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Instant payments

A guide for corporates

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Instant payments: A guide for corporates

Instant payment schemes have been developing all around the world over recent years, gaining traction in the consumer payments sector to the point where physical cash is reducing as a preferred form of payment. But what is the infrastructure that sits behind making all of this happen and how is it regulated? What are the opportunities and benefits for corporate treasurers embracing these as part of their liquidity management strategy? This white paper provides a comprehensive guide of the schemes in place and how they work – and how to make the most from them

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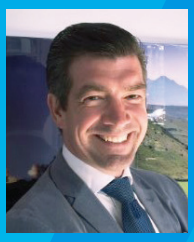

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Foreword

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Instant payments, which give the ability to transfer money within a few seconds, are about to become the biggest trend in payments.

Over the past five years, new instant payment schemes – also known as real-time payment or faster payment schemes – have been developed across the world and increasingly gained the attention of banks, consumers and companies.

"Would you like to pay by cash or by card?" This is a question regularly asked in restaurants or shops. It has become so well-established that we typically never ask ourselves why exactly those two ways of paying for goods and services are favoured by merchants. However, the answer is simple: both methods allow the experience of transferring funds in real time.

Consumers and corporates

Instant payments offer an alternative means of real-time money transfer. It is one that could be beneficial for both consumers and companies and ends the cash flow latency of what is often two or more working days until a payment process is closed. When you combine this with the support of application programming interface (API) technology, you have a transformative proposition for corporates which can embed deep in their processes and play an integral part in the customer experience.

For many modern business relationships and business models, lengthy payment execution times are no longer acceptable. Especially in an e-commerce or on-demand environment, the seller needs certainty that the buyer has paid the requested amount before the goods are sent or the service provided. To eliminate or minimise waiting periods for the client, typically payment methods are used with a guarantee for the seller that they will receive the payment. Giving such a guarantee is not free of charge; somebody needs to be compensated in return for undertaking the risk. The use of instant payments sets out to alleviate the costs associated with a transaction for corporates.

To demonstrate the benefits, let's consider an example of what is already possible using existing technology. Imagine a treasurer of a German computer manufacturer that employs a just-in-time stock management model. Having just received a large order, she seeks to import some parts from another European supplier. The supplier receives the order and, having been paid instantly, logs into a logistics app to arrange delivery for its important client. As luck would have it, the app shows some spare capacity in a truck due to leave for Germany later that afternoon. To book at the last minute, the logistics company requires a commitment of intent however. The supplier books the spare capacity via the app using instant payments, and the goods are sent to a very satisfied client.

Towards real-time treasury

The benefits for corporates do not stop here. Making a payment in real time can be seen as simply the first step on the journey to a real-time treasury. Looking ahead, instant payments mean that liquidity buffers become obsolete, with surplus cash invested elsewhere. Real-time cash-flow forecasts will pinpoint the exact time and amount of borrowings that may be required.

However, instant payments are relatively new on the market, with the infrastructure and product features still being developed and a need for the maximum amount per transaction to be increased. This white paper describes the current status of developments in various instant payment schemes around the world with the focus on Europe, shows global trends in the development and transformational powers of instant payments and sets out how corporates can prepare for the future of payments and the future of treasury.

1

Instant payments are now available globally

1.1 Introduction

Various payment systems have evolved over time to satisfy the unique demands in different markets or countries – each utilising distinct technologies and formats and complying with very different regulatory environments. While this has generated diverse approaches to the processing of payments, there are several common global trends that influence the further development of payment systems around the world.

These trends include not only the higher convergence of existing payment systems, omni-channel approaches in trade and commerce, upcoming new payment methods and the increase in cashless payments, but also the pure speed of transactions.

While the desire for speed might be universal, there are disparities in the development of instant payment processing systems. Many countries have already introduced instant payment systems, gaining several years of experience and further developing the systems according to their own needs. While various markets have developed systems addressing corporate needs and use-cases, the huge European payments market has initially focused on smaller and private payments – a common approach for nascent systems that often sees consumer-to-business (C2B) and business-to-business (B2B) services added as the instant payments environment matures.

For the purpose of this paper the main criteria used to benchmark different instant payment services are speed (finality within seconds), 24x7 all-day availability and the irrevocability of the payment (see Figure 1).

Figure 1: What is an instant payment?

Instant payments is expected to become the "new normal" in payments

Clearing takes place 24/7 | 365 with immediate funds availability.
Payment is irrevocable and can be initiated throiugh multiple digital channels

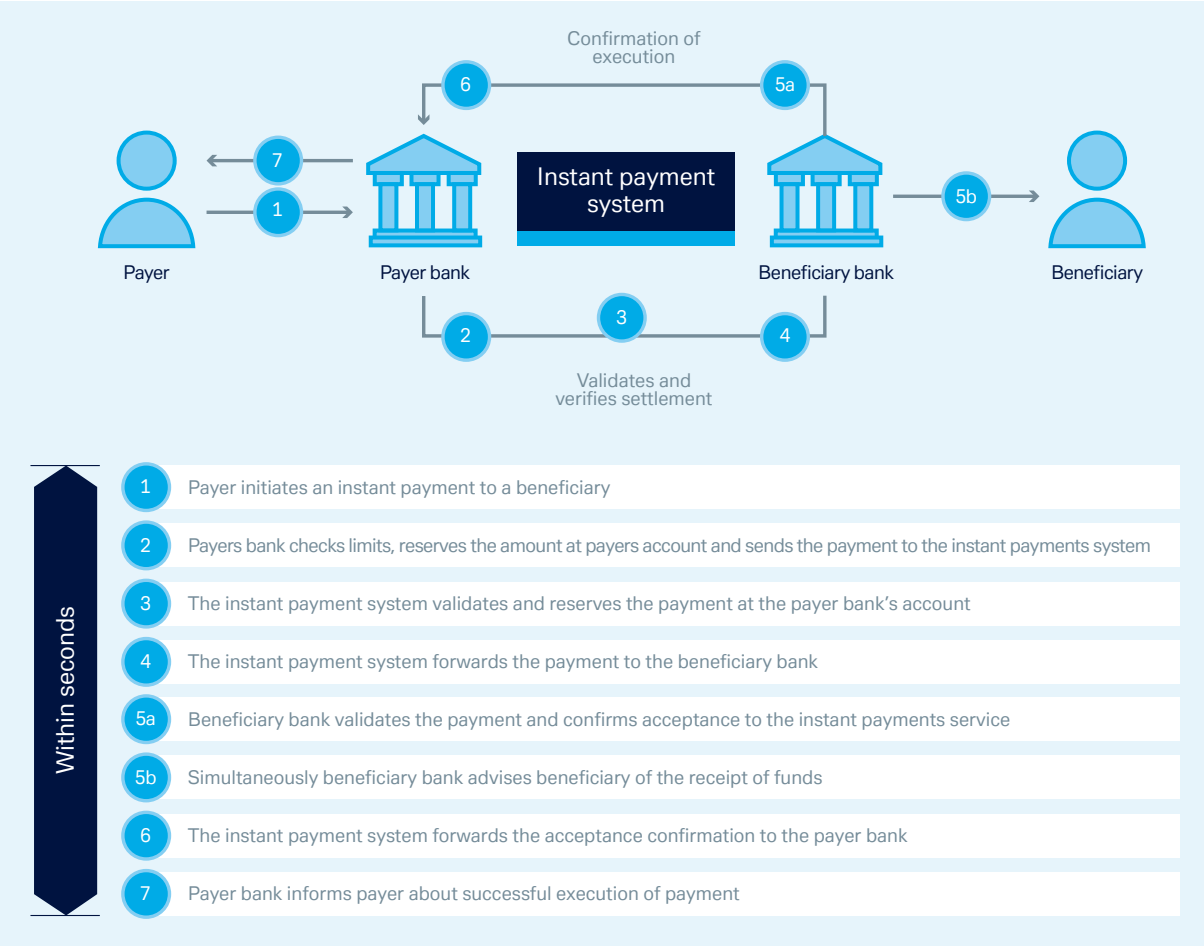
Source: Deutsche Bank

1.2 Instant payment schemes explained

Individual systems differ in many ways. Input channels or customer front-ends vary from bank to bank and can include: APIs, host-to-host channels, native internet banking channels, ATMs, mobile banking, or even manual payments initiated at the counter. In some systems the bank data, such as account number and/or online banking, ID is required; in others the mobile phone number or another

unique identifier are sufficient. Some schemes process transactions 24/7/365 and credit the amount to the recipient within seconds; in others transactions can only be processed instantaneously at certain times and hours may even elapse before they are actually settled. The underlying format on which the data exchange takes place also differs between the systems – from standard ISO variants to proprietary ones. And last but not least, the way in which the recipient is informed about incoming funds on their account can differ considerably from one payment provider to another. However, all these schemes follow common basic principles, as shown in Figure 2.

Figure 2: Process flow of an instant payment scheme



Source: Deutsche Bank

Some instant payment schemes additionally support pull payments, which can be processed in different ways:

- Request to pay (R2P). Based on a QR code issued by the beneficiary, which has to be scanned by the payer and eventually results in an instant transaction; and
- Direct debit. The receiver can actively "withdraw" funds from a payer's account.

Apart from the basic procedure settlement, processes between initiating and receiving bank differ as well: from continuous instant settlement up to deferred next day settlement.

1.3 Global view of regulation, market practice and other drivers of development

Figure 3: Real time – a global trend

Everything is moving to real-time exchange of information and data, and payment is no exception

Regulation

In some countries the support of instant payments is mandatory

Globalisation

Customers demand a standardised offering in various locations around the world

Clients

Are expecting payments to be easy and secure, always and everywhere available, executed in real-time

Innovation

New technological enhancements enable innovation that provides customer value

Market infrastructure

The use of ISO standards is recognised as a key element to exchange structured information in real-time

Instant payments is expected to become the "new normal" in payments

Source: Deutsche Bank

1.3.1 Global drivers

The drivers for the trend to faster payment schemes are numerous and start with the global move towards real-time, which has influenced many developments from e-commerce to the emergence of social networks and super-fast data transfer.

With ageing payment infrastructure in many established economies it is reasonable to invest in real-time payments while overhauling IT systems from the 1970s and 1980s. In addition, banks, other financial services companies and fintechs are innovating around the world to satisfy clients' needs for simple, fast and reliant payment options.

Regulators globally, and especially in Europe, also seek to foster innovation by mandating – or at least encouraging – the development of new faster payment schemes. These actions in several key markets are prototypes, which are then adopted in several other markets. Globalisation not only intensifies competition in trade, but in payments as well.

1.3.2 Open banking

Open banking regulation, such as the Payment Services Directive (PSD2) in Europe, mandates banks to provide technical access to clients' accounts to approved third-party providers (TPPs) – with many banks utilising application programming interface (API) technology to enable this. This new regulation gives the customer sovereignty over their data, allowing them to decide whether and which TPP they use. The main use cases in this context focus on payment initiation and account information but additional functionalities such as instant notification of receipt of payments and beneficiary verification add value to the use cases in which instant payments are used.

While SEPA Instant Credit Transfer (SCT Inst) is not mandatory, PSD2 dictates that once a bank has put this service in place, it has to offer it through a highly regulated Access-to-Account (XS2A) interface to TPPs and not only through their primary customer interface.[1] This means other payment service providers (PSPs) can offer new products based on instant payments and drive innovation based on regulation.

While open banking and regulation provide new opportunities, one fundamental prerequisite for broad market adoption is the use of standards – especially format standards – that ensure easy integration in systems of all parties involved and processing of payments through all stages of the value chain. Ideally, these standards would be adopted on a global scale.

1.3.3 ISO 20022

The ISO 20022 payments messaging standard aims to standardise global payment transactions and caters for easy integration of standard formats in the whole payment process – from the payer to the payee. This standard seeks to converge existing and new message types across different areas of finance globally. ISO 20022 provides a platform that provides a consistent message development and modelling process.

Thanks to this globally uniform standard it is easier to create interoperable systems within a global organisation and different payment systems. Payments can be processed faster, more easily and more transparently. On the other hand, the ISO 20022 migration, which happens concurrently in several payment schemes and markets (see Deutsche Bank's Guide to ISO 20022, parts 1 and 2 for more information[2]), generates a new diversity which has to be managed. While the standard itself is always the same, the usage of fields, field lengths and formats within the standard differ in each application of the standard. SWIFT ISO format differs significantly from TARGET ISO or SEPA ISO formats. These variations have to be addressed when entering a new market or being part of different payment schemes.

Regardless, companies operating in different countries are able to more swiftly initiate their payments in a standardised format, and improve their reconciliation process based on ISO 20022 standards that include end-to-end identifiers and standard remittance information. Further transparency regarding the originator or receiver of a payment will be enhanced by an end-to-end use of the ultimate beneficiary and debtor fields ("on behalf of" information).

1.4 Instant payments schemes around the world

Many countries have already developed their own instant payments solutions. They are not interconnected, are different on a technical level from each other and address quite different use-cases. As a basic denominator, most of the international instant payment systems use an ISO 20022 XML based format. Legacy systems, which are evolving to address newer requirements, are switching to ISO 20022 XML as well.

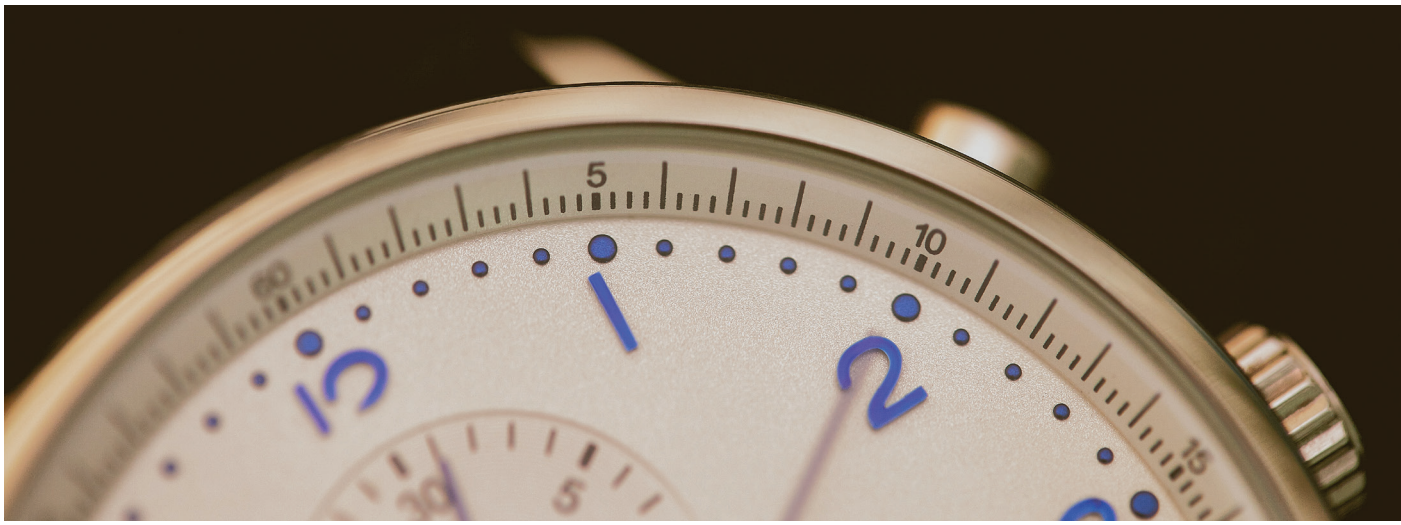
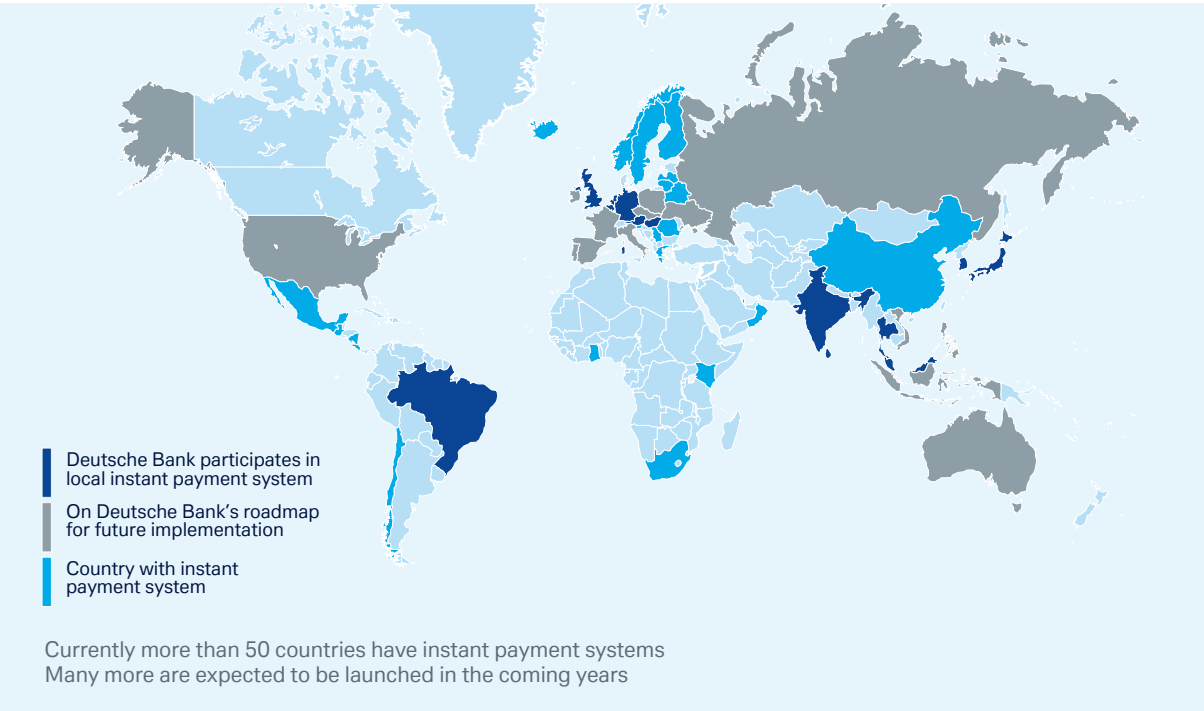


Figure 4 shows which countries already offer instant payments solutions with Deutsche Bank participating (See Section 4 for more details).

Figure 4: Instant payment schemes around the world



Source: Deutsche Bank

1.5 Instant payments in practice

There are numerous ways that instant payments can be used in the corporate world. To give a flavour for the variety of use-cases developing, this section focuses on three unique scenarios: booking spare capacity last-minute, securing on-demand services and smart contracts.

1.5.1 Booking spare capacity last-minute

Corporates will frequently seek to book spare capacity last-minute, whether this is with cargo companies or manufacturers, as and when the need arises. Yet, naturally, if a cargo company is to reserve space within a container, or a manufacturer is to reserve machine capacity, they will require part- or full-payment at the time of booking. By using instant payments, corporates can provide this commitment at the exact time of booking, allowing capacity to be booked even closer to when it is required.

1.5.2 Securing on-demand services

The rise in popularity of on-demand computing – whether it be for cloud services, software or data centre capacity – is seeing computing resources increasingly being made available to users as

needed. With the ability to pay instantly, corporates can seize and use these services far quicker than previously, allowing them to scale-up IT infrastructure in an even more agile manner.

1.5.3 Smart contracts

There are numerous industry pilots currently testing the viability of using distributed ledger technology (DLT) in place of documentary services for trade finance transactions. This creates the potential for the use of smart contracts – self-executing contracts stored on the distributed ledger that automatically execute the payment processing when specific conditions are met. When combining smart contracts with instant payments, you could envisage a scenario in which, once a company verifies that it has received a shipment of goods on the blockchain, the contract would automatically trigger the payment that would instantly arrive in the supplier's account. This holds the potential for further accelerating the transaction and reducing the likelihood of payment processing service errors.

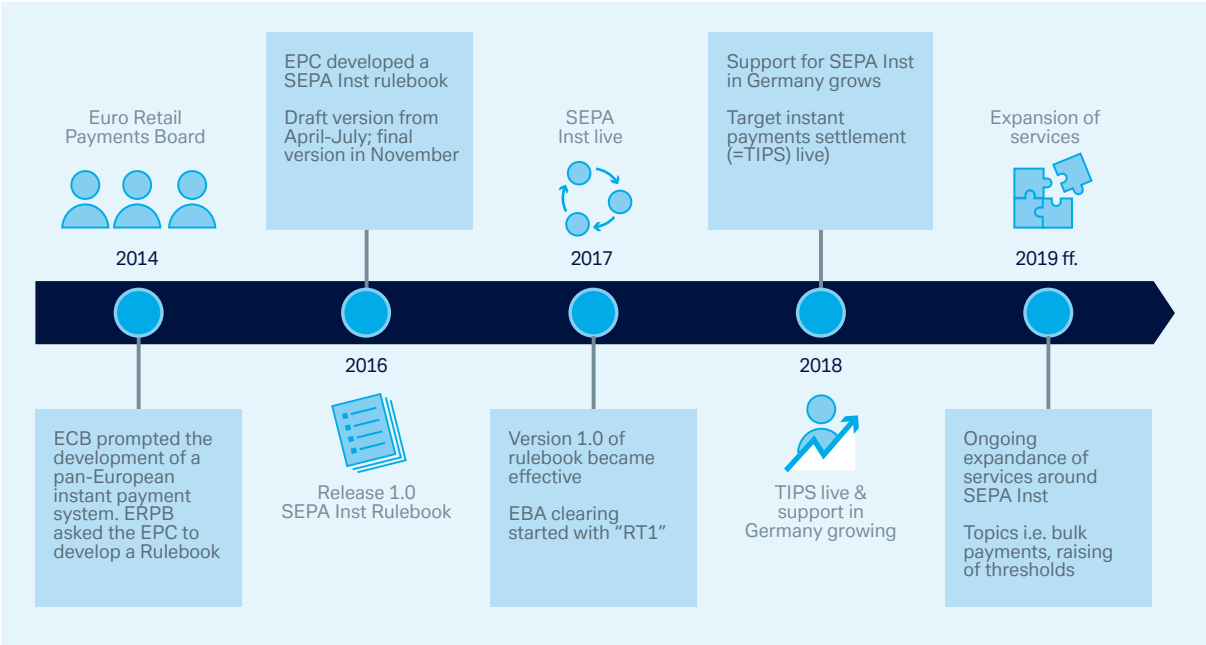
2

SEPA Instant Credit Transfer: challenge or opportunity?

2.1 Introduction of SEPA Instant Credit Transfer Scheme

SEPA Instant Credit Transfer (SCT Inst) is based on SEPA credit transfers (SCTs) and can be seen as an evolution of the SEPA scheme introduced in 2008.

Figure 5: Evolution of SEPA Instant Credit Transfer



Source: Deutsche Bank

In order to meet demands from users for a seamless payments system and from public authorities for efficiency and a maintenance of provider profitability, the Euro Retail Payments Board (ERPB) presented a definition of instant payments in December 2014 (see Figure 5 for evolution), with the aim of developing at least one single pan-European solution by the end of 2017. The SCT Inst scheme was created by the European Payments Council (EPC) and supervised by the ERPB, with the scheme's rulebook[3] and implementation guidelines developed in just one year.

In April 2016, a public consultation took place, with the scheme published in November that year following review. Exactly one year later, in November 2017, the scheme entered into effect (Version 1.0 of the rulebook) and the first SCT Inst transaction took place. Since then, more than 2,000 European Payment Service Providers have adopted SCT Inst within Europe.

2.2 The SEPA Instant Credit Transfer scheme in practice

Instant payments are gaining increasing momentum in Europe on their way towards a "new normal" and a replacement for regular SCTs. Several banks in the EU already support instant payments, at least on a passive basis (which means that payment accounts held with that bank are enabled to receive SCT Inst). The Netherlands plays a key role as a frontrunner when it comes to instant payments reachability, with Finland and the Baltic States also at a mature stage in their migrations. Other EU countries are following with varying degrees of maturity.

In order to receive or send SCT Inst, banks must be connected to at least one Clearing and Settlement Mechanism (CSM). All the CSM instant payment systems are designed for the entire euro area, but CSMs are not interoperable – something that the ECB has made clear it expects to be addressed. Other obstacles in this context include amount caps or other specific design decisions, mainly driven by client expectations and competition in the relevant markets.

Established payment systems that already offer virtual real-time payments in a closed network – such as iDeal or PayPal, for instance – have already been setting the standards, which have to be met or even exceeded by competing payment schemes such as SCT Inst in order to be accepted by customers. In summary, this means 24/7/365 availability of the system, irrevocability and real-time execution of payments – or at least within seconds.

Another significant challenge is fraud prevention. Instant payments can mean instant fraud: funds can be moved so quickly from account to account that there is little opportunity for noticing or intervening in time. So how can banks address the issue? In short, heightened risk is being met with heightened caution. A central part of the instant payment process is ensuring that all necessary checks – sanctions checks, embargo screening, fraud checks, funds availability, booking and reporting – are completed within a fraction of a second, while all corporate transactions undergo a check by the corporate before initiating the payment. The mantra is: if in doubt, reject it. This doesn't necessarily have to mean higher rejection rates: payments providers are already building "white lists" to identify transactions that meet the criteria for rejection under the banner of heightened caution, but that have been demonstrated to be non-fraudulent.

Although SCT Inst is still in its early stages of development and subject to certain restrictions, it has already taken on an important role. The current obstacles are reachability, amount limit and fraud. But the advantages outweigh the obstacles: companies need fewer liquidity buffers, they can obtain a more accurate picture of their finances and can make their payments just-in-time (see next section for more details on the corporate benefits). The customer experience will also be improved and, once customers get used to instant payments, they will expect companies to do the same.

2.3 Overcoming the challenges

Developed from more of a retail perspective, SCT Inst is also available for corporate customers in the B2B area. The SCT Inst rulebook stipulates that once a bank has decided to adhere to the scheme it should offer an instant payments service at least on a passive basis (receiving incoming SCT Inst transactions from other banks on their customers' payment accounts). Receiving funds instantly and being notified on the account statement – or through other channels such as a banking app or text message – is a clear advantage for individuals, but might be a challenge initially for corporate customers when it comes to automated payment processing.

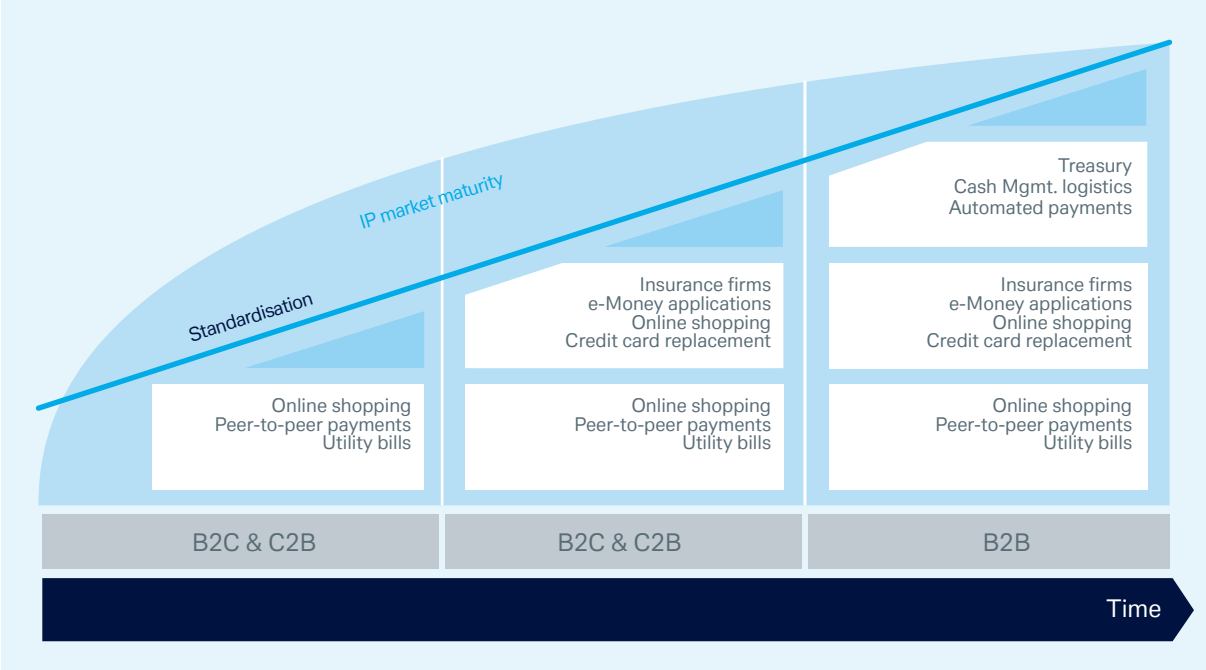
While individuals submit their real-time-payments online or via mobile banking, other channels have to be considered for corporates. Usually companies use host-to-host channels (EBICS, SWIFT) for the submission of payments as a batch file. However, using APIs will make it possible to initiate payments on a real-time basis.

Instant payments is not only a technology change, however, and corporates will need to re-shape their workflows and operations accordingly. One of the biggest effects of the shift to instant payments is the impact on liquidity and investments. Currently, funding and investment instruments are structured on a daily, weekly or monthly basis, with interest calculated daily. The ability to make and receive payments 24/7 forces a change in this model towards intra-day liquidity with interest calculated hourly or even minute by minute (see The road to real-time treasury[4] for more on the changes that will need to be made for treasuries).

2.4 Use cases

The utility of a system depends on several factors, with the maturity of the respective payments markets and the technical standard playing a central role. In more mature markets there are use cases which can benefit from quicker payments, but only if the standard can support this approach and vice versa.

Figure 6: Development of use cases per customer segment



Source: Deutsche Bank

As illustrated in Figure 6, the use cases for a new payment system or technology depend on several factors, which impact some business relationships more than others. Generally, the use cases can be separated between the different roles in the market:

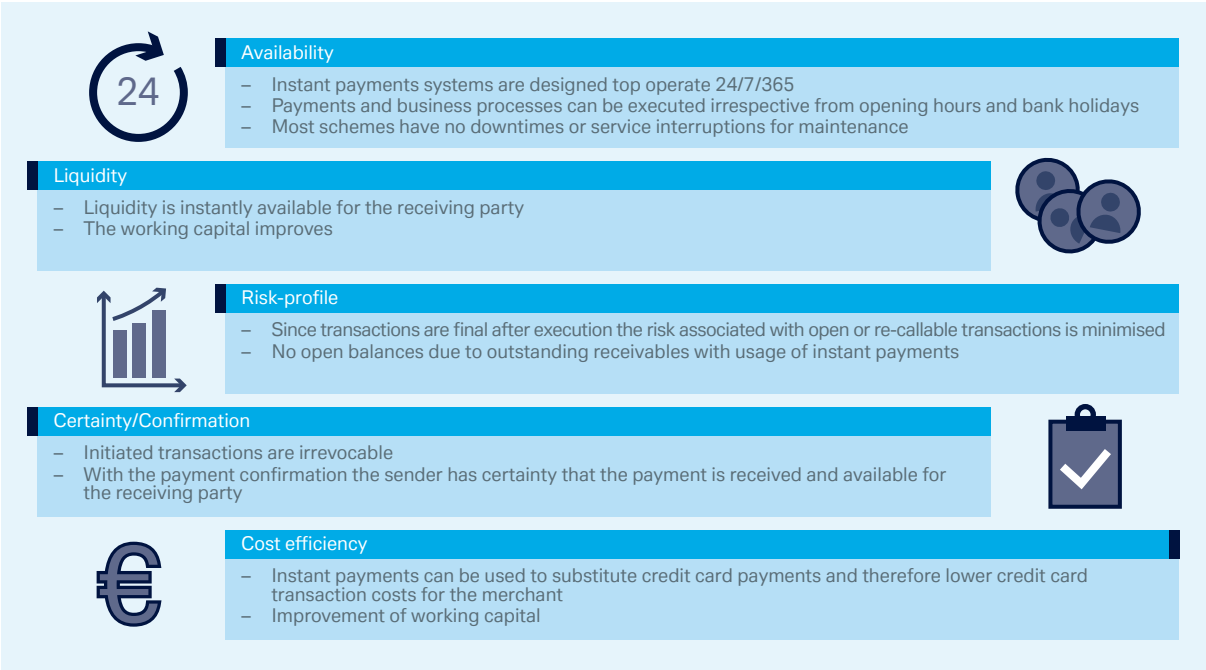
- Peer-to-Peer (private customers). Payments between consumers (peer-to-peer; P2P) are often regarded as the most obvious and straightforward use case, whereby instant payments organically replace existing time-sensitive credit transfers. The transfer can, for example, be initiated through an app on a mobile phone and be received within the same app on the recipient's side. Such cases are already familiar from systems like PayPal and others, which offer virtual money transfer between wallets. Instant payment-based systems can offer real money transfer where the recipient can, for example, withdraw the money from an ATM seconds later, without a third-party intermediate but through the trusted bank system. Obviously, the replacement of regular credit

transfers via the bank interface with instant payments can be a first step to a 'new normal'. Private customers, who are used to instant payments for their general payments, are drivers for corporate use cases of instant payments as well.

- B2C and C2B. Cases where both businesses and consumers (B2C and C2B) are involved are more complex than P2P transactions due to the processing required within the companies. Corporate use of instant payments automatically generates challenges with respect to authorisation of payments, reconciliation and reachability. Consequently, any use cases involving corporates require a high level of standardisation in the underlying system and a mature general market infrastructure.
- B2B. B2B use cases are very complex, because they involve two or more complicated corporate structures, which not only have to implement real-time payments processing into all relevant processes but are often distributed over several countries. This complexity generates the need to implement different real-time payments methods and to tie them together within the corporate structure. Additionally, governance, clearing and settlement of payments differ and have to be aligned to produce a logical payment structure within a multinational firm and to benefit from the speed of payments.

2.5 How corporates can seize the benefits of SEPA Instant Credit Transfer

Figure 7: Key benefits provided by instant payments



Source: Deutsche Bank

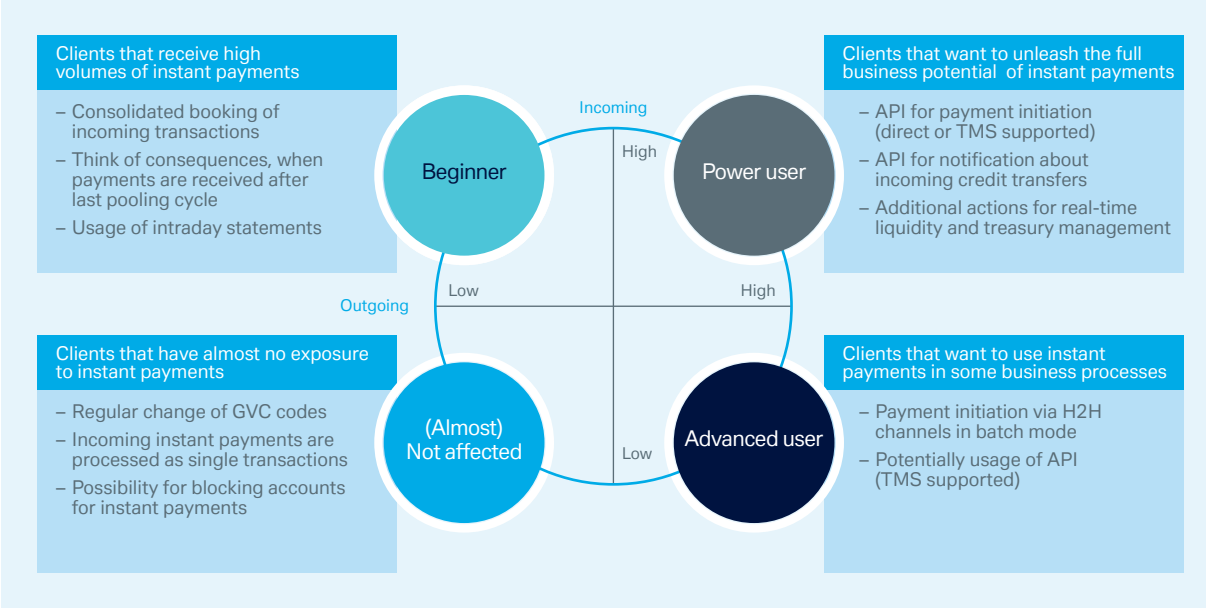
Figure 7 demonstrates the benefits of instant payments; the service can be relied upon 24/7, allowing far more efficient liquidity management and working capital optimisation.

For incoming payments, companies benefit from lower risk mainly through the irrevocability of the payment and lower cost. For an online shop, for instance, a merchant can ship items immediately after receiving credit notification given that there are no outstanding receivables and the payment cannot be revoked by the customer without the recipient's consent. In addition, the merchant saves credit card fees or costs for a payment service provider to secure the payment. These benefits from

the usage of instant payments can only be put into effect once the merchant's internal systems are able to receive and process the bank's notification of an incoming payment immediately.

Figure 8 depicts how corporates could be identified as one of four basic "types" on their journey towards adopting instant payments.

Figure 8: Customer groups in relation to incoming and outgoing instant payments



Source: Deutsche Bank

2.5.1 Clients that receive high volumes of instant payments

Corporate customers, which receive a high volume of incoming payments (from consumers) will be impacted by the growth of instant payments. While banks will smooth adoption and provide new payment and information services, corporates (depending on their size and level of automation of payment-related processes) will need to consider several changes in order to manage the new functionality. In particular, they should consider that:

- Liquidity can increase at any time on any day, at short notice outside business hours or on the weekends. While this can benefit working capital, it can also lead to challenges in the area of cash management processes and for systems that usually work during regular business hours and/or depend on end of day processing.
- Automatic reconciliation processes of instant payments transactions based on ISO 20022 camt.5x- or SWIFT MT94x messages need to be adapted because of attribute changes in the different message types to distinguish instant payments transactions from others, such as Bank Transaction Code.
- New reporting capabilities such as credit notifications for incoming instant payment transactions based on camt.n54 through EBICS- or API-connections should be considered as a potential upgrade to business processes – especially for corporates that rely on real time information about incoming funds. In some cases it is not sufficient for the financial department to receive this type of information as an electronic account statement, which is then manually forwarded to other relevant parties. Current API functionality makes it possible to provide this information target-oriented without manual intervention.

However, while changes will be necessary, corporates should seize the opportunity for new business opportunities. Customers will expect more in the future: corporates will need to consider the importance of both enabling them to pay in real time and being able to respond in real time.

2.5.2 Clients that have almost no exposure to instant payments

Corporates with low volumes of incoming (consumer) payments, which are not made using instant payments systems, are clearly not currently affected. But this will change once one of their (business) payers starts using instant payments.

2.5.3 Clients that want to unleash the full business potential of instant payments

In addition to passive usage, banks can opt for active participation in SCT Inst meaning that they can both send and receive instant payments. How can companies benefit from this ability and when should it be used?

2.5.4 Clients who want to use IP in some business processes

Advanced users can select which business processes they wish to use instant payments systems for and which remain in batch mode. One way of making this happen is to connect their treasury management system using API functionality.

2.6 Combining instant payments and APIs

Instant payments alone will be unlikely to appeal to corporates – unless they are able to initiate payments on a real-time basis, or if the payment initiation process has any unnecessary latency removed. This provides a great opportunity to combine the potential of APIs together with instant payments. These standardised interfaces can be used to ensure safe, real time connectivity and interactive collaboration between different entities.

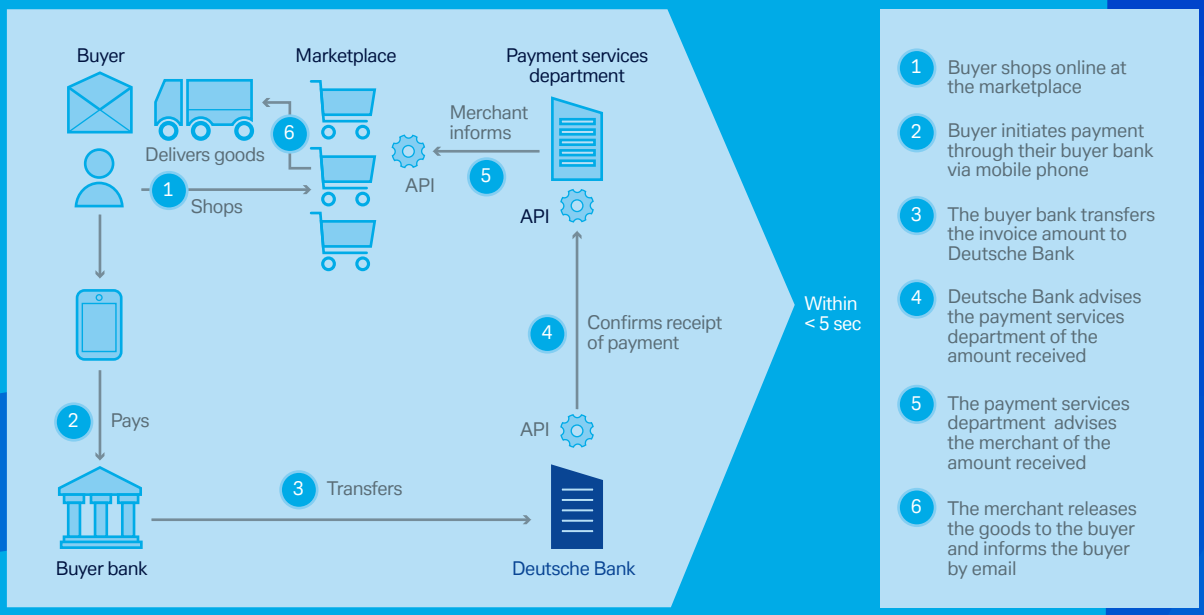
2.6.1 Examples

Consider, for instance, the example outlined in Figure 9, which demonstrates how APIs can facilitate an interactive relationship between an online marketplace and a bank.

Figure 9: Payment- and information flow from an e-commerce perspective

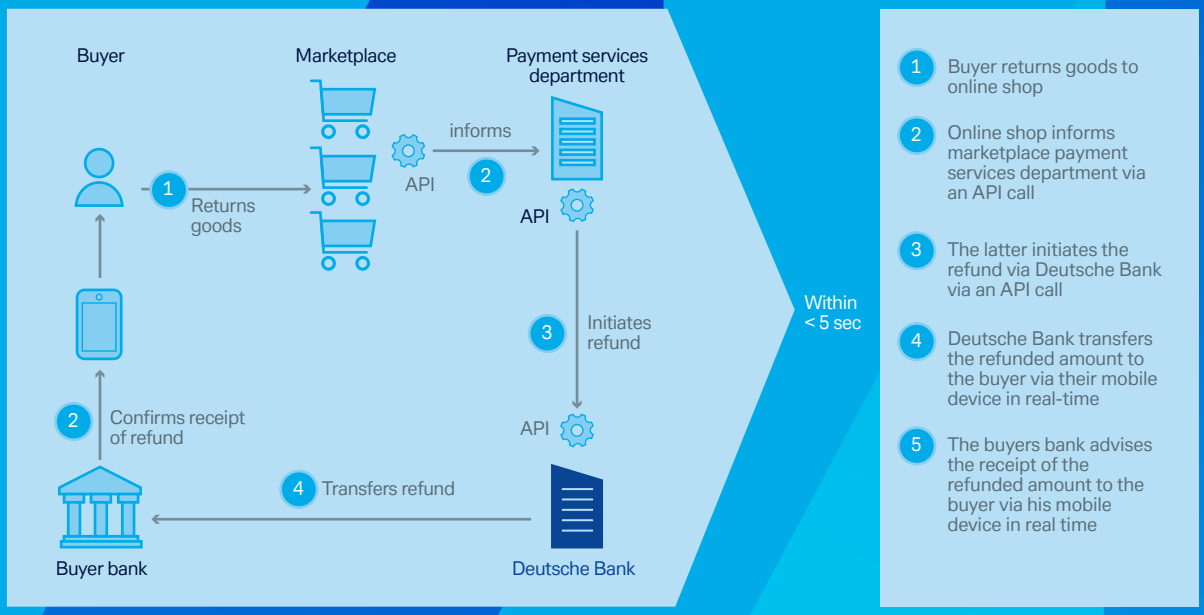
Shopping for a new shirt to take on holiday, a retail customer, Christine, searches an online marketplace, before finding three articles she likes. Undecided as to which one to buy, she orders all three. Naturally, Christine has to pay upfront, and decides to use her mobile banking app to initiate the payment. Within seconds she receives confirmation from the merchant that the payment has been processed, and the goods are delivered to her house. The diagram below depicts each step that must occur in order for the process to be completed (all of which are invisible to Christine).

Stage 1: Payment and information flow from an e-commerce perspective



However, Christine does not want to keep all three shirts, and chooses to return two. The returned goods trigger another series of events, enabled through APIs and instant payments, which ensure Christine receives the refund for the returned items before she departs for her holiday .

Stage 2: Return of goods



This example goes some way to explaining the rising demand for always-faster services. Online marketplaces have clearly altered customers' buying habits, creating the need for payments and refunds to be completed in real time, or at least within seconds.

This example is far from futuristic. Today, faster refunds, enabled by API technology, are reasonably commonplace – the only downside for the retail customer is that they are typically only offered with credit cards. Following the introduction of instant payments, however, customers will benefit from an even faster service, and at a lower cost, as card transaction fees could reduce.

The beauty of this solution is that, by combining instant payments with APIs, and by integrating these directly into the corporate's own business processes, the corporate is able to interact with their bank in real time, 24/7/365 – without downtimes, or cut-off times. The bank, in turn, can offer a better service to clients (and at a lower cost than credit cards), improving liquidity and potentially gaining a competitive advantage over peers.

With this in mind, information about payments, sent or received, is no longer just intended for treasury and accounting departments; it is also of use to sales and other business areas.

Figure 10: Cheque replacement by instant payments to streamline processes

Insurance firms currently use cheques to settle minor cases where an insurance agent at the scene can identify the damage and agree with the insured customer directly about the payable amount. The intention is to instantly settle the case and to give the customer the good feeling of quick and easy service. No further analysis is necessary and the customer can quickly replace the lost, destroyed or damaged item or pay a contractor to fix the damage in the knowledge that the cheque will cover the cost.

While cheques can be easily given out by the insurance agent and the insurer thereby guarantees the payment, processing of the cheques is the responsibility of the customer. Further, the cheque processing has to be implemented in the firm's processes and systems and a case is only closed after the cheque is cashed in by the customer.

With instant payments, this process can be further improved in the future, because the customer does not need to clear the cheque at their bank but receives the amount directly into their bank account.

To make this use case happen, the insurer has to implement a system to enable the insurance agent to authorise a payment on behalf of the firm, to process it within their own systems and then to display the payment to the customer to show the payment was initiated (most likely via an app). The customer can then see the incoming payment simply in his own banking app.

As seen in Figure 9, the use of instant payments in combination with API technology is part of a wider digital transformation taking place in all areas of the economy. Clearly this transformation is a challenging exercise for banks and corporates alike – one in which established processes will need to be questioned and, in some areas, revised. Yet it is worthwhile. Digital transformation enables customers to execute transactions within seconds, in a safe and secure manner, and allows corporates to explore new business models and stand out in the new competitive environment.

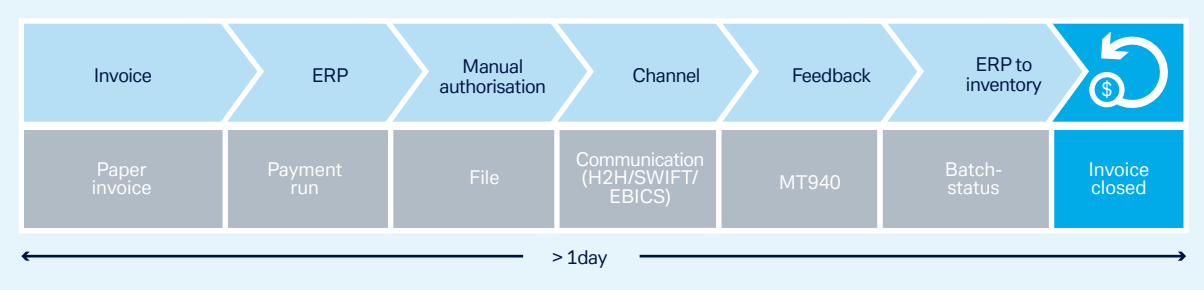
To make the implementation process as easy as possible for clients, forward-thinking banks will offer solutions that are supported by established client access channels, utilising existing infrastructures, while simultaneously paving the way for new technology.

As evidence of this, Deutsche Bank and global B2B fintech software company Serrala announced the launch of the first API interface for SCT Inst in April 2019, allowing payments to be initiated through corporates' enterprise resource planning (ERP) system and processed 24/7/365 with immediate confirmations.

2.6.2 Instant batch payments

But what about other types of payments, which are not directly associated with a use case that requires an instant payment? Take an invoice due to be paid, for instance, which is usually processed through several steps that take some time (see Figure 11 for workflow).

Figure 11: Workflow of an invoice payment



Source: Deutsche Bank

So what could be the benefits of combining instant payments and batches? Each invoice has a due date by which time the payment must be made. When entering the payment, determining the right execution date can be a difficult task, which considers aspects such as the duration of the payment process, valid business operating days and cut off times, among others. However, once it is known that the beneficiary is reachable with instant payments[5], which can be processed any time, the payment due date can just be set as the execution date.

For recurring payments that are payable weekly or monthly (such as salaries), instant payments make it possible to pay out on exactly the same day each month, regardless of weekends or holidays. In the near future it will even become possible to indicate, in addition to the execution date, the exact time of executing. No more cut-off times to consider or "business working days", as the payment will reach the beneficiary at the exact moment specified as the required execution date and time.

By controlling the exact moment of execution, companies can optimise the funding process – triggering funding at the moment the batch is processed – and therefore improve their liquidity management. Instant payments can, of course, also be used to transfer money within a company to cross fund accounts. Combining instant batches and instant fund payments will make it possible to

fund accounts "just-in-time", operating liquidity management in real-time, with liquidity automatically deployed in the right place, time and amount. While amount thresholds remain a constraint for the time being, this may be resolved by bank-specific solutions and increases in thresholds.

Even when it is not known upfront if all payments can be processed instantly, a batch can be processed whereby the majority of payments will be executed instantly, with the remaining payments that cannot be processed instantly defaulting to the SEPA "classic" processing. In this way, the majority of payments in the batch are paid as soon as possible, with others paid in the traditional way.

Creating an "instant" batch file is straightforward as the same formats and channels can be used as for "classic" SEPA batch files. A simple indicator needs to be added to indicate that the preferred way of processing is instant. Sending the instant batch to the bank is exactly the same as for the current batches.

As feedback to such a batch is final and available directly after the moment of execution, it allows companies to directly react: positive feedback allows the invoice to be closed that same moment; negative feedback (reject) allows corporates to follow-up with their investigations immediately to ensure timely payment of the invoice, while the related funds of the reject can be redeployed elsewhere.

Another advantage of using instant batches is that the available processing window is much wider than with classic batches. Processing windows of batches are currently limited by the settlement cycles and cut-off times, dictating when the batch has to be submitted if the user wants the payment to reach the recipient the same day or next day. With instant payments, as most process steps in the creation, sending and reconciliation of batches are fully automated, they can be executed at any time during the day. With no need to consider cut-off times, the batch execution can be spread across the day, week and month to benefit the complete end-to-end processing chain involved.

3

Instant payments: existing and future added functionalities

3.1 Success stories from other schemes

Instant payments can be considered as the starting point for banking of the future, as it paves the way for many new functionalities around payments and connected processes between different parties. As previously mentioned, it is not only speed that differentiates instant payments and "regular" payment systems; it is the additional services – especially in the mobile payments area – that drive market adoption, leading to many success stories around the globe. It is worth looking at trends in other countries, as they can give an indication of what to expect in terms of Europe's development.

3.2 Request to Pay

In every continent there are countries that have already introduced Request to Pay, or R2P, initiatives, or are in the process of doing so. Even when there are differences in execution, the basic idea is the same – to simplify payments. With R2P, no printed invoices are sent to the customer; rather they are sent electronically via a platform directly into the customer's online banking system, where the payer can manage his invoices. In addition to the environmental advantage, the risk of errors being inadvertently introduced by the customer when making the payment is eliminated, the distribution of the payment initiation details being done electronically and instantly.

The ERPB has established a working group that focuses on establishing a pan-European framework for R2P in Europe to avoid a market fragmentation that could be caused by many different R2P initiatives.

The partnership between Deutsche Bank and the International Air Transport Association (IATA) is a strong example of how R2P can work in practice. Under the IATA Pay initiative, launched in May 2018,[6] payments are collected directly from the customer's account. The aim is to process payments faster, increase security and reduce costs at the same time. The collection will take place in real time and should lead to expensive credit card payments being subsumed for the airlines. Through two-factor authentication, the payments comply with today's security standards and customers benefit from a wider choice of payment methods. Deutsche Bank's white paper, "Request to Pay through Open Banking[7], provides more information on how corporates can realise the potential of combining instant payments with open banking initiatives.

3.3 Trial of instant cross-border gpi payments through TIPS

Working with a group of banks, SWIFT and the ECB have successfully performed a trial on instant global payment innovation (gpi) cross-border payments into Europe using the TARGET Instant Payments Settlement (TIPS) platform.[8]

This initiative proves that it is technically possible to extend the reach of instant cross-border payments deeper into the European market by enabling SWIFT gpi in the TIPS system. Banks carry the cross-border part of the payment journey, which they then settle through TIPS, allowing for instant crediting of accounts at ultimate beneficiary banks across Europe. The ability to process gpi cross-border payments instantly, even when the final part of the payment has to be cleared on arrival within the destination country, is key to ensuring ubiquitous availability of real-time cross-border payments.

The outcome was two-fold:

- Speed was increased, with one payment being made from Singapore to Spain, via Germany, in only 41 seconds; and
- They overcame the availability and automation challenge, with multiple payments conducted with no human intervention while TARGET2 was closed (i.e. overnight).

3.4 Instant Direct Debit

Hong Kong's Faster Payment System (FPS) offers real-time direct debits, requiring an electronic direct debit authorisation (eDDA) by the payer to debit the payer's account.[9] To initiate the payment, the merchant directs the payment request to his bank. The FPS forwards the request to the customer's bank, where it is checked whether the account is sufficiently covered and an eDDA is submitted. Assuming a successful check, FPS debits the open amount to the payer's bank and credits it to the merchant's bank. Both parties will then be informed of the successfully completed transaction, allowing them to inform their customers.

3.5 Bill payments

In the US, Mastercard is developing a platform called "Bill Pay Exchange", which can be linked to the consumer's mobile banking app.[10] Consumers can store all billers, manage bills in groups, view bill details and specify when and how much to pay. They are notified when they get a new invoice or when an already received one is due. Payments are settled in real time via the real time scheme (R2P) of The Clearing House (TCH).

3.6 Proxy service

In most European countries, the IBAN (primary identifier) is required to receive or send money from the user's account. In recent years, the number of countries accepting a proxy or secondary identifier – such as a telephone number, e-mail or tax number identifier – has increased. The advantages are that less sensitive data is shared and that the identifier is easier to remember. In January 2017, PromptPay was launched in Thailand as a real-time payment scheme where the user can register a proxy identifier (mobile phone or National Identity Number).[11]

3.7 Unified Payments Interface

In order for the adoption rate to grow rapidly from the start, it is important that a scheme functions reliably, is safe and convenient to use, and is supplemented by other services – evidenced by the success of the launch of the Unified Payments Interface (UPI) platform in India in 2016 (see Section 4.1.4). The mobile platform is linked to the user's bank account and executes payments 24/7/365 and instantaneously. Users can assign themselves a proxy identifier and use it to send, receive and request funds (provided that both parties are registered with UPI) with use cases for P2P payments, payments to merchants and payment of invoices (as long as the transaction limit of about €1,300 is not exceeded). Thanks to the widespread use of smartphones and the simple implementation of the mobile app, UPI has attracted over 240 million users since its launch.

3.8 P27

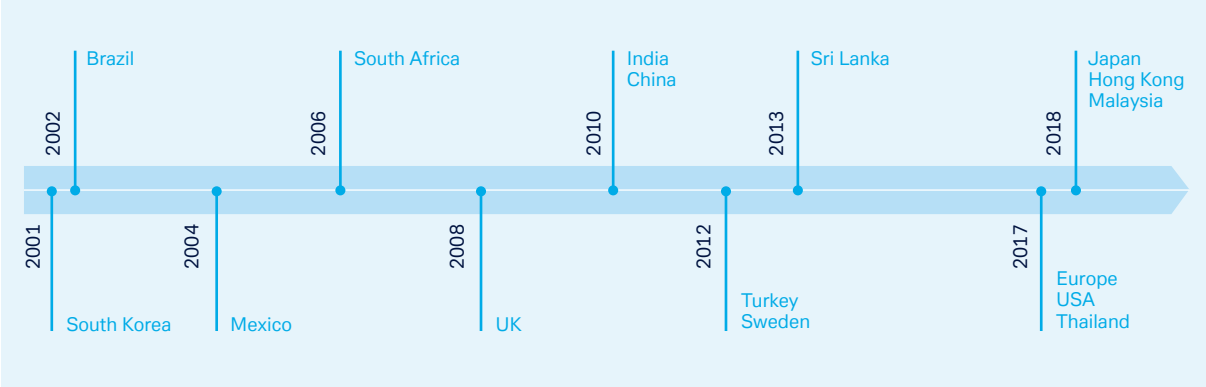
While instant payment systems around the globe play a role on a domestic level or support transfers in one single currency only, the need to go cross currency is the next logical step. SWIFT's gpi initiative is one of the frontrunners when it comes to faster transfers cross border and cross currency. P27 Nordic Payments Platform announced in June 2019 that it plans to build the most advanced, innovative and efficient payments system in the world - in cooperation with Mastercard.[12] This enormous investment is the first system to enable real-time payment with different currencies (Danish, Norwegian, Swedish crowns and euros). Participants will be able to send and receive funds in the Nordic market while saving costs and gaining greater security.

The world of payment traffic is subject to significant changes to make it faster, safer, cheaper and more convenient. Real-time payments are a core component in this process. If projects are successful in one country, it is likely that other countries will follow suit.

4

Overview of global instant payment systems

Figure 12: Emergence of international instant payments systems over time



Source: Deutsche Bank

4.1 Asia

4.1.1 Japan

In the Asian region Instant payment schemes are available in numerous countries. Among the oldest payment systems is Japan´s Zengin System, which was introduced in 1973 and regularly updated over five decades.[13] Since 2018 data of funds transfer advices between banks are sent in real time and enable users to send payments (even bulk) on a 24/7 basis. However, interbank settlement takes place at the end of the business day only.

4.1.2 South Korea

In comparison, South Korea´s HOFINET (Housing Finance Information Network) system offers immediate posting of funds to accounts 24/7 throughout the year while settlement takes place on a deferred net basis the next day.[14] It´s worth mentioning that South Korea has a very high mobile device usage - other payment options have been almost completely replaced. While Japan´s and South Korea´s instant payment systems process instant payments in real-time, Singapore´s Fast and Secure Transfers (FAST) system, launched in March 2014, is a near real-time solution that processes payments albeit it slightly delayed. Thailand began offering instant payments through its PromptPay system in 2017.

4.1.3 Hong Kong and Malaysia

Hong Kong (Faster Payment System)[15] and Malaysia (RPP-Real-time Retail Payments Platform)[16] have the region's youngest instant payment systems, which were both launched in 2018. What all Asia systems have in common - except for South Korea, Thailand, Sri Lanka and India (IMPS) - is the same message format as a basis for exchanging information: the widely-used ISO20022 XML standard.

Depending on the respective national offerings in the Asian region, payments can be initiated through various channels such as ATM[17], internet banking and mobile payments. The latter are sometimes in combination with request to pay-/pull mechanisms (e.g. enabled by using QR codes) that can be used to easily initiate the payment with mobile devices; often with amount caps applied.

This is, for example, a common application on point of sale systems to include scanning systems in supermarkets. Some systems support aliases instead of real beneficiary account numbers, making it easier to address a recipient of funds by simply selecting a mobile phone number or national ID, which will then be translated into an account number.

Malaysia's national payments network and central infrastructure provider implemented a real-time payments platform, DuitNow[18], in January 2019 – with Deutsche Bank making the service available to its corporate clients in May 2019.

DuitNow allows bank customers to send money instantly and securely to accounts that are addressed by easily known identifiers, such as mobile phone numbers, identity card or passport numbers, and business registration numbers. The service aims to displace cash with convenient internet and mobile payments, and has the potential to transform Malaysia's payments ecosystem with immediate 24×7 funds availability.

4.1.4 India

India – the country with the world's second-largest population – runs a scheme called Immediate Payment Service (IMPS), which was implemented in 2010 and has therefore undergone more development cycles than others.[19] The system operates 24/7/365 and runs on ISO 8583 standard. IMPS is supplemented by UPI (Universal Payments Interface) that serves as an API layer for instant payments transactions mainly in the e-commerce and mobile banking environment. As in other IP schemes, aliases are supported as well. In addition to a mobile money identifier (MMID) seven-digit number, each citizen is assigned a unique number (Aadhaar) by the government, which can be used to address a payments counterpart even without a bank account. This is important since it enables people without a bank account (about 40% of the population) to make P2P payments, that are available in almost every village (for example, for taxi rides, sending money to the family, etc.). Posting to account as well as settlement takes place in real time.

4.1.5 Sri Lanka

As with India´s IMPS, Sri Lanka's Lanka Pay operated by Lanka Clear – Sri Lanka Interbank Payment System (SLIPS), offers instant payments based on ISO8583 with real time account posting but without instant settlement.[20] Instant payments can be sent through ATM, mobile- and internet banking 24/7/365 up to a certain amount cap.

As one of Asia's fastest-growing emerging economies, and one that is reported to be keen to establish itself as a cashless society, Vietnam is seeing an increasing demand for instant payments schemes. While only an estimated 40% of its 95m citizens has a bank account, there are an estimated 120m mobile phone subscriptions and an established telecommunications network, the only major impediment to development is restrictive eWallet regulations imposed by the State Bank of Vietnam.

4.2 Europe

In Europe, in addition to SEPA Instant Credit Transfers (SEPA Inst),[21] the common pan-European instant payments scheme, Deutsche Bank supports instant payments in the UK, where Faster Payments can be considered as the first new generation IP scheme. Launched in 2008, it has since showed double digit annual growth. Faster Payments serves private customers as well as corporates on a 24/7 basis with an amount cap of currently £250,000 (around €280,000) per transaction and ISO8583 as underlying format standard. Funds will be transferred almost immediately but it can on occasion take up to two hours due to mandatory screening and evaluation at the beneficiary's bank, which differs from most of the other instant payment schemes in the world. Payments can be sent to mobile phone numbers with no need for account details.

4.3 Americas

4.3.1 United States

Turning to the Americas – instant payments in the US have been available through The Clearing House's (TCH) RTP® network since late-2017.[22] The scheme has 24/7 availability with real time account posting and settlement strictly for push payments. It covers, for example, bill payments, cash management, P2P payments and others with an amount cap of currently US$25,000, (around €22,000). The use of ISO20022 format standard caters for easy adoption and integration in all involved parties' systems.

4.3.2 Brazil

Brazil started with SITRAF (System of Funds Transfer)[23] in 2002 as one of the first real-time payment systems in the Latin America region. It processes instant payments on a near real-time basis with most transactions effected within one minute – although exceptions can occur. An amount cap limits transaction up to BRL1m (around €230,000). Where SITRAF differs from other instant payments schemes mentioned in this paper is the underlying format standard which is – in common with the South Korean HOFINET system - a proprietary one. But the main difference is the fact that it is only available during business days from 07:30 until 17:30 and all payment processing takes place within this timeframe, which makes it the only instant payments system in this overview.

5

Future developments

5.1 ATM extinction?

Looking at developments in the countries that have been working with instant payments schemes for some time, it is evident that individuals and companies recognise and accept the added value that the systems provide. Therefore, it can be assumed that SCT Inst will also establish itself in the SEPA area and that new services, platforms and systems will be developed on this basis, which in turn will lead to use cases that have not yet been considered today.

With the introduction of bulk payments and the increase in the transaction limit, this payment method is becoming increasingly appealing to corporates. Batch payments can be sent collectively to the bank and paid out instantly. The increase in the amount limit will ensure that cash management will also be influenced by instant payments. Accounts of subsidiaries can be cleared daily or the money can be collected on certain accounts without having to pay high fees for urgent payments.

The widespread use of instant and mobile payments will further accelerate the decline in cash payments. This trend can generate considerable cost savings, as both the maintenance of ATMs, the printing and distribution of cash and new security standards are associated with high costs. However, it remains to be seen at what pace cash will disappear completely.

5.2 A real time payment world

In order to take a further look into the future, the utopia of a globally uniform, permanently available and real time payment world could become reality. With the ISO 20022 migration, a worldwide standard for cross-border payments has already been created. Different instant payment schemes are being developed all over the world and in the Nordic market there is already a system, P27, which can settle the various Nordic currencies in real time.

5.3 Towards standardisation

Instant payments can be expected to transform the banking and payments sector. Yet while instant payment systems are live in many countries across the globe, they differ widely with respect to elements such as input channels, authentication, additional features, format of data exchange, information of recipient and interbank settlement.

In the euro area, instant payments are largely based on SCT Inst. Alongside national systems, there are currently two pan-European Clearing and Settlement Mechanism Systems (CSM): RT1, which is run by EBA CLEARING (since November 2017) and TIPS, operated by the ECB (since November 2018). Both systems offer real-time settlements and services are available 24/7/365. Furthermore, transactions are irrevocably and processed individually. Although all CSM systems provide similar services, they are not yet interoperable as originally demanded by the ECB.

With demand for real-time payments growing as customers understand the benefits, a few significant challenges arise. Corporates will have to adapt to complex changes in payment-related processes concerning liquidity management and reconciliation, as well as notification. Yet, successful corporate adoption would also benefit from greater standardisation of the underlying systems together with a mature payment market infrastructure.

5.4 Benefits to corporates and recipients

Despite the challenges, instant payments offer a broad variety of benefits for corporates. They allow companies to initiate liability payments at the exact moment they are due, without concerns about weekends or bank holidays, meaning that liquidity can be better put to use elsewhere. Instant payments also facilitate credit transfers between parent companies and subsidiaries.

Instant payments can also be used for bulk payments. The benefits also extend to recipients: instant payments are irrevocable and lower in cost since no additional fees for guarantees are necessary (as opposed to credit cards). Due to the real time nature of transactions, concurrent payment-against-delivery models can be improved by mitigating the risk for supplying companies and thus enhancing business relations.

Besides the improved transaction pace and additional services that instant payments offer, future trends like R2P demonstrate a clear development towards easier and more convenient payment solutions. As a consequence, instant payments are expected to become the starting point for future banking and soon become the "new normal".

Finally, one factor that could significantly influence corporate usage of instant payments is whether alternative and competing transaction methods manage to establish, gain market share and are able to bind clients to their platform, their eco-system and services. Over recent years in the payments market various solutions have been established that offer real-time-like transaction services. For users they create the impression that a transaction is executed and confirmed in real-time whereas the actual transaction happens in the background within the regular efforts and duration.

Typically, these solutions offer their services within their own payments ecosystem. So payments can only be exchanged on a certain platforms within the ecosystem and are only available in participating shops, retailers or websites.

A usual example for these payment platforms are e-money/wallet service providers. Users pay money into the ecosystem and receive the equivalent value on the platform to exchange within the ecosystem. In some countries, they have already adopted high market penetration and substitute legacy payment infrastructure. In several countries in Asia e.money has already become one standard payment method, which allows real time transactions within the network.

5.5 Differentiation from non-bank providers

Typically the current competitors of instant payments are characterised by client-friendly and intuitive interfaces. In some cases these providers are not/less bound to strict regulations than banks and therefore often are more flexible in the development and the offering of their solutions.

In addition to the current competitors, new blockchain-based payment solutions are being discussed or are already under development, that could become players in the market. Although cryptocurrencies have yet to be considered as a reliable payments instrument, there are concepts that utilise the concept of stable coins in order to create a private world-wide usable/global currency. At the moment regulators seem to be critical towards such solutions, although they openly discuss opportunities to offer national cryptocurrencies or digital equivalents of the official currency by themselves.

One key factor for the success of instant payments will be whether the banks prove able to create a user-friendly and cost-efficient environment for consumers that will provide a competitive, secure and reliable payment system, which delivers a convenient user experience and provides advantages for both corporate and retail clients.

Deutsche Bank instant payments

Although the scheme is set at €15,000 rising to €100,000 from July 2020, to increase the number of payments that can be processed instantly, Deutsche Bank is one of a number of banks that have joined the EBA CLEARING "closed user group" whose members have agreed to accept higher amounts for instant payments. This makes it possible for Deutsche Bank customers to initiate instant payments of up to €1m

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[3]The Instant Payment rulebook, along with corresponding documents such as customer to bank (C2B) and bank to bank (B2B)-implementation guidelines, stipulate how instant payments should be effected as well as liabilities and responsibilities of each participant. One important aspect to mention is that the way clearing between the participants takes place is not part of the rulebook and is up to potential infrastructure providers and/or other participants to determine.

[4]https://cib.db.com/docs_new/Realtimetreasurywhitepaper.pdf

[5]The fact that a beneficiary can be reached with an instant payment depends on the reachability of that bank and the amount, as the scheme limit is currently set at €15,000 but will be raised to €100,000 from July 2020

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