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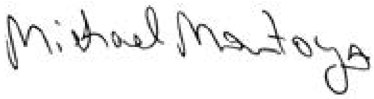
Photo front cover: The Council of the European Union in Brussels (source)

Dear reader,
Since the birth of the European Payments Council (EPC) in 2002, I have been able to actively contribute to the development of a uniform European payments area as a representative of the Swiss financial center.

As is well known, the path to SEPA has not been quite as straightforward as the European banking industry imagined it would be twelve years ago. In the EPC Charter, they wanted to give life to "their" payments area more or less according to the principle of self-regulation ("…launch **our** Single Euro Payments Area"). Meanwhile, EU legislators have taken the initiative several times – including three regulations and a directive, most recently with the postponement of SEPA migration date to 1 August 2014. It is no secret that the divergent interests of the banks, the EU Commission, the European Central Bank and other players have not always been resolved in consensus. Even though they did not manage to form an "a cappella" group, implementation of the SEPA vision is nevertheless within reach.

A new SEPA governance should smooth the way for this. The EU Commission's SEPA Council was replaced at the end of last year by the Euro Retail Payments Board from the European Central Bank and even the EPC will not be able to avoid a reorientation. Things will thus remain interesting for our Swiss representatives! The changes here in our country are at least equally as interesting. Although the EU legislation has no direct impact on Swiss payments, we have committed ourselves to the SEPA vision from the beginning. One outcome of this is the intention of our financial center to largely bring the current payment processes and systems closer to the new European standards by mid-2018. As you know dear reader, we too have ambitious goals. And now we have a new one: the mandatory usage of the IBAN. Swiss lawmakers play no part here. We are convinced that the long tradition of self-regulation will enable the Swiss banks to switch our business customers over to the IBAN by 2020.



Michael Montoya, UBS Inc.
Chairman of the Board of Directors of SIX Interbank Clearing

Marginal SEPA benefits for Swiss banks

What's the EU Commission's role in shaping SEPA? How about the migration progress and the future governance? What are the next projects? Erik Nooteboom of the European Commission takes a stand. He highlights the challenge of creating awareness among market participants, the benefits and the sometimes varied and conflicting priorities of legislation and market practice, particularly in view of the "somewhat peculiar situation" of Switzerland.

CLEARIT: Mr. Nooteboom, the EU Commission suspended Swiss participation in the student exchange programme "Erasmus" and postponed the "Horizon 2020" research and innovation programme talks after voters in Switzerland decided in a referendum to re-introduce quotas for EU immigrants. Are there any consequences to be expected for Swiss-EU relations with regard to SEPA?

Erik Nooteboom: No, there are none. SEPA is a very specific technical issue. It is business as usual for the payment sector, since Switzerland is not affected by European regulation regarding SEPA.

Aside from the Swiss vote in February, it has been noted that one of the SEPA principles is not always met by EU banks when it comes to credit transfers from Switzerland to EU countries. In other words, EU banks sometimes penalize their beneficiaries by charging credit transfer fees so that the credited amount is less than one originally transferred. What is your position on this issue?

We have to clearly distinguish between intra-EU euro payments and what we call international payments. The latter are payments conducted between eurozone and non-eurozone countries, particularly those like Switzerland that are not even EEA member countries. These payments are not covered by SEPA regulations. So, in this respect, as a matter of principle, banks are free to charge fees or not. Although I very much regret that such beneficiaries suffer from additional charges, there is little we can do, because Switzerland is neither part of the eurozone nor the EEA. So in this case, basically the same rules apply between Switzerland and the eurozone as, let's say, between the eurozone and the USA. Banks can charge whatever they like.

But isn't it a matter of fully SEPA-compliant payments in terms of formats, standards, etc.? Aren't we talking about SEPA payments between two SEPA countries? From the point of view of the EU citizen it is hard to understand why he should pay for a SEPA credit transfer.

Well, such a payment may be SEPA-compliant in technical terms because Switzerland participates in the SEPA systems, but this transaction is covered neither by the Payment Services Directive 2007/64/EC nor by the SEPA Regulation (EC) No. 924/2009, nor by Cross-Border Regulation (EC) No. 2560/2001. The advantage you are hinting at, receiving the full amount without any reduction, does not pertain to the technical arrangement of the European Payments Council (EPC) but to the EU regulations. Payments, fees, etc. are very clearly regulated there in terms of transparent pricing. I understand that it can lead to bad customer experiences in this somewhat peculiar situation that you mention, but the cause does not lie with the EU but the fact that Switzerland is not subject to EU regulations. We cannot legislate for countries that are outside the EU or the EEA.

In a newspaper interview, a Bundesbank board member listed three major benefits from SEPA, one of them being the possibility to collect cross-border direct debits. Given the fact that at one of the biggest Swiss banks, in terms of its balance sheet, foreign payment transactions make up 3%, and of this, the SEPA direct debit share is almost too small to be measured – who profits from this?

We recently conducted a study to compile key data on the benefits. It showed that the SEPA structure as a whole delivers gains of EUR 22 billion annually for the eight million companies and 6,800 banks in the eurozone, largely due to more efficient processing and streamlined bank account infrastructures. Such benefits are very significant. Now, it is not true that all payment market players will reap these benefits equally. Clearly the bigger companies will be the ones that will experience the greatest advantages because they are the biggest players. That being said, consumers will receive benefits to a large extent as well, especially when it comes to consumer protection, because payments will be much more secure and efficient. The same goes for SMEs, which will additionally profit from faster access to the credited amounts. So the benefits in the eurozone are crystal clear. In regard to the example you mentioned about the Swiss bank: Unfortunately, I have to again point to the fact that Switzerland is not a EU or EEA member country, so while this project may have positive side effects for non-EU/EEA banks, I assume, and am not surprised, that benefits for them will be marginal because they are not fully embraced by the system.

Are you implying that cross-border business in other countries is more important?

Within the eurozone, absolutely, also in terms of SEPA direct debits. If you move, let's say, from Ireland to Belgium, you can pay your rent, electricity, etc. from an Irish bank account. You don't have to set up a new bank account in Belgium. You can thus dispense with all the administrative processes. With regards to businesses, it is also a huge benefit for a company to invoice and get paid using

Short bio

Erik Nooteboom was appointed Head of Unit, Retail financial services and Consumer policy, DG Internal Market on 1 March 2013. Before that he was responsible for the development and implementation of a comprehensive public procurement policy throughout the European Union and for the policies on international liberalisation of public procurement markets. Erik studied law in Amsterdam and joined the European Commission in 1987 after five years in the Dutch Civil Service.

their domestic bank account. As a consequence of SEPA harmonization, around nine million bank accounts can be simply closed because they will no longer be necessary, since you can operate throughout the SEPA zone with a single bank account. This affects a lot of European citizens. For example, when they rent houses for holidays in other countries, they can use one account to pay their energy bills by means of SDD.

According to the Austrian Federal Ministry of Finance: "After implementation of the SEPA payment schemes and standards, we are able to save about EUR 15 million annually." Projected onto the whole of Europe, isn't there a potential to achieve massive savings for taxpayers? Do you anticipate tax reductions in some EU countries?

For the taxpayers there will certainly be benefits because there will be more competition among banks. If citizens can get by with just one bank account to serve all their needs throughout the EU, of course banks will be fighting to offer consumers that one bank account. Whether governments will pass potential savings to the taxpayers is a matter of national strategy. The EU Commission cannot and will not impose a policy.

How much did it cost for the EU Commission to migrate to SEPA and what are your experiences?

If we take a look at the EU Commission's own savings, we must admit that we are a very small player, a small administration. Yes, we also implemented SEPA, although the migration was just a part of an overall reorganization of our payment streams. We didn't have a project only for SEPA. We have overhauled our entire system of budgeting and financing. One of the advantages we experienced was that, before SEPA, the Commission had many bank accounts in each and every member state. Each of the 28 member states had 5 to 10 bank accounts. Now we maintain contact with four banks in Belgium to conduct all financial transactions. I assume the same would apply for governments. Just to give you a figure: we conduct a very small number of payments, only around 1.9 million a year, of which 1.6 million are in euro involving very low values. While this is really marginal to the overall number of payments, we have already recorded quite significant savings and especially gains in efficiency.

Generally speaking, what is the degree of awareness about SEPA on the level of municipalities or regional authorities?

We had a major problem in the past when it came to reaching local authorities, citizens and SMEs to convey the message that they also would be affected by SEPA and that they too should migrate. We believe that the main reason for this was that most of those addressed were simply not interested in the issue and didn't feel that there were any benefits for them. There was also a sense that the SMEs considered that they were involved in local businesses and projects and when they learned that SEPA is a European-wide initiative, many of them felt that it would not really be their problem. So they felt they did not need to listen carefully or do anything. And if anything had to be done, their banks would take care of it. That was the widespread attitude. This was why we decided, at a very late date, to postpone the migration, because there was a quite important circle of stakeholders who simply were not ready yet.

The awareness campaigns conducted by national central banks and administrations have been massively increased since the end of last year, because they too have recognized the problem. They have also undertaken massive efforts to reach citizens and SMEs, but despite very intensive campaigns, the transaction figures remained at a very low level. That's why we decided to give it an additional six months. Consequently, we generated enormous publicity in the press, on TV, etc. In this way, we ultimately reached all our target groups, which woke up and began to realize that they were heading for a catastrophe if they did not migrate, because from a legal perspective, banks would no longer be allowed to execute non SEPA-compliant payments. And interestingly enough, because of this last-minute exercise the migration rate is now sky-high – also among SMEs. Within one month, the SDD migration went up from around 60% to 80%. And there are still five months to go.

According to the head of a Hamburg family business with no cross-border exposure, the switchover to SEPA cost him nearly EUR 30,000. How would you describe the opportunities ready to be reaped by this type of stakeholder?
The point is that we are migrating to a very integrated payment market. This requires an initial investment. I would compare the situation with the energy market where, as a consumer, you no longer need to buy 15 different plugs if you travel throughout the EU. But you do have to buy one new plug. Perhaps this Hamburg SME may think today that it will only be doing business within the Hamburg area and that it will never need cross-border payments. With all due respect to this concrete family business owner, I would tell him that he should consider that while the market is growing increasingly integrated, cross-border business is also increasing rapidly and competition in the EU market will continue to grow. So I agree; there is an investment to be made and I understand a certain amount of frustration about that, because he will not earn it back within a year, but in the long term he will certainly also profit from it in terms of efficiency. This having been said, I'm a little

surprised about the high costs in this particular case. There are accounting software solutions on the market which can take care of the IBAN and only cost a few hundred euro. On the other hand, a lot of businesses use this opportunity to upgrade and modernize their banking infrastructure, their payroll systems for example. I imagine the EUR 30,000 involves some of this.

Speaking of the IBAN: "It took me 30 years to memorize my bank account number and then you come up with a two km-long Sudoku," said an "angry" consumer in a late-night satirical German television program addressing the EU. Why do you think people are calling it "IBAN the Terrible"?
Precisely because it's so long. I fully understand that. The easy answer for me to provide to that complaint would be: it's not our fault. The long number was not imposed by the EU Commission or by the EU, but by the German banking sector, because the definition of IBAN numbers is something that is handled on a national level in the member states. The general approach is laid down in the EPC Rulebook, but implementation in concrete terms – how to compose the IBAN – is left to the member states. That said; the customer does not need to know his IBAN at all. He merely needs to know where to find it. If he knows his bank account number, then there are plenty of websites where he can easily convert it to an IBAN. Do you know the mobile phone numbers of all your friends by heart?

Why should I? I have a smartphone.
Exactly.

OK, let's consider it to be a joke, but what about the angry man's conclusion: "Go on like that, friends, and the EU will soon cease to exist in its current form." The IBAN is associated with SEPA and with the EU.

There is anti-EU sentiment all over Europe. That's clear and we are aware of it and we should take it very seriously. But we should take it seriously to the extent that the arguments made are serious. While the media hype of "IBAN the Terrible" is quite humorous, I'd like to point out that only very few people are even capable of memorizing two phone numbers. Nevertheless, that doesn't mean that I cannot call my friends anymore. So we must distinguish between serious comments where we can do something and try to do things better and comments that may be funny or perhaps not. You acknowledge them, but there is not much you can do.

What serious comments do you take into account?

Well, if things were to really go wrong with the SEPA systems. If structural problems actually would arise due to mistakes or because we might have made it too complex – that type of comment we should take seriously.

Are there any?

No. We have had no issues raised at all.

A year ago, a representative of the German Savings Banks Association said, with regard to the EPC's role, that the situation was working against a SEPA future characterized by self-determination. As a consequence, work was halted to some degree because there was a great deal of uncertainty among EPC members regarding what can be defined and designed within the EPC. What are the latest developments in terms of SEPA governance?

Indeed, very recently there has been an overhaul of the existing stakeholders' consultation forum, the SEPA Council, because it was felt that not all stakeholders were sufficiently represented in it, particularly not from the demand side. It was seen as being a sort of a bankers' club. And this is one of the reasons why the Council and the EU Parliament asked the Commission and European Central Bank as co-chairs to take a fresh look at this, in order to make sure that there is a better balance between the supplier and the demand side. And that has been accomplished. If you read through the ECB press releases about the newly established forum, the Euro Retail Payments Board (ERPB), you will see that the composition has been rebalanced now that there are seven representatives both from the supply and the demand side. Secondly, the Commission's decision to no longer chair this committee together with the ECB is another major step. We leave the chairing to the ECB, not because we are no longer interested, but because we feel that the forum should be more a market-driven than a politically driven project. We will continue to follow this new forum very closely but only as an observer. For example, the Commission is just an observer on the Basel Committee, but that doesn't mean that our impact has dropped to zero. I just want to mention this because there is some concern that the Commission has stepped down as chair. That should not be misunderstood.

What about changes at the EPC?

The EPC is currently also undergoing a sort of transformation. It was traditionally an organization that was very much governed by banks only. You are certainly aware that under the PSD project, for example, the Commission is advocating an opening of the payments market by allowing third-party players to participate, in order to reap their share and to boost competition. And a similar kind of thinking process is ongoing in the EPC as well. The process is not yet complete, but I have received signals from the EPC that they are also seriously looking into the issue of how to extend membership, so that all players in the banking market are present. For example, they are also considering whether or not third-party providers should assume a role. So interestingly enough, the EPC is making the same kind of reflections as the SEPA Council. I can't prejudice the outcome, but it looks very encouraging that the EPC will open its doors to different types of market players, including PSPs other than banks.

The SEPA vision is now a reality. Why is it so important to call for new forums?

Is SEPA in place? Well, yes and no. I mean, there are still projects involving the niche products that have not yet been completed. We need to closely monitor the implementation of the SEPA mechanism. There are still many questions to be discussed, because the payment markets will by no means be fully integrated by August 2014. There are still the non-euro EU member states and their SEPA migration date deadline in 2016. So, there is still plenty of work to be done. Issues about SEPA Cards, the creation of a sort of European card scheme, issues about standardization in the area of mobile payments. All this requires very careful consultation with the market players. The ERPB is par excellence the forum where stakeholders can meet and discuss.

And after 2016?

Well, maybe Switzerland wishes to join *(laughs)*. Who knows what will come next in the highly innovative retail payment markets, for instance. There are no limits.

Interview:
Gabriel Juri, SIX Interbank Clearing
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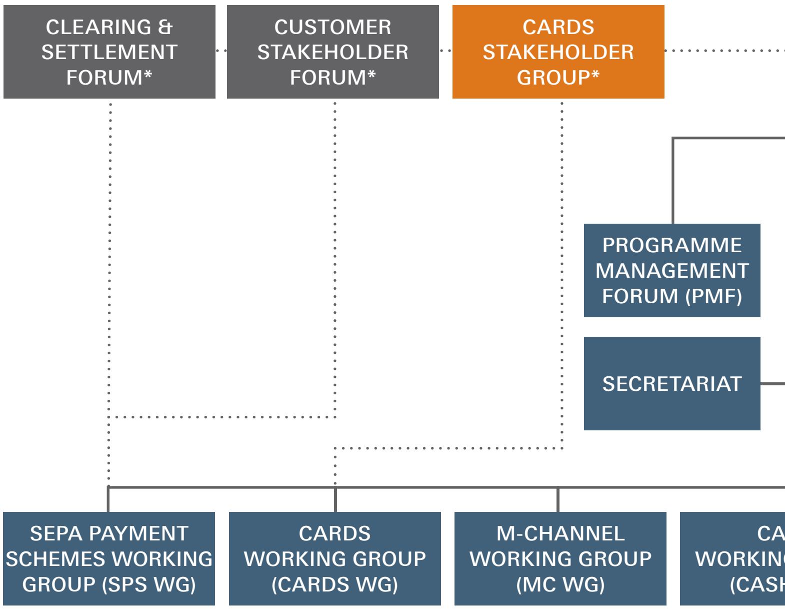
EPC bodies with Swiss participation

Six Swiss representatives talk about their responsibilities, assess the benefits for the Swiss financial center and describe their experience in international collaboration.

The SEPA Payment Schemes Working Group (SPS WG) is in charge of the maintenance and further development of the rulebooks for SEPA Credit Transfer and SEPA Direct Debit schemes. In addition, it provides supporting documents, operative procedures and support for standard-related issues. It can generally be said that the SPS WG co-defines payment traffic from Europe and represents a kind of SEPA "machine room". The schemes are reviewed and optimized here and new functions are developed. If the Plenary approved the proposals of the SPS WG, the rulebooks are adapted and published. The new conditions are then binding for all SEPA participants. From my perspective, Switzerland's participation in this committee comprising 32 representatives from all EU and EEA countries is very important. The Swiss financial center thus has a say in SEPA developments and stays informed about future further developments from the start. This enables Switzerland to anticipate upcoming changes and to take the necessary actions in a timely manner. This helps avoid surprises.
Roger Mettier, Credit Suisse Group Ltd

The M-Channel Working Group's goal is to define and establish an ecosystem for SEPA payments that are initialized through a mobile phone. This shall be achieve by means of a rulebook and the creation of a secure environment. The working group consists of around 30 members from various companies active in the financial industry throughout Europe. After a long nomination and election procedure, since the beginning of 2014 I now take part as Switzerland's third representative and attempt to best represent the interests of the Swiss financial center. Since I have so far only participated in one of a total of four yearly meetings in Brussels, my present activity primarily consists of building up my knowledge of the material, to defined processes for the flow of information and to solidify the new – very interesting and multifaceted – network. I see my task as staying as well informed about the EPC's activities as possible in order to crystallize whether and what degree the financial center is affected by the documents, guidelines and innovations created and when these must be adopted and the financial center involved and informed.
Angelika Staender, PostFinance Ltd

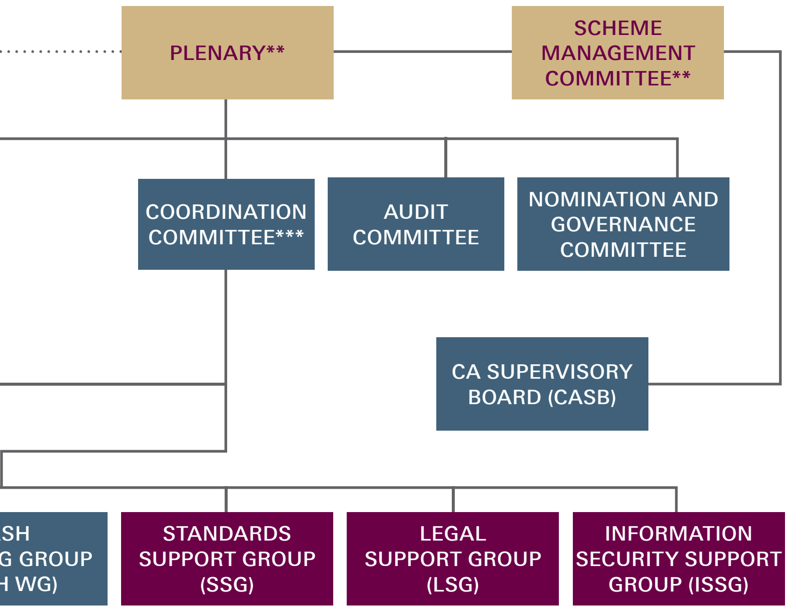
The EPC's second decision-making committee besides the Plenary, the SEPA Scheme Management Committee (SMC), combines two functions: The first includes administration of the schemes and ensuring that the schemes rules are respected. The second function involves management of the further development of the schemes. The first function is supported by the Complaints & Adherence Committee (CAC), to which I also belong. The CAC primarily handles the approval of banks for the SEPA schemes. They must meet precisely specified guidelines and are supported by the National Adherence Support Organisations. The number of complaints has thus far been manageable. There are three external experts available to the SMC for support in special cases. The SMC, which is currently comprised of twelve experts, physically meets on a quarterly basis in Brussels. The CAC also holds a monthly telephone conference. Nine SMC members are send by the respective national committees, while three – including the chairman – are elected directly by the Plenary as independent experts. I have worked together with the EPC since 2002 in various functions. The aspect of maintaining long-term international contacts is very important to me. Of course, I always enjoy making new contacts as well.
Christian Schwinghammer, SIX Interbank Clearing Ltd



* Alignment with other stakeholders, ** Decision-making bodies, *** Strategy &

The Information Security Support Group (ISSG) is comprised of roughly 20 members from national banks or banking associations and three observers, the European Central Bank, Visa and Mastercard Europe. ISSG operates various working groups, among them a Cybercrime Information Sharing Expert Group, in close contact with EU organizations such as ENISA or Europol. The mission of the ISSG is to provide advice and guidance on security issues affecting payments within the EPC's scope of work. Security considerations for all payment types in the euro area are within this scope, including card payments, credit transfers, direct debits and emerging payment methods, as well as the collaborative IT infrastructure that underpins their operation. My role in ISSG is to provide security expertise and to represent the interests of the Swiss banks as gathered through their representatives in the Information Security working groups of the Swiss Bankers Association commissions (Swiss Commission for Financial Standardisation and Commission for Security). At the present time in which a new Payment Services Directive has been proposed and cyber security is being discussed intensively on all levels, collaborations with ISSG and its members have become particularly much appreciated by stakeholders both within and outside the EPC.

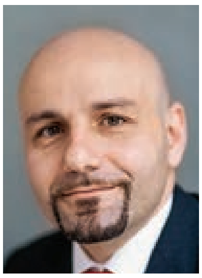
Alain Hiltgen, UBS Inc.



process body, EPC organigram, November 2013

The objective of the Cards Working Group (CWG) is to monitor and further develop the implementation of SEPA for Cards. As an essential standardization element, in 2006, in cooperation with around 30 card specialists from European banks and card organizations, the SEPA Cards Framework (SCF) was developed and promoted. The SCF represents a comprehensive summary of all business requirements for terminals, ATMs, card schemes, issuers and acquirers. The Cards Stakeholder Group (CSG) was set up in 2009 to better support the EPC's standardization efforts. The CSG consists of five members, one each from the European commerce, manufacturer (terminal, ATMs, cards), card processors, card schemes and banks. The further development of the standardization documents was transferred from the CWG to the CSG. The SEPA Cards Standardization Volume Version 7.0 was recently published. I have been a member of the CWG since the end of 2006. The time leading up to the CSG involved the interesting and challenging task of compiling the very different requirements of the European card landscape and unifying them. In particular, we were able to contribute to the terminal standard with our Swiss experience during this phase. In its current form, the CWG primarily serves as a sounding board for the bank representatives in the CSG. Its significance has consequently decreased.

Emil Büchler, SIX Payment Services Ltd



The Legal Support Group (LSB) is one of the three support groups, along with the Standards Support Group and the Information Security Support Group, reporting to the Coordination Committee. The LSG supports all EPC committees in legal and regulatory matters. The members of the LSG are chosen by the Plenary. The LSG meets a total of eight times annually, including four physical meetings in Brussels. For example, an analysis of the legal consequences of the European Commission's draft of the Payment Services Directive 2 is currently being conducted on behalf of the Plenary. I have only recently begun representing Switzerland on the LSG. My experiences so far have been extremely positive. The collaboration with lawyers from foreign legal systems is enriching to me both technically and personally. The advantages of participation include the possibility of having a say in future legal projects and, in particular, also learning of them at a very early point in time. It also offers a rather rare opportunity for a lawyer based in Switzerland to receive insights into the European legislative procedure.

Dr. Sergio Greco, UBS Inc.

IBAN and IPI going separate ways

Together, they came to Switzerland as new international payment standards. But now, the IPI slip will definitely become obsolete in 2020, while, in contrast, the IBAN will become mandatory at the same time.

"IBAN represents an undisputed advance in payment traffic and will also be unconditionally supported by PostFinance. There are major reservations on the use of the IPI in Swiss payment traffic," stated Jürg Bucher, who was Deputy Head of PostFinance at the time, in a CLEARIT interview shortly after the standard was introduced in autumn 2000. He turned out to be right.

(Almost) no chance in Europe

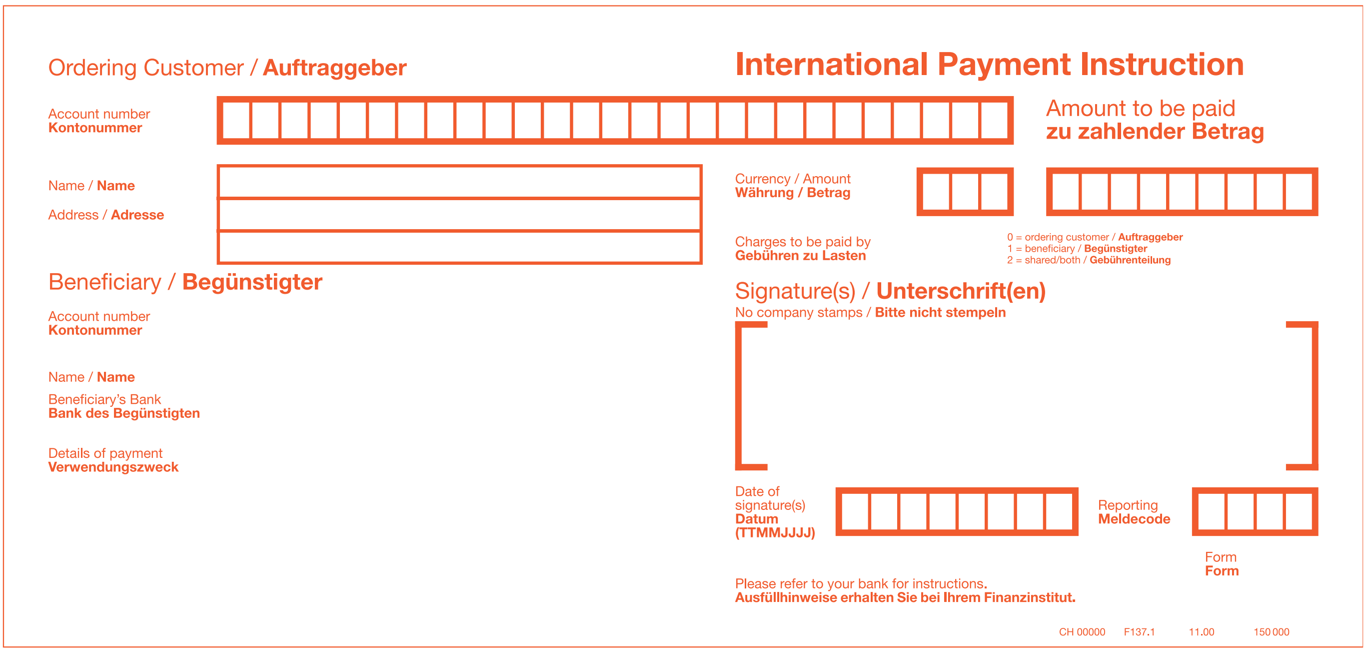
The International Payment Instruction (IPI), developed by the ISO (International Organization for Standardization) and by the ECBS (European Committee for Banking Standards), exists in Europe today virtually only in glossaries. Google research shows that the IPI slip is not actively offered by banks in any European country, except in Switzerland and Liechtenstein. And the figures are modest here too. According to statistics from the Swiss interbank payment systems, just over 16,000 transactions a month were recorded in the past 12 months. This was barely measurable in terms of percentage (0.05) in comparison to total volume.

This fate was unexpected, since back in the day the IPI was well on its way to success. The EU Commission declared it to be a focal point of action at the beginning of 2000. "Banks should commit themselves fully to implement IBAN and IPI as early as possible and by 1 January 2002 at the latest and should therefore agree a timetable for doing so at national and EU level. Bank customers should be informed about the speed and cost advantages of such standards. They should be encouraged to use them immediately after their introduction." The Swiss banks did not resist and, using similar arguments, introduced the new payment slip to the financial center in three languages.

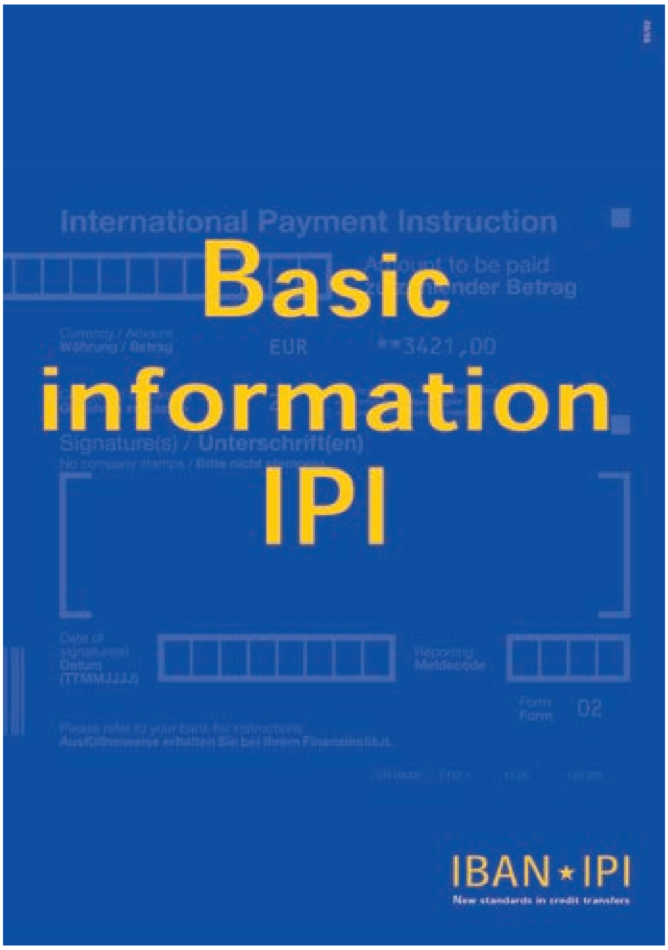
Though plenty of water has flowed under the bridge since then, there is still a lack of enthusiasm among customers for use of the payment slip. Consequently, at its last meeting, the Board of Directors of SIX Interbank Clearing decided to decommission the IPI slip by 31 March 2020 at the latest.

The many-digit "Terrible" will also be mandatory in Switzerland

It's another story with the IBAN, which has since been decried as the "Terrible", especially in Germany – in reference to "Ivan the Terrible", a Russian Czar, who had all the residents of the city of Novgorod massacred in the 16th century. The "Terrible" has never made the headlines in Switzerland; at most, we do not understand why it is necessary to type in 21 digits while doing our e-banking. In any case, the IBAN today has largely become a matter of course in this country, even without statutory provisions such as those put in place in the EU.



One of four variations of the IPI slip



The IPI was launched in Switzerland in 2000 with this brochure.

From 1 to nearly 100

Of course, it took quite some effort to ensure that with the IBAN in the SIC system, for example, the portion of fully-automated processing of credit transfers in national interbank payment traffic grew from 1% in 2004 to nearly 100% ten years later. The good progress made by the financial institutions in terms of the STP rate encouraged the Swiss payments governance bodies to decide to dispense with a planned non-STP pricing on the interbank level at the end of 2009; this against the backdrop of the excellent job undertaken by the banks to force IBAN use among business customers. They assisted their customers with campaigns of mass conversions of proprietary bank and postal account numbers – also with the help of the IBAN Tool on the SIX Interbank Clearing's website. The IBAN thus spread to credit and debit advices, account statements, payment slips, card products, direct debiting and e-banking.

Close, but not quite

The Board of Directors is now taking it a step further. The exclusive use of the IBAN in interbank payment traffic is a done deal as of March 2020. Exceptions will be made for:

- Balance payments (the present B10 message)
- Bank-to-bank payments (the present B11 message)
- Extended covering funds (the present B12 message)
- The beneficiary's account, for payments from Switzerland sent abroad
- The debtor's account for payments from abroad to Switzerland

The requirement also extends in principal across the entire customer bank traffic. Except for SWIFT messages, the customary beneficiary account numbers can still be used for foreign payments.

The date was not chosen randomly. A decision was made to wait until the red and orange payment slips are replaced by the new inpayment slip with data code, which only permits the IBAN, in the scope of the Migration Payment Traffic Switzerland program.

Time and effort

Among the long-term benefits for financial institutions is that the STP quality of payment orders will be further enhanced, because the validation of account numbers already occurs in business customers' banking systems. The flip side of the coin, however, should not be swept under the carpet. Time and expenses for the switchover of individual institutions regarding their internal bank accounts must be taken into account. In addition, whether they like it or not, existing mechanisms for the validation of payments submitted by customers (verification, converting, rejecting) must be refined. Nevertheless, the advantages outweigh the disadvantages and it should be possible to amortize the implementation costs within two years.

Gabriel Juri, SIX Interbank Clearing
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The Swiss P2P solution for smartphones

Cashless paying in shops, restaurants or petrol stations has long been a matter of course. As commonplace as paying without cash at the point of sale is, it remains relatively inexistent when it comes to payments among friends and acquaintances. Current studies show that demand is increasing for this service. That is why SIX is developing a Swiss solution for our country's financial center.

If you enter the term "peer-to-peer payment" in a popular search engine, you will receive 167,000,000 hits. But how can this service be explained in a few words? The word "peer" means someone who is your equal. A peer-to-peer payment is thus a payment from one individual to another. In practical terms, an example of such a payment transaction could be to pay for a cocktail at a bar: Just when the financial "debt" should be paid, you notice a liquidity bottleneck in your wallet. What can you do when you notice that you have also forgotten your credit card? Here's where a peer-to-peer payment via your smartphone would be an ideal solution because these days nearly everyone has a phone with them.

Around 3.7 million people in Switzerland own a smartphone. Always with them, a smartphone is the ideal basis for cashless credit transfers among friends. But for such a payment service to be successful, the following customer needs must be met:

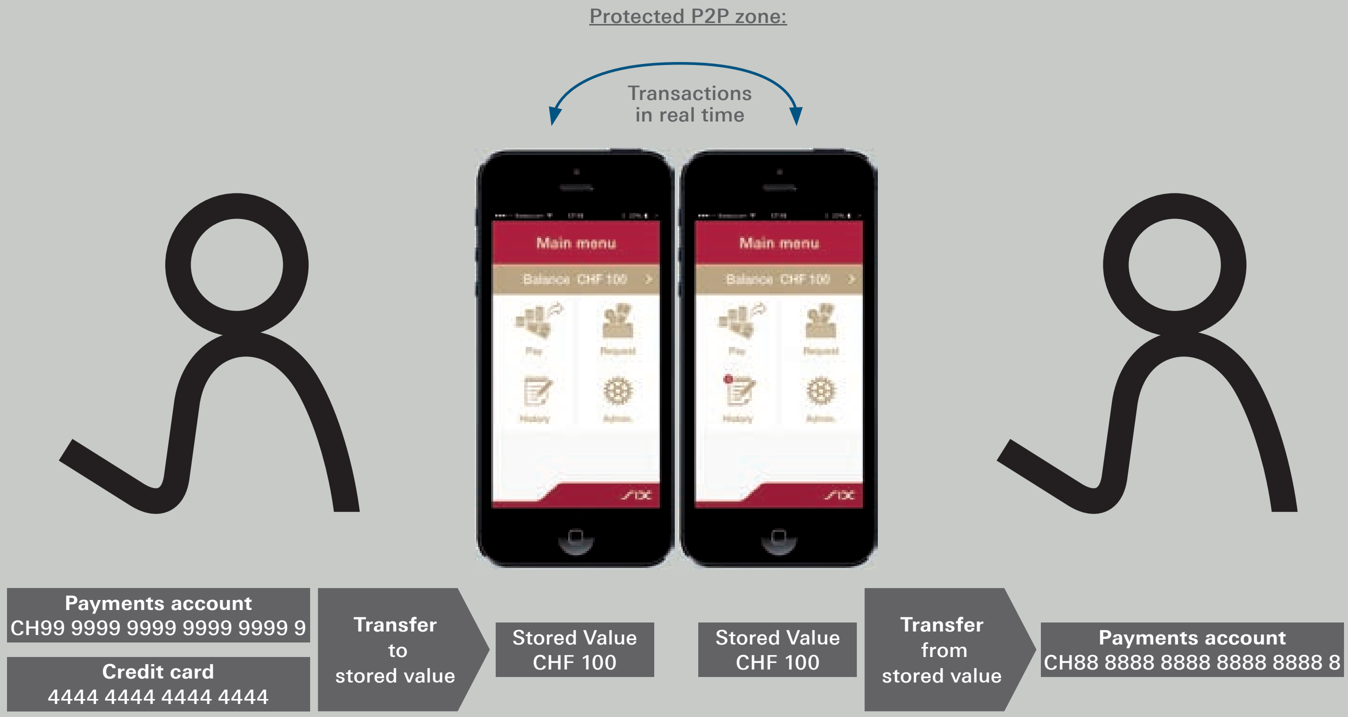
- Wide acceptance
- Easy to use
- Flexible usage
- Integration in existing infrastructures
- Fast & secure processing
- Transparency for transactions conducted.

That is why SIX Payment Services is currently developing an open standard for mobile payment that can be used by all Swiss banks.

Based on a potential solution approach considering the current state of development, shown below is how the above-mention customer needs can be met.

Swiss customers can book a credit to the P2P app (stored value) either by debiting their bank account or their credit card. Like with cash money, the credit is separated from the bank account or other payment means. Payments are transacted in a closed P2P circuit with the mobile phone

Simple basic process



numbers as aliases. The process does not require the recipient to already be a participant in the P2P scheme.

The non-registered recipient receives a payment instruction via SMS and the request to download the app and to register. If the recipient does not react, then the credit will be transferred back to the person who has paid within 28 days.

The registered recipient receives a message about the crediting of the amount received within second in the P2P app. His displayed credit is instantly updated and, in turn, is available to the recipient for use as a payment.

How are the customer needs in the P2P solution met?
Innovations often fail due to a lack of acceptance. Even the best technical solution is worthless if it cannot be "sold" to customers. This solution is different. In this case, everyone with a mobile phone number and smartphone is reachable for payments. Market surveys show that 60% of all banking app users would also use a P2P payment solution. Furthermore, leading banks have already been signed up for participation in the development and start-up phase. All processes, from onboarding to administration and the payment process have been kept very simple. Payment processes take place in real time on the Swiss financial center's secure infrastructure. The stored amount can be loaded or unloaded flexibly at any time on the basis of proven payment processes and thus is well integrated in Switzerland's existing payments landscape. The customer can decide for himself which activities shall be made especially secure with PIN protection or should take place very simply. The participant has an overview of his transaction at all times in the archive.

Outlook

Besides payments among "peers", the next logical step will be to expand the circle of participants. Payments in smaller shops, at vending machines and even with distance transactions, such as over the Internet, can be easily set up. Towards this end, it is not necessary for a participant to be identified solely by means of a mobile phone number. A directory service is established based on the data stored in the administration. This can be upgraded with further attributes in order to be able to identify a payment recipient. The use of QR codes is conceivable here, which will be used in the future on the new Swiss inpayment slip with data code, as is also NFC technology (near field communication), which designates contactless data exchange by means of electromagnetic waves.

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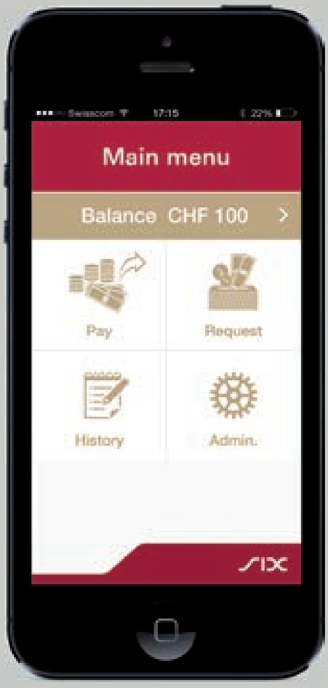
Functions of the app

All the required functions can be used with just a few elements.



Prototype

Display of the current **credit** in real time

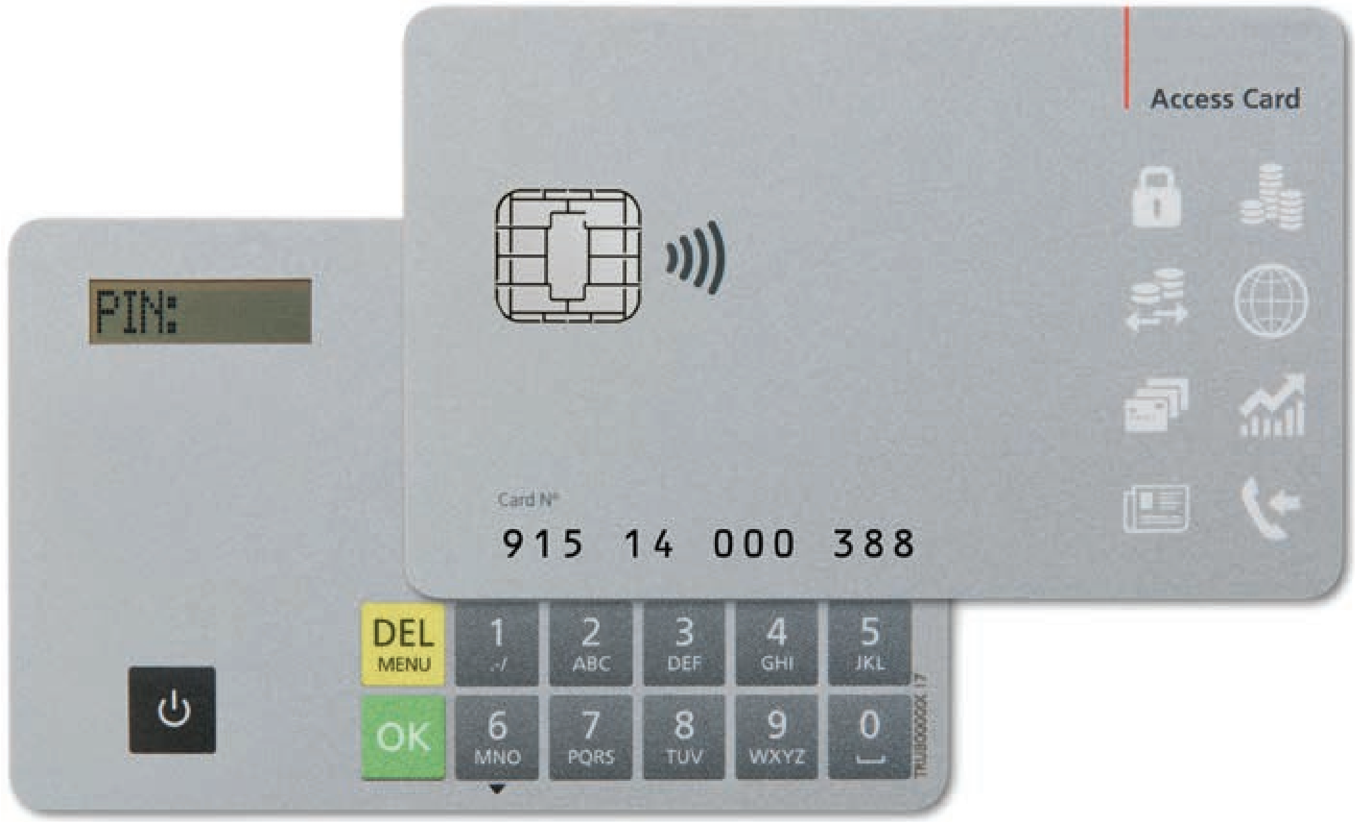
Send (= pay)
The recipient is identified by means of his mobile phone number. In addition to a message to the recipient, photos can also be attached with the payment.

If the existing credit is insufficient for a payment, it can be "topped up" from the user's bank account or credit card. This procedure is, of course, protected with a PIN. The security settings can be set individually as needed.

Request
The process is comparable to the payment. An amount with the payment details and optional photos are sent to a mobile phone number for payment. The payer either approves the payment or rejects it.

History
All payment activities, the user's own requests and those from others to the user are archived here.

Administration
The participant's required information is stored here. This includes the participant's name, e-mail address, mobile number as well as credit card and bank data. In addition, a PIN can be defined for all transactions or for an amount threshold that can be defined.



Mobile banking authentication

Mobility is a key enabler for online services and, as such, also appears on the roadmap of most financial institutions, both inside and outside of Switzerland. Mobility, however, comes with an increased need for convenience and for security.

In mobile situations, it is very hard to handle multiple hardware devices simultaneously, which is why two-factor authentication (2FA) with a separate hardware is generally perceived as too cumbersome. On the other hand, the security of mobile devices has not yet reached a stage that would allow them to qualify as user-only-controlled hardware for personal 2FA credentials, as typically required for sensitive banking services.

International recommendations

International regulators spotted this situation and reacted accordingly. The European Central Bank (ECB) released in January 2013 an initial document entitled “Recommendations for the Security of Internet Payments” and is currently finalizing a second document on “Recommendations for the Security of Mobile Payments”. Both documents also apply indirectly to Swiss financial institutions, through legal compliance agreements with certain chapters of the European Directive on Payment Services (PSD). Similar reactions have also arisen in Asian countries, notably through the mid-2013 release of the Technology Risk Management (TRM) guidelines from the Singaporean regulator MAS. Common to these new regulations is a clear mandate to use hardware-based 2FA for online payments over the Internet.

Limiting risks

Financial institutions therefore commonly face the two following challenges, namely, how to best possibly satisfy these regulations with today's mobile device technology and how to ideally cover them in the future. SMS-based authentication solutions are often considered an option for achieving this. The mobile banking scenario, however, fails to satisfy a crucial security precondition, by which a service-independent, separate channel to a separate end-device must be used for SMS-based authentication to be secure. Moreover, as regards SMS and SIM-based authentication solutions, the processes for ordering duplicate or replacement SIM cards have repeatedly been exploited by fraudsters looking to grab credentials. And even if this risk is effectively mitigated by certain telcos, they have thus far fallen short of the ability to further control the security of the mobile device operating systems that integrate the SIM cards with the on-device keypads and displays.

Given these factors, many financial institutions began pursuing a more risk-based approach, in which regularly needed low-risk functionality is offered on the basis of a convenient one-factor authentication (1FA) and occasionally needed higher-risk functionality requires an extra 2FA based on a separate easy-to-carry and acceptably-easy-to-handle user-only-controlled hardware. In order to qualify as such, form-factor, size and user interaction that come with a specific 2FA hardware must accommodate for all common mobile scenarios. Solutions in this category therefore include but are not limited to key-ring tokens, Bluetooth tokens, display chip cards and NFC-enabled chip cards, with a proper user-only-controlled interaction model.

Secure hardware

Nonetheless, the target solution that all eventually aim for remains a different one, namely, one where mobile device manufacturers succeed in making their promises come true and making their devices really trustworthy, i.e., user-only-controlled and through this appropriate to hold personal 2FA credentials. To achieve this, on-device keypads, displays and secured personal credentials would have to be set for user-only control before they are used for 2FA purposes. New developments have recently surfaced among device manufacturers that aim to offer bring-your-own-device (ByoD) solutions with a hardware security level. Some of them bear interesting features that could well be leveraged towards supporting a secure mobile device-only 2FA, if affordable cost-wise.

The future will tell us whether a single-hardware approach ever succeeds or if a separate-hardware approach, like NFC-enabled chip cards, will prove to be faster in establishing itself as a common market standard. Meanwhile, the risk-based approach appears to be the best possible approach to satisfy demand while bridging the current technology gap.

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