

# RED

The Magazine  
from SIX



Focus  
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"Standard" Questions**  
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for the Financial Center  
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The Next Level of SIX

## *Looking Ahead, Going Upward*

In his second year as CEO,  
Jos Dijsselhof wants to grow with SIX.

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# The Swiss Stock Exchange

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# Disruption?

## Been there. Done that.

The challenge with disruption is not in how you resist it. But in how you manage it.

This is where the Swiss Stock Exchange has a track record that is the envy of the industry. From establishing Switzerland's CSD, to opening the world's first fully electronic exchange, to creating the geography-defying Virt-X and Europe's first cross-border CSD, Intersettle.

And now, of course, the truly visionary SDX is coming soon to screens near you.

Which is proof that when you've 'been there and done that' it's the perfect moment to do it all again.



[six-group.com/exchanges](http://six-group.com/exchanges)

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Focus

## Open for Open Banking

The secure, standardized exchange of client data between banks and accredited third-party providers – initiated by the client – is currently taking root worldwide. With its platform, SIX will enable Switzerland's financial center to enter the open banking era as efficiently as possible.

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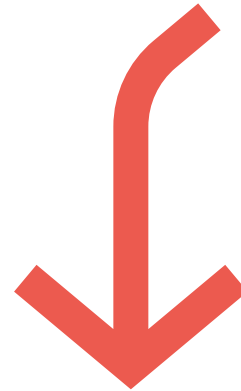
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### Future Talk: Ecosystems

Lisa Yerebakan, Junior Open Innovator at SIX, meets the head of the Helvetia Innovation Lab.



## Takeaway

The Magazine in 30 Seconds

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### Collateral Cockpit

SIX will permanently revolutionize collateral management with a workflow as easy and intuitive as using a smartphone. The Collateral Cockpit reduces the flood of information and helps traders by automating back-office and risk management processes.

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### MRB Securities

More and more countries are legalizing marijuana. But not everyone can or wants to invest in marijuana-related businesses (MRBs), which is why SIX lists MRBs and their issued securities, as well as structured products and options based on those securities, on a new watchlist six days a week.

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### SIX Tax Score

SIX Tax Score helps financial advisors meet their clients' needs for better and more transparent investment decisions. The higher the computed SIX Tax Score, the lower an expected return.



**Jos Dijsselhof**

Since January 2018 Jos Dijsselhof has served as the CEO of SIX. The Dutch national holds degrees in computer science and business administration, and has extensive international managerial experience in the financial industry. His career path led him to locations including Hong Kong and Singapore in his previous work for ABN Amro Bank, Royal Bank of Scotland, and ANZ Australia & New Zealand Banking Group. Prior to joining SIX, from 2014 through June 2017 Dijsselhof was the Chief Operating Officer of Euronext in Amsterdam, where he also served as the interim CEO in 2015.

# Deliver, Deliver, Deliver!

**Impulse Interview: The Next Level of SIX** He arrived at the start of 2018 and personally drove the transformation at SIX, a process that is now completed. In his second year at SIX, CEO Jos Dijsselhof is striving to steadfastly pursue the path that the company has embarked on.

Interview **Matthias Bill**

*We're meeting here in the runup to Sibos. You attended the annual trade event for financial service providers in 2018 as the new CEO of SIX. What are your memories of the convention?*

**Jos Dijsselhof** A year ago, the transformation at SIX was a big topic. So Sibos came at an opportune time toward the end of my first year in office. We had strategically realigned SIX and had launched the SIX Spirit program aimed at instilling our corporate culture in our employees. One naturally meets many old acquaintances at an international event. Everyone there asked me how I liked Switzerland and my new job, but also wanted to hear about the strategy and culture at SIX. It was the perfect moment to show what SIX is made of.

*How did you reply?*

I, of course, said that Switzerland was very beautiful and I liked my job. But, jokes aside, I mainly gave an account of my vision for SIX, describing how we would orchestrate the reshaping of Switzerland's financial industry and actively promote digital transformation with innovative services. But what I intend to recount this year is far more interesting: I'll be pointing out how far we've already

come on this path. Because, believe me, neither my acquaintances nor our clients will allow me to palm off the same response as last year's.

*And, how far have you gotten?*

The year 2019 has shown that we're not just on track, but on the right track. We have already reached a number of milestones, with more to come by year-end. Let me give you just a couple of examples of how we, with our innovations, have enhanced our clients' competitiveness this year and will further strengthen it going forward. The managed security services offered by our Security Operations Center are now up and running, giving small and mid-size companies in the financial sector access to highly sophisticated cybersecurity solutions that otherwise only larger companies can afford. Our threat intelligence platform currently has more than 20 users.

Our digital exchange SDX is proceeding on schedule [see box on page 7]. I'm delighted that at Sibos we'll be holding presentations about SDX at our stand, where we will show a simulation of how fully integrated digital trading, settlement, and custody works. Our clients will also get to see how our Collateral Cockpit will revolutionize collateral management [see page 16].





***This year's Sibos is being held in London. How important is the presence of SIX there?***

London also is one of the 23 branch offices that SIX operates outside Switzerland. These offices are important, in part because that's where we run our international financial information business. The series of milestones that I began to tick off earlier continues here, for example with our Sanctioned Securities Monitoring Service [see page 25], which is proving very popular with our clients in the midst of the ongoing geopolitical turmoil. In general, we have repeatedly succeeded in creating customer value out of complex and confusing regulatory situations, as evidenced by our recently launched watchlist for securities connected with marijuana-related businesses [see page 22].

***While we're on the topic of London, we can hardly get around talking about Brexit.***

I'll leave commenting on Brexit to the British. But as a Dutchman working in Zurich, I definitely have an opinion on relations between Switzerland and the EU, all the more so since the Swiss stock exchange has been center stage in recent months in the debate about the proposed institutional agreement with the EU. The EU put pressure on Swiss policymakers by announcing that it would not extend the recognized "equivalence" status of the Swiss stock exchange.

But let's face it: The draft institutional agreement is not a bilateral treaty anymore, but rather has the potential to become much more than that due to its dynamic nature. I understand that many Swiss citizens see their sovereignty and direct democracy in danger. And initiatives like the platform for open banking from SIX [see page 10] demonstrate that Switzerland is capable of establishing reasonable standards on its own without regulatory compulsion by the EU, in this instance the PSD2 payment services directive.

In any event, the Swiss must carefully weigh their decision on the institutional agreement. As a citizen of the EU, I envy this pivotal moment of democracy. I've heard cogent arguments on both sides and sense solemn earnestness. Democracy takes time. It would be good of the EU to grant this time to the oldest democracy on the continent.

***The EU, in fact, did not extend the recognized "equivalence" status of stock exchanges in Switzerland.***

This activated a protective measure on 1 July 2019: a Swiss Federal Council ordinance prohibiting trading in Swiss equity securities on venues in the EU. That shifted the trading volume in Swiss stocks in the EU to our exchange. The switch went absolutely smoothly. But regaining EU recognition of equivalence, for which Switzerland's exchange regulation fully meets all technical specifications, remains our highest priority. In order to continue to ensure legal certainty and satisfy investors' needs for transparent and effective open markets, we closely coordinate our activities with the Swiss authorities and support them in their efforts.

***"SIX and the Swiss stock exchange have never stood still. Innovation is in our DNA."***

***Measured in terms of free-float market capitalization, the Swiss stock exchange is the fourth-largest in Europe. Congratulations!***

Three of the five companies with the largest market capitalizations in Europe are listed on our exchange, and we're proud of that. But the Swiss stock exchange is more than just a trading venue for Nestlé, Roche, and Novartis. We continue to be the platform for big and small companies looking for capital. Shares in around a hundred companies with market caps ranging between CHF 100 million and CHF 1 billion also get traded here. That's the beauty of the Swiss stock exchange.

Switzerland's economy is substantially smaller than Germany's economy, but the market capitalizations of the two countries' equity markets are similar. Switzerland thus has an extremely strong capital market in relation to its gross domestic product.

***What makes it so successful?***

Its success has many reasons, and I'd like to stress a couple of them here. The financial sector is a major driving force behind the Swiss economy. Around CHF 6 trillion of assets

are managed in Switzerland. The capital-rich investor base creates a good environment for company listings. In addition, the Swiss capital market is highly efficient and fast. After submitting a listing application, a decision is made within a maximum of four weeks.

It's therefore no surprise that we attract companies of different origins, sizes, and sectors. So far this year, the Swiss stock exchange has seen four company listings with a total transaction volume of CHF 2.3 billion. The IPO by Stadler Rail was one of the biggest in Europe. The IPO by Medacta and the listing by Alcon testify to our expertise in the life sciences market. We represent around 40% of the capitalization of this market across Europe's major stock exchanges. And, of course, we benefit from the fact that Switzerland ranks among the most competitive countries on the planet, as the World Economic Forum's Global Competitiveness Report attests year after year.

But another reason is the most important one of all: SIX and the Swiss stock exchange have never stood still. Innovation is in our DNA. I've already mentioned what we've achieved this year alone, but I also think back to the year 1996, when the Swiss stock exchange migrated all equity trading to a fully electronic platform, thus replacing open outcry trading. New York wasn't the first to do that, nor was London or even Tokyo – Zurich was.

Today, we rank among the industry pioneers that aren't just talking about artificial intelligence, but are also putting it to use, for example to handle post-trading support requests and financial information queries.

### ***Innovation is great, but doesn't SIX stand first and foremost for stability?***

Our stability and reliability are crucial, and they lay a rock-solid foundation for the next level of SIX. Nevertheless, I expect us to critique our processes and to continually improve the way we provide our services today. We also need to add more services. The message is clear: We want to grow. We'll do that by pursuing new ideas and exploring new technologies, but perhaps also by working with additional strategic partners and through acquisitions.

Above all, however, we have to "deliver, deliver, deliver," as I'm always saying. In other words, we have to make good on the promises we made a year ago at Sibos. ■■■

*"I expect us to continually improve the way we provide our services today."*

#### **SDX – a SIX Company**

## **Becoming the World's Leading Exchange for Digital Assets**

SIX is building the world's first fully integrated platform for the trading, settlement, and custody of digital assets in a secure and regulated environment. On the SIX Digital Exchange (SDX), trading and settlement will no longer be separated. They will operate in the same cycle, allowing riskless trading. Every matched order will be settled instantly. Delivery and payment happen simultaneously. Currently this process takes two days. Riskless trading effectively means that there is no need to mitigate risk and, potentially, no need for clearing as a function.

By immutably linking digital assets and digital money with ownership claims, SDX aims to set the global standard for tokenization. All asset properties are captured directly in the token – a single source of truth. The commercial opportunity is to establish new asset classes (e.g. difficult-to-trade assets and non-bankable assets like real estate or paintings) in the form of asset tokens (see page 20).

SDX is purely focused on a B2B model. With SDX operating as a fully regulated financial market infrastructure, encompassing an exchange and a central securities depository, its clients will have to fulfill certain criteria to obtain direct membership.

The result of SDX will be greater transparency, reduced counterparty risk, and significant efficiencies.



→ More information: [sixdx.com](https://sixdx.com)





## *A New Motor for Elon Musk*

In a white paper published back in 2013, Elon Musk proposed employing a linear motor to accelerate pods in a high-speed hyperloop transportation system. But it took until the fourth staging of his SpaceX Hyperloop Pod Competition for him to finally see one in action, for instance in the “Claude Nicollier” pod engineered by the Swissloop team, which won an innovation award for its work. But the Swissloop team, composed of students from the Swiss Federal Institute of Technology in Zurich and other Swiss universities, was also fast on the SpaceX test track in Los Angeles. In the final round featuring the best 4 teams of the 21 that traveled to the competition, the pod – named after Switzerland’s first astronaut – posted the second-fastest speed at 252 kilometers per hour. Victory went to the team from the Technical University of Munich, whose pod reached a speed of 463 kilometers per hour, breaking its own record from the previous year. If Elon Musk has his way, freight and people should soon be hurtling through hyperloop vacuum tunnels at speeds of up to 1,200 kilometers per hour. SIX backed the Swissloop team as a gold sponsor.





Claude Nicollier 



**BUCHER**  
hydraulics

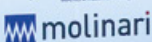


**Baumer**



Stirling-Pac  
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measure. analyze. innovate.

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an ERIKS company

**Altium.**

**pielleitalia.**



**KORBER**  
hydraulics



→ More information:  
[swissloop.ch](http://swissloop.ch)

Focus: Open Banking

# Binding Connections for the Financial Industry

Open banking is a quiet revolution sweeping the financial industry. It gives Swiss banks and insurers an opportunity to succeed in competition against big technology companies.

Text **Simon Brunner**

**T**he electrical wall socket was rolled out on a broad scale in the 1920s, and almost everything went wrong. The US solution was supposed to prevail to become the world standard, but it was deemed too wobbly and unsafe. 15 different international standards quickly came

into being and, despite intense efforts, were never harmonized. Rectifying that today is practically impossible because the existing infrastructure – all of the wall sockets and plugs – would have to be replaced.

A similar situation faces the financial industry: open banking – i.e. the secure, standardized exchange of client data between banks and accredited third-party providers (TPPs) initiated by the client – is currently gaining a foothold worldwide. The *Financial Times* even calls open banking “the quiet digital revolution.” But as was the case with electrical wall sockets, a profusion of different open banking standards and solutions are popping up. In the EU, a guideline called the Payment Services Directive (PSD2) stipulates what data

financial institutions have to share, but not how the exchange of data is to be carried out. In Asia, there has been a wild proliferation of different interfaces. In the USA, banks have developed their own customized solutions together with their partners. And the UK has enacted its own open banking legislation on top of the PSD2 rules in force there.

## The Digital Key

The problem isn't a trivial one. Wherever new services come into being and align with consumer interest, they increasingly often require banking or insurance data independent of where the bank account or policy resides, be it for automatically synchronizing and reconciling bank accounts with accounting programs, for example, or for executing a payment transaction via a mobile solution. All of these situations necessitate an interface – a kind of plug-and-socket connection – that transfers the data securely, reliably, and quickly.

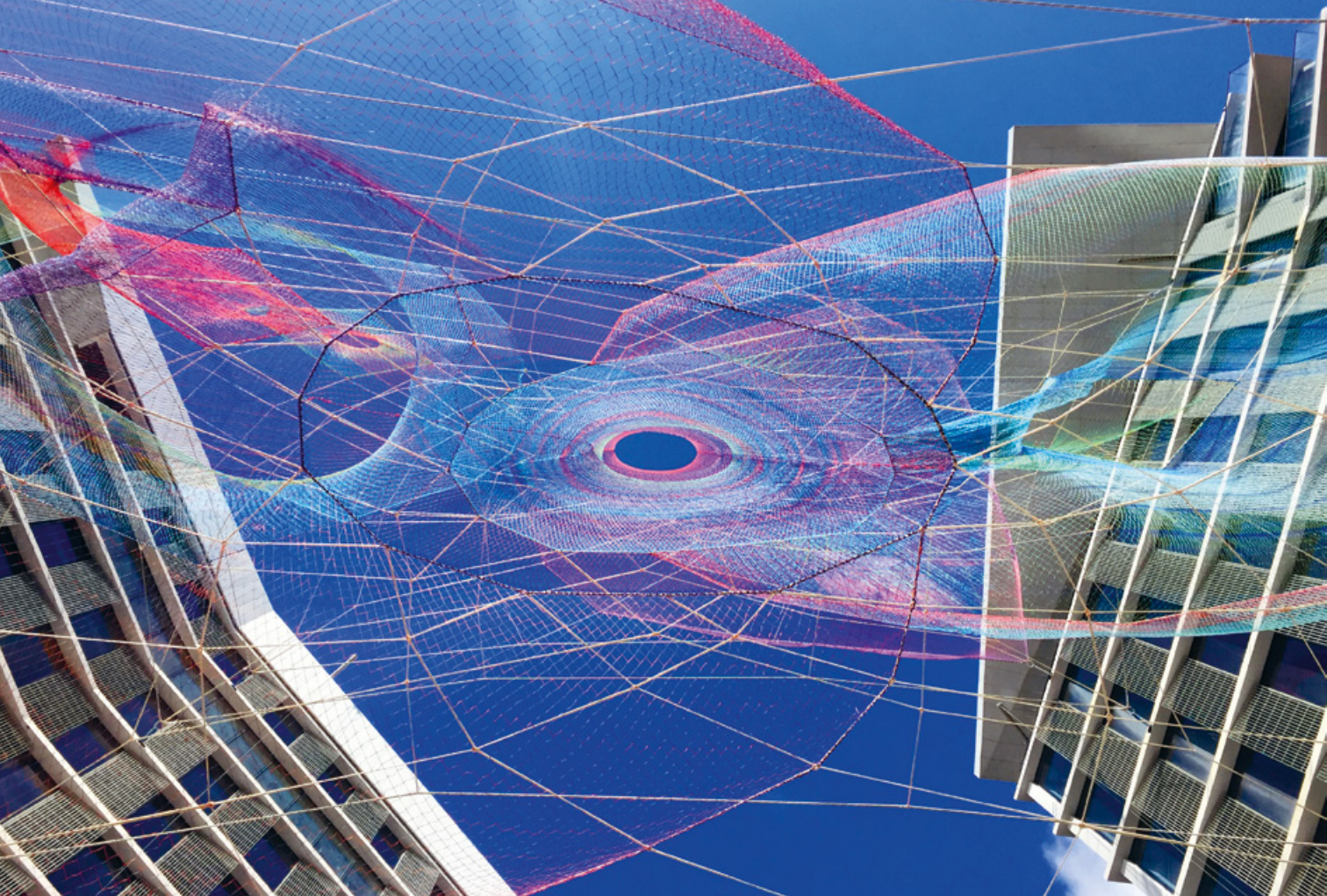
APIs have established themselves as the *modus operandi* for this











#### Janet Echelman: an Ode to the Node

In an open banking ecosystem, participants connect with each other via standardized nodes. US artist Janet Echelman connects buildings the world over by literally weaving networks. Taking inspiration from the nets utilized by Indian fishermen, she uses lightweight filigree materials to create voluminous, billowing sculptures in public spaces. Our photo sequence presents the artist's "Dream Catcher" sculpture on the Sunset Strip in West Hollywood. It connects the dual towers of a hotel, figuratively intertwining the dreams of the sleeping guests.



→ More information:  
[echelman.com](http://echelman.com)

type of digital interface. API stands for "application programming interface." Examples are Apple and Google, which use APIs to define the way in which apps from third-party developers have to communicate with iPhone or Android operating systems. In a world where more and more systems "talk" to each other, APIs are "key to successful digital transformation," *Business Insider* writes. "In the future, APIs will continue to play the crucial role in communication between different digital systems," says Cornelius Dorn, Head Strategy & Business Development in the Banking Services business unit of SIX. "But," he adds, "a situation where every single financial institution builds a proprietary API for the same business features has to be avoided as much as possible." Otherwise, a scenario similar to the "electrical wall socket" story would loom, though this time within Switzerland, he explains. Dorn, who is also involved in the Open Banking Working Group set up by the Swiss Bankers Association (SBA), warns of an API jungle that would severely slow innovation in Switzerland.

"It is simply impossible for small companies to integrate APIs from each and every bank or insurer," he says.

The innovation argument is particularly dear to Dorn, who holds a Ph.D. in engineering. He explains that many young FinTech companies "mainly solve isolated single problems and do that really well, often better than traditional financial institutions can. But end customers seldom benefit from this – no one loads 15 apps on a smartphone that each master only a single service element and are not integrated." Traditional financial institutions, for their part, would have difficulty quickly adding new, external solutions because their business models are complex and their infrastructures have grown complicated over the years.

What is to be done, then? In the early days of digitalization, incumbent Swiss financial institutions had plenty of reservations about disruptive FinTechs, which is not a promising strategy, as the media sector illustrates, for instance. Some publishing houses rejected the new products and distribution channels and missed the boat as a result. But most banks and insurers shed their initial skepticism relatively quickly. As early as in 2016, Credit Suisse Switzerland CEO Thomas Gottstein declared that the bank was applying the "frenemies" principle, turning rivals into business partners. "Young upstarts are working together with traditional institutions like ourselves," he disclosed.

#### The Clock Is Ticking

But how far does the cooperation between the old financial world and the new one go? Do financial institutions run the risk of selling off their crown jewels – their client relationships and data – or even being compelled to give them away like in the EU under PSD2? The Swiss business newspaper *Handelszeitung* recently wrote that a specter is haunting the European banking world – "the specter of open banking." Banks, it reported, are going to great lengths in an effort not to lose contact with their end customers after the forced opening of the banking market to non-bank financial institutions. "Banks that take part in open banking as first movers can gain a lot,"

says e-commerce project head Nicolas Guillet from Abacus, the company behind the eponymous all-in-one ERP solution and the operator of Abaninja.ch, a cloud-based invoicing tool for SMEs. José Fernández, the director of partner management at digital office administration solutions supplier Klara.ch, adds: "By actively participating in the ecosystem, banks can collaboratively develop new business models."

"Incorporating services from third parties meets customers' desire for integrated solutions," SBA President Herbert Scheidt confirmed recently in an interview. "The SBA sees great potential in open banking for Switzerland's financial industry," he said, but it "opposes a government-imposed, one-sided opening of access rights to third parties analogous to what the EU's PSD2 directive requires."

Cornelius Dorn is convinced that the clock is ticking for the Swiss financial industry. "If we don't take action ourselves to



**"It is simply impossible  
for small companies  
to integrate APIs  
from each and every  
bank or insurer."**

**Cornelius Dorn, SIX**

#### Lexicon

**API** stands for application programming interface. APIs enable TPPs to utilize bank clients' account data and banking functions in connection with those accounts.

**PSD2** stands for the second EU Payment Services Directive, which has been in force since January 2018. PSD2 envisages, among other things, opening the banking market to TPPs in the area of payment transaction services. Banks are required by law to have implemented the PSD2 rules by mid-September 2019.

**TPP** stands for third-party provider. TPPs are generally non-bank financial institutions that are granted regulated access to bank clients' accounts (via APIs, for example).



devise innovative solutions, our financial institutions risk getting crowded out of the market by the US technology giants." In fact, Apple, Google, and the like are increasingly encroaching on the territory of banks and insurers, often using payment solutions as a gateway. Facebook, for instance, just recently announced plans to launch its own global currency, called Libra, next year. The California-based social media company has held a banking license since 2016.

#### The Petri Dish of Banking

So, to enable Switzerland's financial center to enter the open banking era as efficiently as possible, SIX has developed a uniform data exchange platform – without any regulatory compulsion and in alignment with the needs

of clients, banks, TPPs, and other potential participants. "The platform from SIX will set the standards for efficient open banking in the Swiss financial center," Dorn says, "and at the same time will guarantee all participants a high level of security."

The platform will link the different participants via standardized APIs in a way that will enable them to develop new, innovative, user-friendly solutions and to get them to customers more easily. "It is also intended to be kind of like a petri dish for cultivating ideas and business models," Dorn explains. Other approaches are also being pursued in Switzerland, he says, "but the platform from SIX is currently the only solution being offered by a centralized infrastructure service provider. Moreover, it eschews shortcuts like 'screen scraping,'" a process of automatically capturing screen display data that some companies are forced to resort to if there are no interfaces available. Screen scraping has a bad repu-

tation; it is generally considered error-prone and is frequently misused by hackers.

Another advantage of the platform from SIX is that "it can be adapted to any international standards that emerge," Dorn adds. "That way we would make it

easier for even small, highly specialized Swiss startup companies to sell their services internationally." In April, the *Handelszeitung* hailed the solution from SIX, which will be rolled out initially to corporate clients, as a "milestone" for open banking in Switzerland. The platform went into pilot operation in July (see box).

In an extensive report on open banking, McKinsey & Company wrote that change is rarely comfortable, but the forces of change are inevitable. "Banks are better served getting ahead of and defining the trend rather than waging a futile battle to repel it." ■

#### Open Banking for Switzerland

### The Platform from SIX

SIX is bringing open banking to Switzerland on a broad scale. "With its platform, SIX will become a central hub for the sharing of data in the banking sector," says Marco Menotti, Head Banking Services at SIX. "With it, we are laying the foundation for our platform users' innovative products and supporting Switzerland as a financial center."

The platform went into pilot operation with Credit Suisse, UBS, and the two third-party providers (TPPs) Abacus and Klara.ch in July 2019. SIX is initially testing two services. An account information service gives TPPs access to bank account data in order to synchronize and reconcile it with companies' accounting software. A payment service enables TPPs to automatically initiate their corporate clients' payments at the corresponding bank. The clients then just have to release them. "We are guided by the needs of the market and our clients," Menotti says, "and will continue to add new use cases." The platform is scheduled to go into regular operation at the start of 2020.

## "Incorporating services from third parties meets customers' desire for integrated solutions."

Herbert Scheidt, SBA







## The Date

# 12 November 2019

SIX presents a threat assessment for the Swiss financial center in its 2019 **Cyber Security Report**. Phil Venables from Goldman Sachs and Troels Oerting from the World Economic Forum will be guest speakers in Zurich.



→ More information, and registration to attend the event:  
six.swiss/cyber-security-report19

## The Head/The Count



# 10

**Program  
Increments**

## Laurent Lefèvre

Head Delivery Capabilities,  
Financial Information, SIX

SIX Flex is a new, intuitive way for clients of SIX to select, order, and integrate award-winning financial information such as reference data, corporate actions, as well as tax and regulatory information. To create a user experience akin to that of Amazon and Co., SIX opted to employ the Scaled Agile Framework (SAFe). Under this method of development, the program backlog catalogs the features and functionalities desired in the product from a client's standpoint. The product developers implement those specifications in a series of small iterations called sprints that fit into a longer period called

a program increment. Laurent Lefèvre, as the product manager, is in charge of the program backlog after already having worked for the project in other roles. SIX Flex was launched recently, but its development doesn't end with that. Lefèvre is dangling the prospect of adding integrated cost tracking, for example, because with SIX Flex, clients pay only for the data they actually use. The tenth program increment was thus far from being the last one.



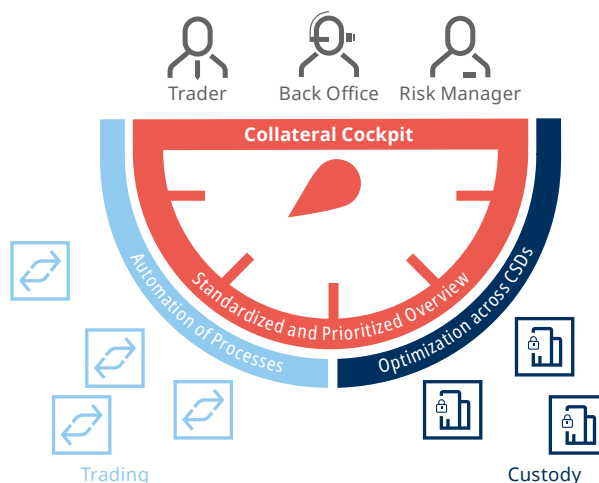
→ More information:  
six.swiss/six-flex

## The Problem: Managing Collateral Is Hard Work

It's actually the most normal thing in the (financial) world: A bank receives money or securities from another bank for a certain period and places one or more securities as collateral. But this practice affecting nearly all interbank transactions and all parties involved has a catch – it's complicated. A bank can have collateral at different central securities depositories (CSDs). The two counterparties can be located in different countries, as can the collateral itself. The involved stakeholders at the bank may not all have access to the same information. Money (e.g. interest coupons) must be remitted to the beneficial owners, and liquidity regulations also must be obeyed.

## The Solution: The Collateral Cockpit from SIX

SIX will permanently revolutionize collateral management in November 2019 with the launch of its Collateral Cockpit. The objective is to make the workflow as easy and intuitive as using a smartphone. Regardless of the trading purpose and where the collateral is located, the innovative Collateral Cockpit solution helps traders by automating back-office and risk management processes. Drop-down menus with predefined algorithms standardize the placement of collateral, and recurring alerts help to prioritize by reducing the flood of information to the bare essentials. The process of exchanging a security, for example, will now take only a few clicks and a couple of seconds.





→ Watch a “making of” video:  
[six.swiss/homebase](https://six.swiss/homebase)

**The Picture** A little more than a year after the founding of the Innovation & Digital business unit of SIX, its 55-member team moved into its new collective home base in July 2019. But the flexible workspaces on a converted floor in the headquarters of SIX in Zurich makes it an attractive place for all employees. Lounge-like meeting rooms and writable walls encourage creativity and collaboration. A “focus area” and a number of “phone booths” allow employees to work without distractions.



Caught in the Act

Brunkebergstorg (Riksbank)  
Stockholm, Sweden

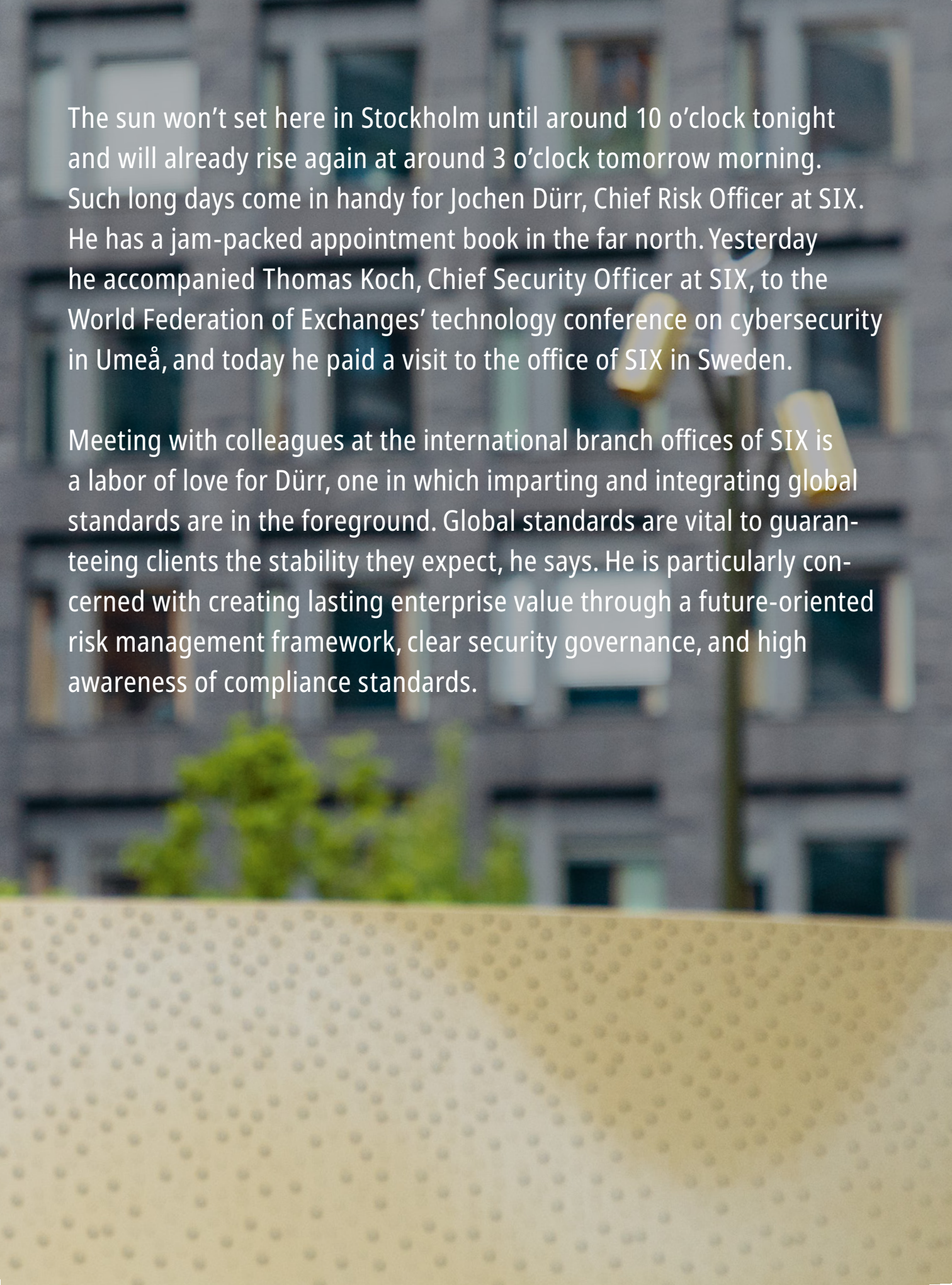
3 July 2019  
4:30 pm

15°C  
Humidity 56%  
Scattered clouds

Dr. Jochen Dürr  
Chief Risk Officer, SIX







The sun won't set here in Stockholm until around 10 o'clock tonight and will already rise again at around 3 o'clock tomorrow morning. Such long days come in handy for Jochen Dürr, Chief Risk Officer at SIX. He has a jam-packed appointment book in the far north. Yesterday he accompanied Thomas Koch, Chief Security Officer at SIX, to the World Federation of Exchanges' technology conference on cybersecurity in Umeå, and today he paid a visit to the office of SIX in Sweden.

Meeting with colleagues at the international branch offices of SIX is a labor of love for Dürr, one in which imparting and integrating global standards are in the foreground. Global standards are vital to guaranteeing clients the stability they expect, he says. He is particularly concerned with creating lasting enterprise value through a future-oriented risk management framework, clear security governance, and high awareness of compliance standards.



# What Kinds of Tokens Exist?

Digital assets based on distributed ledger (a.k.a. blockchain) technology can't be discussed without using the terms "coin" and "token." From a historical standpoint, two different concepts lie behind the supposed synonyms. Until recently, the term "coin" denoted cryptocurrencies like Bitcoin that functioned, and still do, solely as a means of payment. The advent of initial coin offerings brought tokens into play, and the distinctions between coins and tokens started to blur.

That's why the Swiss Financial Market Supervisory Authority FINMA now only uses the term "token" in its guidelines, distinguishing three categories: payment tokens, utility tokens, and asset tokens. FINMA classifies asset tokens as an ownership claim on an asset, which makes them securities akin to stock shares from a regulatory perspective.

The individual token categories are not mutually exclusive. Asset and utility tokens can also be classified as payment tokens if they serve a hybrid function (hybrid tokens).

## Payment Tokens (Cryptocurrencies)

Digital money that exists on its own distributed ledger, like Bitcoin does on its blockchain. Payment tokens are a means of payment with no intrinsic value.

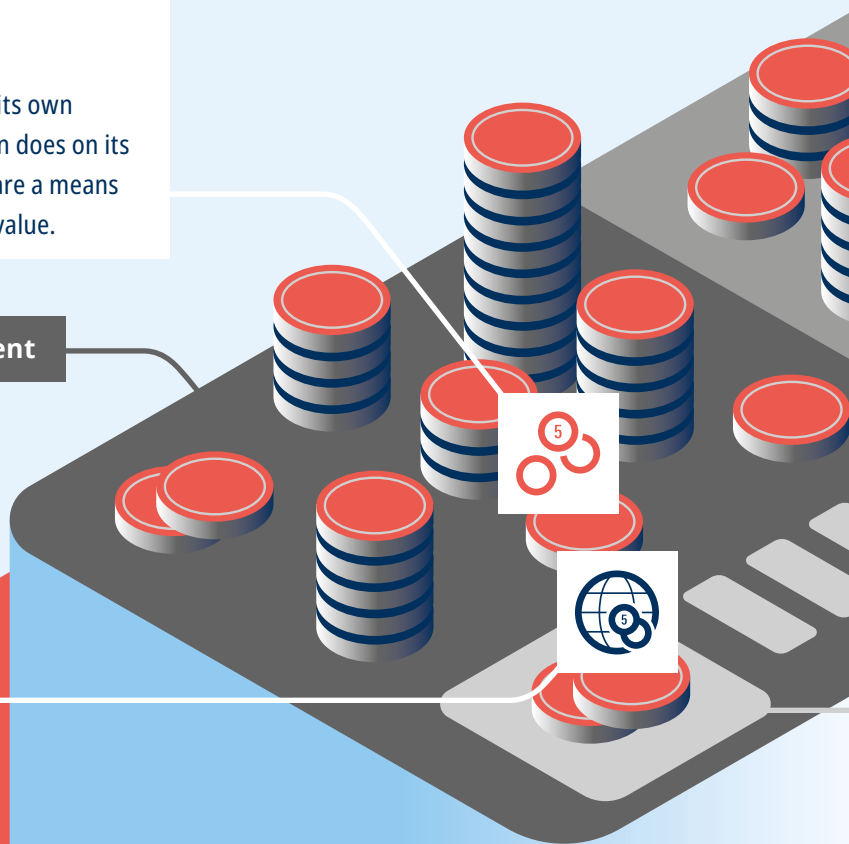
Media of Payment

## Utility Tokens

Access rights to digital services or voting rights within protocols like Ethereum.

## Stablecoins

Cryptocurrencies that are less volatile because they are pegged to one or multiple assets like the US dollar, the euro, or gold.



## Asset Tokens

Ownership claims on assets. Asset tokens enable trading of existing assets (e.g. stock shares, bonds, or mutual funds) and new assets on a digital exchange like SDX from SIX (see box on page 7). Non-bankable assets like real estate or paintings can also be tokenized.

Utility tokens with an investment component are treated by FINMA as securities, like asset tokens.

## Stock Shares

**IPOs**  
Initial Public Offerings

## Securities

**IDOs**  
Initial Digital Offerings

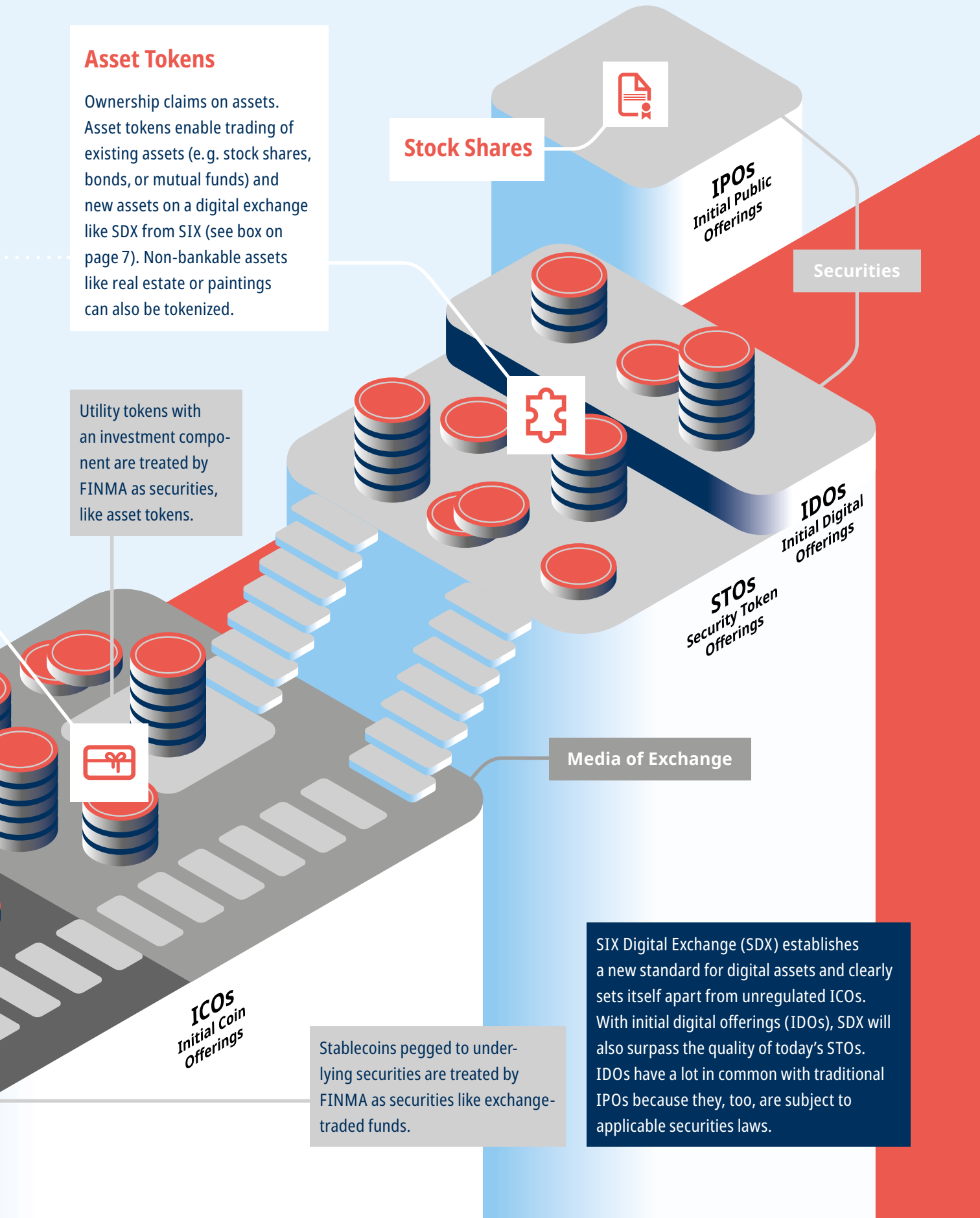
**STOs**  
Security Token Offerings

## Media of Exchange

**ICOs**  
Initial Coin Offerings

Stablecoins pegged to underlying securities are treated by FINMA as securities like exchange-traded funds.

SIX Digital Exchange (SDX) establishes a new standard for digital assets and clearly sets itself apart from unregulated ICOs. With initial digital offerings (IDOs), SDX will also surpass the quality of today's STOs. IDOs have a lot in common with traditional IPOs because they, too, are subject to applicable securities laws.







# Budding Business, Regulatory Jungle

**Marijuana-related Businesses** More and more countries are legalizing marijuana for medical and even recreational use. The number of marijuana-related businesses is growing exponentially. However, the regulatory situation remains confusing for the time being.

Text **Matthias Bill**

**S**ince the late 1970s, coffee shops in the Netherlands were places of yearning for marijuana consumers. Possession of small quantities of marijuana was tolerated, but the dried buds of cannabis plants were never entirely legalized. That's why Amsterdam had to cede its status as a marijuana mecca by early 2018, when Canada, following Uruguay in 2017, became the first industrialized nation to completely legalize the cultivation and sale of cannabis. The legalization move by the Canadian government was aimed at promoting safer marijuana use and more effective youth protection, as well as opening a new business and investment sector for the economy.

Hopes in the latter aspiration, at least, are justified. The market for marijuana-related businesses (MRBs) possesses huge growth

**MRBs' revenues are projected to climb to above USD 60 bn by 2024.**



potential. Around 30 more countries in addition to Uruguay and Canada have since legalized marijuana at least for medical purposes. MRBs have accounted for 3% of all initial public offerings (IPOs) in those countries thus far in 2019. Annual worldwide sales revenue of MRBs is projected to climb to above USD 60 billion by 2024.

## **Gold Mine or Reputation Trap?**

Marijuana seems to be losing its stigma as a gateway drug. However, investing in this market isn't a no-brainer given the heterogeneous regulatory landscape worldwide, which looks set to stay jumbled for a long time to come. What's legal on one side of the globe can be punishable under criminal law on the other side of the world. Take the sub-market for cannabidiols (CBDs) as an example. ➤



In Switzerland, low-THC cannabis has been sold freely since 2011. Market leader BioCan harvests CBD-rich buds from fields and greenhouses throughout Switzerland.



CBD products contain only a very small concentration of psychoactive tetrahydrocannabinol (THC). They have been sold freely in Switzerland since 2011 (also see photo sequence), whereas in Texas their sale is restricted to epilepsy patients.

#### Differing Legislation

Particularly in the US market, the legal landscape is exceptionally complicated. Drug offenses in the USA fall under the legislative jurisdiction of the 50 individual states. State laws, though, can deviate from US federal law, which banks are heavily subject to.

Cannabis is currently legal for medical use in 34 states, the District of Columbia, Guam, Puerto Rico, and the American Virgin Islands. It is completely legalized also for recreational use in 13 states for adults over the age of 21. Twelve other states permit the use

**Marijuana  
is com-  
pletely  
legalized  
in 13 US  
states.**



of low-THC marijuana and CBD products under certain circumstances. US federal law, however, still criminalizes the use, possession, cultivation, and sale of marijuana.

An investment requires careful consideration – inside and outside the USA. Even though marijuana has been legalized in a growing number of countries, it remains illegal in the vast majority of nations. Residents of those countries that outlaw cannabis who invest in MRBs run the risk of violating anti-money-laundering laws. The new MRB Securities Watchlist from SIX (see box on the right) helps to assess this risk. ■

## MRB Securities Watchlist

## 30,000 Financial Instruments Affected

Some investors wish to avoid investing in marijuana-related businesses (MRBs) altogether, or at least want to be able to make risk-based decisions on investing in such companies. “Not just in view of regulatory uncertainty, but also for reputation reasons,” says Oliver Bodmer, Senior Product Manager in the Financial Information business unit of SIX. But since MRBs operate in a wide array of sectors ranging from research and cultivation to transport and sales, it is hard for banks to maintain an overview in the interest of their investor clients, Bodmer explains. SIX supports banks in this task with its new MRB Securities Watchlist, which lists MRBs and their issued securities, as well as structured products and options based on those securities, six days a week. Approximately 400 companies and 30,000 financial instruments are currently on the watchlist (see graphic).

The MRB Securities Watchlist builds on the award-winning Sanctioned Securities Monitoring Service (SSMS) that SIX has been providing since 2016. The SSMS monitors 6.7 million active instruments and more than 26,000

changes – including regulator updates and shareholder changes, for example – per week, making it one of the most comprehensive monitoring services on the market.

### Always Up to Date

A geopolitical environment with a constant onslaught of new and ever-shifting sanctions poses an enormous challenge for compliance officers at banks worldwide. Identifying securities connected with sanctioned business entities or individuals is a laborious and complex undertaking, also because sanctions often apply only to specific countries and are imposed abruptly. When the US Treasury Department recently classified 96 Russian oligarchs as high-risk individuals, the first six sanctions quickly followed.

That’s why the SSMS provides a daily compendium of companies and persons under observation in addition to its daily list of sanctioned companies and individuals. It does this by drawing on information from a wide range of international regulators, including

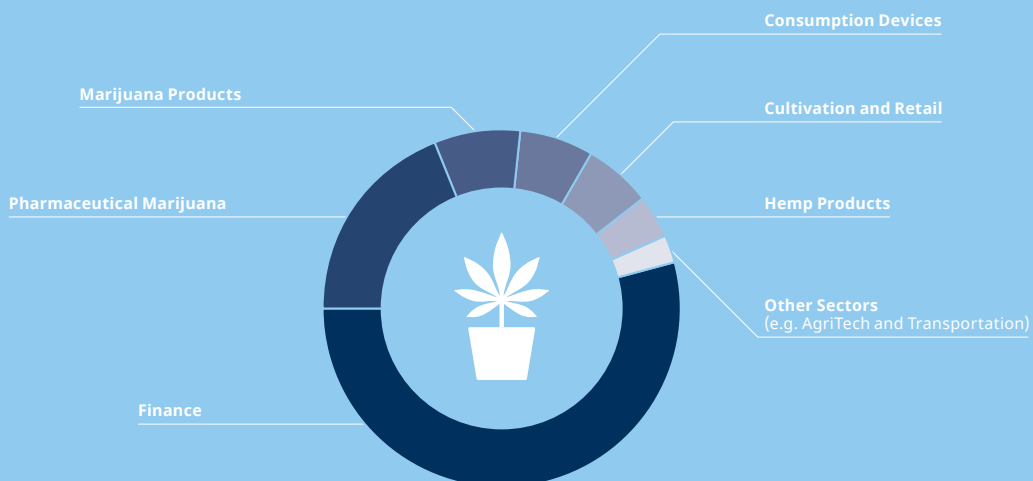
authorities in the EU, Switzerland, Singapore, Hong Kong, Australia, Canada, the United Kingdom, the United States, and the United Nations Organization.

The SSMS meets a great need, as attested also by partnerships of SIX with well-known providers of asset management services like SimCorp and Eagle Investment Systems, which integrate the SSMS in their compliance modules. “Their customers can directly access our constantly up-to-date information on global sanctions. Doing that enables them to employ internal resources elsewhere and minimizes their risk of incurring fines and reputational harm,” explains Joe Chimenti, Partners Director for the US market at SIX. ■



→ More information:  
[six-group.com/sanctions](https://six-group.com/sanctions)

SIX has identified more than 30,000 financial instruments that are directly or indirectly connected with roughly 400 marijuana-related businesses (status as of June 2019). A wide array of sectors are affected.

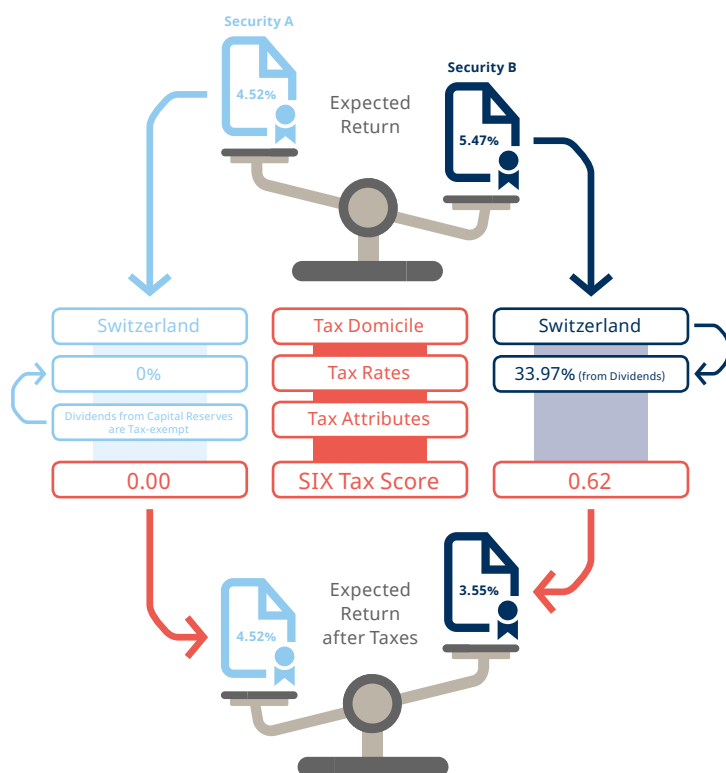




# Tax Savings Begin at the End

**After-Tax Returns with SIX Tax Score** “What’s left over in the end?” This is the question that all investors regularly ask themselves. For in financial transactions, the “end” doesn’t come until all taxes have been paid. But today it’s hard to estimate the tax impact of an investment. Financial advisors, however, will receive help in doing just that by means of SIX Tax Score starting in 2020.

Text **Matthias Bill**



Investors increasingly require their financial advisors to enlighten them about the potential tax consequences of specific investments. Regulations such as MiFID II – and FinSA in Switzerland – are also putting mounting pressure on them to discuss tax costs with clients prior to undertaking an investment. In their attempts to meet those requirements, financial advisors thus far have had to fight their way through thick tax manuals and interpret these themselves. Under such circumstances, a comprehensive perspective is not guaranteed, particularly in the case of cross-border investments. Tax estimates therefore often confine themselves to a high-level view focused on asset classes. However, the devil really lies in the details at the level of an individual security. Thanks to its comprehensive reference data and its extensive information on corporate actions and tax laws, SIX can provide these details in the form of SIX Tax Score.

## A New Dimension of Transparency

SIX Tax Score helps financial advisors meet their clients’ needs for better and more transparent investment decisions. The higher the computed SIX Tax Score, the lower the expected return. Tax law information concerning tax domiciles and applicable tax rates flows into the SIX Tax Score, as does additional information (tax attributes) in the form of historical corporate actions data, such as dividends, interest rates, and fund distributions. SIX Tax Score’s inclusion of this added information is the key that enables a financial advisor to transparently determine that security A in our graphic could present the more attractive investment option for his or her client. Prior to examining the tax situation with SIX Tax Score, security B, with a higher expected return on investment, appeared to be the better choice. In the past, however, dividends on security A came from capital reserves and were thus tax-exempt. In total comparison with SIX Tax Score, this leads to a higher expected return on security A. ■



→ SIX Tax Score will become available for the tax domiciles Switzerland, the UK, and France during the course of 2020. More from SIX on the subject of taxes: [six.swiss/tax](https://six.swiss/tax)



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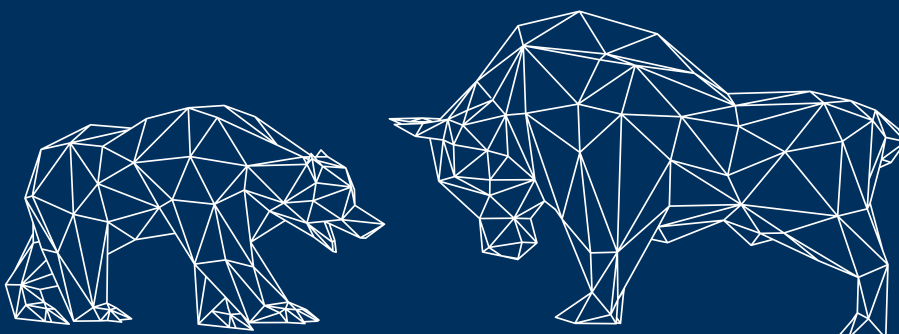


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# 30 YEARS SMI: EQUITY INDICES EXPLAINED!

Special exhibition at the Swiss Finance Museum





## The List

# QR Codes Are Back Because They...



## ...Eliminate Media Discontinuities.

QR codes are currently experiencing a renaissance as an alternative to URLs. Two crucial things have changed since QR codes first made their debut on printed matter and were quickly adjudged by consumers to be a pointless marketing tool. First, consumers no longer have to download an app to scan a QR code – the cameras on most smartphones today support the format. Second, when you scan QR codes nowadays, you land on websites that have actually been optimized for mobile use.



## ...Share Information.

Numerous social media companies utilize QR codes or similar techniques and are thus making them popular again. Snapchat has led the way in making scanning cool again. Snapcodes enable Snapchat users to easily add new friends in a flash. Pinterest has its Pincodes, Spotify allows you to scan songs, and even Twitter generates a QR code of a person's user name on command. It's arguably only a matter of time until QR codes also reappear on printed business cards.



## ...Facilitate Payments.

Independent of NFC interfaces, QR codes are the driver of mobile payments worldwide. In Switzerland, TWINT allows you to pay via QR code at payment terminals, self-service vending machines, and even parking meters. In online stores, TWINT does away with the tedium of typing in credit card numbers. Additional use scenarios for QR codes come into being with cryptocurrency transactions and at the ATM. And the Swiss financial industry is introducing QR bills as the successor to the standard payment slips currently in use.



## ...Keep Track of Things.

QR codes never entirely disappeared from the industry for which they were originally conceived: logistics. Where supply chains are starting to employ distributed ledger technology, QR codes look destined to become even more important for identifying and tracking goods. But QR codes will continue to leave traces on people, too – just think of flight or concert tickets.

## The Find

## Brave in Bronze

And suddenly she stood there, self-confident and undaunted. On 27 April 2019, the Fearless Girl made an appearance at the Swiss stock exchange at SIX in Zurich. The bronze girl has been standing akimbo and defiantly demanding a balanced distribution of women and men in leadership positions since 2017. The original statue (see photo), which was commissioned by asset management firm State Street Global Advisors, stands on Wall Street. A copy came to Zurich after previous stops in Oslo, Dublin, and Melbourne. The timing

of the visit was perfect, coinciding with the invitation from SIX to its “The Value of Gender Diversity” event. Jos Dijsselhof, CEO SIX, Stefanie Ruf from State Street Global Advisors, and Natacha Catalino, Head of Diversity and Inclusion for McKinsey & Company in Europe, spoke at the conference.



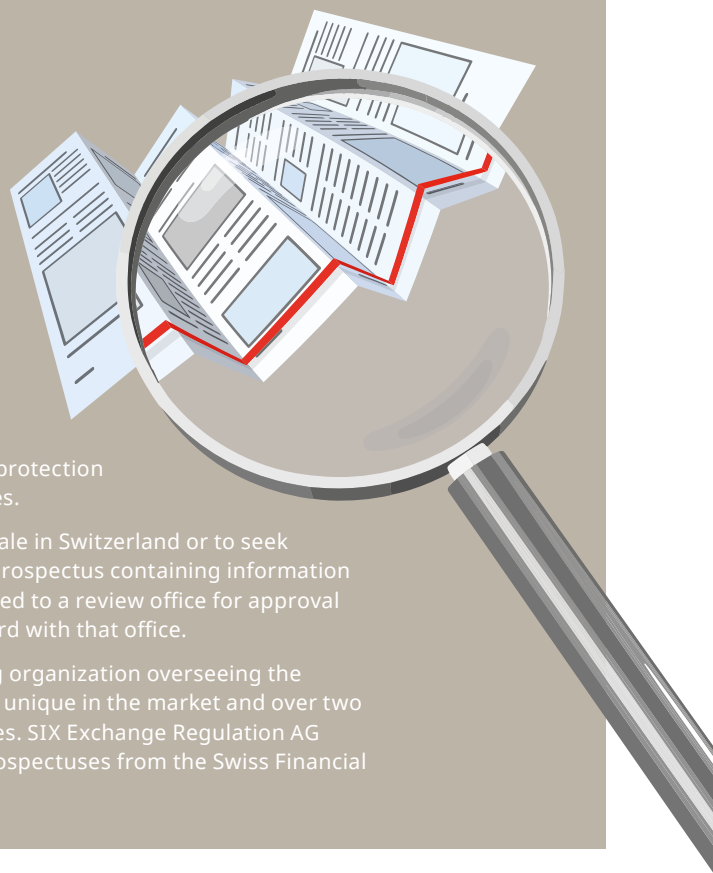
## The Glossary

# PROSPECTUS REVIEW OFFICE

The Financial Services Act (FinSA) and the Financial Services Ordinance (FinSO) will harmonize prospectus regulations in Switzerland effective 1 January 2020. This strengthens the competitiveness of the Swiss financial industry and enhances protection of investors similar to the way the EU Prospectus Directive does.

In the future, whoever intends to publicly offer securities for sale in Switzerland or to seek their admission to trading in Switzerland must first publish a prospectus containing information on the security and its issuer. The prospectus must be submitted to a review office for approval prior to its publication and afterwards must be stored on record with that office.

SIX Exchange Regulation AG, as the regulatory and monitoring organization overseeing the trading venues operated by SIX, possesses requisite expertise unique in the market and over two decades of experience in handling prospectus review processes. SIX Exchange Regulation AG expects to receive an official license as the review office for prospectuses from the Swiss Financial Market Supervisory Authority FINMA toward the end of 2019.



## The Quote

*“FinTechs will play a role in banking, but they won’t infiltrate into the core business, which is based on trust and experience.”*

**Elly Hardwick**, Chief Digital Officer at UBS, in response to a question on banking in the year 2050 posed in the *Zukunft Banking* (“The Future of Banking”) special edition magazine from *netzwoche.ch*.

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# “The Value Proposition Is the Starting Point”

**Future Talk: Ecosystems** A term from the field of biology is now flourishing in the business world. Lisa Yerebakan, Junior Open Innovator at SIX, and Bernhard Lingens, the head of the Helvetia Innovation Lab, know why ecosystems are proliferating like mushrooms.

Interview **Matthias Bill**

*Here, under a dome in the Botanical Garden of the University of Zurich, we can get a sense of the ecosystem of tropical drylands. But the term “ecosystem” is also taking root outside of flora and fauna, isn’t it?*

**Bernhard Lingens** The term, originating from the field of biology, has indeed found its way also into the business world. It has become something of a trend. One study, for example, came to the discovery that the term “ecosystem” occurs in large-cap US companies’ annual reports 13 times more frequently today than it did a decade ago. This also owes to the fact that companies like to adorn themselves with the term in an eagerness to appear innovative. Conveniently, the term “ecosystem” is very versatile. The buzzword seems to be a catchall for almost anything.

*“Seems” to be a catchall? It sounds as though the term also gets used incorrectly.*

**Lisa Yerebakan** Perhaps this would be a good moment to define the term. There is not just one ecosystem. We frequently use the term, for instance, as a synonym for a business sector – an industry ecosystem, so to speak. Or we can talk about a knowledge ecosystem when it’s primarily a matter of exchanging information. Amazon and other similar


marketplaces can be designated platform ecosystems, where network effects and a large number of partners stand in the foreground. These partners are interchangeable at any time.

The situation is quite different in a business ecosystem, where just a few partners join forces to leverage their respective strengths and are difficult to substitute. “Business ecosystem” is thus the appropriate term to use in connection with strategic management and business models [see box on page 34].

**L** Your important and spot-on interjection allows me to return to the initial question. A real economic challenge is the driver behind the buzzword “ecosystem”. And business ecosystems, to adopt the expression, have become a practicable option particularly for stagnating or intensely competitive industries.

**Y** Furthermore, digitalization facilitates business ecosystems because it lowers transaction costs. Standardized interfaces of the kind that SIX will provide with its platform for open banking [see page 10] will also reduce collaboration and innovation costs in the future for startups, banks and other partners. Technology makes coordination easier.

**L** And there’s scientific evidence that substantiates this. Use of the term “ecosystem” ➤

A man and a woman are standing on a stone path in a lush garden. The man, on the left, is wearing a light blue button-down shirt and white trousers, with his hands on his hips. The woman, on the right, is wearing a dark top and dark trousers, looking towards the man. The background is filled with various green plants, including palm trees and ferns, with sunlight filtering through the leaves.

**Bernhard Lingens**  
knows how ecosystems  
spring to life.

**Lisa Yerebakan**  
knows how an ecosystem  
grows best.







**Dr. Bernhard Lingsens**

Since 2017 Bernhard Lingsens has headed the Helvetia Innovation Lab, a joint undertaking between the University of St. Gallen's Institute of Technology Management and the Helvetia Insurance Switzerland group. Together with his team, he is researching the phenomenon of business ecosystems in collaboration with companies in a variety of industries. Lingsens has a background in mechanical engineering and business administration. He holds a doctorate in Business Innovation from the University of St. Gallen and was a visiting researcher at Imperial College London. He previously worked as a strategy consultant at the consultancy firm Roland Berger.

**Lisa Yerebakan**

As a Junior Open Innovator at SIX, Lisa Yerebakan has been supporting internal innovation initiatives and running projects of her own with external partners since 2018. After completing a bachelor's degree in business administration at the University of St. Gallen, she is currently working on a master's in business innovation. For her master's thesis on business ecosystems, she has found an ideal study object in her employer, SIX, with which to put theory to an empirical test. Prior to joining the Innovation & Digital business unit of SIX, Lisa Yerebakan worked as a Customer Advisor at SIX Payment Services.

has exploded exponentially since the turn of the millennium hand in hand with the advancement of digitalization. But there are two other factors besides technology that are also fueling the trend.

The first one has to do with the market. Alongside the urge – or compulsion – for companies to differentiate themselves, consumers are demanding a new way of thinking. They increasingly want a user experience similar to what they get from an online travel agency, for example, even for complex procedures like buying a house.

That leads directly to the third factor: Companies in industries that traditionally have little to do with

technology – I include the financial sector in this group – lack the requisite in-house expertise and resources. Even if a concept for a service of that kind was ripened in an innovation process, sooner or later it got relegated to a drawer. The drawer reopens, though, in a business ecosystem.

**Y** And ironically, that happens not because a company strays from its core competencies, but because it can even better concentrate on them. At SDX, the digital exchange operated by SIX [see box on page 7], we can leverage our status as a regulated securities exchange while at the same time exploring distributed ledger technology possibilities with partners.

By the way, I share the view that the financial industry needs to catch up technologically, which is also the explanation behind the large number of FinTech startups. But the financial industry benefits from having a kind of natural affinity toward ecosystems. The financial sector has always functioned like a network. Just think of the process that ensues when I use an automated teller machine at Bank A to withdraw money from my account at Bank B.

**L** Good point. We can see that also with the Swiss mobile payment app TWINT. From a purely doctrinal

perspective, this network would be too big to function as a business ecosystem. But since the partners – Swiss banks and SIX – were already networked with each other prior to the advent of TWINT, the coordination between them nevertheless works.

***How big, then, can a business ecosystem be?***

**L** As small as possible and as large as necessary. During the setup stage of a business ecosystem, having too many partners is an impediment – and a cost factor. For the involvement of four to five partners, for instance, the orchestrator of the ecosystem has to calculate in two to three full-time job equivalents for the coordination.

***The orchestrator?***

**Y** Coordination between the partners in a business ecosystem has already come up a few times in our conversation. The orchestrator is the central partner that handles the coordination work. The other partners chip in products or services that drive a joint value proposition, which is the most important element and the starting point of a business ecosystem. As the orchestrator, I have to ask myself what missing elements I need to obtain to fulfill the value proposition. That question guides my search for partners.

***Suppliers also provide companies with missing elements.***

**Y** But that's a traditional supply chain. If I, as a company, am no longer satisfied with Supplier A today, I switch to Supplier B. Both supply more or less the same product. In a business ecosystem, in contrast, the crucial aspect is that the products that the partners develop aren't generic. Each element in itself should represent an innovation. Only that way do business ecosystems create added value and maximize their growth potential. And growth ultimately is the motive for establishing a business ecosystem.

**L** Organization theory tells us that we save transaction costs when we ➤

*“Business ecosystems have become a practicable option particularly for stagnating or intensely competitive industries.”*

Bernhard Lingsens,  
Helvetia Innovation Lab



*“The financial industry benefits from having a kind of natural affinity toward ecosystems.”*

Lisa Yerebakan, SIX

manufacture in-house or design simple supply chains. For business ecosystems, this means that the generated added value must exceed the additional transaction costs caused by the coordination expenditure. Whether it does in the end largely depends on customers' willingness to pay. That's why business ecosystems do not prove successful in all industries. For example, the food and beverage industry, with its low profit margins, will probably find it difficult to break away from the supply chain. A cup of coffee, after all, is a cup of coffee. Customers won't be willing to pay considerably more for it.

But every company has to come up with its own way of pursuing innovation to fulfill its value proposition. This can also mean acquiring another company or setting up a new division instead of an ecosystem.

***SDX, the electronic invoice eBill, TWINT, and the platform for open banking – SIX, at least, appears to be taking a liking to the concept of the business ecosystem.***

**Y** Yes, and that also has to do with the fact that SIX is ideally qualified to take over the role of ecosystem orchestrator. As the infrastructure

operator for Switzerland's financial center, SIX takes a neutral position. Through its shareholders, the Swiss banks, and through its existing client relationships, SIX already has a strong network in place. SIX also has the requisite level of technical expertise and many years of experience dealing with complex ecosystems like the Swiss payment transactions system.

For my master's thesis, I'm investigating what skills an orchestrator needs to possess to successfully set up a business ecosystem. With its Innovation & Digital business unit, SIX is optimally positioned organizationally to sensibly interlink a variety of different partners. On top of that there's the company's engagement in the F10 FinTech Incubator & Accelerator and in SIX FinTech Ventures, our corporate venture capital fund. Both vehicles enable SIX to maintain very close contacts and a lively dialogue with startups across industry boundaries. This can be of great value particularly in the partner-search stage.

**L** The value of this, in fact, can't be overstated. Anyone who is unable to draw on such a network during the stage of setting up a business ecosystem will probably encounter failure unless they have the possibility to call in a co-orchestrator for support.

After the setup stage, a different set of skills is required: managerial skills. On the one hand, it's about lowering transaction costs, for example by

establishing a technical platform; on the other, it's about satisfying the partners, because as an orchestrator you depend on them.

**Y** Pleasing all the partners isn't all that easy when each one wants something different. It takes a bond of trust and, by extension, employees on the orchestrator's side who possess social skills and are adept at integral thinking. The demands placed on employees increase further if the orchestrator itself furnishes technical elements as well. Not every tech-savvy specialist is also good at coordinating.

**L** Sometimes, though, one even has to separate from partners, most certainly when the value proposition is at risk. Conversely, taking new partners on board usually doesn't make sense until a platform is up and running and is capable of integrating them via standardized interfaces. From that moment on, the ecosystem scales up without causing any additional transaction costs.

**Y** What I, as an orchestrator, can also do is to extend the value proposition by adding additional services, though that requires me to re-convince all of the partners of the altered version of it. ■

## Ecosystems in the Business World

### On Predators and Prey

The first person to transplant the term “ecosystem” from the field of biology to the business world was James F. Moore in 1993 in the *Harvard Business Review*. In his article titled “Predators and Prey: A New Ecology of Competition,” he described how different companies in a business ecosystem co-evolve capabilities around a new innovation, working cooperatively and competitively to better satisfy customer needs. With his coining of the term “central ecological contributor,” Moore also defined the key role of the orchestrator who must hold all the reins.



→ Read the entire article by James F. Moore:  
[six.swiss/ecology-of-competition](https://six.swiss/ecology-of-competition)



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