this kind of staking:

- It improves "stickiness" of the platform incentivizing members to stay with the platform.
- It serves as an insurance against possible misconduct or non-compliance with obligations from the side of asset issuers or service providers.
- It drives the demand for VALOR tokens: with an increasing number of network members, there is increasing demand for VALOR tokens.

The range of benefits and number of staked tokens is dependent on the type of membership.

VALOR Prime Partners are eligible to participate in CHFt application
Institutional Partners such as crypto currency exchanges, crypto funds and banks require Prime Partner membership to be able to deploy tokenized Swiss Franc (CHFt). This membership can be received through staking of 200’000 VALOR tokens. For these kinds of partners, participation in the pre-sale offers a low-cost entry to the VALOR network as, at this stage, the tokens are sold with additional bonus.

After the initial 12-month lock-up period of their VALOR tokens for any type of membership, investors or partners can either extend the membership or end it selling their stake to other participants of the platform that are interested in obtaining the membership. As the platform scales and more investors compete for purchase of the membership, the value of the membership is expected to grow. In the same fashion, as the number of partners interested in issuing their investment products on the platform grows, so grows the demand for the VALOR partner membership, while the total supply of the memberships is limited by the number of VALOR tokens in circulation.

These represent only some highlighted benefits. The full and final list of services included in each membership package will be released during the operational launch of the platform and adjusted as additional functionality is being developed.

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6.4.2 The loyalty and rewards program for members

To achieve a broad engagement and to reward active users, various incentives such as loyalty and reward programs will be launched. Most of the reward programs distribute VALOR tokens. Access to loyalty and reward programs requires the staking of VALOR token. The higher tiered loyalty levels and programs are exclusive to the above presented membership packages (requiring an even higher staking/holding of VALOR token).

To earn the rewards and contribute to the development of the network, users can take several actions:

- Actively trading on the secondary market
- Investing in initial listings
- Referring of new users/investors
- Introducing investment opportunities and syndication
- Other forms of participation in the decentralized value through the VALOR task market such as contributing code, introducing asset issuers, participating in due diligence, participating in asset voting, writing performance reviews, submitting performance predictions, etc.

On the other side, for institutional users there are specific rewards:

- Rewards for introduction of co-investment opportunities (for funds)
- Participation in retrocession fee schedule (for wealth managers)
- Redemption of listing fees, if an issuance attracts new investors to the platform (for asset issuers)

This listing represents an excerpt from the full list which will be finalized and published at the launch of the platform.

6.4.3 The payment function of VALOR token

Any participant can use VALOR tokens to pay for services of the VALOR Platform, such as listing fees, transaction fees, custody fees, etc. The services can be paid in fiat money or cryptocurrencies. However, if paid in VALOR tokens, the fees are discounted. This creates an incentive for asset issuers and investors to purchase VALOR tokens to pay for usage of the platform in the platform.

When paying with VALOR tokens, services will be discounted according to the schedule presented in Figure **30**.

Figure 30:
Discount schedule

YEAR	2018-2019	2020	2021	2022 ONWARDS
Discount	**30%**	**20%**	**10%**	**Tbd**

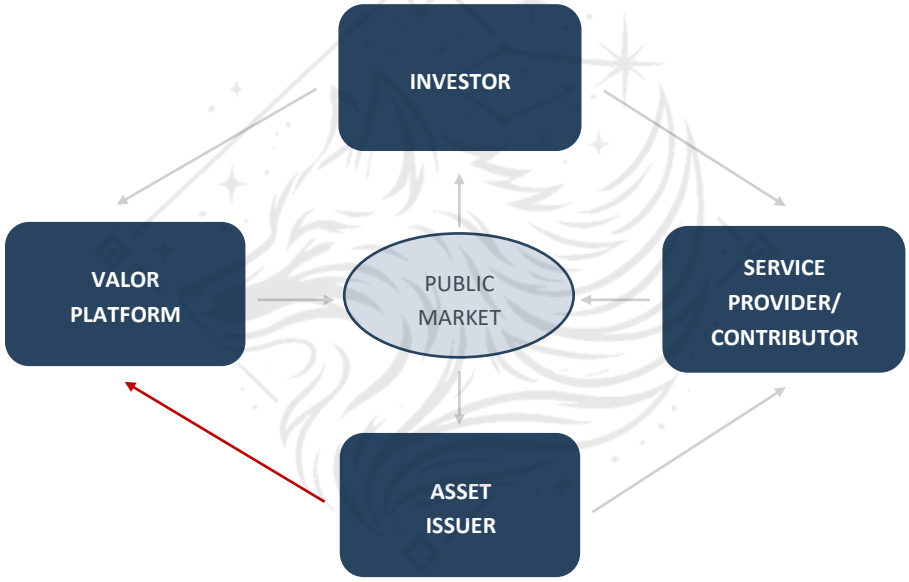
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Third parties and partners offering services on the network can choose to accept VALOR tokens as payment but are not required to do so. When accepting VALOR tokens, these third parties can choose if they want to offer discounts.

6.5 The circular token economy

This constant flow of VALOR tokens going through reward distribution, purchasing, staking, release, sale and payment creates a natural circular token economy which incentivizes the users of the platform. Users can earn or purchase tokens in order to stake them for membership benefits or to benefit from discounted payment terms. They can trade tokens on open marketplaces but also redeem them for services provided by SMART VALOR or other VALOR Platform participants.

Figure 31:
Circular VALOR token economy



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- Asset issuers can purchase and stake tokens to become VALOR (Prime) Partners to issue their assets on the VALOR Platform.
- Individual investors can earn, purchase and stake tokens to become VALOR Prime Investors to benefit from exclusive rights of the membership.
- Facilitators and Contributors can purchase and stake tokens to become part of the VALOR network of contributors and preferred service providers.

At the same time, every participant of the VALOR network can:

- Spend VALOR tokens to pay for additional services of the platform on discounted terms
- Sell their VALOR tokens on the open market

The **circular flow of** VALOR tokens between the platform users should facilitate “stickiness” of the platform, increase trust and **reduce transaction costs** normally connected with service provision

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in an open marketplace. Overall this ***circular token economy*** as a key element of the business model of the VALOR Platform should crucially support the growth of the VALOR network.

6.6 The launch of the VALOR Platform

The VALOR token will be the first token to be listed on the VALOR Platform as first proof of the institutional-grade issuance and trading capabilities, followed by trading of selected crypto currencies, utility and payment token prior to the roll out of security tokens in a second stage of platform implementation.

Upon launch of the VALOR Platform, the introduction of memberships and staking of the VALOR tokens aims to enable an **early access to the platform to a limited number of stakeholders**. As explained in the previous chapter, this group of stakeholders enjoys a specific set of benefits connected to the usage of the VALOR Platform.

Limited supply of VALOR memberships
The number of available memberships at any time is defined by the number of VALOR tokens available on the open market and number of tokens required for staking. The total number of VALOR tokens minted is limited to 100 million. Of this, only 45 million will be distributed during the sale in 2018, which creates a **smart-contract enacted limit on the initial total amount of available memberships**.

During the launch of the VALOR Platform, a certain VALOR token allocation is targeted as presented in Figure **32**. This allocation will be supported through the SMART VALOR approach to the token sale and different engagement campaigns.

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Figure 32:
Maximum amount of available memberships

INVESTORS	
1. PRIME INVESTOR	**2.** PRIME INSTITUTIONAL INVESTORS
1’000 VALOR **20’000 members** **20’000’000** VALOR total allocation = 20’000 members x 1’000 VALOR	10’000 VALOR **100 members** **1’000’000** VALOR total allocation = 100 members x 10’000 VALOR
ASSET ISSUERS	
3. PARTNER	4. PRIME PARTNER
100’000 VALOR **100 members** **10’000’000** VALOR total allocation = 100 members x 100’000 VALOR	200’000 VALOR **50 members** **10’000’000** VALOR total allocation = 50 members x 200’000 VALOR
CONTRIBUTORS AND FACILITATORS	
5. VALOR CONTRIBUTORS	**6.** VALOR SERVICE PARTNER
250 VALOR **12’000 members** **3’000’000** VALOR total allocation = 12'000 members x 250 VALOR	10’000 VALOR **100 members** **1’000’000** VALOR total allocation = 100 members x 10’000 VALOR

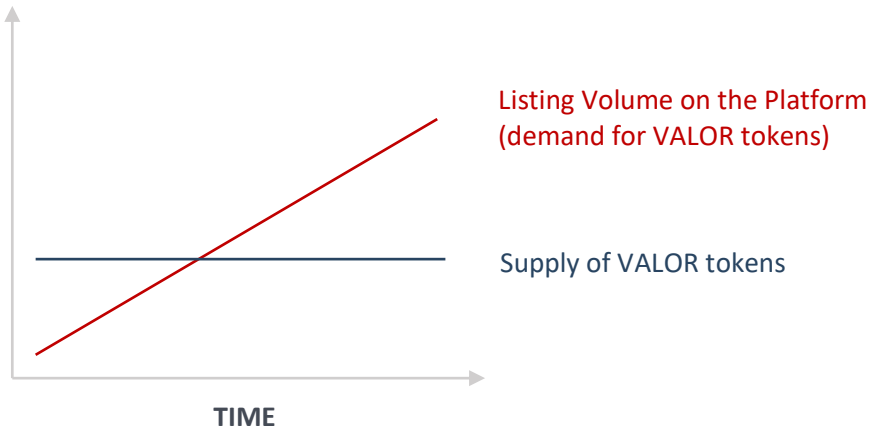
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As a result, SMART VALOR aims to sell around 100 *VALOR Partner* and 100 *VALOR Prime Partner* memberships. The asset issuer that manages to acquire VALOR tokens during pre-sale or ICO will significantly benefit from the low-cost entry to the VALOR Platform and benefits connected with these memberships. The same is true for participants on the other side of the market - investors. SMART VALOR aims to initially distribute only 100 *VALOR Prime* memberships to institutional investors and around 20,000 memberships to individual investors.

In this model, similar to a traditional stock exchange model such as the New York Stock Exchange (NYSE), there is only a limited number of memberships that are available at any given time. Therefore, the price of the membership fluctuates depending on supply and demand for the memberships. On the NYSE, the price of the membership can reach USD2.5 million during the high economic activity cycle.

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Figure 33:
Mechanics of the supply and demand of VALOR tokens



As the confidence and the size of the network grows, the company expects early adopters of the platform to be the key beneficiaries of the successful scaling of the VALOR Platform.

Here it is important to note that **SMART VALOR plans to dedicate a significant part of revenues to the incentivization of the Platform users through the enactment of a comprehensive rewards program.** The prerequisite for participation in the rewards program is the holding of a respective VALOR token stake.

Finally, it needs to be pointed out that the company foresees the network growth being uninhibited by the limited number of memberships. Memberships represent the incentive for early adopters of the platform. These early adopters become vital stakeholders in shaping the development of the platform, contributing to the selection of investment products through voting, sourcing deals, providing insights and due diligence process and contributing to the technical development of the platform. The more actively they contribute, the greater the financial benefit will be. If, however, they choose not to engage, the upside potential might lie for them in the appreciation due to the limited supply of the tokens and memberships.

6.7 Comparable token-based models

Token-based platforms are a relatively new invention in terms of the business model design. Currently there are a lot of protocols and DApps being developed with different purposes and monetization criteria. Until recently however, there were very few token-based investment platforms closely comparable to the VALOR Platform.

To a certain degree, the VALOR Platform can be compared to token-based cryptocurrency exchanges such as Binance and Huobi. These exchanges issued their own token to act as payment for the use of the exchange on discounted terms (for example). Since September 2017, the BNB token realized a stunning 22,660% return within 4.1 months, while Huobi peaked at 277% in 7 months respectively.[67]

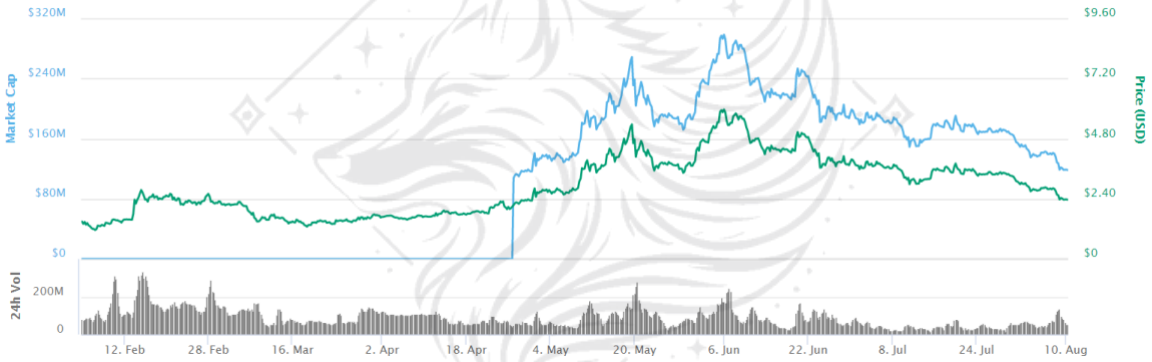
[67] SMART VALOR research as of 03.08.2018. Price source coinmarketcap.com

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Figure 34:
Binance, LTM price and volume[68]



Figure 35:
Huobi, LTM price and volume[69]



These models are only partially comparable. While functionality of exchange is also given on the VALOR Platform, the key difference is that SMART VALOR sees itself as an online investment platform which enables not only investment in new digital assets but also tokenization of real assets and offering of banking services. Additionally, its targeted investor segment is a more long-term oriented investment style as opposed to daily trading typical for exchanges.

Tokens that are backed by a real asset such as real estate, shares of companies and even funds, are fairly straight forward to value. The value of tokens not backed by real assets, such as Ripple or most ICO coins, can be estimated by looking at the total number of network users or total hash power (not to be confused with total tokens), in accordance with Metcalfe's Law. ICOs can be valued using the proposed **"Framework of Token Confidence"**, as these are likely to be valued more highly if they first build investor confidence.[70]

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[68] CoinMarketCap. Binance Coin (BNB) price, charts, market cap, and other metrics. Retrieved from https://coinmarketcap.com/currencies/binance-coin/ as per August 7th of 2018

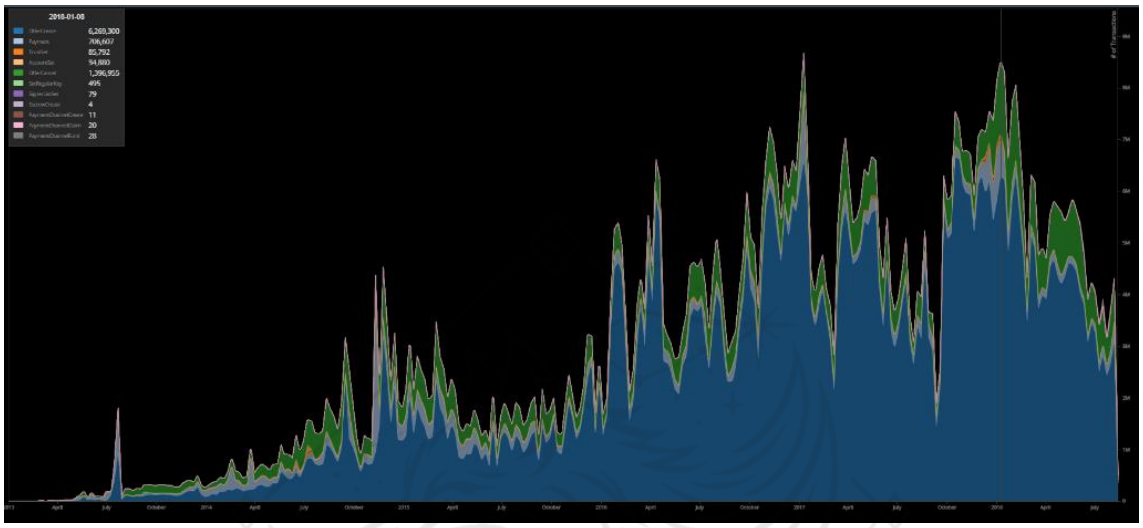
[69] CoinMarketCap. Huobi Token (HT) price, charts, market cap, and other metrics. Retrieved from https://coinmarketcap.com/currencies/huobi-token/ as per August 7th of 2018

[70] Olga Feldmeier, John Hargrave& Navroop Sahdev *How Value is Created in Tokenized Assets* [Ebook]. Retrieved from https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3146191

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Drawing some numbers from exchanges like Binance and networks such as Ripple, it is apparent that there is a direct correlation between investor confidence, use of the platform and its native token price. For example, in the Ripple network, as its daily payment transactions reached the sustainable growth levels and some major partnerships announcements have been made, the XRP price soared to from 0.065USD to 3.56USD rewarding investors with a stunning 53,769% within 12 months between January 2017-18. Its total market capitalization has at that moment reached, a staggering USD138 billion, while it stood at only a modest USD236 million just a year before.

Figure 36:
Ripple – Transaction volume vs LTM price and trading volume[71]



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[71] CoinMarketCap. XRP (XRP) price, charts, market cap, and other metrics. Retrieved from https://coinmarketcap.com/currencies/ripple/ as per August 7th of 2018

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Figure 37:
Ripple, LTM price and volume[72]



With a view that Ripple is not a fully distributed, decentralized network where XRP is not needed to pay transactions in the sense of the protocol native token such as ETH on the Ethereum public blockchain, the Ripple price development demonstrates that the price of any given token can rise significantly once the use case and expansion of the platform is confirmed by increased participant or transaction numbers.

In contrary to these models, the VALOR token is needed by asset issuers and key partners to engage on the VALOR Platform. The demand for VALOR tokens is driven by the number of partners and prime investors. Therefore, the VALOR token, given the timely adoption of the VALOR Platform and broad use of its stablecoin CHFt has the potential to significantly benefit its early contributors and adopters.

Overall, the combination of increasing platform usage and limited token supply has been proven to act as a proxy for increasing the token price of a multitude of exchanges as shown in Figure **38**.

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[72] CoinMarketCap. XRP (XRP) price, charts, market cap, and other metrics. Retrieved from https://coinmarketcap.com/currencies/ripple/ as per August 7th of 2018

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Figure 38:
Token valuations of crypto exchanges in comparison[73]

Huobi	Bibox	KuCoin
0.5yrs since ICO Spot perf: +151% p.a. Max perf.: +277%	0.61yrs since ICO Spot perf: +63% p.a. Max perf.: +482%	0.78yrs since ICO Spot perf: +308%p.a. Max perf.: +2739%
Launch: USD 1.58 Peak: USD 5.96 Spot: USD 2.77	Launch: USD 0.57 Peak: USD 3.32 Spot: USD 0.79	Launch: USD 0.72 Peak: USD 20.44 Spot: USD 2.44
CryptoBridge	**COSS**	**Binance**
0.81yrs since ICO Spot perf: +445% p.a. Max perf.: +4295%	0.86yrs since ICO Spot perf: +102% p.a. Max perf.: +7844%	1.02yrs since ICO Spot perf: +13725% p.a. Max perf.: +22660%
Launch: USD 0.20 Peak: USD 8.79 Spot: USD 0.92	Launch: USD 0.04 Peak: USD 2.86 Spot: USD 0.07	Launch: USD 0.10 Peak: USD 22.76 Spot: USD 14.13

However, as a word of caution, it needs to be pointed out that the past performance of current projects should not be viewed as a reliable predictor of the future performance of other ICOs.

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[73] CoinMarketCap. Cryptocurrency Market Capitalizations. Retrieved from https://coinmarketcap.com as per August 7th of 2018

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"Bitcoin is a classic network effect, a positive feedback loop. The more people who use Bitcoin, the more valuable Bitcoin is for everyone who uses it, and the higher the incentive for the next user to start using the technology. Bitcoin shares this network effect property with the telephone system, the web, and popular Internet services like eBay and Facebook."

Marc Andreessen,
an American entrepreneur, investor, and software engineer

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7. Token sale

7.1 Summary

TOKEN NAME / SYMBOL	VALOR token / VALOR	UNSOLD TOKENS	Unsold tokens from 2018 allocation will be burned
TECHNOLOGY	ERC-20 Ethereum	ICO START	No earlier than October 1st, 2018 No later than December 31st, 2018
TOKEN TYPE	Utility & payment token	TOKEN ALLOCATION	45% Pre-Sale and TGE 2018 5% Bounty and network growth 5% Liquidity buffer 26% Retained for future development (locked-up for 3 years) 19% Founders, employees and advisors
TOTAL TOKEN SUPPLY	100 million VALOR tokens	TEAM LOCK-UP AND VESTING	12-months lock-up 3-year vesting period 12-months cliff period
TOTAL TOKEN FOR SALE 2018	45 million VALOR tokens	1ST PRIVATE PRE-SALE ROUND	2 million VALOR tokens 81% bonus 12-month lock-up Start: October 2017
ICO PRICE	CHF 1.00 (Swiss Franc)	2ND PRIVATE PRE-SALE ROUND	5 million VALOR tokens 50% bonus 6-month lock-up period **Additional bonuses:** ▪ 5% bonus for additional 6-month lock-up ▪ 5% bonus for participation between CHF 50'000 and CHF 100'000 ▪ 10% bonus for participation ≥ CHF 100'000 ▪ Start: April 2018 Minimal contribution: CHF 10'000
HARD CAP	45 million VALOR tokens	3RD PRE-SALE ROUND	Up to 8 million VALOR tokens 35% bonus 6-month lock-up period **Additional bonuses:** ▪ 5% bonus for additional 6-month lock-up ▪ 5% bonus for participation between CHF 50'000 and CHF 100'000 ▪ 10%-bonus for participation ≥ CHF 100'000 ▪ Start: 01. November 2018 ▪ Finish: 26. November 2018 at 23:59 CET (midnight) Minimal contribution: CHF 1'000
SOFT CAP	CHF 3 million (reached)	TRADING VENUE	VALOR Platform and partner exchanges
PAYMENT ACCEPTED	BTC, ETH and fiat currency	DISTRIBUTION OF TOKENS	30 days after closure of ICO

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7.2 Token generation and allocation

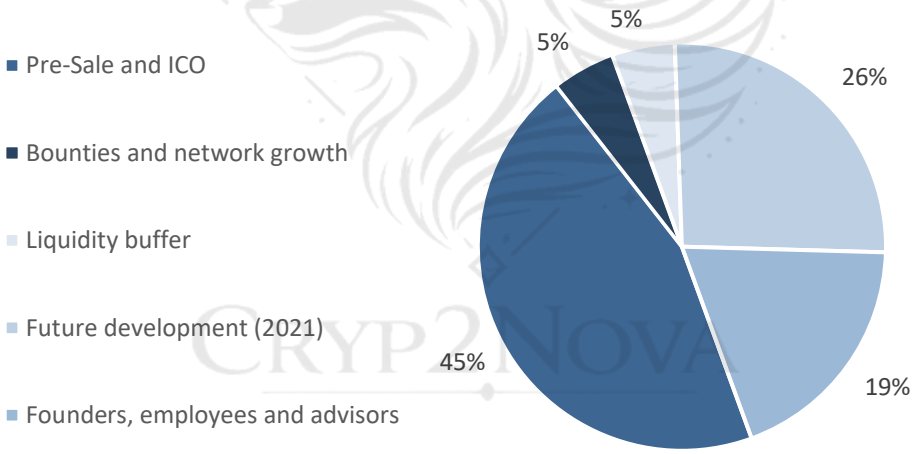
SMART VALOR will generate a total of 100’000’000 VALOR tokens as ERC-20 tokens. These tokens will be created at the time of the Token Generation Event (TGE), with 100’000’000 VALOR tokens constituting the maximum number of tokens ever generatable. The details of the smart contract will be published during the TGE on SMART VALOR website.

VALOR tokens can be acquired during the pre-sale of the VALOR token, during a subsequent public ICO or afterwards on the VALOR Platform and some other major crypto exchanges.

VALOR tokens will be allocated as follows:

1. 45% (45’000’000) will be sold to future users of the VALOR Platform during the Pre-Sale and ICO. Unsold tokens from this allotment will be destroyed through a Token Burn.
2. 26% (26’000’000) will be retained for future development of the VALOR Platform. These tokens are locked up and cannot be accessed before 2021.
3. 5% (5’000’000) will be used for early community incentivization and network growth.
4. 5% (5’000’000) will be deployed for liquidity management after ICO.
5. 19% (19’000’000) will be reserved for founders, current and future employees, and advisors.

Figure 39:
Token allocation



Team allocation

This allocation results in the distribution of ¾ of the total amount of tokens to the community $(76\% = 45\% + 26\% + 5\%)$, where 19% is reserved for the team, including founders and advisors, future employees, etc.

To align incentives of SMART VALOR with the interest of contributors, a significant part of both the founders and employee’s salary is paid in VALOR tokens. This part of the salary is subject to a 3-year vesting period. Starting from the closing of the ICO, they receive quarterly distributions of the tokens allocated to them. **All members of the team have a 12-month lock-up period on the sales of their tokens**. Additionally, there is a cliff period of 12-months. Only team members that stay with the company for at least 12-months receive any token allocation at all. From then

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onwards, they still do not have access to their total allocation but receive the quarterly distributions. Therefore, if team members leave, they will not continue to receive tokens. Their tokens can be granted to new team members that support development. These measures are put in place to incentivize the long-term commitment of founders and employees.

7.3 Token Sale Process

7.3.1 Pre-sale and ICO

The Token Sale consists of several rounds of private pre-sale and eventually a subsequent public ICO. **The Hard Cap** on the total amount of tokens to be distributed during the Pre-Sale and ICO is fixed at 45'000'000 VALOR tokens. This means that no more than 45 million VALOR tokens will be distributed during the pre-sale and ICO.

During the Token Sale, users acquire a claim for delivery of VALOR tokens, expected 30 days after ICO closure. These claims are non-transferrable prior to final token distribution to the wallets of contributors on the VALOR Platform.

STAGES OF THE TOKEN SALE

1st private pre-sale round

The number of tokens sold in each round is capped. The first round took place in October 2017 and 2'000'000 VALOR tokens were successfully sold. This first round was reserved for strategic contributors at an early stage of the project. A total bonus of 81% was granted to the contributors. All contributors agreed on a 12-month lock-up period after the closure of the ICO for the whole sum of the allocated tokens.

2nd private pre-sale round

The second round of pre-sale started in April 2018 and was capped at 5,000,000 VALOR tokens with a bonus of 50%. All tokens sold in this round were subject to a lock-up period of 6-months after the closure of the ICO.

Additional bonuses were granted for:

- 5% bonus for additional 6-month lock-up period
- 5% bonus for contribution equal to or larger than CHF 50'000 and lower than CHF 100'000
- 10% bonus for contribution equal to or larger than CHF 100'000

Minimal contribution for participation was CHF 10'000.

3rd private pre-sale round

The third round of pre-sale starts on 01st of November 2018 and runs until 26th of November 2018 at 23:59 CET (midnight). In this round, up to 8'000'000 VALOR tokens are up for sale. A bonus of 35% is granted and tokens are subject to a lock-up period of 6-months after the closure of the ICO.

Additional bonuses are granted for:

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- 5% bonus for additional 6-month lock-up period
- 5% bonus for participation equal to or larger than CHF 50’000 and lower than CHF 100’000
- 10% bonus for participation equal to or larger than CHF 100’000

Minimal contribution for participation is CHF 1,000.

The final ICO of the remaining VALOR tokens is expected to take place in Q4 2018, around the time of the operational launch of the VALOR Platform. This facilitates regulatory compliance, as the key utility of the VALOR token will become available at or shortly after the distribution of tokens.

7.3.2 How to participate?

Participation exclusively through the VALOR Platform
The 3rd round of the token pre-sale will be held directly on the VALOR Platform itself. To participate in the token sale, contributors need to open an account on the VALOR Platform and whitelist for the pre-sale. This means that eligibility for the token sale will be proofed. All contributors need to go through an identification process (KYC) according to Swiss Anti Money Laundry Act (AMLA).

Distribution limitations
Although VALOR tokens represent utility/payment tokens and not security tokens, there will be no distribution in some countries opposing token sales, such as China, as well as countries on sanctions lists.

For US citizens, participation in token sales is limited to accredited investors in certain states only. SMART VALOR AG has applied for exemption from registration requirements according to Regulation D Exemption 506 (c).

Payment method
During the pre-sale rounds, payment is accepted in Swiss Francs, Bitcoin or Ether. The number of tokens is calculated based on the current price of Bitcoin or Ether in Swiss Franc at the moment of contract issuance.

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7.4 Use of funds

Figure 40:
Budget overview 2018-2021

(CHF, IN MILLION)	2018	2019	2020	2021
SALARIES	1.3	2.5	3.8	4.7
FTE	45	60	75	100
LEGAL	0.4	0.6	0.5	0.5
IT	0.7	1.4	2.1	3.0
MARKETING	0.5	0.8	1.1	1.7
OFFICES	0.07	0.19	0.3	0.4
OTHER	0.5	1.1	2.2	2.8
TOTAL	3.47	6.59	10	13.1

The funds raised during the Token Sale will be used to further build out the technical platform, to expand the VALOR Platform and to obtain the needed financial licenses in Switzerland and Liechtenstein. This will involve extending the team from 37 to 45 by the end of this year and up to a full team of 100 employees (FTE: Full Time Equivalent) by the end of 2021.

The company estimates that the total cost of operation of the VALOR Platform for the next three years will amount to around CHF 33 million. This number corresponds to the goals of the ICO, where are the remaining tokens are locked up for three years.

This implementation strategy is designed in a flexible way in order to be able to adjust to the sequence of asset types to be listed and the evolving regulatory effort needed. The key cost block is connected to security, development of the technical infrastructure, legal fees, and minimal staff levels required for running a banking institution.

7.5 Best-practice approach and advantages of the token sale

SMART VALOR is a part of different working groups dedicated to the code of conduct for ICOs and is actively supporting the creation of self-regulatory organization (SRO) for ICOs. In particularly, Switzerland is renowned for its long-standing tradition of **self-regulation** in financial services.

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Therefore, SMART VALOR's own ICO is crafted with the goal in mind to be one of **best-practice examples**. This will be achieved through adherence to the following principles:

- Hard Cap on fundraising
- All contributors will go through the KYC process according to Swiss compliance requirements
- Allocation to the founding team, employees and advisors is vested over a 3-year period with 12-months lock-up and a 12-months cliff period
- Funds raised will be held in protected wallets with a multiple approvers process
- Financial statements will be certified by a public accountant and published on an annual basis
- Quarterly performance updates will be provided to contributors and the wider community
- Salaries paid to founders and employees do and will not exceed average market rates

Advantages of token-based participation

Finally, it needs to be pointed out that token-based participation holds several advantages in comparison to traditional equity-based early stage company funding:

1. Token participation represents non-dilatable participation in a project. In contrary to shares in a company, the number of which can be increased in a capital raise, the number of tokens in existence cannot be increased. In principle, it is similar to Bitcoin in regards to limited supply of token, which are however in difference to Bitcoin all pre-mined.
2. Every contributor is a stakeholder in the network with clearly defined reward-contribution-rights connected to his or her engagement on the platform.
3. Incentives of contributors, developers, and founders are fully aligned.

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"We are living through a remarkable, historical period when the blockchain technology has arrived to shift the balance of power between the state and the people, between Wall Street and a startup."

Olga Feldmeier
Co-founder and CEO SMART VALOR

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8. About SMART VALOR

SMART VALOR AG[74] was co-founded by Olga Feldmeier, Julien Bringer (PhD), Thomas Felber and Oliver Feldmeier and currently hosts offices in Zug (CH), Munich (GE) and Paris (FR). The team of 37 dedicated, diverse professionals boasts a unique combination of skills in blockchain technology, security and cryptography, banking, software development and the implementation of large-scale IT projects.

SMART VALOR is currently head-quartered in Thomson Reuters Labs in Baar (Canton Zug). It has been selected out of hundreds of applicants to be one of the five companies hosted by **Thomson Reuters Incubator**. It has also been nominated as one of the **top 10 European tech startups by Forbes**[75].

8.1 SMART VALOR leadership team



Olga Feldmeier

CEO and Co-Founder

Olga is a visionary entrepreneur who focuses on the intersection of banking and blockchain technology. She was formerly Commercial Managing Partner at Xapo, one of the largest Bitcoin custodians, where she enabled the first Bitcoin license in Switzerland, a historic regulation case in the cryptocurrency space. Prior to Xapo she served as Executive Director at Wealth Management Division of UBS (Switzerland) in charge of distribution in Central and Eastern Europe. Olga started her career in 2004 at the Boston Consulting Group (Germany) moving into investment banking at Barclay Capital in London.
Olga is a recognized global influencer nominated as 100 digital shapers of Switzerland[76], top 10 female blockchain influencers, top 100 power women in fintech, and dubbed by the media as the 'Bitcoin Queen' of Switzerland[77],



Oliver Feldmeier

COO and Co-Founder

Oliver is an expert in delivery of complex IT projects. He has a strong background in managing large-scale technology projects in the financial sector. Previous roles include Founder and Managing Director of Verto Advisory (Switzerland) and Technology Advisor at Capgemini (Germany). He holds an MBA from EGADE, Tec de Monterrey, Mexico, and a Masters Degree from Reutlingen University, Germany.

[74] https://zg.chregister.ch/cr-portal/auszug/auszug.xhtml?uid=CHE-306.481.585
[75] Forbes: Europes 10 most exciting technology SMEs for 2018. Retrieved from https://www.forbes.com/sites/davidprosser/2017/11/22/europes-10-most-exciting-technology-smes-for-2018
[76] 100 Digital Shapers by BILANZ. Retrieved from https://storytelling.blick.ch/digital-shapers/hoffnungsvolle.html
[77] Forbes: Q&A With Olga Feldmeier, Cryptoqueen And CEO, Smart Valor (2018). Retrieved from https://www.forbes.com/sites/montymunford/2018/07/30/qa-with-olga-feldmeier-cryptoqueen-and-ceo-smart-valor and International Business Times: Meet The Bitcoin Queen Of Switzerland's Crypto Valley (2017)

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Julien Bringer, PhD

Chief Security and Cryptography and Co-Founder

Julien is a serial innovator. He holds over 50 US patents and authored over 80 publications on security and cryptography. Julien holds a PhD in applied mathematics and computer science. He is a former innovation programs lead at global security and identity solution provider IDEMIA, where he also headed their cryptography and security expertise team for six years. Today he is part of ISO TC307 "Blockchain and distributed ledger technologies" as leader of the "Security, privacy and identity" working group.



Thomas Felber

CTO and Co-Founder

Thomas has over 12 years of experience building custom software products and solutions for multiple industries. He is the Co-founder and Head of IT at BeeZero – the Linde Group's hydrogen-powered car-sharing initiative (Germany). Thomas was formerly the Co-founder and Managing Partner of software development and IT consultancy Tekaris (Germany) and a Senior IT Consultant for enterprise application integration in multiple industries.



Davide Carboni, PhD

Senior Blockchain Architect

Davide is a technical leader with many years of experience acquired at the intersection of research and industry. He worked for companies like Intel Corporation / Labs Europe (IE and UK), Tiscali (IT), CRS4 (IT) and Laboratoire IXL (FR). Davide holds a PhD in computer science. He designed and developed several applications in the blockchain and IoT space. Author of more than 30 scientific papers, two books, and 8 pending patents Davide was also a co-founder of IoT startup paraimpu.com and consultant of multiple blockchain related projects. Additionally, he is on the Blockchain Advisory Board of IIB Council.

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Alexandra-Daniela Sowa

Head of Legal and Compliance

Alexandra is a licensed lawyer with 15+ years of experience in banking supervisory, investor protection and post-trade transparency (FATCA, MIFID II, MAR). During the five years prior to SMART VALOR, Alexandra led a regulatory requirements team and was in charge of development of compliant business and customer-oriented solutions across HSBC Global Private Bank. Before that she was Head of Compliance Operations at Zurich Insurance.



Peter Ruchatz

Chief Growth Officer

Peter has a 15-year track record in successfully growing and scaling businesses, holding international leadership positions in the Software and IT industry. He joined SMART VALOR from MeteoGroup where he served as Chief Product and Marketing Officer. At Veeam Software, he was Global CMO helping double the business to $600M within 3 years. Prior to Veeam, he was VP Marketing at Salesforce.com and held product and marketing leadership roles at Microsoft in Germany and Redmond, WA. Earlier in his career, he served as the head of the software division at GFT.com. He also held strategic management-consulting roles at the Boston Consulting Group.

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8.2 Core team

The rest of the team consists today of 30 full-time experts involved in the project including software developers, financial product experts, legal and compliance professionals and digital marketing.



Rodrigo Acosta
Blockchain Developer



Todor Angelov
Blockchain Developer



Kristian Smilenov
Blockchain Developer



Michael Kollek
Data & Insights



Marek Śledziński
Lead Architect



Georgi Ivanov
QA Lead



Radi Dichev
QA Automation



Paweł Korczała
QA Engineer



Artur Tomaszewski
Backend Developer



Michał Perczak
Backend Developer



Radko Lyutskanov
Backend Developer



Ivaylo Papratilov
Backend Developer



Antony Ivanov
Scrum Product Owner



Delko Lesev
UI Designer



Plamen Kovachev
DevOps Engineer



Piotr Nowak
Team Lead / Scrum Master



Radoslav Kirilov
Frontend Lead



Daniel Dimitrov
Frontend Developer



Dimitar Dreharov Frontend Developer



Dimitar Tabakov
Frontend Developer



Mark Faelmoca
Multimedia Developer



Felix Simon
Business Development Director



Ivan Anastassov
Project Manager



Carmen de la Iglesia
Head of Digital Marketing



Natalia Savitcaia
Events Manager



Sheraz Ahmed
Business Development



Jessie Yang
Business Development



Daniela Bradutanu
Project& Community Manager



Souhila Ait Mokhtar
Recruitment



Beverley Kursten
Executive Assistant

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8.3 Advisors and contributing experts

SMART VALOR advisory board is comprised of entrepreneurs, investors and senior figures in blockchain and banking industry.



Markus Rinderer

Founder PAY.ON

Markus is a proven expert in global cross-border ecommerce payments. He is the ex-CEO and founder of PAY.ON, which had a successful exit to ACI Worldwide in 2015. He was previously Senior VP and Head of Platform Business at ACI Worldwide. Markus is also Senior Partner at Barikuta Partners (an incubator) and the co-founder of multiple fintech startups.



Yessin Schiegg

Ex-Advisory Board Member of Ethereum Foundation, CFO of Status.im

Yessin is known as an Ambassador of the Ethereum Foundation and CFO of Status.im, an Ethereum based decentralized mobile browser, wallet and instant messenger project. Being Swiss Certified Accountant, Chartered Financial Analyst (CFA) and Chartered Alternative Investment Analyst (CAIA) he supported the Ethereum Foundation with in Finance, Operations, Corporate Structuring, Tax and Legal subject matters.



John Henry Clippinger

Chief Innovation Officer and Co-founder at swytch.io, Founder of the Token Commons Foundation

John is a research scientist at MIT Media Lab and co-founder of swytch.io, four software companies, and idcubed.org (a personal data non-profit). He has senior level experience in and with governments, large enterprises, non-profits and institutes including Santa Fe Institute, the World Economic Forum, Harvard and Harvard Law School, MIT Media Labs, and many more. John is an advisor to several companies and foundations.



Denis Shulakov

1st Vice President of Gazprombank

Denis is currently Head of Capital Markets at Gazprombank, in charge of DCM, ECM, research and e-trading. He was previously Head of Russian Investment Banking and Head of Public Sector for Russia and CIS at Barclays Capital. Other former positions include Head of Representative Office of Barclays Bank in Russia, Head of Intourist Ltd (London) and head of the Economic Section at the Russian Embassy in London, UK.

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Alain Falys

Co-founder and Chairman of Yoyo Wallet (UK); technology entrepreneur, business executive, investor

Alain co-founded Yoyo Wallet, a mobile payment and loyalty marketing platform in Europe. He also co-founded and ran OB10, the world's largest electronic invoicing network that floated on the London AIM stock market as Tungsten Corporation Plc. He's currently a partner at Firestart.co (internet/software seed capital investment group) and his advisory roles include Member of RBS's Technology Advisory Board, Venture Partner at Touchstone Innovations Plc, Director at Pelican.ai, and OneLinq.



David Johnston

Chairman of the Board at Factom Inc

An active angle & venture stage investor, David has been CEO of several technology startups, board member & advisor to growth stage companies and open source software companies in blockchain space. He is currently Chairman of the Board at Factom and Managing Director at Yeoman's Capital. Other companies where he serves as an advisor include Abacus Protocol, Polymath, etc.



Ron Chiong

Impact investor, ex-securities regulator and ex-trader

Ron is currently at AvantFaire Holding Limited focusing on impact investing and early stage technology ventures. Formerly, he was an Associate Director in the Securities and Futures Commission responsible for Fintech, Crypto Assets and other thematic research, and a veteran in proprietary trading, equity derivatives and trading platforms with Standard Chartered Bank, BNP Paribas, KBC Financial Products and Nomura.



Daniel Kornitzer

Executive Vice President,
Chief Business Development Officer at Paysafe Group

Daniel is EVP & Chief Business Development Officer at Paysafe Group, a global leading provider of payment solutions, trusted by businesses and consumers in over 200 countries, and with a combined transactional volume of US $56 billion in 2017 and 3,000 employees. Daniel leads the global development of strategic partnerships at Paysafe. He is also an advisory board member at Shyft Network, a blockchain-based federated trust network built for compliance data protection. Daniel has over 20 years' experience in technology management, product development and strategic partnerships.

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Marius Messerli, PhD

Founder at Mindliner AG

Marius belongs to the most active supporters of crypto communities in Switzerland and Bitcoin evangelizer. Focusing on several projects Marius was one of the first contributors of VALOR network and IOTA, where he serves both as investor and as a full node operator.

After his Ph. D. in biology Marius co-founded a Bitplane, which was later acquired by Andor Technology. With a demonstrated history of working in the computer software industry, Marius has established himself as a thought leader and an experienced innovator. His current company, Mindliner AG, is focusing on a flagshop product that lets users filter and aggregate high-density information and lie it up for action.



Thomas Kern

Board Member, Swiss ICT Investor Club

Thomas is board member at Swiss ICT Investor Club, Swiss largest Business Angel Club that connects smart money to seed and early stage tech startups. Previously, he built up the consulting domain of a data network integrator which was then acquired by Swisscom. Thomas also works with Credit Suisse as a senior program manager and is an entrepreneur himself. He holds a master in computer science from ETH Zurich and an EMBA from HSG Saint Gallen.

You can find the full list of advisors at www.smartvalor.com.

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8.4 Partners

As a first-mover and key shaper in the space of asset tokenization, SMART VALOR started to establish a network of partners across different industries. These partners are the initial base for establishing and growing the VALOR network in the coming years.

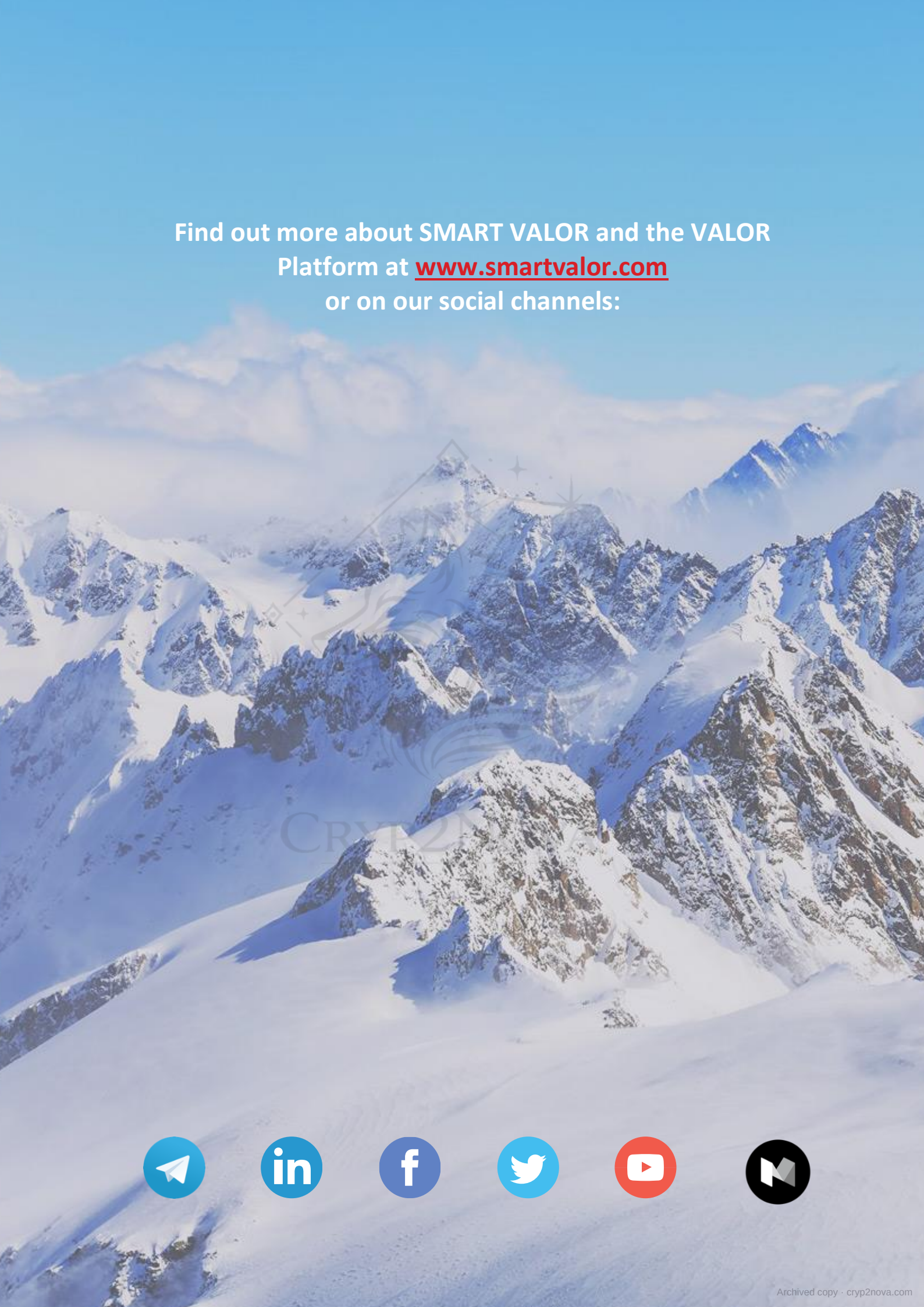
Some of the company's current partners include:

- Ledger: market leader in hardware security based cryptographic wallets
- Ethereum Alliance: global standards organization for Enterprise Ethereum Specification
- Undisclosed provider of next-generation exchange technology assuring institution-grade throughput & security
- Future Processing: software development service provider which has proven its quality over multiple years of collaboration with us.
- Prime Holding: software development service provider
- ICE center @ ETH Zurich, inter-disciplinary and inter-department R&D Center at ETH Zurich
- ChainSecurity, security auditing and automated smart contract security scanners provider
- Niederer Kraft Frey: leading Swiss legal advisory specialized in financial services and common law
- MME - Swiss legal advisory leading in cryptocurrency and blockchain space
- PwC - worldwide provider of audit, legal and consulting
- PST legal & consulting - local legal advisory
- Wilson Elser Moskowitz Edelman & Dicker LLP (US)

This is not an exhaustive list as some partners are not disclosed due to confidentiality requirements.

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Find out more about SMART VALOR and the VALOR Platform at www.smartvalor.com or on our social channels:

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9. Disclaimer and risk factors

Please read the following risk factors carefully prior to purchasing VALOR tokens.

Acquisition of VALOR tokens involves a high degree of risk. You should carefully consider the risks described below, together with all information contained in this White Paper before making the decision to acquire VALOR tokens. The following risks entail circumstances under which, the SMART VALOR business, financial condition, results of operations and prospects could suffer.

9.1 Risks associated with the acquisition of VALOR tokens

SMART VALOR may not successfully develop, market and launch the VALOR Platform and protocol.

The VALOR Platform has not yet been fully developed by SMART VALOR and additional capital funding, as well as developer and management expertise, time and effort will be necessary in order to fully develop and successfully launch a version of the VALOR Platform in which various types of activities as described in this White Paper can be conducted (the "VALOR Platform Launch").

SMART VALOR may have to make changes to the specifications of the SMART VALOR Protocol or VALOR tokens for any number of legitimate reasons or SMART VALOR may be unable to develop the VALOR Platform in a way that realizes those specifications or any form of a functioning protocol. It is possible that there may never be operational VALOR tokens or an operational VALOR Platform.

The SMART VALOR Protocol or VALOR tokens, if successfully developed and maintained, may not meet expectations of holders of VALOR tokens at the time of use. Furthermore, despite good faith efforts to develop and launch the VALOR Platform and subsequently to develop and maintain the VALOR Platform, it is still possible that the VALOR Platform will experience malfunctions or otherwise fail to be adequately developed or maintained, which may negatively impact the VALOR Platform and VALOR tokens.

SMART VALOR will use the proceeds of the Pre-Sale to make significant investments to develop an operational version of the VALOR Platform and will subsequently continue to enhance the VALOR Platform's utility and value, with the goal of achieving the VALOR Platform Launch. However, SMART VALOR may not have or may not be able to obtain the technical skills and expertise needed to successfully complete development of the VALOR Platform and progress it to a successful VALOR Platform Launch.

While SMART VALOR has sought to retain and continue to competitively recruit experts, there may be a shortage of management, technical, scientific, research and marketing personnel with appropriate training to develop and maintain the SMART VALOR Protocol. If SMART VALOR is not successful in its efforts to demonstrate to users the utility and value of the VALOR Platform, SMART VALOR may not be able to proceed with the VALOR Platform Launch.

The acquisition of VALOR tokens may involve a high degree of risk.

Financial and operating risks confronting startups are significant. The startup market in which SMART VALOR competes is highly competitive and the percentage of companies that survive and prosper is small. Startups often experience unexpected problems in the areas of product

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development, marketing, financing, and general management, among others, which frequently cannot be solved. In addition, startups may require substantial amounts of financing, which may not be available through private placements, public markets or otherwise.

SMART VALOR may be forced to cease operations or take actions that result in a Dissolution Event.

It is possible that, due to any number of reasons, including, but not limited to, an unfavorable fluctuation in the value of cryptographic and at currencies, the inability by SMART VALOR to establish the VALOR tokens' utility, complete development of the VALOR Platform and proceed with the VALOR Platform launch, the failure of commercial relationships, or intellectual property ownership challenges, SMART VALOR may no longer be viable to operate and SMART VALOR may dissolve or take actions that result in a dissolution event.

9.2 Risks associated with VALOR tokens and the VALOR Platform

The VALOR Platform may not be widely adopted and may have limited users.

It is possible that the VALOR Platform will not be used by a large number of individuals, companies and other entities or that there will be limited public interest in the creation and development of distributed ecosystems (such as the VALOR Platform) more generally or distributed applications to be used on the VALOR Platform. Such a lack of use or interest could negatively impact the VALOR Platform and the utility of the VALOR tokens.

The VALOR Platform may be the target of malicious cyberattacks or may contain exploitable flaws in its underlying code, which may result in security breaches and the loss or theft of VALOR tokens. If the SMART VALOR Protocol's security is compromised or if the VALOR Platform is subjected to attacks that frustrate or thwart users' ability to access the SMART VALOR Protocol, their VALOR tokens or the VALOR Platform data monetization services, users may cut back on or stop using the VALOR Platform altogether, which could seriously curtail the utilization of the VALOR tokens.

The VALOR Platform structural foundation, the software application and other interfaces or applications built upon the VALOR Platform and underlying networks are still in an early development stage and are unproven, and there can be no assurances that the VALOR Platform and the creating, transfer or storage of the VALOR tokens will be uninterrupted or fully secure, which may result in a complete loss of users' VALOR tokens or an unwillingness of users to access, adopt, utilize and build upon the SMART VALOR Protocol.

Further, the VALOR Platform may also be the target of malicious attacks seeking to identify and exploit weaknesses in the software or the VALOR Platform, which may result in the loss or theft of VALOR tokens. For example, if SMART VALOR and the VALOR Platform are subject to unknown and known security attacks (such as double-spend attacks, 51% attacks, or other malicious attacks), this may materially and adversely affect the VALOR Platform. In any such event, if the VALOR Platform Launch does not occur or if the VALOR Platform is not widely adopted, the VALOR tokens would have no utility.

There may be occasions when certain individuals involved in the development and launch of the VALOR Platform may encounter potential conflicts of interest in connection with the VALOR Platform Launch, such that said party may avoid a loss, or even realize a gain, when other holders of VALOR tokens are suffering losses.

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There may be occasions when certain individuals involved in the development and launch of the SMART VALOR Protocol or VALOR tokens may encounter potential conflicts of interest in connection with the Token Sale and the VALOR Platform Launch, such that said party may avoid a loss, or even realize a gain, when other holders of the VALOR tokens are suffering losses. Holders of VALOR tokens may also have conflicting tax, and other interests with respect to VALOR tokens, which may arise from the terms of the VALOR tokens, the VALOR Platform code, the VALOR Platform, the timing of the VALOR Platform Launch or other VALOR token offerings, or other factors. Decisions made by the key employees of SMART VALOR on such matters may be more beneficial for some holders of VALOR tokens than for others.

Holders of VALOR tokens may lack information for monitoring their holdings

A holder of VALOR tokens may not be able to obtain all information it would want regarding SMART VALOR, VALOR tokens, or the VALOR Platform, on a timely basis or at all. It is possible that a holder of VALOR tokens may not be aware on a timely basis of material adverse changes that have occurred with respect to the VALOR Platform. While SMART VALOR has made efforts to use open-source development for the VALOR tokens, this information may be highly technical by nature. As a result of these difficulties, as well as other uncertainties, a holder of VALOR tokens may not have accurate or accessible information about the VALOR Platform.

VALOR tokens have no history

The VALOR token will be a newly formed token and has no history. Each VALOR token should be evaluated on the basis that SMART VALOR or any third party's assessment of the prospects of the SMART VALOR Protocol may not prove accurate, and that SMART VALOR will not achieve its business objective.

If the VALOR Platform is unable to satisfy data protection, security, privacy, and other government-and industry-specific requirements, its growth could be harmed.

There are a number of data protection, security, privacy and other government- and industry-specific requirements, including those that require companies to notify individuals of data security incidents involving certain types of personal data. Security compromises could harm the VALOR Platform's reputation, erode user confidence in the effectiveness of its security measures, negatively impact its ability to attract new users, or cause existing users to stop using the VALOR Platform.

The further development and acceptance of blockchain networks, including the VALOR Platform, which are part of a new and rapidly changing industry, are subject to a variety of factors that are difficult to evaluate. The slowing or stopping of the development or acceptance of blockchain networks and blockchain assets would have a material adverse effect on the successful development and adoption of the VALOR Platform and the VALOR tokens.

The growth of the blockchain industry in general, as well as the blockchain networks with which the VALOR Platform will rely and interact, is subject to a high degree of uncertainty. The factors affecting the further development of the cryptocurrency industry, as well as blockchain networks, include, without limitation:

1. Worldwide growth in the adoption and use of ETH, and other blockchain technologies
2. Government and quasi-government regulation of ETH, and other blockchain assets and their use, or restrictions on or regulation of access to and operation of blockchain networks or similar systems
3. The maintenance and development of the open-source software protocol of the ETH networks
4. Changes in consumer demographics and public tastes and preferences

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5. The availability and popularity of other forms or methods of buying and selling goods and services, or trading assets including new means of using fiat currencies or existing networks; or
6. General economic conditions and the regulatory environment relating to cryptocurrencies

A decline in the popularity or acceptance of ETH or other blockchain-based tokens would adversely affect the results of operations.

The slowing or stopping of the development, general acceptance and adoption and usage of blockchain networks and blockchain assets may deter or delay the acceptance and adoption of the VALOR Platform and the VALOR tokens.

The prices of blockchain assets are extremely volatile. Fluctuations in the price of digital assets could materially and adversely affect the business.

The prices of blockchain assets such as ETH have historically been subject to dramatic fluctuations and are highly volatile. Several factors may influence the utility of the VALOR tokens, including, but not limited to:

1. Global blockchain asset supply
2. Global blockchain asset demand, which can be influenced by the growth of retail merchants' and commercial businesses' acceptance of blockchain assets like cryptocurrencies as payment for goods and services, the security of online blockchain asset exchanges and digital wallets that hold blockchain assets, the perception that the use and holding of blockchain assets is safe and secure, and the regulatory restrictions on their use
3. Holders' expectations with respect to the rate of inflation
4. Changes in the software, software requirements or hardware requirements underlying the SMART VALOR Protocol and VALOR Platform
5. Changes in the rights, obligations, incentives, or rewards for the various participants in the SMART VALOR Protocol and VALOR Platform
6. Interest rates
7. Currency exchange rates, including the rates at which digital assets may be exchanged for fiat currencies
8. Monetary policies of governments, trade restrictions, currency devaluations and revaluations
9. Regulatory measures, if any, that affect the use of blockchain assets such as the VALOR tokens
10. The maintenance and development of the open-source software protocol of the VALOR Platform; or global or regional political, economic or financial events and situations.

A decrease in the price of a single blockchain asset may cause volatility in the entire blockchain asset industry and may affect other blockchain assets including the VALOR tokens. For example, a security breach that affects VALOR token holder or user confidence in ETH may affect the industry as a whole and may also cause the utility of the VALOR tokens and other blockchain assets to be uncertain.

Loss of private key and risks associated with the wallet

VALOR tokens can only be accessed by using an Ethereum wallet with a combination of the investor's account information and private key or password. The VALOR token can be stolen if the

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private key or password is lost or stolen. SMART VALOR and any of its employees, bodies, or contractors are not responsible for the wallet to which VALOR tokens are transferred to and they are not responsible for the access and security of a wallet, for any security breach, any loss resulting from a service wallet provider, including any termination of service by the wallet provider and/or bankruptcy of the wallet provider. Anyone investing in VALOR tokens confirms that they understand the working of a wallet and the related risks.

Lack of consensus of miners and risks related to forking

The network of miners is ultimately in control of SMART VALOR and that there is no warranty or assurance that the network of miners will allocate the VALOR token to the investor as proposed by any terms. The network of miners could agree at any time to make changes to the VALOR token and to run a new version of the smart contract. A group of people may take the software and modify it to accept a different set of tokens, or no tokens, which might devalue the VALOR token.

9.3 Important notices and further considerations

This White Paper is no prospectus in the sense of Art. 1156 and 652a Swiss Code of Obligations or any other applicable regulations.

This White Paper is not a prospectus as set forth and regulated in Art. 1156 and 652a Swiss Code of Obligations, under the European Prospectus Regulation, or under any other applicable law and regulations. This White Paper is just a draft and investors should-reassess the final White Paper at the time of issuance of the VALOR token based on the final version. This White Paper has not been reviewed or reviewed by any regulator. No regulatory authority has examined or approved of any of the information set out in this White Paper. No such action has been or will be taken under the laws, regulatory requirements or rules of any jurisdiction. The publication, distribution or dissemination of this White Paper does not imply that the applicable laws, regulatory requirements or rules have been complied with.

Cautionary note on Forward Looking Statements

This White Paper may contain certain forward-looking statements including, but not limited to, statements as to future operating results and plans that involve risks and uncertainties. We use words such as “expects”, “anticipates”, “believes”, “estimates”, the negative of these terms and similar expressions to identify forward looking statements. Such forward-looking statements involve known and unknown risks, uncertainties and other factors which may cause the actual results, performance or achievements of the VALOR token and/or the VALOR Platform to differ materially from any future results, performance or achievements expressed or implied by those projected in the forward-looking statements for any reason.

Exclusion of liability

To the maximum extent permitted by the applicable laws, regulations and rules, SMART VALOR shall not be liable for any indirect, special, incidental, consequential or other losses of any kind, in tort, contract or otherwise (including but not limited to loss of revenue, income or profits, and loss of use or data), arising out of or in connection with any acceptance of or reliance on this White Paper or any part thereof by you.

No legal, regulatory, tax advice

No information in this White Paper should be considered as business, legal, financial or tax advice regarding the VALOR token, the VALOR Platform, and the sale of VALOR tokens. You should consult your own legal, financial, tax or other professional adviser regarding SMART VALOR and

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their respective businesses and operations, the VALOR tokens, and the sale of the Token. You should be aware that you may be required to bear the financial risk of any purchase of VALOR tokens for an indefinite period of time.

The tax characterization of the VALOR tokens is uncertain, and each investor must seek its own tax advice in connection with the acquisition of the VALOR tokens. The acquisition of VALOR tokens pursuant to the Token Sale may result in adverse tax consequences to investors, including withholding taxes, income taxes and tax reporting requirements. Each person acquiring VALOR tokens should consult with and must rely upon the advice of its own professional tax advisors with respect to the tax treatment of an acquisition of the VALOR tokens.

You should consult with your own advisor regarding your legal, regulator, and tax position.

Prohibition of distribution and dissemination in restricted jurisdictions.

The distribution or dissemination of this White Paper or any part thereof may be prohibited or restricted by the laws, regulatory requirements and rules of any jurisdiction. In the case where any restriction applies, you are to inform yourself about, and to observe, any restrictions which are applicable to your possession of this White Paper such part thereof (as the case may be) at your own expense and without liability to SMART VALOR or the VALOR Platform. Persons to whom a copy of this White Paper has been distributed or disseminated, provided access to or who otherwise have the White Paper in their possession shall not circulate it to any other persons, reproduce or otherwise distribute this White Paper or any information contained herein for any purpose whatsoever not permit or cause the same to occur.

The regulatory regime governing the blockchain technologies, cryptocurrencies, tokens and token offerings such as VALOR Platform and the VALOR tokens is uncertain, and new regulations or policies may materially adversely affect the development of the VALOR Platform and the utility of the VALOR tokens.

Regulation of tokens (including the VALOR tokens) and token offerings such as this, cryptocurrencies, blockchain technologies, and cryptocurrency exchanges currently is undeveloped and likely to rapidly evolve, varies significantly among international, federal, state and local jurisdictions and is subject to significant uncertainty. Various legislative and executive bodies in the United States and in other countries may in the future, adopt laws, regulations, guidance, or other actions, which may severely impact the development and growth of the VALOR Platform and the adoption and utility of the VALOR tokens. Failure by SMART VALOR or certain users of the VALOR Platform to comply with any laws, rules and regulations, some of which may not exist yet or are subject to interpretation and may be subject to change, could result in a variety of adverse consequences, including civil penalties and fines.

Blockchain networks also face an uncertain regulatory landscape in many non-U.S. jurisdictions such as the European Union, China and Russia. Various non-U.S. jurisdictions may, in the near future, adopt laws, regulations or directives that affect the VALOR Platform. Such laws, regulations or directives may conflict with those of the U.S. or may directly and negatively impact the SMART VALOR business. The effect of any future regulatory change is impossible to predict, but such change could be substantial and materially adverse to the development and growth of the VALOR Platform and the adoption and utility of the VALOR tokens.

New or changing laws and regulations or interpretations of existing laws and regulations, in the U.S. and other jurisdictions, may materially and adversely impact the value of the ETH virtual currency used to acquire VALOR tokens and otherwise materially and adversely affect the structure or VALOR tokens and the rights of the holders of VALOR tokens.

Issuance of VALOR tokens May Constitute the Issuance of a “Security” Under U.S. Federal Securities Laws

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The VALOR token is a utility token that has a specific consumptive use – i.e., it allows participants in the VALOR Platform to receive and pay value for data sharing by individuals and entities, and make data available, on a distributed network with significant advantages over current data sharing solutions. Due to the nature of the VALOR tokens and the manner, in which they are being offered, we do not think they should be considered “securities”, as that term is defined in the Securities Act of 1933, as amended (the "Securities Act"). VALOR tokens might only be distributed to “accredited investors” as defined in US securities laws and to not more than 150 non-qualified investors under the EU Prospectus Regulation.

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Appendix I

Competitive landscape in the startups space

Competitive landscape in the startups space has just started to emerge. Comparable business models vary between platforms strictly focused on provision of tokenization services (Polymath), Crypto currency exchanges expanding into distribution of other crypto assets (Binance), alternative liquidity providers (BANCOR) and multitude of US focused businesses (T-Zero). The full list and comparative analysis is provided in Appendix II.

Polymath



The Polymath Network[78] is a blockchain-based system that coordinates and incentivizes participants to collaborate and launch financial products on the blockchain. The Polymath team aims to create a standard token protocol that embeds defined requirements into the tokens themselves - easing the primary issuance and secondary trading of blockchain security tokens. The ST-20 token is planned to hold the legal and compliance features required for security tokens.

The Polymath Network is a blockchain-based system for launching financial products. The Polymath team aims to create a security token standard to be able to operate securities according to legal and compliance requirements.

Differentiation factors

Polymath is specialized in the development of its securitization-focused technology, in order to create the token equivalent of a security - and fulfilling all the regulatory requirement of a security. Currently it has nothing to do with alternative investments, which are SMART VALOR's focus. Despite its Barbados incorporation, Polymath is a Canadian company and is fully focused on the SEC regulation and US requirements.

TrustToken



TrustToken is a US-based platform to create asset-backed tokens[79]. The first asset token created on the TrustToken platform is TrueUSD, a stablecoin that can be redeemed 1-for-1 for US dollars which have received some regulatory approval.

According to TrustToken, in the next one or two years, it expects holders of trust tokens to be able to participate in staking, but it's unforeseeable how soon it will be able to open up its platform for other entities to create new asset-backed tokens. TrustToken describes itself as "securitization company, so we are waiting to be one of the last followers on SEC clarity on utility tokens".

For participants in the CoinList sale, the token itself should become available to buyers sometime between January 2019 and the first quarter of 2020.

[78] Polymath. (2018). Whitepaper. Retrieved from https://polymath.network/whitepaper.html
[79] Trusttoken. (2018). Tokenization you can Trust. Retrieved from https://www.trusttoken.com

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LATOKEN

LATOKEN is a blockchain platform for tokenized real-world assets[80]. Any asset can be accommodated, including securities, commodities, real estate, fine art, etc. While securities were traded in 2017, this has been halted due to unknown reasons and the exchange is currently limited to cryptocurrencies and ICO listings. They plan to add works of art and real estate. The asset-backed tokens are linked to the fiat value of the underlying asset, and have a set lifetime. At a pre-determined settlement date, the asset's fiat value will be settled in LAT tokens. During the asset's lifetime it is held by an approved third-party LAT custodian.

Differentiation factors

LATOKEN is based in Russia and the LAT Foundation Limited, the legal counterparty and holding company of LATOKEN is incorporated in the Cayman Islands. Whereas the Cayman Islands offer multiple advantages for holding companies, the legal setup is expected to be rather negative for the tokenization of regulated assets. Also, LATOKEN does not currently offer alternative investments and seems unlikely to return to this, due to the termination of its security tokenization. Also, the holding setup via a LAT approved custodian has a reason it simultaneously raises new and sensitive risks.

Lykke

Lykke is a zero-commission crypto exchange[81]. Founded 2013 in Switzerland, Lykke offers a user-friendly, commission-free trading platform for cryptocurrencies that is compliance risk managed. Immediate settlement and direct ownership is enabled by the blockchain. In addition to the crypto exchange, Lykke is developing margin trading, an automated trading strategy, and payment services. Additionally, Lykke has issued its own fiat-pegged tokens, similar to Tether.

Differentiation factors

Lykke has no activities in the alternative investments asset class. It is strongly focused on its trading platform and fiat-pegged currencies. It is aiming to achieve financial licenses all around the world, including the US, but is currently only licensed in Cyprus and the Pacific island of Vanuatu.

Gibraltar Blockchain Exchange

GBX is a subsidiary of the Gibraltar Stock Exchange and is supported by the local regulators[82]. Its aim is to create a listing platform for utility tokens, subject to the vetting procedures and requirements of GBE. The Gibraltar Stock Exchange further plans to become blockchain-based stock exchange.

Differentiation factors

Due to the backing of the Gibraltar Stock Exchange, GBX has good standing regarding the compliance requirements for tokenized securitization. However, Gibraltar suffers from a less positive image as its jurisdiction attracted questionable businesses. The consequences of Brexit are another competitive disadvantage. While access to the UK market is expected to increase, it remains to be seen how developments with the EU will turn out. In its business offering, GBX is currently limited to new token offerings and remains to develop its trading facilities all together.

tZERO

[80] LATOKEN. LATOKEN. Retrieved from https://latoken.com/
[81] Lykke. Bitcoin, FX and Digital Assets Trading App - Lykke. Retrieved from https://www.lykke.com/
[82] Gibraltar Blockchain Exchange. Building a World-Leading Token Sale Platform and Cryptocurrency Exchange. Retrieved from https://gbx.gi/

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tZERO is a US-based company that aims to increase the efficiency and transparency of capital markets via a Blockchain-powered trading system[83]. tZERO was founded by Overstock.com, which has added a strategic acquisition of a certified alternative trading system operating approximately 3% of US equity flows. Adding blockchain technology to the existing securities trading infrastructure and serving existing capital market players will address current shortcomings. tZERO has launched the first privately held bond and equity on the blockchain.

Differentiation factors

The regulatory side of tZERO is very similar to that of SMART VALOR in that they offer full compliance to current regulation. However, as a SEC-regulated trader, tZERO is currently fully focused on the US market. Security trading is subject to local licensing, so whenever tZERO intends to trade non-US underlyings, the company will be subject to the local licensing of the underlying title or US distribution authorization thereof. SMART VALOR focuses on non-US titles and its main distribution is to Swiss and EU users where regulation limits other geographies.

BnkToTheFuture

BnkToTheFuture is a company incorporated in the Cayman Islands[84], with offices in the UK and Hong Kong. It is an online investment platform for professional and accredited investors and has investments in fintech, bitcoin and blockchain deals listed on its platform. US residents can transact on BnkToTheFuture thanks to the company's cooperation with Keystone Capital Corporation, Inc., a registered US broker-dealer with FINRA and member of SIPC. Keystone operates sections of BnkToTheFuture where Regulation D offerings filed with the SEC are conducted. It currently focuses on crowdsourced financing for fintech and crypto companies.

Differentiation factors

BnkToTheFuture currently limits all its users to accredited investors, narrowing the participants in start-up funding. For US residents it has a legitimate setup with its broker-dealer collaboration. Mainly based in the UK, it will also need to create a setup for post-Brexit services within the EEA that complies with regulations. In contrast, SMART VALOR applies user limitation only in accordance with some asset class restrictions, not generally to accredited investors. Furthermore, its setup primarily assures participation for Swiss and EEA investors.

Bancor

Bancor is a token exchange that created a trading setup with liquidity provision through an automated market-making mechanism that goes beyond traditional order book matching[85]. The exchange service is accessible without user registration. Today Bancor's offer is limited to cryptocurrency tokens. The advantage of the Bancor model is that it allows investors to sell tokens directly back to the issuer without having to find a buyer on the other side. This is supported by 3% of the capital raised relay held by Bancor, which is used for market-making.

Differentiation factors

Bancor is primarily an exchange. It does not only offer intra-token exchange but also access to network relays and bounty programs for new tokens. Beyond crypto tokens Bancor does not offer alternative investments as SMART VALOR. In its distribution it does not follow regulatory requirements as it does not conduct user verification as Bancor relies on the used verificartion done by the user's wallet providers). This is another stark difference to SMART VALOR - beyond complying with the usual KYC and AML legislation, we

[83] tZERO. tZERO. Retrieved from https://www.tzero.com/
[84] Bnktothefuture. BnkToTheFuture.com - Online Investment Platform. Retrieved from https://bnktothefuture.com/
[85] Bancor. Bancor. Retrieved from https://about.bancor.network

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will also comply with pertinent trading requirements as a Swiss Organized Trading Facility and Liechtenstein bank where necessary.

Binance

Binance is a Chinese company, incorporated in Hong Kong and Tokyo which has been in existence for less than a year[86]. It went through its own ICO and grew significantly in the last 6 months. An ICO lab has been created with focus on supporting and listing potential strategic partner ICOs.

Regulatory set-up: having moved from China/HK to Japan after China's clamp down on crypto exchanges, Binance was looking to avoid regulatory issues. Since then Binance suspended the trading of China-based coins. However, in March Japan's financial watchdog issued a warning to Binance for operating without registration, possibility starting criminal investigations. This led the company to search for yet another jurisdiction. Switzerland, being an extremely crypto friendly jurisdiction, was obviously not considered as it is known for its strict Anti-Money-Laundry requirements. Instead the company is said to be looking at Malta and Bermuda.

Differentiation factors

Regulation: Fully compliant regulatory set-up of SMART VALOR in Switzerland, the country where is was founded and is headquartered, is one of the key competitive advantages. Binance being originally a Chinese company was able to grow fast due to a lax regulatory approach. This growth paths will provide more challenges in the future as more regulatory scrutiny is expected in most of credible jurisdictions.

Product: SMART VALOR has a more strategic view of the broader alternative asset class including security tokens and tokenization of real assets, aiming far beyond ICOs. Binance is very strong in the cryptocurrency space and is currently building out ICO services like advisory, funding and listing which are mostly around exchange providers that qualify for future partnerships.

Security: Binance was reported to be hit by a series of hacking attacks. While this is one of the major risk factors of the operational model of any exchange, SMART VALOR takes a different approach of partnering with leading providers in the crypto security space such as Ledger, to build out its institutions-grade Ledger Vault secure storage solution.

Similarities between Binance and SMART VALOR: Both companies have a community-based approach and are financed through issuance of their own currency. Also, the structure and functionality of their tokens are similar.

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[86] Binance. Blockchain and Crypto Asset Exchange. Retrieved from https://www.binance.com

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Appendix II

Synthesis of security measures

WEAK USER AUTHENTICATION	Use of strong authentication methods, multi-factors enabled. Anti-phishing / server impersonation (cf. FIDO, NIST SP 800-63-3), with step-up authentication (risk-based and for sensitive operations). Implementing secure recovery mechanism (to avoid easy failure points such as the still quite common recovery password by email).
WALLET THEFT (PRIVATE KEY)	Integration of secure hardware wallets (e.g. Ledger) and online wallet with secure key management and secure backup / recovery function.
WALLET / TRANSACTION TAKEOVER OR SPOOFING	Transparent wallet integration when possible (hardware wallet) to avoid manual process, and wallet authentication against the MITM attack (for instance to thwart modification of public address to a malicious one). Strong binding of transaction execution with authentication process, including strong authentication and dynamic linking[87], and following principles of server-based electronic signature when relying on SMART VALOR wallet.
LONG TERM SAVING OF TOKENS	Secure custody: cold storage with multi-signature, redundancy / integrity, hardware-based security.
SYSTEM AVAILABILITY FOR TRADING	Consortium blockchain: Highly available, redundant, and anti-DDoS hosting solution for timely transactions.
TRUST IN CONSORTIUM BLOCKCHAIN	Onboarding of diverse kinds of members to run nodes. Authentication of nodes via trusted CA for PKI, secure certificates sharing. Use of fault / attack-resistant consensus mechanism (and following state of the art to integrate regularly recent solutions – for improved efficiency and higher attack resilience). Secure setup – initial with central trusted authority – later bootstrapping with PKI setup.
CONFIDENTIALITY AND PRIVACY ISSUES	Data at rest is encrypted. Consortium blockchain transactions are encrypted among the consortium, secure communication. Only necessary data is kept. Audit logs checked regularly to verify security breaches and legal compliance (GDPR).
TRANSPARENCY	Auditable transactions and operations via external auditing services and public blockchain anchoring.
ASSET AND FIAT CUSTODY	Fiat security through bank license requirement and asset security via escrow / notary services.

[87] European Banking Authority. Regulatory Technical Standards on strong customer authentication and secure communication under PSD2. Retrieved from http://www.eba.europa.eu/regulation-and-policy/payment-services-and-electronic-money/regulatory-technical-standards-on-strong-customer-authentication-and-secure-communication-under-psd2/-/regulatory-activity/consultation-paper;jsessionid=05765A0B5E64FFF60

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ANTI-FRONT-RUNNING	Transparent and automatic order smart contract with integrated price discovery feature.
SECURE REMOTE SERVICES	State of the art remote service security HSTS with use of full TLS, anti XSS (e.g. X-XSS-P).
ORGANIZATIONAL POLICIES	Use of strict management role-based / attribute-based access controls with separation of privileges, no SPOF, no direct access to assets and keys by an isolated administrator. Dedicated key management service.
SECURITY AUDIT	Use of internal and external auditors, security certification. Secure access for external auditors, e.g. when mandatory by regulations, with adaptive privacy protection to give access only to necessary information.
NODES SECURITY	Use of secure software or hardware enclaves (e.g. SGX or TEE would be the minimum prerequisite, HSM for the critical system secure keys). Secure connections between nodes and the rest of the VALOR Platform.
ARCHITECTURE ISOLATION AND PROTECTION	Firewall on network and between different layers, reverse proxies, defining permissions, whitelisting users and IP, Intrusion Detection Systems for platform hosting environment.
ROGUE ADMINISTRATOR	Additional authorization from another administrator needed for sensitive admin operations.
SOFTWARE SECURITY	Security by design approach, following best practices (e.g. OWASP recommendations for web applications, security SDLC).
SMART CONTRACT SECURITY	Security audits (internal and external), reuse of existing building blocks, release of code for community review, early deployment on testnets, formal specification up to formal validation when possible.
USER EDUCATION / AWARENESS	In addition to all measures, undertake efforts to educate users to avoid scams risks and other related threats.

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