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Crypto Assets – Or How to Link the Old World with the New

Interview with Bernadette Leuzinger,
COO, Crypto Fund AG

A Breakthrough
in Payments with
Distributed Ledger?

ISO 20022
Goes Global

03 INTERVIEW

Crypto Assets – Or How to link the Old World With the New

Bernadette Leuzinger, COO of the first fintech startup with a FINMA licence, talks about the opportunities of alternative assets and counters blockchain critics.

10 COMPLIANCE

Liechtenstein's Blockchain Act

The impact of fintech, digitalization and blockchain on financial market regulations.

12 HIGHLIGHT

Distributed Databases in Payments

Fabian Schär, Professor for Distributed Ledger Technologies and Fintech, sees the emergence of a new, promising use case.

14 BUSINESS & PARTNERS

When All Value Transfers Become Digital

The transfer of value without counterparty risk based on blockchain – through the new SIX Digital Exchange (SDX).

16 BUSINESS & PARTNERS

What Comes After the Blockchain Hype?

The joint venture of European banks: we.trade cuts the time for trade operations from days to hours.

18 STANDARDIZATION

Worldwide Switch to ISO 20022

The eurozone, United Kingdom, Hong Kong and the USA are following the example of Switzerland.

20 PRODUCTS & SERVICES

The Financial Center's Cash Ecosystem

The supply of cash is expensive for the banks. The joint venture "ATMfutura" offers relief.

22 FACTS & FIGURES

SECB/euroSIC: The Success Story of 20 Years

The joint venture of the Swiss financial center has become indispensable.

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FRONT PAGE

Bernadette Leuzinger, COO, Crypto Fund AG



Dear reader,

You are holding a 20-year-old magazine in your hands, or have leafed through it digitally. While ten years ago it was just a handful, today around 60% of subscribers read the German, French and English issues of clearit electronically. And this trend is increasing.

The changes in consumer behavior led by advancing digitization are measurable and tangible everywhere. In discussions with customers I am increasingly hearing that new digital offers and solutions are in demand. They should be practical, efficient and cost-effective. Be it in our traditional payments environment or in other areas in which banks are seeking synergies. Among these are the major compliance issues of fraud detection, sanction screening, anti-money laundering or know your customer.

Managing enormous data volumes for tasks such as these is extremely time-consuming and expensive for each individual financial institution if the bank's internal processes manage it exclusively. Digitization enables some tasks to be outsourced to external, central infrastructures, which generally results in lower costs and greater efficiency. This often comes with qualitatively better results.

Whenever I discuss such tasks with our customers, the conversation sooner or later leads to the topic of connectivity. The need for standardized interfaces to exchange data is steadily increasing and growing ever more important. Under the heading "Connectivity", SIX is working with several banks and software providers to develop the first applications, which will enter into pilot operation in the second quarter of this year. I am convinced that the demand for standardized APIs will continue to grow in the coming months, this being the prerequisite for implementation of new solutions.

The recently launched "ATMfutura" also offers new solutions. Read how the financial center's joint venture is enhancing cash supply cost-efficiency for the Swiss banks (on page 20). Here too, it is ultimately a matter of standardizing decentralized processes.

This clearit issue is focusing on digital transformation with blockchain, which is triggering another technological leap in the financial industry. Read how far advanced the Swiss Digital Exchange – the first of its kind in the world – already is and what this has to do with the first regulated Swiss cryptocurrency company. If, after reading the physical issue of clearit, you decide that you would prefer to read it digitally in the future, then simply send an e-mail to clearit@six-group.com

A. Schöni

Andreas Schöni

Head Account & Partner Management,
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Crypto Assets – Or How to Link the Old World with the New

The first Swiss crypto company received a FINMA permit in mid-2018. As an assets manager of collective capital investments, Zurich-based Crypto Fund AG is authorized to offer access to crypto trading via its funds. In an interview, Bernadette Leuzinger, COO of the fintech startup, talks about the opportunities offered by alternative assets, the future of digital money and counters blockchain critics.

CRYPTO FINANCE GROUP SERVICES & PROD

JANUARY 2019

Bernadette Leuzinger,
COO, Crypto Fund AG

Ms. Leuzinger, how can a private person invest in crypto fund products?

You have been able to invest in this area as a qualified investor for quite a while now. This can be done rather simply, as with traditional fund products, through a mandate with your bank.

But that means I would have to have at least two million francs to be able to buy stakes.

Yes, either you have two million in assets or 500,000 francs with written confirmation that you have the necessary financial sector knowledge to recognize the risks associated with the investments.

How about directly investing through your company Crypto Fund AG?

Our approach is quite clear, to connect the "old" world with the "new" world. The process is quite a classic one: You subscribe to the fund through your bank, the security is deposited.

“As an asset manager, we are satisfied with the FINMA license.”

After becoming the first crypto company to receive a FINMA permit as asset manager, what further admission to the financial market are you striving for? Perhaps a banking license?

As an asset manager, we are satisfied with the FINMA license enabling us to manage the fund products. Our sister company, Crypto Broker AG, is pursuing the next step, a securities trader license. Whether we want to apply for a banking license at a later date will depend on further regulatory development.

And what's your opinion regarding the new FINMA FinTech license, which can be applied for under the revised banking ordinance since the beginning of this year?

The FinTech license is a great thing for the entire ecosystem. While, according to the new regulation, acceptance of deposits from the public is permitted, we are not allowed to pay interest on them nor invest them. That's not our prime intention, because we are currently focusing our expertise on crypto investments.

With a banking license or fintech permit, it would be possible for you to apply for access to the SIC system through the Swiss National Bank. Wouldn't it be worth considering having your own SNB sight deposit account?

We have toyed with the idea. It would require a certain payment traffic volume in order to make the operative costs worthwhile. The question of whether it is worth it for us or not will depend on how business develops in the future.

Since last autumn your company has been recognized worldwide as a regulated Swiss funds manager. Do you see yourself as being in a pole position internationally for crypto investments?

Definitely (*big smile*). We are one of the few companies in Europe with this specialized know-how to have reached this degree of regulation.

And when you look across the pond to America and Asia?

Let's disregard the USA for now. The problem is that most Europeans cannot invest in American vehicles; while conversely, Americans cannot buy shares in our funds. However, Asia is already an interesting market because the Swiss brand still stands for quality and reliability there.

Where in Asia?

Singapore is particularly active, where regulation is nearly as progressive as it is in Switzerland when it comes to blockchain and crypto technology. We are maintaining close contact with the regulatory authorities both here and there.

The Federal Council intends for Switzerland to assume a pioneering role for crypto investments. On the other hand, the Deutsche Bundesbank wants every attempt to regulate cryptocurrency to take place on a global level in order to be effective. How do you feel about this dilemma?

Because technology respects no national borders, uneven development on the national and international levels is really challenging. What matters, at least for today, is the national or local aspect, because there is no international regulation. However, there are also working groups, standards and recommendations. While we are also active internationally, we are headquartered in Switzerland and relate to local laws. The Swiss authorities have established a good foundation and it would be desirable if they would also actively promote this in all possible international organizations. We support such efforts with our expertise and are for regulation in the existing legal landscape without limiting the necessary freedom. We are moving in the right direction in Switzerland.

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We are one of the few companies in Europe with this specialized know-how to have reached this degree of regulation.

Bernadette Leuzinger

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The Crypto Market Index 10, calculated by SIX and managed by you, measures the top ten largest and most liquid cryptocurrencies and provides the basis for your fund products. Today, the index is at around the same level as it was in autumn 2017, after shooting up nearly fourfold by January 2018. Is this a favorable moment to get into the market?

I find it funny that many compare the current situation to what it was a year ago. If you look at the history over a longer period you can still see an upward trend. Sometimes we are above the trend, sometimes below. The market may be more volatile than traditional stock markets, but all the more thrilling for it. It is very promising for the future, especially in view of the SIX Digital Exchange that is currently being created and where blockchain shares will be traded. Everyone should be aware that we deal with risky assets and that only a relatively small amount of assets should be invested, but the moment to enter the market is certainly not bad today.

In the rules for your index, it says that trading can be discontinued in the event of a significant drop in turnover. What does that mean?

Here, we are following the practices of traditional markets, where it is customary to automatically suspend trading for a few minutes in the event of strong downward movements, for example. In our case, the index is only compiled by SIX during the daytime, but cryptoassets are traded around the clock. This means that it is up to us to intervene in a serious situation so that index participants are not disadvantaged in the event of market distortions.

In January 2019, trading was discontinued with the cryptocurrency Ethereum Classic because it fell victim to manipulation. What impact would the end of one of the ten index currencies have on the fund?

We removed Ethereum Classic from the index a month before this due to lack of compliance with our liquidity requirements. The index does not require that there

always be ten currencies present. There are currently seven. What is important is that the currencies meet the objective requirements. For example, that they are traded on several exchanges and are liquid. Incidentally, trading in Ethereum Classic has not been discontinued everywhere and the currency has not ceased to exist.

Institutional investors are among the leading capital market participants. What development, in your opinion, must the crypto industry still undergo so that institutions such as the Swiss Old age and survivors' insurance (OASI) become your customers?

That is already possible today, from a purely objective perspective. Keyword diversification: since they are virtually uncorrelated to traditional investments, they are suitable as alternative assets in current portfolios; an investment in the future. However, it is also clear that trust in new investment vehicles in the crypto sector must be further strengthened. We hope that larger financial institutions will climb on board through strong partners such as SIX.

Speaking of trust. It is not great everywhere. Nouriel Roubini, a well-known US economist, who forecasted the financial crisis and subsequent recession ten years ago, recently stated that blockchain was most useless and over-hyped technology ever. What do you say to the critics?

There are two sides to that issue, one that finds blockchain to be fantastic, and the other holding the opposite opinion. The new technology has great potential in any case. It is the first time we are able to directly exchange assets without an intermediary, in which the assets cannot be copied, counterfeited or stolen. Otherwise, most critical voices arise from the Western world, where we generally have well-functioning, stable systems which somehow or other offer a future guarantee, because we trust the institutions that are behind the systems. That is not the case in other countries, especially where there is widespread corruption or horrendous inflation. It is precisely in these countries that blockchain is very interesting for the population.

CURRENCIES IN THE CRYPTO MARKET INDEX 10

Bitcoin
Ether
XRP
Bitcoin Cash ABC
EOS
Litecoin
Bitcoin Cash SV

The Bank for International Settlements (BIS) recently conducted a survey among central banks and learned that two banks will soon make central bank money digitally widely accessible, including Sweden. What do you make of this?

It's extremely exciting: in terms of confidence, for digitalization itself, and especially for daily payment traffic as well. It primarily depends on how it is designed. In Sweden, where a great deal is already paid for digitally, the rate of cash usage is falling steeply. For consumers, it makes little difference whether digital payment is with or without blockchain. The more

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While we are also active internationally, we are headquartered in Switzerland and relate to local laws.

Bernadette Leuzinger

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digital money there is in circulation, the greater the user confidence in new technologies will grow.

In what aspect of payments can you imagine blockchain technology really being successful?

I think it certainly will play a major role in transaction processing, especially for back-office processes downstream from payment initiation. This includes card payments and customer credit transfers among banks.

Credit transfers in Switzerland are usually processed in real time through the SIC system. With a blockchain-based technology, the validation of a payment takes up to an hour.

This applies to money transfers. Things look quite different though for securities. A transaction there conducted through blockchain is processed faster than through the banking system. But there are also other types of blockchains that are less open, meaning they function in a less decentralized manner enabling transactions to be processed more quickly. There is ongoing research into what such a blockchain platform for interbank payments might look like.

And what about scalability? Visa alone processes more than 1,700 transactions per second in the card business. Is blockchain in its current state able to handle a bulk payment system?

Here too, it depends on what you mean by a blockchain. For example, the emphasis in the Bitcoin blockchain is decentralization and censoring resistance. There are already protocols like Lightning Network, based on bitcoin as a second level, which are able to process many more transactions per second. Then there are other blockchains that are less decentralized, such as between banks, which deliver a much higher throughput rate. To be considered for each application is the initial position and the goal, along with the premises to be aimed for. There is no universal solution.

Interview:

Gabriel Juri and Karin Pache

SIX



Liechtenstein's Blockchain Act of the Future

Digitalization in banking is nothing new. It has been happening for years, but is now gaining traction. Numerous fintech companies have entered the market and are establishing themselves along the banks' value creation chain. The large-scale use of blockchain technology may now be the next step. It has the potential to fundamentally change intermediation, the banks' actual core task. Blockchain, however, will not stop with the banks, but will have a lasting impact on the entire economy.

Fintech, digitalization or blockchain are also impacting financial market regulation. It is important not to hinder new business models through “old” regulation, thereby preventing market opportunities arising from innovation. At the same time, legal certainty must be guaranteed and customers must remain protected against misuse.

The government and the Financial Market Authority (FMA) in Liechtenstein recognized the potential of digitalization rather early, as did Switzerland. Two supporting initiatives were quickly started. On the one hand, the FMA’s “regulatory laboratory” is the first source of information for fintech companies to conduct a dialog about regulation, licensing and supervision. On the other, with so-called “Innovationclubs” the government is providing a sponsored innovation process for young companies.

Blockchain Act in Preparation for the Token Economy in Liechtenstein

However, that is not enough. The Principality is preparing itself in terms of regulation for the next step, the token economy. In contrast to other counties, which tend to follow the approach of developing existing regulation, Liechtenstein will have an entirely new framework law. The law, rather clumsily entitled, “Law on Transaction Systems Based on Trustworthy Technologies”, entered the consultation process last year. Among other things, it regulates the handling of blockchain. It has since become known as the Blockchain Act. This makes Liechtenstein an early mover in this area. The Act shall be designed to be technology-neutral and to create framework conditions for all existing and possible future



blockchain applications. Blockchain can digitally depict a wide range of asset objects or services from the analog world – in other words, as a token. This means that it is not limited to the financial sector. Liechtenstein intends to create legal certainty with the Act for both parties: the users of blockchain systems and service providers. At the same time, misuse is to be prevented and Liechtenstein’s good reputation protected. In contrast to Switzerland, the principality is part of the European Economic Area (EEA) and is thus obligated to assume EU law in the financial services sector. The Blockchain Act now ensures that the respective financial market laws are also applicable for blockchain systems. These rules apply as soon as a token falls within the jurisdiction of a financial market law. Any resulting conflict of law issues are to be clarified in the ongoing legislative process.

We expressly welcome the Act, as well as previous government initiatives. Only through viable framework conditions can both the existing financial services providers and fintech companies take advantage of the opportunities and make Liechtenstein’s financial center fit for the future.

Dr. Bettina Witzmann-Walter
Compliance/Payments,
Liechtenstein Bankers Association

MODIFICATIONS TO SWITZERLAND'S BANKING LAW

Switzerland is midfield in terms of regulatory adjustments. Three measures have been launched within two years. The extension of the retention period for settlement accounts to 60 days, along with a license-free innovation space (sandbox) for public deposits up to CHF 1 million that came into force on 1 August 2017. Fintech approval was then introduced at the beginning of 2019. Its goal is to lower the market entry hurdles for fintech companies, while at the same time, boosting legal certainty throughout the industry.

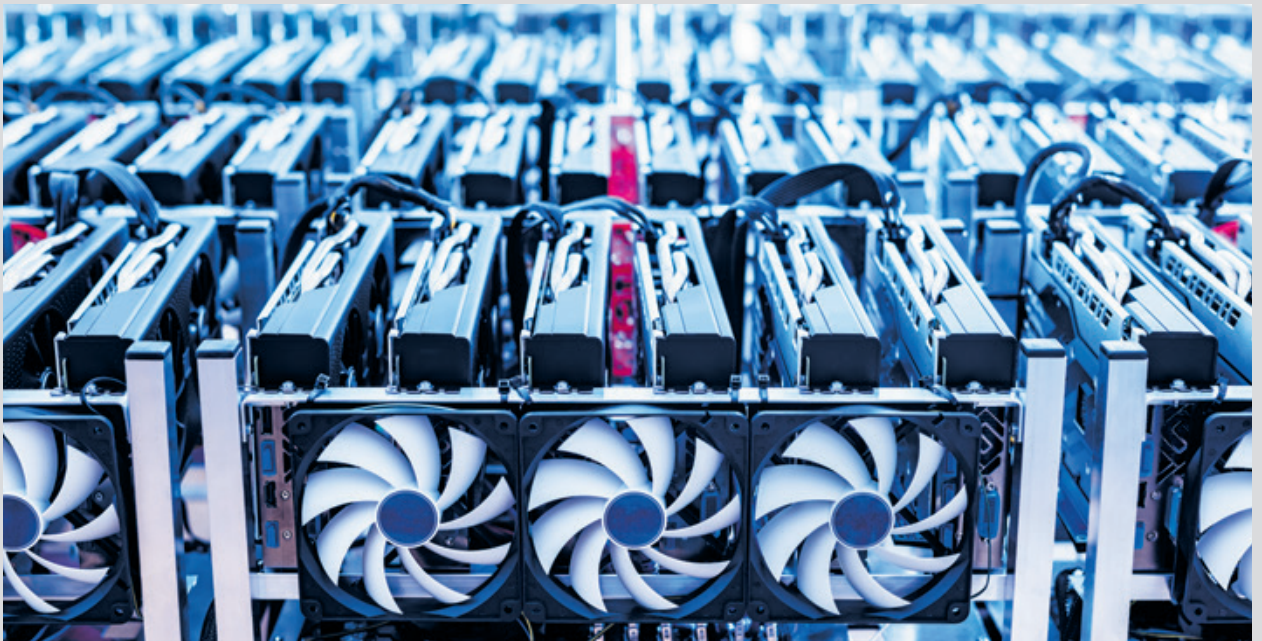
Distributed Databases and Blockchain Technology in Payments

Payment traffic presents an extremely promising use case for so-called Distributed Ledger Technology (DLT). Processes and payment streams shall become faster, cheaper and more secure while operators and customers alike profit from these improvements.

The Bitcoin White Paper was released around ten years ago. Published in the style of an academic article through a cryptography mailing list, the paper initially caused a stir only in a small number of circles. Entitled: "Bitcoin: A Peer-to-Peer Electronic Cash System", the foundation for a new type of system for community database management was laid out over just eight pages. As the title reveals, the publication addressed the issue of making cash compatible for the Internet – nothing less than the

creation of a digital payment system on a global scale, one that eliminates intermediaries, functions decentralized and is censorship-resistant.

Ten years later it is clear that the Bitcoin blockchain is not perfect. Nevertheless, Bitcoin does have very interesting and unique characteristics. It becomes interesting just considering the ongoing upgrades. Bitcoin payments can be scaled virtually without limit through so-called State Channels and the Light-



A cryptocurrency mining farm

GLOSSARY

- **State Channels:** System that enables to confirm transactions in an aggregated form. Some transactions are only exchanged between the participating parties, but are nevertheless secured by the system. The technology enables enormous scaling, micro-transactions and immediate settlement.
- **Lightning Network:** Linking of state channels which enables the technology to be used by people between whom there is no direct connection.
- **Sidechain (e.g. Liquid):** A side blockchain that is linked to a main blockchain and can thereby interact with it.
- **Hyperledger Fabric:** A Linux Foundation framework that offers various blockchain applications and solutions.
- **R3 Corda:** An alternative framework that is particularly widespread in the financial environment.

ning Network. An infrastructure based on the Bitcoin blockchain is created through “Liquid” and other “sidechains”, efficiently permitting the tokenization of additional assets and seamless integration into the existing financial system. It is a fallacy to believe that this original form of this technology should be written off. Especially in the context of payments, public blockchain projects represent an enormous disruptive potential and should not be ignored.

Centralization in the DLT Context

Yet, most DLT projects actively operated by large companies tend to move in an entirely different direction. It does not usually involve decentralization of the trust component, nor is it a matter of replacing an intermediary. This is hardly surprising when one considers that many projects are launched by companies which are themselves in the intermediary role. It is rather a matter of using the components of the technology in such a way that existing payments processes can be made more efficient.

Imagine, for example, a consortium of five banks which jointly manage a database with payment streams (call it, “Bankchain”), which they update, again jointly, according to precisely defined rules. Of course, this cannot be called decentralization in a strict sense. Firstly, because the database is only controlled by five parties, who could basically collude, and secondly, someone must determine in advance who is among this select group of Bankchain operators (or who does not belong to them). This stands in contrast to public blockchains such as Bitcoin and Ethereum. There, an unlimited number of people may join and take part in the consensus process.

Such an extreme form of decentralization may not even be necessary for many applications. On the contrary: If a certain trust relationship exists between the participants who are not anonymous, then semi-centralized systems can be significantly more efficient. Important in the process are clearly defined communication protocols and interfaces, as well as a process that ensures that the databases of the consortium participants run synchronously. All these aspects are present in the large “permissioned ledger frameworks” such as Hyperledger Fabric and R3 Corda. However, what is usually not used is a decentralized and unconditional consensus protocol.

Doing One Thing Without Neglecting the Other

In my view, it is entirely laudable for there to be various experiments with this technology. Public blockchains have enormous potential and could lead to the decentralization of all our payment systems. This is not to say that the gradual improvement of the existing payment systems is to be dispensed with. Whenever it is possible to unify protocols and interfaces and to make the synchronization of joint databases more efficient, then this should definitely be done.

Examples of strongly centralized systems are names like Ripple or some projects of the “R3” consortium. From my perspective, both have a good chance of replacing parts of the existing financial infrastructure, but they should not be mentioned in the context of public blockchains, since they are rather incomparable in terms of both technology and goal. Furthermore, there should be no illusion that these systems are censorship-resistant or that the user has greater control over their assets through the system. That would be a fatal delusion.

When we talk about DLT applications in the context of payments, then we should always be aware of whether we are talking about decentralization or pure process optimization. If we can manage to clearly separate these concepts and depart from the idea that DLT is a technology with homogenous members, then I am very optimistic. From an economic standpoint I welcome diversity and am convinced that the payments infrastructure will ultimately consist of a mixture of entities from both ends of the spectrum.

Prof. Dr. Fabian Schär

Professor for Distributed Ledger Technologies and Fintech, University of Basel

When All Value Transfers Become Digital

When it comes to blockchain technology, most people would probably think of cryptocurrencies – which is still the most known application thereof. But the disruptive potential of blockchain goes far beyond it. Just as the internet has affected the transfer of information, blockchain could be a game-changer in terms of managing the transfer of value.

Blockchain can forever change how contracting parties do business together, enabling them to securely exchange value without counterparty risk. SIX is building the infrastructure for it in its new Digital Exchange (SDX), taking full advantage of this revolutionary technology to improve on established standards. This new platform will open additional markets and products.

Current Post-Trading Infrastructure

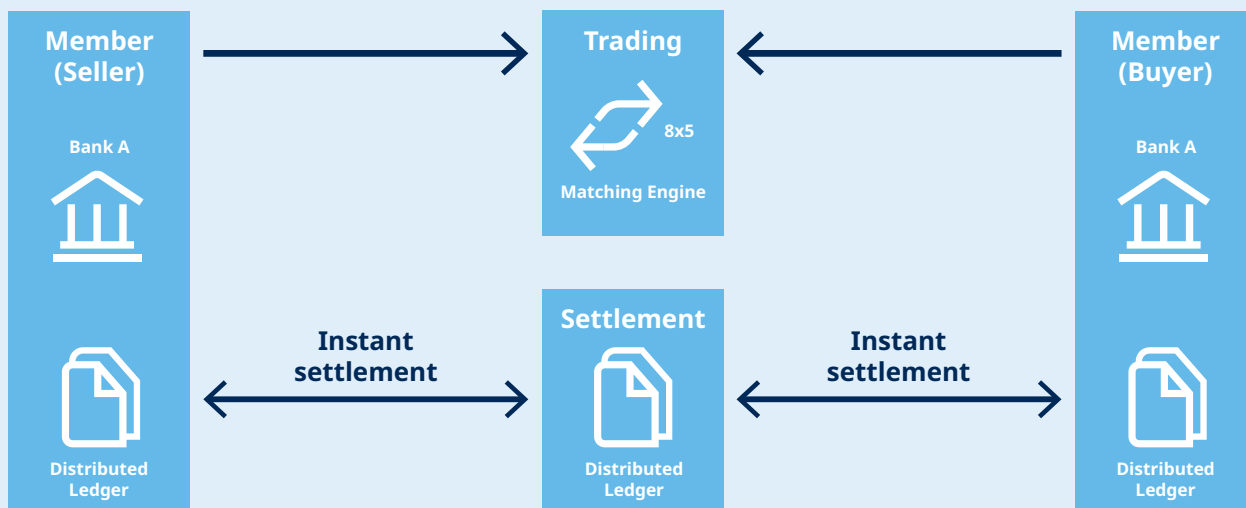
The current post-trade infrastructure is obviously highly complex, involves many financial intermediaries, and is slowed-down by legacy systems of all members of the value chain. Financial institutions, custodians, registrars, issuers and CSDs are all holding their own, separate ledgers. To ensure that transactions can be appropriately carried out, they are forced to spend lots of resources and time on reconciliation, reporting to authorities and risk management. In fact, if a trade is initiated today, the open positions will be automatically settled two days later.

Post-Trading Infrastructure with Instant Settlement

Tomorrow, the buyer and the seller of a security will hold the assets by using their private keys. Just at the moment when the trade is matched, an instant settlement is performed, and the new state of ownership is stored on a distributed ledger – a real transfer of value between counterparties. As an immediate effect, this translates into a significant cost saving potential for the whole financial industry. The use of distributed ledger technology removes counterparty risk, as a trade is settled instantly without the need of a clearing house. This leads to reduced capital requirements as no collateral is needed. In addition, the operational costs are reduced as all participants share one single version of the truth by interacting with their part of the

WHAT IS SDX?

Last year, SIX launched their Digital Exchange (SDX) to offer the world's leading exchange for digital assets. Since then the team is working on a new generation of global marketplace, where professionals can access, transfer and store value. With services covering every step of the value chain, end to end – running firmly on trusted Swiss regulation.



Exchange infrastructure with decentralized ledger

ledger. SDX will provide the core infrastructure for this ledger, take on the role of gatekeeper to the market (as SIX has been doing for many years now) assuring the highest level of trust among all market participants.

All these advantages come with challenges for the market. Instant settlement means that the parties executing a trade have to be in possession of cash and delivery at the moment the trade is matched. This is not necessarily the case today. This will change existing business models for certain activities, but on the other hand create opportunities to build entirely new business models on the SDX infrastructure.

Bridging Traditional Financial Services and Digital Communities

Apart from bringing additional efficiencies in the financial market place, SDX enables the launch of new digital financial products and provides access to the market of digital and tokenized assets. Apart from bringing additional efficiencies in the financial market place, SDX enables the launch of new digital financial products and provides access to the market of digital and tokenized assets. In close collaboration with existing and future clients, various product categories will be defined and prioritized in user groups. The ones with the highest demand will be implemented first and then offered on the new platform. Thus, the SDX offer results from a co-creation mode with the customers.

Sven Roth
SDX

What Comes After the Blockchain Hype?

2018 marked the 10th birthday of the blockchain technology. Not everyone was enthusiastic, though. The consultancy McKinsey remarked: “The bottom line is that despite billions of dollars of investment, and nearly as many headlines, evidence for a practical scalable use for blockchain is thin on the ground”. One project providing a different view is we.trade. The joint venture of 13 leading European banks, including UBS, is leveraging blockchain technology in order to address current problems in international trade.

Businesses around the globe find it difficult to obtain financial insurance to mitigate the inherent risks of trading globally. This leads to companies not entering into trades as they otherwise would have done, which in turn decreases revenue for the company and GDP for entire economies. The underlying problem is as old as trade itself, a lack of trust in the counterparty fulfilling their part of the trade. To mitigate this risk a Letter of Credit was invented. An innovation dating back to the medieval times it has not greatly changed since then.

The Obstacles

In design thinking workshops with customers four core problems were identified which have been hindering innovation in trade finance:

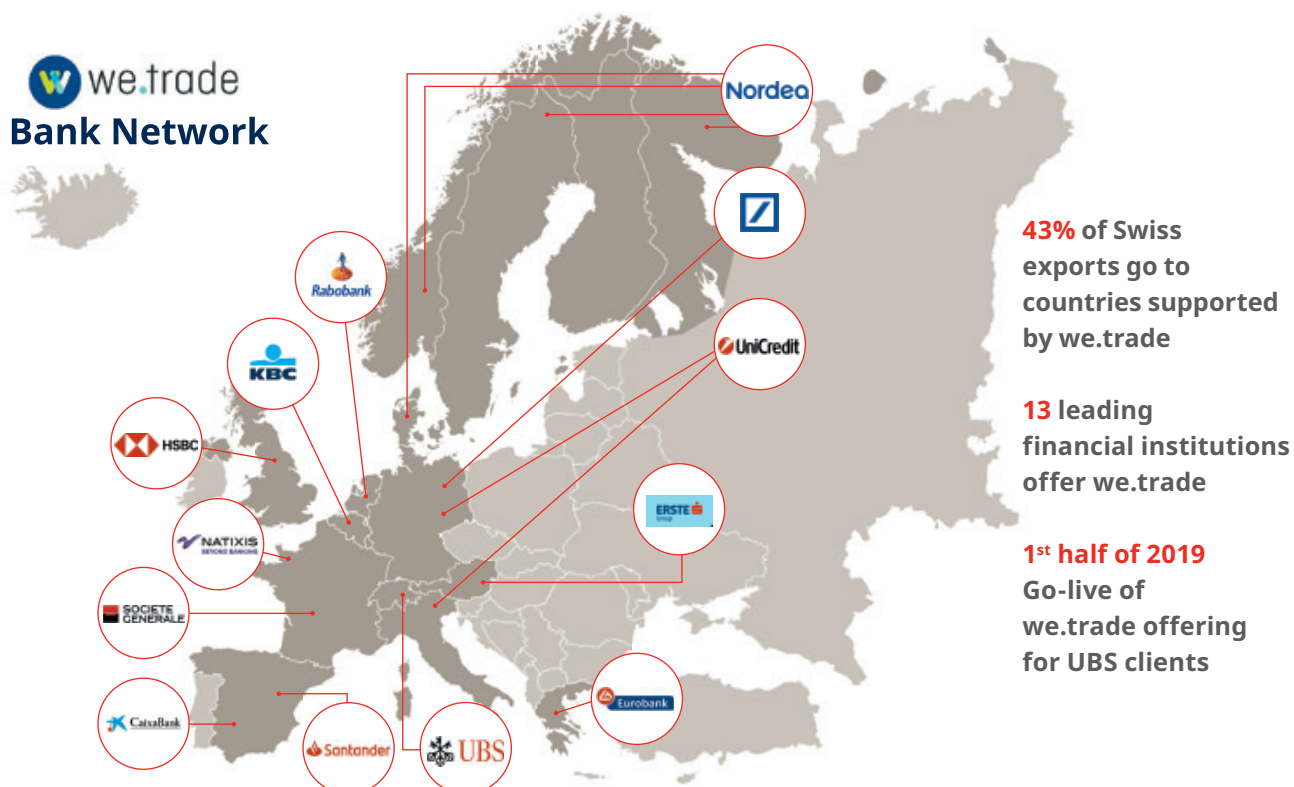
- **Many different parties loosely connected:** for each trade transaction today up to 20 parties and more can be involved (e.g. banks, insurer, customs, freight company, document courier).
- **Different means of data storage & exchange:** each of these parties have their own system of storing data (paper, excel, databases, etc.) and use different means of exchanging this data (e.g. email, phone, fax, snail mail)

- **Slow step-by-step transaction:** the process flow is sequential, each party is waiting for the other party to finish their part of the process.
- **Cumbersome paper-based process:** throughout the process up to 30 different documents are required per shipment.

The Challenges

we.trade therefore looked at leveraging blockchain technology. The designed solution yields the following four advantages:

- **Principle of equality:** blockchain and its distributed nature make it easy to create an ecosystem which is open to different parties and places them on equal footing.
- **Single version of the truth:** for the first time all relevant data is stored in one database, kept up to date by the technology and distributed among the participants.
- **Smart contracts:** on the back of the distributed database the slow step-by-step processes can be replaced with event based automatic payment triggers.
- **Redundancy and resilience:** while documents are still required in the process, these can be safely stored in a common storage preventing redundancy.



As with any new technology, there are tradeoffs and challenges which need to be considered.

- **Cost of development and operation:** blockchain developers remain in high demand and hosting a blockchain infrastructure adds pressure on the cost side.
- **Need to improve blockchain know-how:** projects require the involvement of many different stakeholders such as legal, compliance, IT-security, etc. who all need to understand the technology in depth.
- **Data privacy legislation:** data privacy legislations provide comprehensive rights to the owners of private data, especially the right to be deleted. This stands in conflict with the immutability principle of a blockchain. Solutions to address this add complexity to blockchain projects.

The Use Case

It is therefore important to identify a use case and a problem which can be significantly improved to have a basis for a business case. we.trade manages to cut the time to process a trade substantially from up to seven days down to a few hours (excluding shipping time).

After more than two years from initial proof of concept, we.trade is being introduced to the European market. Today, 13 major European banks provide geographic and client coverage in 14 countries. The coverage and functionality will be expanded as further partners join the we.trade ecosystem.

Sven Siat
UBS Switzerland AG

Worldwide Switch to ISO 20022 in Cross-Border Payments

The SWIFT MT standard has grown long in the tooth. In an age of digitalization and efficiency, it is no longer appropriate. This is particularly the case for cross-border payment traffic. A high degree of transparency with respect to payment details such as ordering party, beneficiary and payment purpose is becoming ever more important. The solution is obvious: changeover to the ISO 20022 standard.

For over 40 years, the MT standard formed the backbone for cross-border payments processing through the SWIFT network. It originates from a time when storage space and high transmission rates were very expensive and the focus was thus on lean formats. It is no longer appropriate for the large data volumes involved in end-to-end automation and the combating of the financing of terrorism and money laundering.

ISO 20022 – a Global Phenomenon

With the harmonization of Swiss payments, the Swiss financial center has taken on a certain pioneering role. As one of the first large RTGS systems in the world, Swiss Interbank Clearing (SIC) was aligned to the ISO 20022 standard in 2016. And yet, in order to also reap the benefits of the new standard in international payments, it is essential that the global community follows suit. This applies both for local market infrastructures in the major currencies as well as for the SWIFT network, which is currently the leading hub for cross-border transactions. Currently, with the exception of SEPA, ISO 20022-based payment instructions and interbank messages abroad must be converted to MT formats. This can lead to data loss, because space and the number of fields are limited. From a Swiss perspective it is very encouraging that major market infrastructures, including Fedwire & CHIPS (USD), TARGET2 & EBA EURO1 (EUR), CHAPS (GBP) and Hong Kong (HKD), published their ISO 20022 migration plans (see box).

A Study with a Clear Signal

This increasingly strong trend towards ISO 20022 prompted SWIFT at the end of 2017 to again launch a debate on a potential changeover in the cross-border sector and to conduct a global market consultation. The aim of the consultation was to ask the various

stakeholders such as National Member & User Groups (NMUG), infrastructure operators, banks and software providers whether they supported a migration from MT to ISO 20022, and in what timeframe. The study results were presented in the second half of 2018. In the payments sector, 87% of the respondents support a timely migration to ISO 20022. Among the 50 largest banks, approval for this undertaking was 97%, and there was even 100% support among the 20 SWIFT NMUGs with the largest transaction volumes. The strong support is based upon the following benefits of the ISO 20022 standard:

- Interoperability between local RTGS systems and SWIFT for cross-border payments
- Compliance with regulatory requirements through a rich format and clear data structure
- Efficiency gains for banks and end-customers through standardized processes and schemes

Based on this clear signal, the proposal to conduct the changeover to ISO 20022 between 2021 and 2025 was adopted by the SWIFT Board last September. At the same time, it was decided, on the one hand, that the current MT5xx (ISO 15022) message types in the securities area would remain in use for the time being. On the other hand, voluntary participation in the ISO schemes for cross-border business would be possible. No migration plans are currently being pursued for Treasury/FX (MT3xx, 6xx) and Trade Finance (MT7xx). However, it must be emphasized that these three areas will nevertheless be impacted by ISO 20022; as is the case whenever an interaction with payments takes place – i.e. with the SWIFT message categories MT1xx, MT2xx and MT9xx.

What Will Happen Between 2021 and 2025?

SWIFT will provide a central translation service between ISO 20022 and MT during the four-year coexistence phase. The sender can choose which format he will use for transmission to SWIFT. SWIFT will always transmit the message in its original format: MT messages will be transmitted to the recipient via the "FIN" network service, ISO 20022 (SWIFT MX) via "InterAct". If the recipient wishes to make a translation of the original message to MT or ISO 20022, he must actively request this from SWIFT. More information on the translation service will be available in the SWIFT Board Information Report in June 2019. This procedure will enable SWIFT participants to determine the migration date that best suits them. At the same time, it creates an incentive for participants to promptly change over to the new format, since responsibility for data losses during the mapping of MX back to MT lies with the recipient. Due to the fact that the Swiss financial center has already completed the ISO 20022 migration, it is anticipated that SWIFT participants here will switch to MX sooner rather than later.

Uniform use of the ISO 20022 standard is of prime importance to enable a smooth migration. Towards this end, SWIFT set up a working group called CBPR+ (Cross-Border Payments & Reporting Plus). This group is sponsored by the PMPG (Payments Market Practice Group) and consists of around 20 NMUGs. The CBPR+ will build upon the recommendations of the HVPS+ (High Value Payments Systems Plus) and adapt them for the cross-border sector. The aim of the CBPR+ will be to create a uniform definition of the MX message standard, broadly-based market practices and clear implementation guidelines. For example, the central translation service between MT and MX will be based on the mapping rules of this group. Switzerland is represented as an active member in this group and will thus be able to contribute its experience.

Challenges

The global migration to ISO 20022 is, in itself, a Herculean task. At the same time, the replacement of the current MT standard means that another migration is on the agenda – from unstructured to structured customer data. Last year, the SWIFT community announced that it decided to defer the planned end date for unstructured customer data in November 2022 – under the condition that this issue will be taken up concurrently with the switchover to ISO 20022. The precise end date for unstructured addresses in MX is not currently known, but it will definitely be before the end of the coexistence phase in 2025. A realistic scenario is that as of the 4th quarter of 2023, the use of structured customer data will be mandatory for all messages in the ISO 20022 standard. All market participants are therefore requested to address this issue at an early stage. The structured address taskforce, led by SIX, impressively showed in 2017/2018 how this plan will impact all participants throughout the payments processing chain.

A further challenge is presented by the variety of ISO 20022 standard versions currently in use. Both the SIC and euroSIC systems, along with SEPA, use the version from 2009, while both CBPR+ and the new RTGS standards for USD, GBP and EUR plan to apply the 2019 version. For example, the new version is supposed to use dedicated elements for the SWIFT global payments innovation (gpi) reference and LEI (Legal Entity Identifier). To ensure the future compatibility and interoperability between the Swiss Recommendations and the rest of the world, an upgrade to a current ISO version until the migration start to MX/ISO 20022 in November 2021 is being considered.

Despite all these impending challenges: The Swiss financial center is fully supporting the global migration to ISO 20022 and will actively help shape it. As has already been impressively demonstrated by the harmonization of payments in this country, such an undertaking is possible if the global community works together constructively towards a common goal: Modernizing international payment traffic to make it fit for the future.

Dominik Vogel

UBS Business Solutions AG

Country	System	Migration to ISO 20022
HK	CHATS	October 2020 to mid-2021 (big bang)
US	Fedwire & CHIPS	1 st quarter 2022 (like-for-like) to 2 nd half of 2023 (full ISO 20022)
GB	CHAPS	1 st half of 2022 (like-for-like) to 2 nd half of 2023 (full ISO 20022)
EU	TARGET2/EBA EURO1	November 2021 (big bang)
Globally	SWIFT MT – MX	November 2021 to 2025 (phased approach)

The Financial Center's Cash Ecosystem

On the one hand, the trend in Switzerland is heading in the direction of cashless payments, albeit slower than elsewhere. While on the other hand, supplying the population with cash through ATMs remain expensive for the banks. The joint “ATMfutura” project is a welcome relief.

In contrast to Scandinavia, for example, where paying in cash is now the exception, cash remains the most popular payment means of Swiss households. A survey conducted by the Swiss National Bank in 2017 showed that individuals paid for 70% of their transactions and up to 45% of their shopping expenditures in cash. In terms of acceptance, user-friendliness, speed and the costs incurred by paying, banknotes and coins scored better than other payment types. The only point where debit cards scored higher was in regard to security. Although the number of cash withdrawals in Switzerland is decreasing, and cashless transactions are increasing, 50% of responders anticipate paying with cash just as frequently as they do now in the medium-term future.

Huge Savings Potential

To provide the population with the cash needed, Swiss banks today operate around 7,000 ATMs, along with 3,000 bank branches. SIX estimates that this results in around CHF 1.3 billion in costs annually for the banks. In addition to acquiring the necessary

equipment, operating software (e.g. Windows) is also needed, along with the application software to operate the equipment, the IT infrastructure for processing and booking of incoming and outgoing payments, along with the physical supply and disposal of cash in the ATMs. What's more, the equipment must be maintained and serviced, and their operation constantly monitored electronically.

Particularly for smaller banks, the acquisition and operation of cash dispensing equipment represent a considerable burden. At the same time, ATMs make hardly any contribution towards a positive differentiation for banks. From the customer's perspective, when it comes to cash withdrawals, it is more or less a matter of convenience, as long as the next ATM is easily accessible.

This is where ATMfutura from SIX comes in: through standardization of the products used (equipment and software), by bundling acquisitions and through centralization of the operational tasks at SIX, banks

can attain significant savings without impacting the supply of cash to their customers. Small banks especially benefit greatly from these services. For example, savings of over 50% have been attained by some banks in equipment procurement, while upkeep fees dropped by around 10%, and licensing and maintenance costs were reduced by more than 40%. The standardization of equipment and software will deliver further savings in interface maintenance and testing in the future. Furthermore, there are clear signs that centralization of the monitoring of ATMs and the resulting centralized control of maintenance and servicing will also result in major savings.

Common Appearance of the Banks

Prerequisite to reaping this added value for all ATMfutura participants is the successful rollout of the jointly developed application software in 2019. More than 1,000 ATMs are already in "Futura operation" and some banks have completed the switchover. An additional 5,000 ATMs will be added in 2019. Essential for long-term success, however, is a common appearance of the ATMfutura participant banks in the market. With an eye towards boosting the joint venture, SIX will work with partners to develop a shared

outlook for the future of the cash ecosystem in Switzerland. Towards this end, previous experience will be evaluated, technical and social developments forecast and possibilities defined for enhancing the cost-effectiveness of cash supply and the future distribution of roles in the cash ecosystem.

Dieter Goerdten

Head Products & Solutions,
SIX

Alexander Verbeck

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Twenty Years of SECB Swiss Euro Clearing Bank and euroSIC

After initial skepticism, both within the Swiss financial center and across the European banking landscape, SECB and euroSIC, the joint venture launched by the Swiss financial center, has since developed into a success story.

Back in February 1998, in the run-up to the introduction of the euro, the former Telekurs Holding Ltd (SIX today), Credit Suisse Group and UBS AG, founded SECB Swiss Euro Clearing Bank GmbH with the aim of facilitating a connection to European clearing systems and the processing of euro payments in Switzerland and beyond its borders. The German Federal Financial Supervisory Authority (BaFin) granted the SECB a full banking licence on 1 October 1998 and thereby the “permission to conduct banking business and financial services”. The SECB commenced operation in January 1999, simultaneously to the introduction of the euro: More than 1,000 payments from 143 participants were executed on the first clearing day, with a volume exceeding a billion euro.

Milestones and Trends

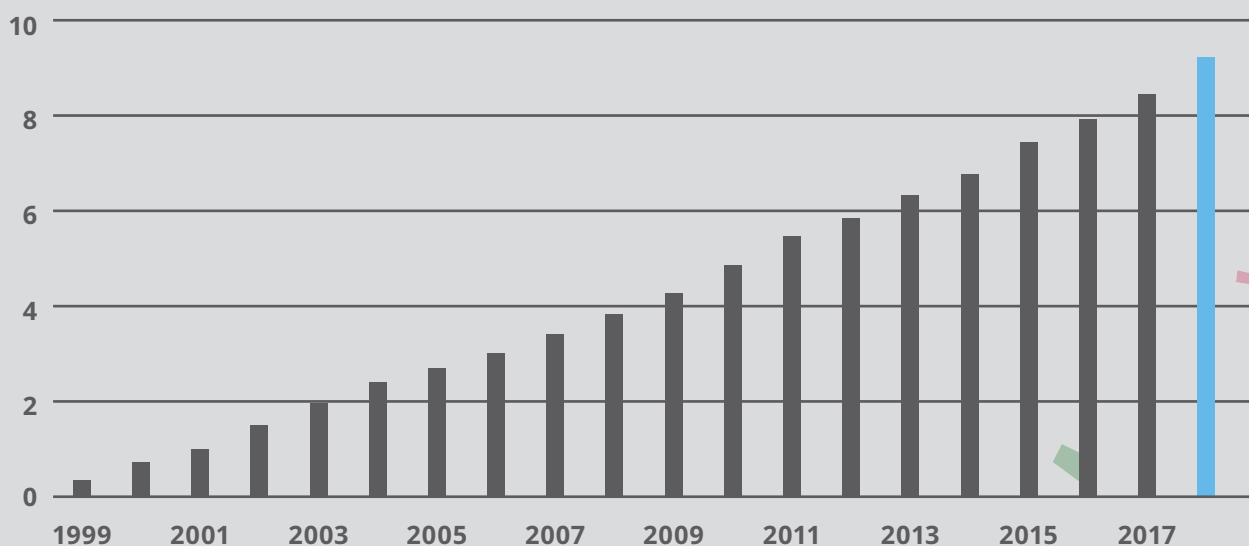
One significant milestone in the history of the SECB and euroSIC was when Switzerland joined the Single Euro Payments Area (SEPA) in 2006. As a direct participant in the SEPA credit transfer and direct debit schemes, the SECB enables euroSIC participants to register as indirect participants, granting them access to today's most important payment channels for the processing of customer payments. SEPA payments now account for over 90 percent of daily cross-border payment traffic.

BRIEF PORTRAIT OF SECB SWISS EURO CLEARING BANK

The business purpose of the SECB is to provide a connection to the most important euro clearing systems and the processing of euro payments, primarily for financial institutions from Switzerland and Liechtenstein, as well as those from other countries.

In its role as a payments bank for banks, SECB acts as a correspondent bank for all euroSIC participants, offers respective services and is also the system manager responsible for controlling and monitoring the euroSIC system.

Furthermore, the SECB functions as a liquidity manager for the system and as a settlement agent for its participants. As a liquidity-saving option, the SECB grants intraday and overnight credits collateralized with securities. Cross-border euro payments within the European Economic Area and worldwide are conducted through TARGET2, STEP1 and SEPA.



euroSIC transactions 1999-2018 (in million)

Another milestone is the migration to the ISO 20022 standard for all payment messages which was completed in November 2018. Switzerland has taken on a pioneering role compared to the European clearing systems, which are not planning to convert to the current SWIFT formats until 2021 (see page 18).

Among the current 190 euroSIC participants are financial institutions from Switzerland, Liechtenstein, Austria, Luxembourg, Germany and the UK.

SEPA real-time credit transfers and the SWIFT global payments innovation (gpi) are new trends and developments in payment traffic which the SECB is closely monitoring in view of a possible provision in euroSIC.

New Records and New Ownership

More than 8.3 million transactions were processed by euroSIC in 2018, with an average annual growth rate of more than 10 percent.

As of 31 January 2019, SIX holds a 100 percent stake in the SECB. This opens new possibilities for expanding the customer base and product portfolio, and boosts the competitive strength of the Swiss financial center.

Susanne Eis

SECB Swiss Euro Clearing Bank

The first clearit issue 20 years ago

