

# Guide to ISO 20022 migration

*Part 3*



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In 2019, we released our first two guides exploring the upcoming ISO 20022 migration. Since then, much has changed. SWIFT's decision to delay its implementation of ISO 20022 in the correspondent banking space by a year sparked a wave of action from major market infrastructures around the world – with many changing their migration approach. But, despite the shifting timelines and additional strains on project work brought about by the Covid-19 pandemic, now is not the time for market participants to take their foot off the pedal.

This *Guide to ISO 20022 migration: Part 3* offers an update on recent developments through a series of deep dives, case studies and points of attention drawn from our own internal analysis. Further Guides are planned as the journey continues.

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## Foreword

In 2019, recognising the magnitude of the transformational initiative underway in the payments world, we launched a series of guides to ISO 20022 migration. These were designed to help the industry navigate and understand the evolving journey towards a single global payments standard. In our introduction, we stressed that this is not simply “another IT project” and,<sup>1</sup> since the release of our previous edition just before Sibos 2019, this assertion has been further confirmed. The global migration to ISO 20022 has continued even in these challenging times and the path before us continues to evolve – leaving no chance for banks to relax their focus.

The latest developments began in March 2020, when SWIFT announced a revised strategy, centred on the introduction of a central Transaction Management Platform (TMP). The TMP will provide end-to-end orchestration of transactions and allow the industry to move away from point-to-point messaging and towards central transaction processing. In order to build the new platform, SWIFT decided to put off the migration in the correspondent banking space by 12 months to November 2022.

Shortly after SWIFT’s announcement to postpone, the world had to deal with the Covid-19 pandemic and the ensuing lockdowns in many countries – the impact of which has been far-reaching.

In combination, these factors have since sparked a wave of action from market infrastructures around the world announcing their revised migration approaches.

Now more than ever, with shifting timelines and strained resources, banks and corporates are urged not to view the ISO 20022 migration as just another project that can be put on the back burner. The delays in the correspondent banking space, and across several market infrastructures, should not tempt banks to take their foot off the pedal. Instead, they should use the additional time to strategically prepare for the migration, taking into account the new data requirements, such as structured addresses and rich remittance information. The journey to ISO 20022 is still moving ahead at speed – and internal projects need to reflect this.

At Deutsche Bank, we remain focused on this destination and are here to guide you on the way. Through a series of deep dives, case studies, and points of attention drawn from our own internal analysis, our *Guide to ISO 20022 migration: Part 3* aims to provide all the information you need to continue moving forward on your migration journey.

We hope you find it useful and informative and that reading it is time well spent.



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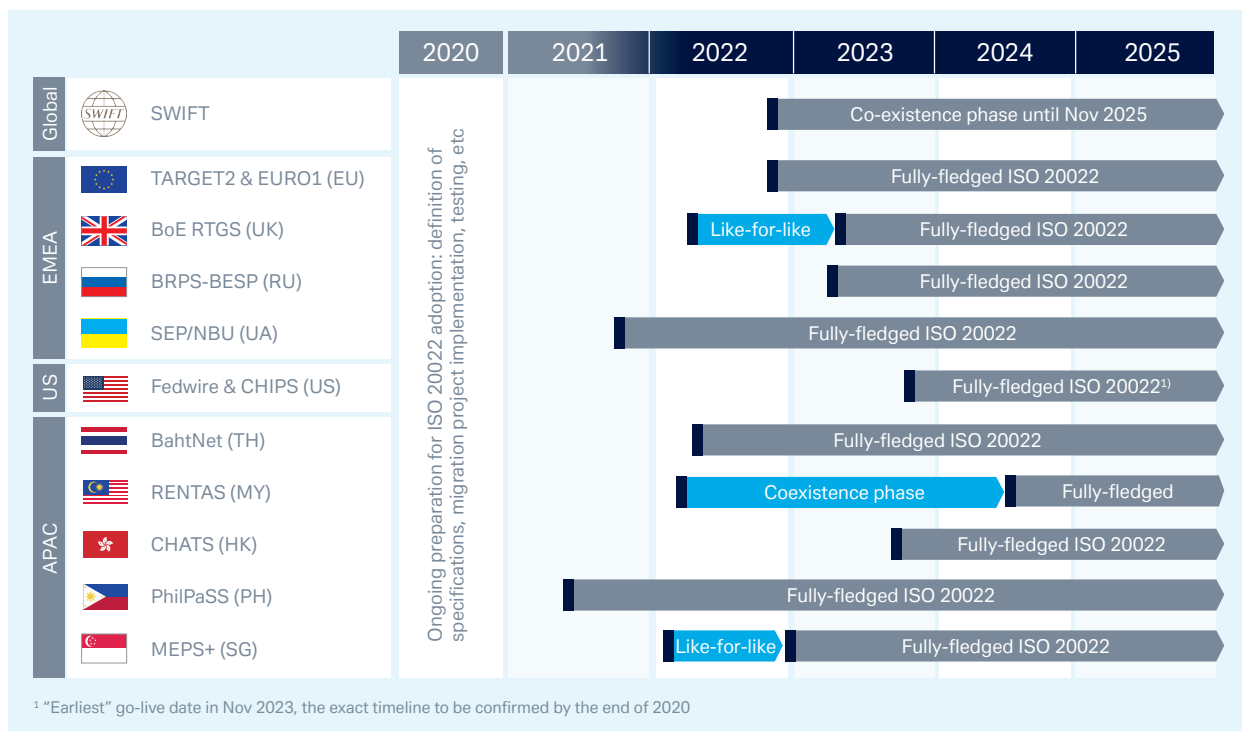
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# Latest developments and communication

Since the release of our previous paper, *Guide to ISO 2022 migration: Part 2*, the various timelines for the global adoption of ISO 2022 have seen several changes (see Figure 1).

In 2020, SWIFT’s decision to delay its implementation of ISO 2022 in the correspondent banking space by a year (to November 2022) and the global impact of the Covid-19 pandemic on project planning, among other factors, have played a role in a number of market infrastructures changing their migration approach. In July, the ECB announced its decision to delay its T2-T2S consolidation project by one year in line with the SWIFT migration, and the EBA CLEARING’s ISO 2022 migration of EURO1 and STEP2 confirmed that it would follow suit. The Bank of England has also changed its approach, with CHAPS set to go live with like-for-like messages in Spring 2022 – making it the first major market infrastructure to migrate to the new standard. Elsewhere, in May 2020, the Federal Reserve Banks announced that they will likely implement fully enhanced ISO 2022 messages through a “big bang” rather than via a phased approach, though confirmation and further details are not expected before 2021. Changes to the migration strategies in Hong Kong and Malaysia have likewise been made in response to SWIFT’s announcement.

Figure 1: Global ISO 2022 adoption overview



Source: Deutsche Bank

## 1.1 The Eurozone

### 1.1.1 Eurosystem (TARGET services)

#### Recap on the project delay

Shortly after SWIFT's announcement on the migration delay (see 2.1 Recent communication and renewed programme roadmap), the ECB sent a letter to SWIFT. This explained that as European banks have worked under the assumption that their capability to send existing MT messaging would be decommissioned after November 2021 – an assumption that has since been voided – European banks will have to review their migration strategies at short notice. The ECB also requested that SWIFT publish a Blueprint for Eurozone High Value Payments with a cross-border leg by early May 2020, to give European banks adequate time to adapt their plans.<sup>2</sup> This Blueprint has since been shared.

#### SWIFT's Blueprint and the creation of the Eurozone Working Group

Before SWIFT's decision to postpone the ISO 20022 migration by a year, European banks worked on the assumption there would be global ISO 20022 reachability (as of November 2021) due to the migration in the correspondent banking space and SWIFT's enablement to receive any message in the original format by facilitating the translation for receivers in their preferred format (MT or MX).

But if the TARGET2 (T2)/EBA CLEARING migration was to go live prior to the migration for cross-border payments via the SWIFT network, banks would face additional complexity with "one-leg-out" payments that are originated in the ISO 20022 format, cleared via the payments market infrastructure and forwarded on via SWIFT. As rich ISO 20022 messages will, based on their nature, not translate like-for-like into an MT format, this would result in data truncation issues.

Thus, in collaboration with the ECB and European banks, SWIFT committed to delivering mitigating measures to minimise the impact on the European banking community.

In early May 2020, SWIFT published a Blueprint, setting out the above measures and associated deliverables, timeline and customer impact.<sup>3</sup> One of first mitigation measures was the creation of a Eurozone Working Group, of which Deutsche Bank is a member, to develop new "restricted" Market Practice for T2. This is to be used from November 2021 until November 2022 in order to mitigate the impact on T2 and its Direct Participants. The aim was to deliver these Market Practices to the T2 community in the form of "restricted" T2 usage guidelines, which will allow smooth translation into FIN Messages without data loss.

While the ECB's decision to delay the migration by a year means these Usage Guidelines are not currently being considered for deployment, the ECB agreed to closely follow the implementation of ISO 20022 in the cross-border payments space and will potentially consider the introduction of these mitigating measures in the case of any further delay to the timelines.

On 7 May 2020, an alliance of four European banking bodies – the European Banking Federation (EBF), European Savings Banks Group (ESBG), European Association of Co-operative Banks (EACB) and the European Association of Public Banks (EAPB) – requested that the ECB delay the T2-T2S consolidation project by 12 months. They cited two primary motivators for the delay: the impact of Covid-19 and SWIFT's decision to delay its own migration.

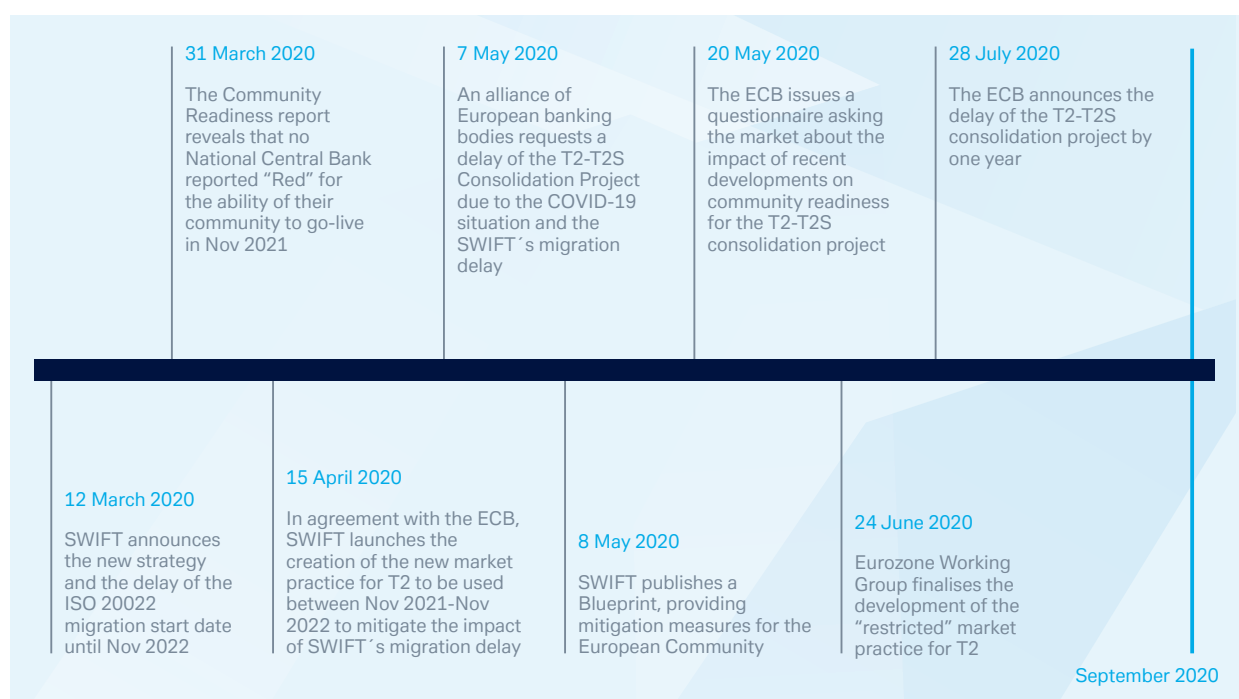
The impact of the pandemic is twofold.

- The project development and operational teams are focusing their efforts on other areas of the bank – prioritising frontline operational processes to ensure that ongoing critical customer support and service is maintained. Given this diversion, it is necessary to consider whether the allocation of banks’ resources and investment have changed significantly, such that the ISO 20022 migration would be made difficult.
- The widespread lockdown situation, although temporary, has impacted the availability of resources for IT projects, with many of the bodies’ members reporting that remote working has already had a negative impact on software development projects.

SWIFT’s decision to delay its own ISO 20022 migration – the second reason cited in support of a delay – means that all affected parties must reconsider their cross-border payments strategy and re-engineer their internal projects, concept and documentation to deal with the mismatch of message types this introduces. This conceptual work requires sufficient time and cooperation among the European industry – a process complicated by the ongoing pandemic.

A possible extension to the T2-T2S consolidation timeline was discussed with market representatives in the two advisory groups that counsel the Eurosystem on issues related to payments: AMI-Pay and AMI-SeCo (securities and collateral). Taking into account these considerations, the ECB issued a market consultation asking the national financial communities in Europe to consider the implications of recent changes and also challenges such as Covid-19 lockdowns and to assess their ability to continue timely preparations for the T2-T2S consolidation and other related Eurosystem projects. Following requests by most of the survey respondents, the ECB has reviewed the timeline of the project, concluding that postponing its go-live by one year – moving from November 2021 to November 2022 – would best accommodate the industry’s preferences. The project is now scheduled to go live in November 2022 (see Figure 2).

Figure 2: Recap on developments in 2020



Source: Deutsche Bank

### Key milestones update

With the ECB's decision to extend the migration timeline by a year, the previously published ECB milestones will be replaced with a new revised version. It is expected that the ECB will introduce a "point-of-no-return" milestone next year to evaluate the readiness of the ISO 20022 migration in the correspondent banking space and inform the need for additional risk mitigation measures. The revised milestones plans are being published by the ECB and respective National Central Banks in September 2020.

Despite the revised migration timeline, market participants would be advised not to delay or postpone their preparations for the following reasons:

- Not all mandatory ECB milestones will be shifted by 12 months. Instead, it is expected that the ECB will "stretch" the outstanding milestones over the remaining period to November 2022, as well as introduce additional mandatory milestones in the interim period.
- This postponement will provide the opportunity to review internal delivery plans for a strategic implementation of ISO 20022.

### Background: Key milestones plan

In July 2019, the Eurosystem published its "Overall Key Milestones to ensure a successful big-bang migration in November 2021" (as per previous plan). This report lays out the main issues that need to be considered in the user communities' internal adoption plans to ensure they are ready ahead of the go-live date of the T2-T2S Consolidation project. For the period 2019-2020, these milestones were split across three headings: Internal Adaptions (IAD), Network Service Provider Procurement Process (NSP) and Network Connectivity (NCO).

### Testing strategy

In February 2020, the ECB released its *T2 Migration, Testing and Readiness Strategy*. The document was compiled by the Migration Testing and Readiness Subgroup (MTRSG) of the TARGET Services Working Group (TSWG), and elaborates a migration, testing and readiness strategy for T2 with a view to ensuring a smooth transition to the new T2 service.<sup>4</sup>

It outlines that there will be three different stages of testing, respectively the Eurosystem Acceptance Testing (EAT) stage, the Central Bank Testing stage (CBT), and the User Testing stage (UT), including relevant testing phases for connectivity, interoperability, community, migration testing and the testing of the interrelations with local central-bank services and ancillary systems.

In order to optimise availability, the testing will be performed in three different test environments, known as the EAC, UTEST and IAC.

- EAC is an interoperability test environment used for the EAT and CBT stages.
- UTEST is a pre-production environment used for the UT stage.
- IAC is one of the four central bank (4CB) internal testing environments. The ECB will be given access for the EAT stage.

Before the start of testing, the ECB along with national central banks and T2 participants will be granted sufficient time to establish connectivity for testing. A period of three months is considered

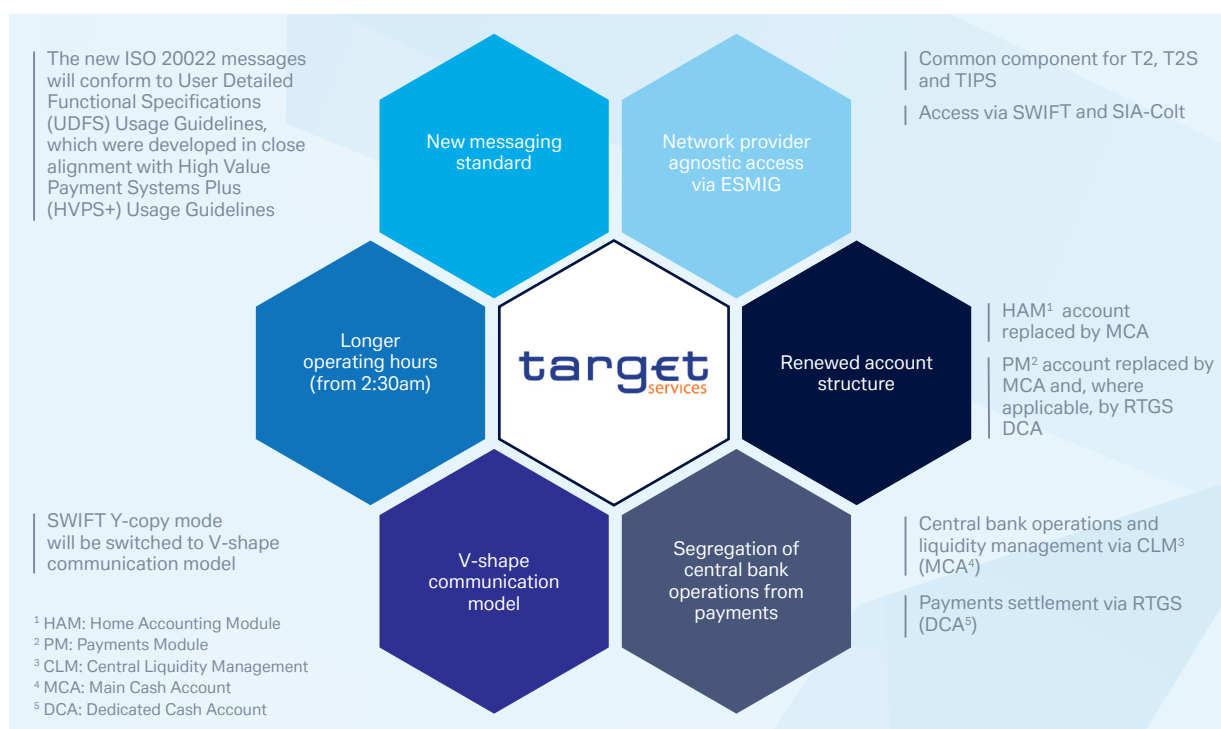


necessary, as almost 2,000 banks and 87 Ancillary Systems will need to connect. It was confirmed that User Testing (UT) for T2 participants will begin in December 2021. Further delivery dates are scheduled to be shared with the community in September 2020.

### UDFS v2.1

One of the key changes introduced with the T2-T2S consolidation project is the migration to ISO 20022. (see Figure 3).<sup>5</sup> ISO 20022 messages for interaction between Direct Participants and the Market Infrastructure are specified in the ECB's User Detailed Functional Specifications (UDFS).

Figure 3: Overview of key changes



Source: Deutsche Bank

In December 2019, the ECB published a revised version of its UDFS. Known as UDFS v2.1, it contained updates for Real-Time Gross Settlement (RTGS) and Central Liquidity Management (CLM), as well as separate specifications for common components of TARGET Services – such as Billing (BILL), Business Day Management (BDM), Common Reference Data Management (CRDM), Data Warehouse (DWH), Enhanced Contingency Solution (ECONS2) and the Eurosystem Single Market Infrastructure Gateway (ESMIG) – for the first time.

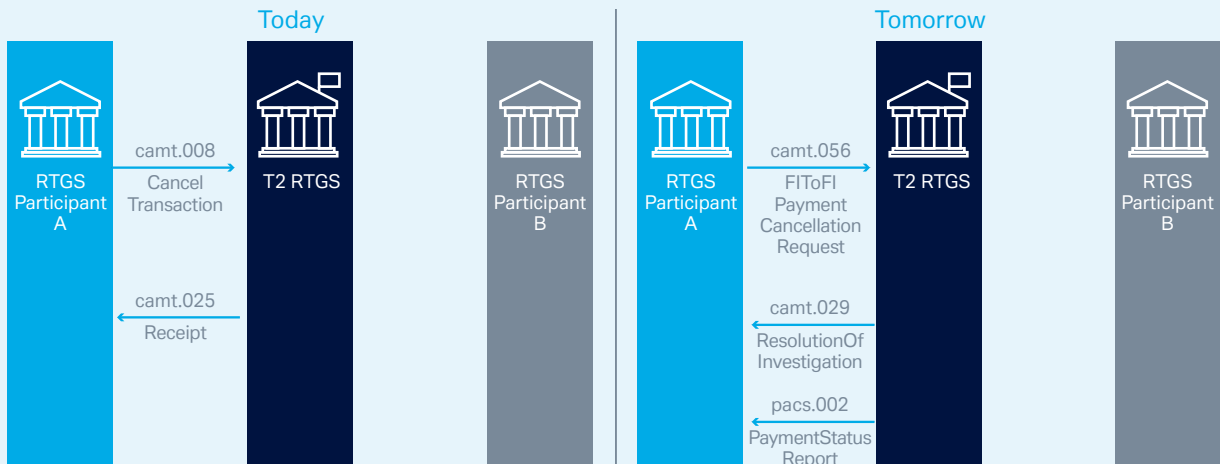
The updated UDFS document incorporates the change requests approved since the publication of the UDFS v2.0 on 1 July 2019. The next UDFS delivery, UDFS v2.2, is scheduled for 30 November 2020. The updated version will incorporate change requests that are approved up until mid-2020.



**Point of attention: Return handling process**

With the migration to ISO 20022, there will be a new market practice introduced for the return handling process. Based on camt.056, camt.029 and pacs.002/004 messages, T2 RTGS will facilitate a recall and return workflow that runs as follows:

**Figure 4: Revocation of a payment – Today vs tomorrow**



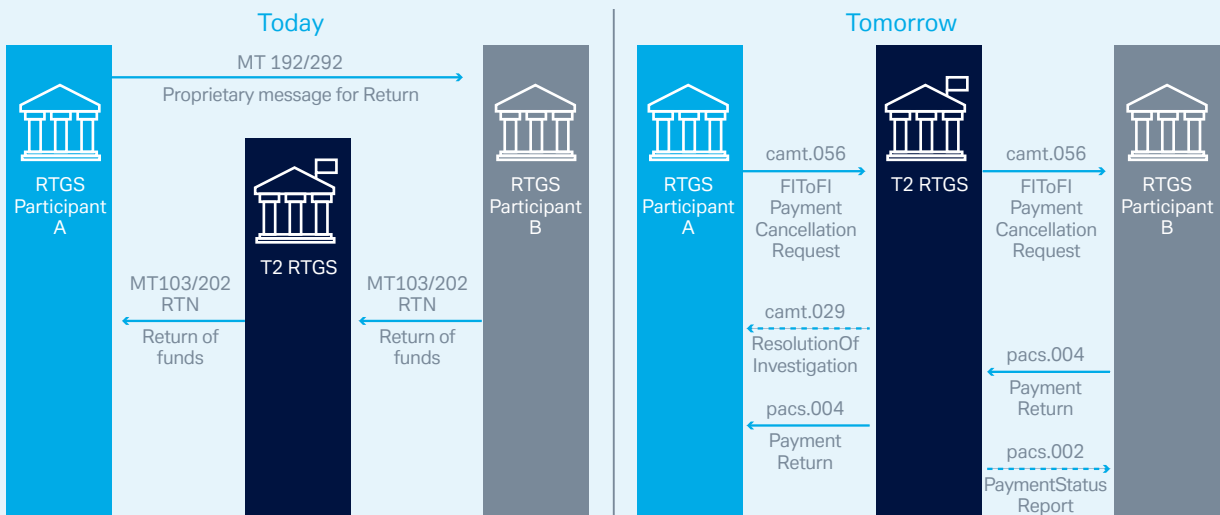
**How it works today:**

1. An RTGS participant sends a camt.008 message to the RTGS service to request the cancellation of an already sent payment message.
2. RTGS checks the status of the requested payment message.
3. If the payment is not in its final status, the RTGS service revokes the requested payment, deletes it from the payment queue and sends a positive camt.025 to notify the RTGS participant.

**How it will work after the T2/T2S consolidation:**

1. An RTGS participant sends a camt.056 message to the RTGS service to request the cancellation of an already sent payment message.
2. RTGS checks the status of the requested payment message.
3. If the payment is not in its final status, the RTGS service revokes the requested payment, deletes it from the payment queue and sends a positive camt.029 to notify RTGS participant.

**Figure 5: Recall of a payment – Today vs tomorrow**



**How it works today:**

Today, if a participant wanted to recall a payment that had already been settled they would send a proprietary message for return (MT 192/292) directly to the Creditor Agent or Beneficiary Bank

**How it will work after the T2/T2S consolidation:**

If an RTGS participant sends a camt.056 message after the initial pacs.008/pacs.009 payment has been settled (on the day of settlement or later), the camt.056 message is forwarded to the initial payment receiver. The payment receiver may then send a camt.029 (accepting/rejecting the cancellation request) and/or a pacs.004 (to undo a payment that was previously settled by pacs.008 / pacs.009)

Source: Deutsche Bank

With regards to the introduction of a new market practice for Return handling, it currently remains open as to how this will be managed during SWIFT’s coexistence period of the MT and ISO 20022 formats (November 2022 – November 2025). It is especially relevant for “one-leg-in” and “one-leg-out” payments, i.e. payment transactions where the payer or the beneficiary is based outside of the EU.

## 1.1.2 EBA CLEARING

### Strategy

EBA CLEARING's ISO 20022 migration of EURO1 and STEP2 will be aligned with the similar migration of payments and reporting functionality scheduled as part of the T2-T2S consolidation project. Their goals in this respect are twofold:

- To align as closely as possible with the ECB for any changes to the system functionality, formatting and general timelines, such as for testing.
- Ensure that any impact on the users of both services will be as limited as possible, with regard to both their projects and their usage of the future systems.

Following the ECB's confirmation that they have postponed their go-live until November 2022, the EBA has also confirmed that they will remain aligned with the ECB and will therefore follow suit.

### Documentation updates

In April 2020, Usage Guidelines for camt.056/029 and reporting messages were published on the MyStandards portal. Subsequently, in July 2020, EBA CLEARING updated the Usage Guidelines for all its messages and, with the publication of camt.054 (credit and debit notification for the liquidity bridge), camt.998 (request IWS audit report) and camt.999 (return IWS audit report), all Usage Guidelines for the EURO1/STEP1 migration are now available.

In the latest update, the Usage Guidelines have been aligned with the latest T2 UDFS (2.1, April Addendum), as well as the updated HVPS+ and CBPR+ Usage Guidelines. In case of any additional changes to the T2, HVPS+ or CBPR+ Usage Guidelines that would impact the message formatting, the EURO1/STEP1 UGs will be updated accordingly.

In March 2020, EBA CLEARING also released its updated impact document and the first versions of the user documentation. Further updates to the user documentation are to be completed before testing begins, although no changes to the described functionality are foreseen:

- The ISO 20022 migration Impact Document v 3.0: The updated version includes additional information on functionality descriptions and the addition of the functionality for the EURO1 liquidity bridge.
- Service Description: Description of the future service based on ISO 20022 messages and using V-shape topology.
- User Manual: Description of the procedures to follow using the EURO1/STEP1 service.



## 1.2 Sterling area

The Bank of England's RTGS Renewal Programme, for which the migration to ISO 20022 forms a significant part, is set to occur in four stages:

- (TS1) Transition state one: Foundation.
- (TS2) Transition state two: Participant Data Channels.
- (TS3) Transition state three: Core RTGS Replacement.
- (TS4) Transition state four: Fully Renewed Services.

In July 2020, following the appointment of Accenture as the Technology Delivery Partner for the RTGS Service Renewal, the Programme has entered Transition State Two (TS2), which includes the introduction of the ISO 20022 (on a like-for-like basis in spring 2022 and for fully enhanced messages in early 2023) and the core settlement engine (set to be introduced in 2023).

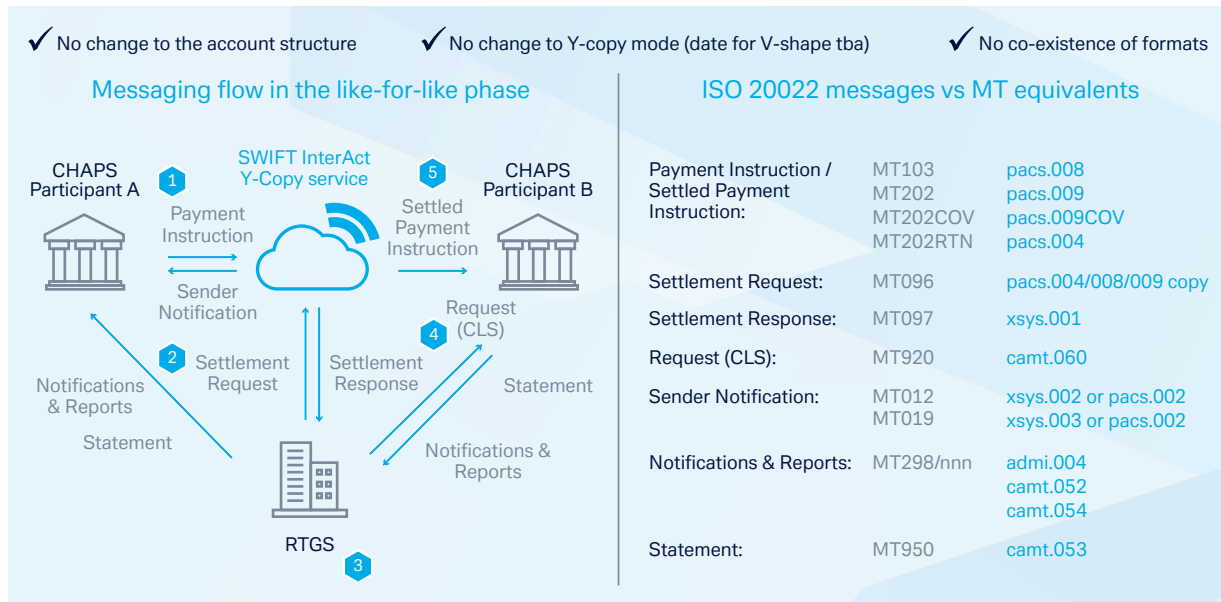
### 1.2.1. Updated approach on ISO 20022 migration

In July 2020, following the change in timelines for SWIFT and the ECB, the Bank of England (BoE) requested feedback from the community on two possible approaches to the CHAPS ISO 20022 migration:

- A. Stick to the current approach:** In December 2019, the BoE announced a new approach to the second phase of the ISO 20022 migration, scheduled to take place between March 2022 and March 2023. Under this approach, the BoE would go live with the enhanced schema in April 2022, requiring all participants to be able to receive enhanced ISO messages, and either process the enhanced data and pass it on, or manage the risk associated with not doing so. The potential issue with this approach is that data truncation issues would occur from April 2022 until November 2022, when SWIFT is set to go live.
- B. Implement a new approach:** Under the new approach, between Spring 2022 and Spring 2023 CHAPS would use like-for-like ISO 20022 messages only – like-for-like refers to an approach that implements a subset of ISO 20022 limited to the same functionality as the standard it replaces, meaning that enhanced data cannot be sent via CHAPS during this period. This could result in potential truncation issues for participants that receive enhanced data via CBPR+ between SWIFT's go-live in November 2022 and the CHAPS enhanced go-live in Spring 2023.

Based on the feedback received from the industry and following discussion and agreement between the RTGS/CHAPS Board and RTGS Renewal Committee, the BoE chose to go with "Option B: Implement a new approach" (see above). It is hoped that the initial go-live on a like-for-like only basis will help Direct Participants manage the issues of truncation prior to SWIFT's adoption of ISO 20022 for CBPR+ in late 2022. The BoE is currently undertaking further analysis on whether this migration should take place before or after the TS3 (Core RTGS replacement) cutover to the new core settlement engine in April 2023. The current preference would be to migrate to enhanced data before the TS3 cut-over – possibly around February 2023. The BoE is still due to confirm the final timing and migration approach by the end of September 2020. With that, the BoE will likely be the first major Market Infrastructure to migrate to ISO 20022 – seven months ahead of SWIFT and the Eurosystem.

Figure 6: Key changes in the like-for-like phase



Source: Deutsche Bank

### ISO 20022 message specifications

In December 2019, the BoE published like-for-like ISO 20022 message specifications that all Direct Participants (DPs) will be required to support – as a minimum – for sending payments during the like-for-like phase of the CHAPS implementation (scheduled for Spring 2022). These messages represent a subset of the enhanced messages and show how an existing MT message can be mapped into ISO 20022. First drafts (for pacs.008, pacs.009, pacs.004, camt.052, camt.053, camt.054, and admi.004) are available on MyStandards. These have undergone a number of revisions as part of the various review processes before final publication in September 2020.

In July 2020, the BoE also published enhanced ISO 20022 messages ahead of publication of the final enhanced schemas in September 2020. The enhanced messages are built on the like-for-like messages and contain enhanced data fields, such as additional parties and agents, purpose codes and Legal Entity Identifiers (LEIs). Following its review of the feedback the BOE is publishing the final enhanced messages in September 2020, followed by an update on related policy objectives.



#### Point of attention: LEI requirement in the enhanced phase (from 2023)

As part of the adoption of ISO 20022, the BoE will mandate the use of Legal Entity Identifiers (LEIs) – unique identifier codes that provide the mechanism for quickly and unambiguously identifying a legal entity – for all payment transactions between financial institutions. The global LEI system contributes to many financial stability objectives, such as improved risk management in firms, better assessment of micro- and macro-prudential risks, facilitation of orderly resolution and higher quality and accuracy of financial data overall. To ensure its use is seamless, the BoE plans to work with key stakeholders, including HM Treasury and the *Global LEI Foundation (GLEIF)*, to understand what actions would be necessary to support wider adoption of LEIs in UK payment messages.

## 1.2.2 Readiness monitoring and assurance

In July 2020, to ensure a successful transition to the new RTGS service, the BoE launched the reporting and monitoring process for Direct Participants. As the RTGS Renewal programme progresses, the BoE will continue to develop the reporting pack – especially in relation to TS2 and TS3. The milestones will be added and updated over time in order to get a more granular and accurate picture of the migration progress (see Figure 7).

Figure 7: Key milestones (extract only)

Milestone Category	Milestone	Deadline
Design	Impact assessment complete	30.09.2020
Impact	Requirements complete	30.11.2020
Communication	Customer communication strategy in place	31.03.2021
Build	Software development complete	30.06.2021
Test	Network connectivity & internal tests complete Start of industry-wide participant testing	31.10.2021
Test, Communication	All testing incl. with customers complete All new operations processes in place All customer communications complete	28.02.2022
Migration	Migration activities complete	31.03.2022
Go-live	Go-live of like-for-like ISO 20022 messaging	Apr 2022

Source: Deutsche Bank

## 1.2.3 Execution challenges

For market participants, such as banks and their vendors, while previously published timelines meant that the ECB would migrate to ISO 20022 before the BoE, recent developments have meant this sequence has switched – with the BoE now to migrate in spring 2022, or seven months earlier than the ECB.

So how is this impacting project planning? When planning for the deployment of T2 and CHAPS, the delivery approach of some banks was to leverage their T2 build for their migration to CHAPS (as far as is feasible). Given that many banks have built in an inherent dependency on T2 going live before CHAPS, the shift in timelines could cause difficulties. Vendors taking a similar delivery approach will be equally affected by a change to the timeline. As a result, banks should closely manage this with continued reassessment of the deliverables against project plans.

### 1.3 US dollar area

Originally, in contrast to the Eurozone, the US planned to follow a phased migration approach, meaning that after an initial preparation period, existing data fields would be migrated to the new format in a like-for-like approach. The standard would have then been extended to become fully fledged once the whole community had migrated to ISO 20022.

However, in September 2019, the Federal Reserve Banks (the Banks) announced that they were pausing their plans for a three-phase migration to the ISO 20022 messaging standard for the Fedwire Funds Service and that Phase 1 of the migration would not be implemented in November 2020 as originally planned. In collaboration with the Fedwire Funds Service participants, software vendors, and The Clearing House (TCH), the Banks are now reassessing the phased ISO 20022 migration strategy in favour of a single-day implementation of fully enhanced ISO 20022 messages. Discussions are ongoing and are taking into account potential interoperability issues, as well as the impact of SWIFT's revised migration strategy.

In May 2020, the Banks announced that, given the impact of Covid-19 on project work, it is unlikely that they will announce a final decision on the ISO 20022 migration strategy before the end of 2020. They also announced that they will not implement the Phase 1 release in 2020 or 2021, and do not have any other message format changes for the Fedwire Funds Service planned through 2021.

### 1.4 Asia-Pacific region

Efforts are being made to implement the ISO 20022 standard across Asia, with key projects underway in Thailand, the Philippines, Singapore, Malaysia and Hong Kong (see Figure 8).








Subsequent to SWIFT's announcement of the migration delay, there have been changes in the migration strategies for RTGS in Hong Kong and Malaysia. The launch date for the adoption of ISO 20022 for RTGS in Hong Kong has been further postponed to October 2023. Participating banks will be informed of the key milestones, such as testing, in Q2 2022.

Malaysia has also revised its timelines. According to the new plan, the migration to ISO 20022 for the country's RENTAS system will occur in two phases:

- **Phase 1:** There will be a co-existence period for MT and MX messages from June 2022 until June 2024. During this period a central translator will facilitate the translation between the two formats.
- **Phase 2:** From July 2024 all participants must have completed their migration of payment messages to MX. From this point, the central translator will no longer be available.



Figure 8: ISO 2022 adoption in APAC

Country / Market Infrastructure	Migration Date	Comments
 CNAPS2 & CIPS (CN)	✓live	Live with enhanced ISO 2022
 BOJ-NET (JP)	✓live	Upgrade planned from ISO 2022 version V3 to V8
 PhilPaSS (PH)	Q2 2021	Core specifications for pacs.008 and pacs.009 provided. In addition, camt messages have recently been published on MyStandards
 MEPS+ (SG)	Q2 2022	Implementation dates & migration approach announced, introducing “like-for-like” in Jun 2022, enhanced ISO 2022 – in Nov 2022
 RENTAS (MY)	Q2 2022	Co-existence of both standards (MT and MX) for payment messages until July 2024. Central translator will be operationalised at RENTAS Host to facilitate translation (available until 2024)
 BahtNet (TH)	Q2 2022	Part of the Bank of Thailand ISO migration plan for domestic clearing. As in case with Bulk and PromptPay, the NPMS specifications will be used
 CHATS (HK)	Q4 2023	Key dates of major activities, such as registration and setting up of Members` MX CUG, interface test and simulation test, etc. will be published in Q2 2022

No significant impact from the SWIFT` s migration delay is expected

Source: Deutsche Bank

While SWIFT` s decision to delay its migration to ISO 2022 by a year is unlikely to significantly impact these efforts in Asia, the participating banks should consider the migration in the correspondent banking space in their internal migration projects and closely monitor the latest developments in the industry.



2

# Correspondent banking space (SWIFT) requirements

## 2.1 Recent communication and renewed programme roadmap

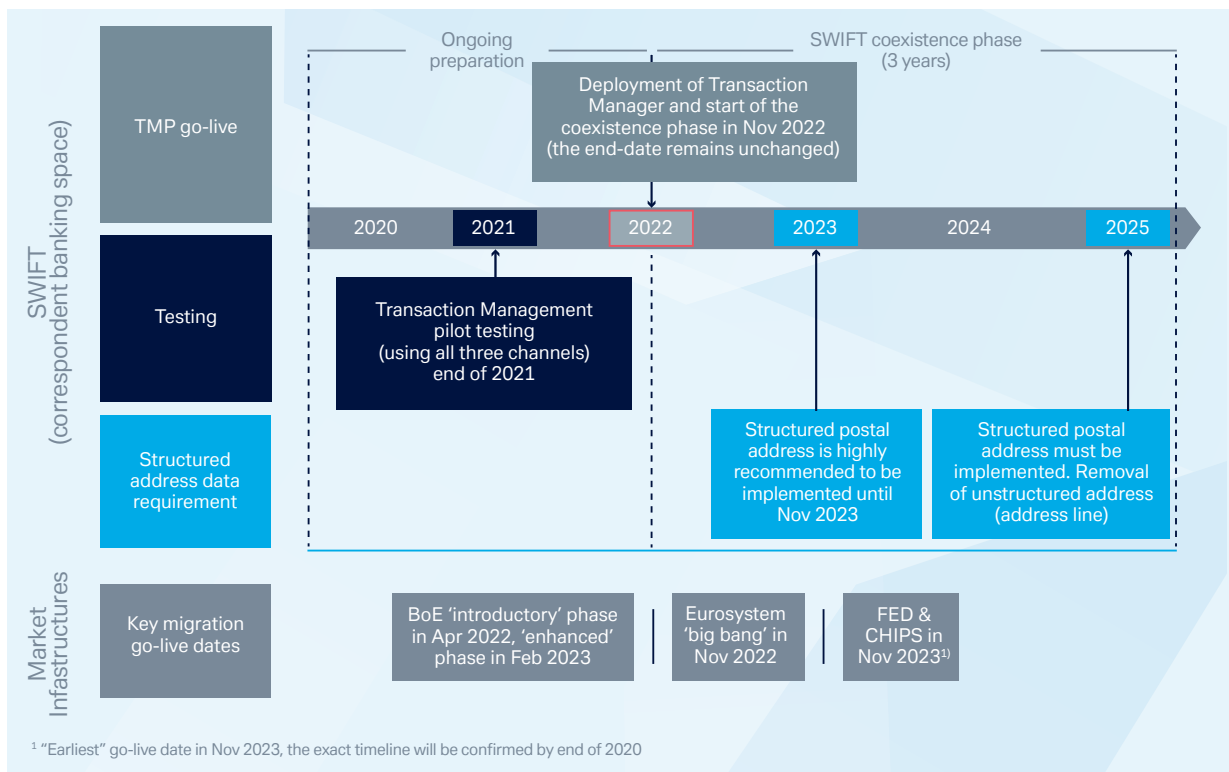
### A change in approach

At the end of 2019, several banks raised concerns about the fast approaching ISO 20022 go-live in November 2021, advising/cautioning that they may not be ready in time to consume rich ISO 20022 messages. The first projects revealed that during the coexistence period the global industry would need more than messaging only and a central translation. SWIFT took the opportunity to revisit the approach and, following approval from the SWIFT Board, announced a new strategy in March 2020.

At the core of the new strategy is the introduction of a central Transaction Management Platform (TMP), which will fundamentally change the processing and communication of messages. The platform aims to reduce the cost and complexity of ISO 20022 adoption and accelerate realisation of the benefits of the new standard by holding a central copy of the complete payment data, which will be accessible to every bank in the payment chain. To accommodate the industry’s request for an extension, and also to allow time to build the new platform, the start of the migration to ISO 20022 in the correspondent banking space was postponed to November 2022.

This means that cross-border payments and cash reporting messages using SWIFT MT category 1, 2 and 9 messages will continue to be used beyond November 2022. After this date, there will be a coexistence phase where ISO 20022 and MT messages will exist in parallel. Furthermore, ISO 20022 will be supported by both traditional XML message formats and API. At this point, however, the MT standard will be supported for backward-compatibility purposes only – with any new developments being based only on ISO 20022 data. (see Figure 9 for updated timeline).

Figure 9: SWIFT’s new migration approach



## 2.2 Transaction Management Platform

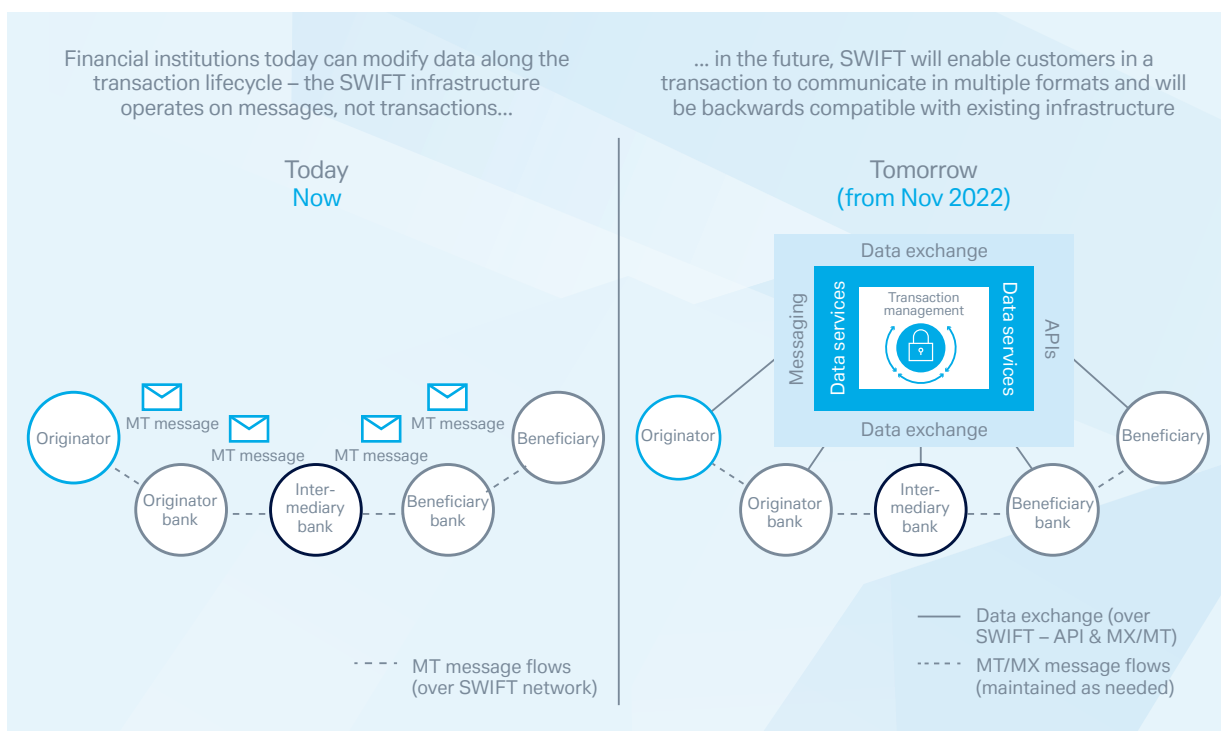
At the core of the new approach will be an enhanced platform operated by SWIFT, which, while based on ISO 20022, will also provide interoperability in the co-existence phase of the migration, including application programming interface (API), ISO 20022 messaging and MT connectivity. The API channel for correspondent banking is new and will be extended for transaction and service consumption. The FIN/MT channel for correspondent banking will only be used until the end of 2025, with ISO 20022 messaging and the API channel being used thereafter.

Under the current system, financial institutions must transmit all messaging data between one another and can modify that data along the transaction lifecycle. SWIFT acts only on messages and does not orchestrate transactions between counterparties. This means that the least rich message format in the chain – the so-called “weakest link” – determines what data is received by the end beneficiary.

The new platform will allow rich data to be exchanged from end to end – unlocking new services, streamlining processes and providing various compliance benefits. Offering backwards compatibility, along with an adapted communication format, to each agent in the chain, improves data quality and eliminates the “weakest link” problem (see Figure 10).

In addition, the platform will be able to execute “classic” or new settlement methods depending on the capabilities of the participating banks.

Figure 10: The transaction lifecycle under the new SWIFT platform



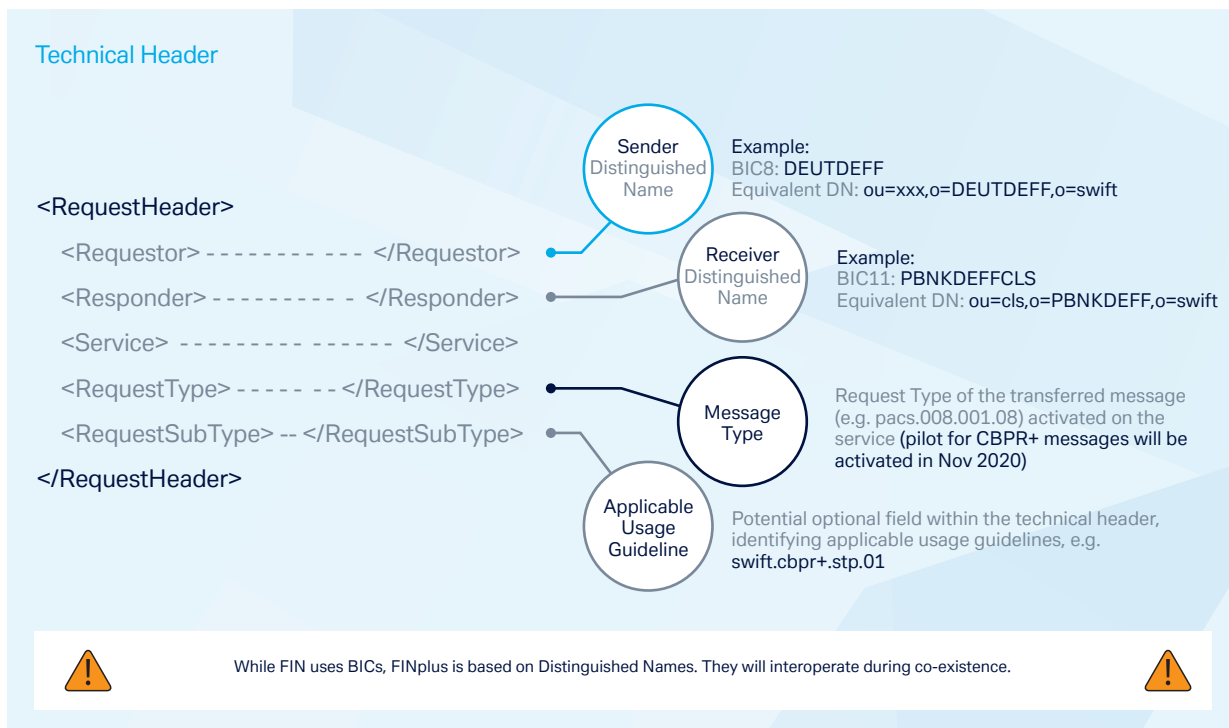
Source: Deutsche Bank

### 2.2.1 Network service

The SWIFT platform will mediate between banks using the MT (FIN based), ISO 20022 (FINplus based) or API (ISO 20022-based JSON) channels, which means that banks can adopt ISO 20022 at their own pace during the coexistence period:

- 1) **ISO 20022 messaging channel:** The ISO 20022 network service will enable banks to use ISO 20022 for payments and cash reporting on an opt-in basis using the FINplus SWIFTNet InterAct Store and Forward messaging service. The ISO 20022 market practice and data set defined with the CBPR+ working group will be the basis for the ISO 20022 messaging and API channel in the new approach (see 2.3 CBPR+ Usage Guidelines). The CBPR+ messaging channel on FINplus will be live in November 2020 in the pilot environment to support testing for those banks that are planning to implement their ISO 20022 messaging. In this respect, please note that the addressing in the InterAct/FINplus service is based on Distinguished Names (DN), not on BIC (see Figure 11).

Figure 11: FINplus Technical Header



Source: Deutsche Bank

- 2) **API channel:** This channel will rely on industry standard API best practices to provide a fully functional channel for the exchange of cross-border payments and reporting data. API channel will allow users to exchange payments using the CBPR+ ISO 20022 data set in the JSON format (a standard for communication, which expresses how requests to the server should be formatted, and then what the response should be formatted as). The work on the API specifications will start in Q1 2021.
- 3) **MT channel:** The platform will provide an MT channel based on the FIN messaging service. This means that users who adopt ISO 20022 at a later stage will be able to exchange MT messages for correspondent banking after November 2022 until their decommission in November 2025. This holds true for Category 1 (Customer Payments and Cheques), Category 2 (Financial Institution Transfers) and Category 9 (Cash Management and Customer Status) message types only.

It should be noted that that banks will be able to choose MT, ISO 20022 messaging or API (using the ISO 20022 data model) channels, adjusting their preference based on the Bank Identifier Code (BIC8) and/or the currency. For example, a bank can choose the ISO 20022 messaging channel for all traffic with the exception of USD-denominated payments, which would remain on the MT channel.

### 2.2.2 Translation

To intermediate between the different messaging formats, the TMP will provide coexistence measures to ensure banks can use the standard of their choice for transactions.

For payments sent during the coexistence phase, the TMP will maintain a unique copy of the payment data received. SWIFT will then provide banks with this information in a bank's chosen format and via its chosen channel. Each bank using the platform will be able to designate the language they would like to "speak". This preference will be declared at the service onboarding stage and can be changed via a Service Management graphical user interface (GUI). For example, when a bank sends a MT103 message the platform will hold a unique, central copy of this information. If SWIFT then needs to deliver it to another bank, the TMP will translate the message from the central copy into an ISO 20022 message before sending it on. Translation will be provided based on rules defined by the CBPR+ group for pacs messages – no translation will be provided by TMP for camt (MT9xx) messages. (see 2.3.4 CBPR+ translation rules).

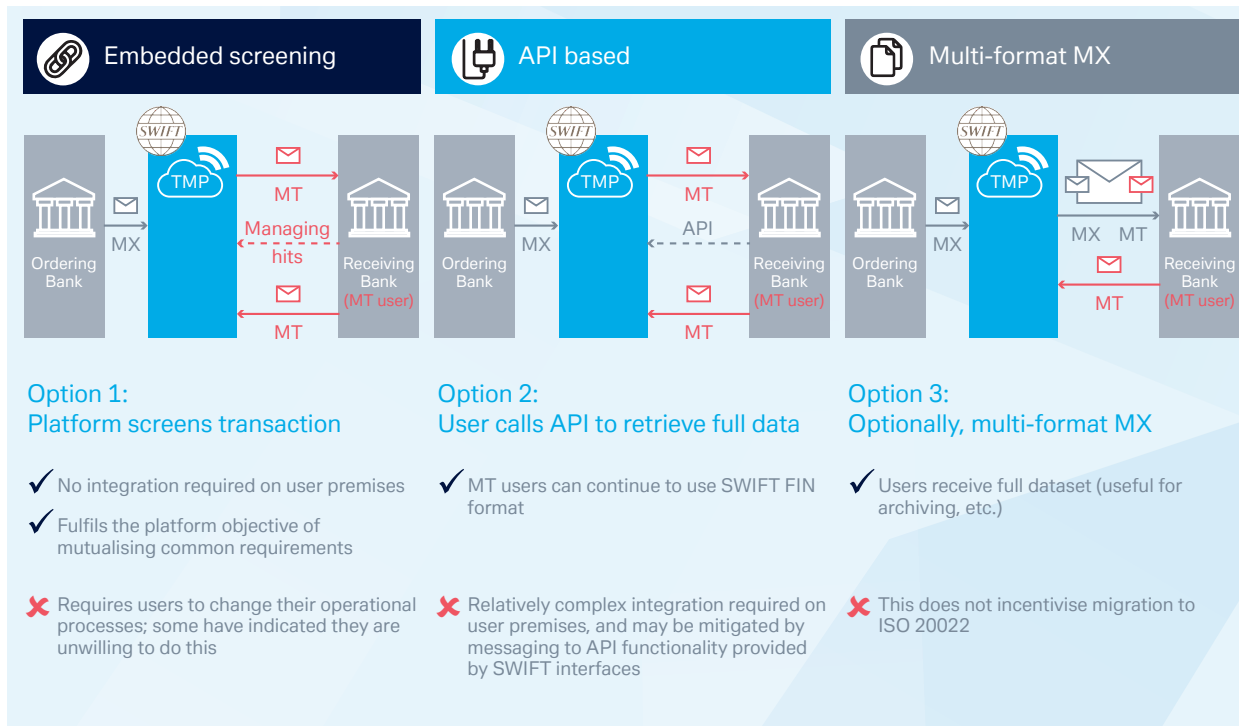
### 2.2.3 Sanctions screening

What is not changing is the need for every agent in the transaction to fulfil their compliance obligations. To meet these obligations, all party details are typically required by the bank for sanctions screening. With the introduction of the new platform, if the original payment transaction is based in ISO 20022, intermediaries using the MT channel will have three options to sanctions-screen the data set (see Figure 12):

- **Embedded screening:** the full data will be screened by the platform before the message is delivered to the next user. Potential "hits", however, will be managed manually by the bank using a centrally provided GUI.
- **API based:** The bank may use an API call to retrieve additional data potentially truncated from an MT message.
- **Multi-format MX:** The bank receives a multi-format envelope containing the MT and MX message.



Figure 12: Options for sanctions screening



Source: Deutsche Bank

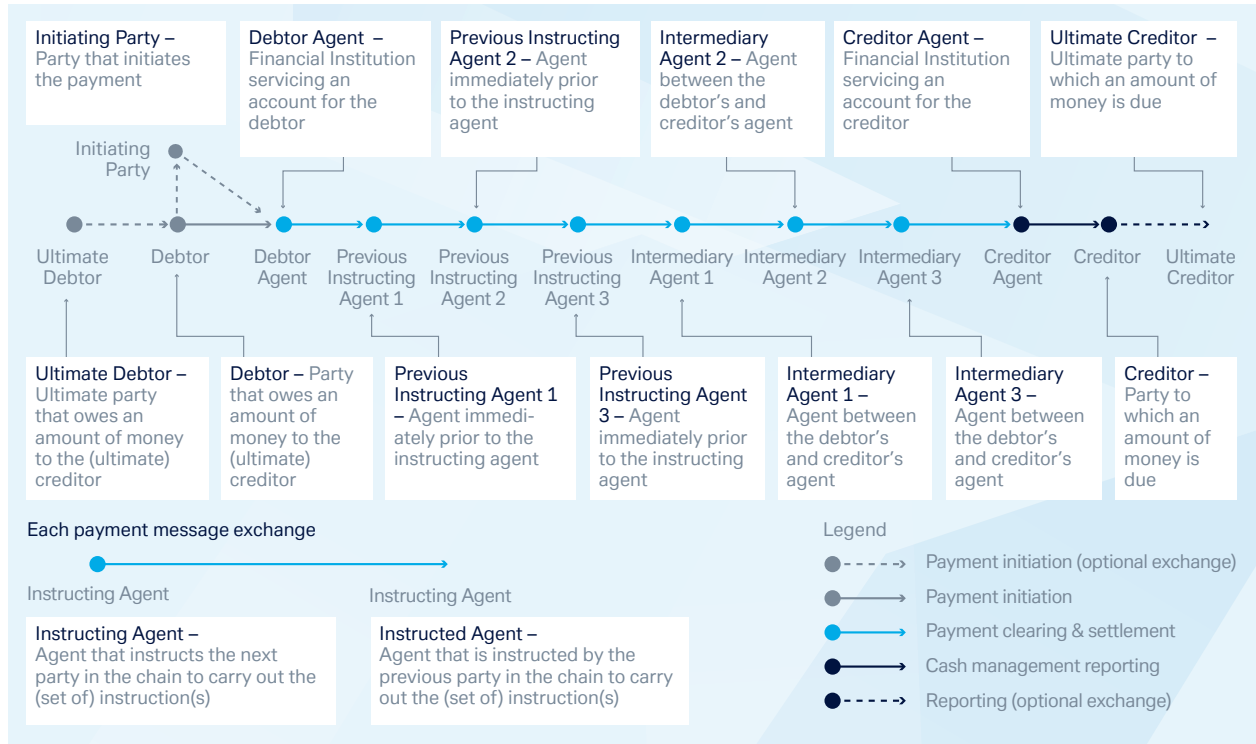
It should be noted that other due diligence processes, such as AML controls and fraud detection, among others, will still require the full payment data set, which will pose a challenge for banks choosing to stay on MT.

### 2.2.4 Data model

Along with the above mentioned messaging formats and channels, the TMP will introduce a new concept for the data model.

The central platform will allow the industry to move away from a point-to-point messaging towards central transaction processing by holding the central record of the transaction data. Payment transaction data is made up of several contributions from the various actors in the payment chain (see Figure 13). By defining roles within a business transaction, the SWIFT platform will be able to orchestrate data privileges, assign responsibilities, and control access to this information. This means defining static roles in the payment chain to outline who is permitted to create, read, update or delete a certain piece of data. The ISO 20022 pacs messages have several optional Agent elements, such as the Intermediary Agent, whose role changes throughout the lifecycle of the payment. The Instructing Agent and Instructed Agent represent the Agents involved in the point-to-point message exchange – meaning that these roles change on each payment leg. The Previous Instructing Agent is, however, a static role in the chain, and allows the additional Previous Instructing Agents to be included in the history of the payment.

Figure 13: Overview of ISO 20022 supported actors

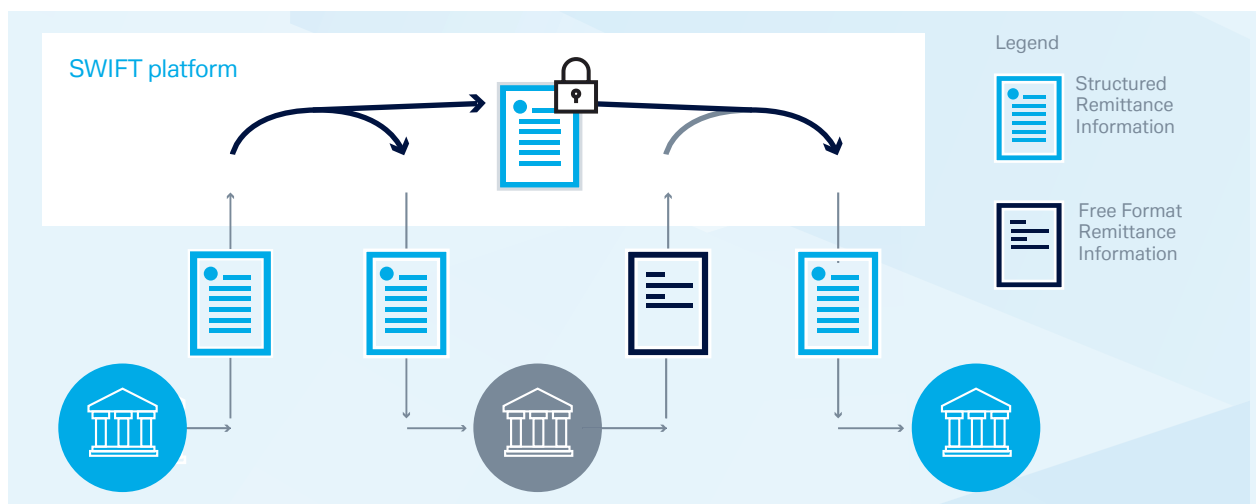


Source: SWIFT

So how does this data model work and how does it benefit users? As an example, Remittance Information is created by the Debtor (or Debtor Agent) at the beginning of the payment transaction journey. While all additional actors in the payment transaction are entitled to read this information, none are entitled to update or delete this data. This means that the data effectively becomes an immutable part of the payment transaction.

In the same way, if ISO 20022 Structured Remittance Information is utilised at the beginning of the transaction journey, the SWIFT platform can ensure that the data is transported from end to end – even if a party in the payment chain is constrained by their ability to pass-on such data (see Figure 14)

Figure 14: Avoiding data truncation through SWIFT platform



Source: SWIFT

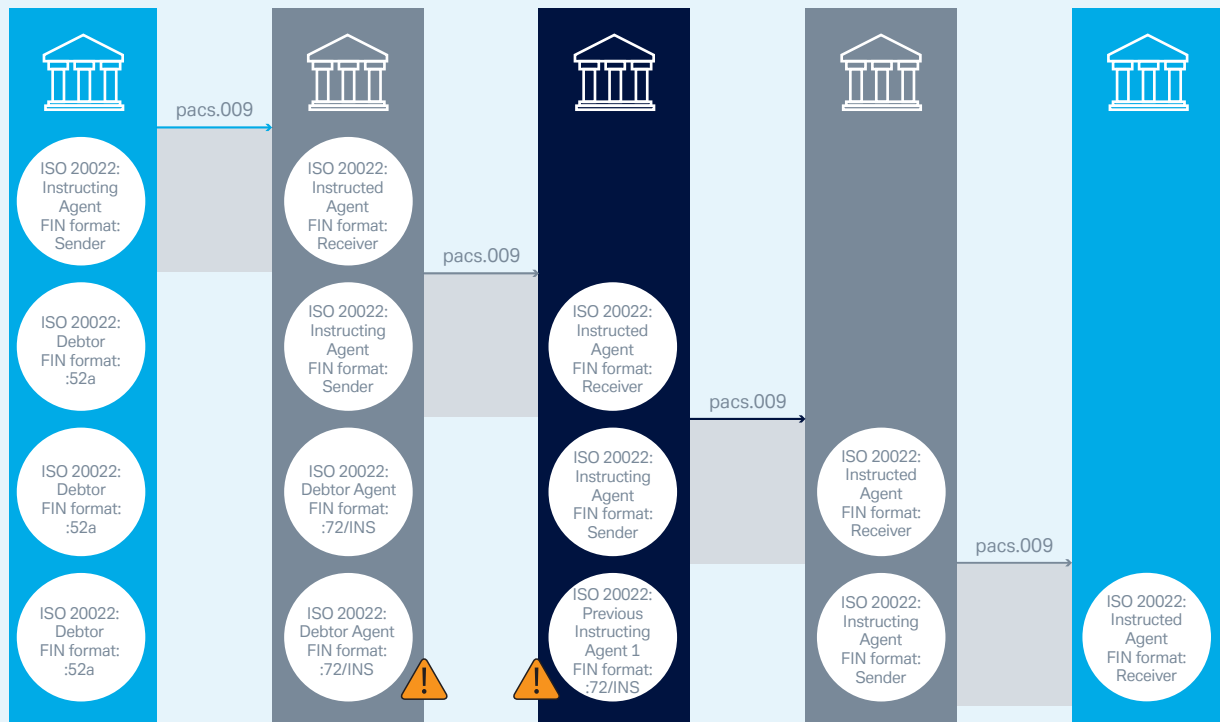


**Point of attention: Data truncation**

ISO 20022 messages do not contain a direct equivalent of FIN MT Field :72/INS or F72 (Sender to Receiver information), though they do contain additional fields where this information could be mapped. However, when reversed, and MX messages have to be mapped onto MT, which can create challenges.

If we look at the role of the Debtor Agent in a pacs.009 message, at the end of the payment chain the “Debtor Agent” and “Previous Instructing Agent” will both need to be mapped into F72, since no equivalent agent exists within MT messages. The concern is that taking up additional space (at least two lines) in this field could cause data truncation, as other elements, such as the Intermediary Agent, Service Level, Instruction For Next Agent and Instruction For Creditor Agent, also need to be mapped into F72 (as they too lack direct equivalents in MT messages)

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**2.2.5 Challenges**

The SWIFT community’s decision to delay the ISO 20022 deployment for correspondent banking creates a year-long period where some payment systems, such as those of Singapore, the Philippines and the BoE, will have migrated to ISO 20022 before the SWIFT platform becomes available. Equally,

banks that are not planning to implement ISO 20022 from “day one” cannot afford to delay – or worse abandon – their internal projects in the hope that the platform will provide a complete solution. For example, if a message is initiated in ISO 20022, MT users will still have to retrieve additional information from the platform for screening purposes, which will mean further effort for those staying on MT (see 2.2.3 Sanctions screening).

So how will institutions pass on rich, structured data in this intervening period? Payment systems affected are assessing the impact, though will most likely maintain their current timelines and follow the communicated approach, starting with a like-for-like phase to minimise the data truncation issue.

## 2.3 CBPR+ Usage Guidelines

The Cross-Border Payments and Reporting Plus (CBPR+) working group is the expert working group defining the Usage Guidelines for ISO 20022 messages in cross-border payments. Despite SWIFT’s change in migration approach, the usage guidelines defined by CBPR+ will continue to be the basis for ISO 20022 implementation in the correspondent banking space. The latest version of the “core” Usage Guidelines for 2022 Portfolio are being made available in Q3 2020 and may be considered final (see Figure 15). However, as we go into the pilot phase, incremental changes to the Usage Guidelines may be required.

Figure 15: CBPR+ message portfolio

	FIN MT	ISO 20022 equivalent	Usage Guideline available
Phase I	MT 103 CORE / REMIT /103+ / 102	pacs.008	✓
	MT 200 / 201 / 203 / 202 / 202COV / 205	pacs.009 CORE&COV&ADV	✓
	MT 103 / MT 202 RTN	pacs.004	✓
	n/a	pacs.002 (positive)	✓
		pacs.002 (negative)	
	MT 941 / 942	camt.052 / camt.053 (all instruments)	✓
	MT 900 / 910	camt.054	✓
	MT 940 / 950	camt.053	✓
	MT 210 (Notice to Receive)	camt.057	✓
	MT 920 (Request Message)	camt.060	✓
n/a	head.001 (BAH) v2	✓	
Phase II	MT 103 STP	pacs.008 STP	✓
	MT 103 STP EU	pacs.008 EEA	no business need for a dedicated message (will be covered with pacs.008STP)
	MT 204	pacs.010	✓
	MT 104	pacs.003	no business need (removed)
Phase III	MT 192 / 292 (Cancellation Request)	camt.056 – Cancellation Request	under development (in collaboration with gpi expert group)
		camt.026 – Unable to Apply	
		camt.027 – Claim Non Receipt	
		camt.087 – Request to Modify	
	MT 196 / 296/ 199 / 299 / 112 (Query / Answer)	camt.029 – Resolution of Investigation	
	MT 101	pain.001	under development
MT 110 / MT 111 / MT 112	New Cheques messages	under development	
MT n90 / MT n91	New Charges/Fee messages	under development	

<sup>1</sup> Note: Usage Guideline “flavours”, such as pacs.008 STP, pacs.009 COV, will be specified in the BAH of the message



### 2.3.1 CBPR+ Phase I

In 2019, the CBPR+ group completed Phase I of their specification definitions, with Usage Guidelines for four core Payments Clearing and Settlement (pacs) messages, five Cash Management (camt) messages and the Business Application Header (BAH) (see 2.3.5: Excursus: CBPR+ ISO 20022 message structure) now available on MyStandards. These guidelines are available for download in multiple formats and are supported by the MyStandards Readiness portal for testing.

### 2.3.2 CBPR+ Phase II

Phase II has recently been completed, with usage guidelines for pacs.010 (the ISO 20022 equivalent of MT 204) and pacs.008 STP (including requirements for STP EU) having already been released. With regards to the pacs.008 STP Usage Guideline, the group agreed that no specific guidelines should be developed for the EU – instead, additional rules should be added to the pacs.008 STP to meet the EU requirements.

### 2.3.3. CBPR+ Phase III

In the second half of 2020, the CBPR+ has been focusing on Phase III of their specification definitions, comprising new messages for Exceptions and Investigations (E&I), Cheque and Charges/ Fees, and pain.001. Phase III will be published in 2021 and will include the final functional changes before coexistence period starts.

#### Exceptions & Investigations messages

As part of Phase III, E&I messages will be defined in collaboration with the gpi expert group. Workgroup #2, which is composed of members from CBPR+ and business Workgroup #1/gCASE participants, will co-create and draft required ISO 20022 standards and related usage guidelines for E&I in correspondent banking.

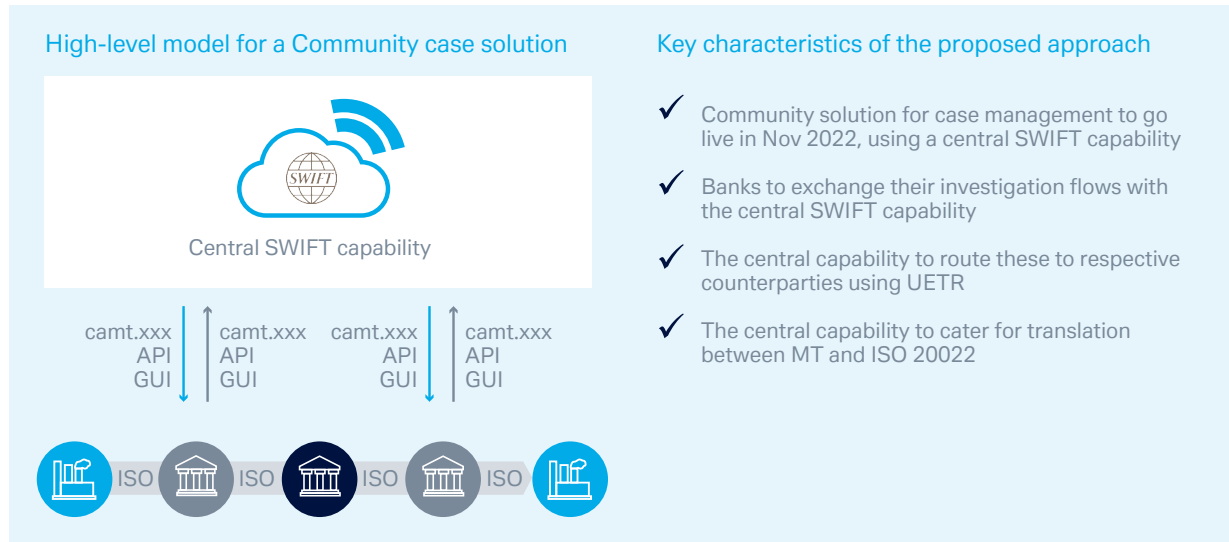
E&I messages are considered part of the 'Community case' initiative that will – starting from November 2022 – replace the serial investigations in the industry, that are currently sent through intermediary banks (see Figure 16). Investigations are currently primarily handled through free format MT messages based on processes individually established by a bank, so the migration to ISO 20022 provides the ideal opportunity to revisit and revise these longstanding industry practices.

The Community case will define standards for the “transaction cancellation” and “unable to apply” processes, which will be fully interoperable with the equivalent gpi services. They will also provide workflows for other Community processes, such as “request for information” and “request to modify”. The group kicked off in Q2 2020 and is currently defining use cases.

The overarching aim is to redesign all E&I processes in the industry and, by leveraging a central SWIFT capability, enhance the efficiency and cost-effectiveness of the interbank processes. This will completely change the way E&Is are managed by banks and impact the entire industry.



Figure 16: Proposed Community case solution



Source: Deutsche Bank

### New Cheque & Charges/Fees messages

SWIFT has drafted a new set of “base” ISO 20022 messages for cheques and charges/fees processing based on their equivalent MTs:

- MT n90 (=camt.105 ChargesPaymentNotification) and MT n91 (=camt.106 ChargesPaymentRequest) for the charges/fees processing.
- MT110 (=camt.107 ChequePresentmentNotification), MT111 (=camt.108 ChequePresentmentCancellationRequest), MT112 (=camt.109 ChequePresentmentCancellationStatusReport), for the cheque messages.

The ISO 20022 “base” messages will have to facilitate any underlying banking products (such as Payments, Securities and Trade) and, ideally, facilitate end-to-end automation – allowing the global financial industry to benefit from an industry standard for Charges/Fees and Cheques messages. They are being posted on MyStandards in September 2020. Based on these messages, the CBPR+ will define and publish their Usage Guidelines for these particular cases on MyStandards in Q4 2020.

SWIFT provides an implementation of these translation rules in the SWIFT Translator product, which can be implemented in back-office systems of financial institutions to support adoption of CBPR+.

### pain.001 (relay scenario) message

The CBPR+ group met in June 2020 to review and discuss the pain.001 message. During the workshop it was confirmed that the scope of pain.001 for CBPR+ is limited to ensuring interoperability with payment clearing and settlement messages (pacs) in a relay scenario for international wires only (i.e. FI to FI). The group is working in close alignment with the CGI-MP (Common Global Implementation - Maintenance Progress).

### 2.3.4 CBPR+ translation rules

To support the move to CBPR+ compliant ISO 20022 messages, SWIFT and CBPR+ working group members have defined a set of translation rules from the new standards to MT, and vice versa. From November 2022 to November 2025 these translation rules will facilitate the coexistence period.

The translation rules defined with the CBPR+ are now available on MyStandards and can be tested in the CBPR+ Translation Portal, where users can input a SWIFT MT message and receive the translated ISO 20022 message, or vice versa (see Figure 17). To access the portal, a request can be submitted via the CBPR+ MyStandards landing page on [MyStandards](#).

Figure 17: CBPR+ Translation portal

The CBPR+ Translation Rules describe how to translate source MT or CBPR+ MX messages to their equivalent target CBPR+ MX or MT messages. This site provides translation rules in two formats:

- A live and dynamic Translation Portal with up to date translation rules and translation testing capabilities, and currently at version 1.7;
- An offline set of translation documentation derived from the rules published on the Translation Portal. This documentation is provided for convenience and offline reference only. It is updated periodically after completion of planned phases of CBPR+ definition. This documentation expresses no warranty of performance of translation rules, and SWIFT offers no support for this offline documentation. The latest and up to date translation rules are exclusively published on the Translation Portal.

[Download Release Note](#)      [Download Documentation](#)

All translations from MX to MT strictly follow the FIN MT User Handbook (UHB) published on [swift.com](https://www2.swift.com). For additional CBPR+ Usage Guidelines information, please refer to the CBPR+ user handbook available on <https://www2.swift.com/mystandards/#/c/cbpr/landing>.

For more information about how to use this portal, please visit the help page by clicking [here](#)

Mapping Name		
L4_Testing_Envelope.camt.057.001.06-to-MT	<a href="#">Documentation</a>	<a href="#">Test</a>
L4_Testing_MT103CORE-to-Envelope.pacs.008.001.08	<a href="#">Documentation</a>	<a href="#">Test</a>
L4_Testing_MT202CORE-to-Envelope.pacs.009.001.08	<a href="#">Documentation</a>	<a href="#">Test</a>
L4_Testing_MT202COV-to-Envelope.pacs.009.001.08	<a href="#">Documentation</a>	<a href="#">Test</a>
L4_Testing_MT900-to-Envelope.camt.054.001.08	<a href="#">Documentation</a>	<a href="#">Test</a>
L4_Testing_MT910-to-Envelope.camt.054.001.08	<a href="#">Documentation</a>	<a href="#">Test</a>
L4_Testing_Envelope.camt.054.001.08-to-MT	<a href="#">Documentation</a>	<a href="#">Test</a>
L4_Testing_Envelope.pacs.002.001.10-to-MT	<a href="#">Documentation</a>	<a href="#">Test</a>
L4_Testing_Envelope.pacs.004.001.09-to-MT	<a href="#">Documentation</a>	<a href="#">Test</a>
L4_Testing_Envelope.pacs.008.001.08-to-MT	<a href="#">Documentation</a>	<a href="#">Test</a>
L4_Testing_Envelope.pacs.009.001.08-to-MT	<a href="#">Documentation</a>	<a href="#">Test</a>

Source: SWIFT

### Translation challenges

The rich data contained in ISO 20022 messages cannot be mapped one-to-one into an MT message – making data truncation unavoidable. It should be noted that there is no simple mechanism to ensure 100% integrity of data when mapping from MX to MT and vice versa.

Given that party and remittance information are the most critical elements for anti-financial crime due diligence processes, the potential translation challenges in relation to these data sets should be noted.

### Party Information

Compared to the SWIFT FIN MT format, ISO 20022 provides significantly enhanced data quality in payments messages, including a much more granular structure for the individual address elements. This poses a substantial challenge for the coexistence phase, where there is a risk of rich MX data being truncated when translated to MT format.



### Point of attention: Truncation of Party Information in translated MT messages

Example: While MX supports 140 characters for the name element, MT messages support a maximum of 35 characters per line. As name length in this example exceeds 35 characters, two lines are used for the name in the MT format. Given the street name is 36 characters long, along with the floor, post box and building number, it gets truncated – indicated by the ‘+’ character.

ISO 20022 CBPR+ pacs.008  
Debtor element

```

<Dbtr>
  <Nm>FRANKFURTER ERFUNDENE UNIVERSALBANK AG</Nm>
  <PstlAdr>
    <StrNm>FRIEDRICH-WILHELM-CHRISTIANS-STRASSE</StrNm>
    <BldgNb>1</BldgNb>
    <BldgNm>BANKENGEBAEUDE</BldgNm>
    <Flr>4 OG</Flr>
    <PstBx>1234</PstBx>
    <PstCd>60000</PstCd>
    <TwnNm>FRANKFURT</TwnNm>
    <Ctry>DE</Ctry>
  </PstlAdr>
</Dbtr>
<DbtrAcct>
  <Id>
    <IBAN>
      <Id>DE11111111111111111111</Id>
    </IBAN>
  </Id>
</DbtrAcct>

```

Character limitation 70 characters

SWIFT FIN MT103  
Field 50F

```

:50F:/DE11111111111111111111
1/FRANKFURTER ERFUNDENE UNIVERSALBA
1/NK AG
2/FRIEDRICH-WILHELM-CHRISTIANS-STR+
3/DE/FRANKFURT,60000

```

Character limitation 4 x 35 characters

Character limitation in FIN could cause potential data truncation & loss of info when translating from ISO20022 CBPR+ to SWIFT FIN MT.

More examples can be found in [the PMPG Market Practices Guidelines for Structured ordering and beneficiary customer data in Payments](#), on which the CBPR+ Translation is based

Aside from data truncation, internal analysis at Deutsche Bank revealed a further issue – namely that Structured Ordering Customer data, field 50F is only available for one out of three MT103; two of the three are unstructured. In field 59a, no letter option is the dominant format, therein with a significant portion of non-delimited data.

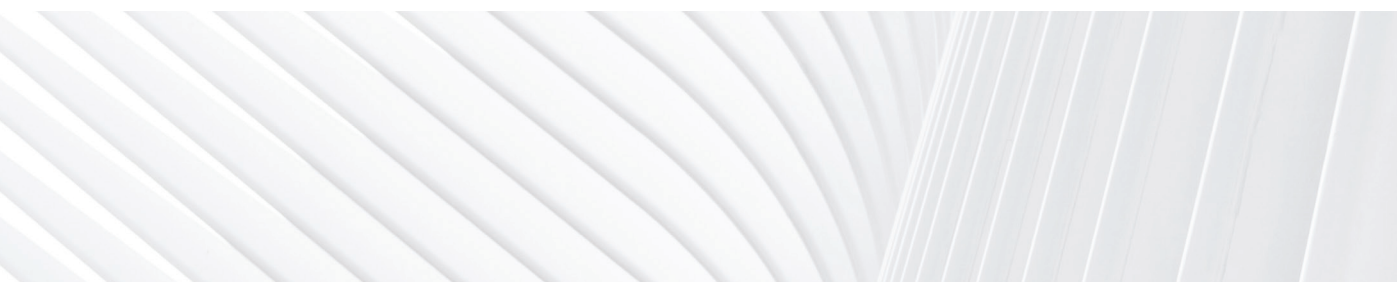
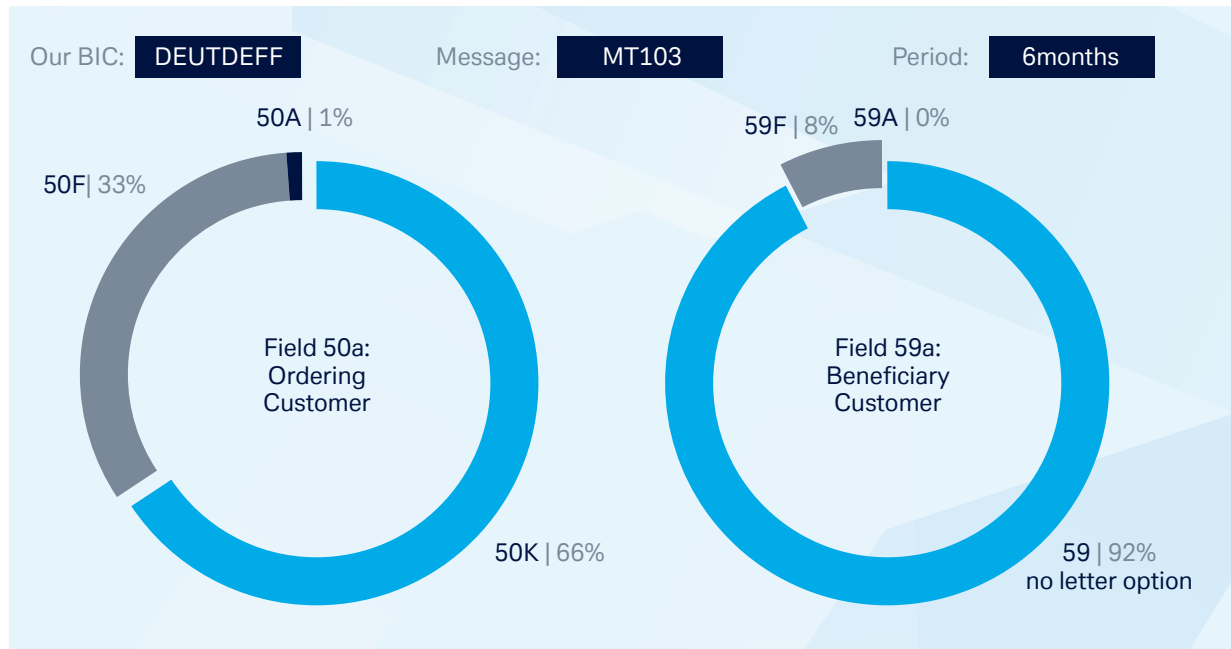
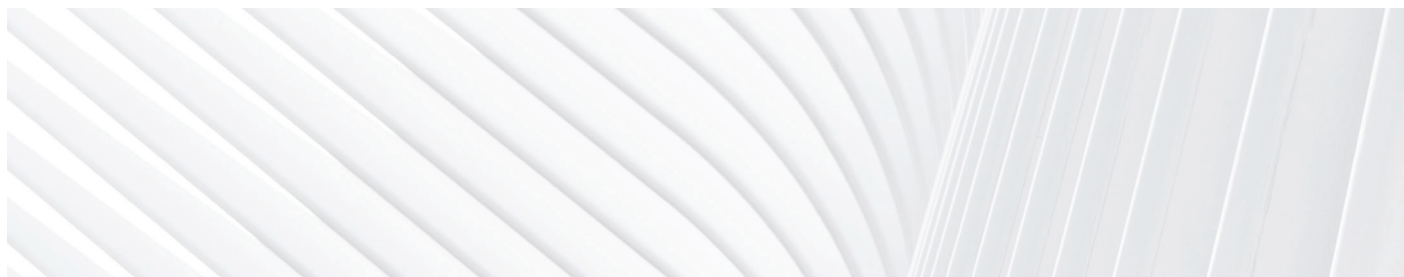


Figure 18: Deutsche Bank internal statistics on the usage of 50a/59a in correspondent banking



Source: Deutsche Bank

Having taken into account these statistics, we reviewed the translation from the broadly used 50K into the ISO 20022 format. In cases where the Name is longer than 35 characters, the excess information is populated in the second line, mingled with the remaining Address information (see example overleaf). When translating to ISO 20022, the first line will be mapped into the designated MX Name element only. The excess information (=Name) cannot be recognised as such and will be mapped to the first Address line, forming part of the address information. This results in the MX Name element not reflecting the full entity name, while it also pollutes the address information, which may be critical for sanctions screening or other anti-financial crime due diligence conducted by the receiver of the resulting ISO 20022 message.





### Point of attention: Pollution of designated ISO 20022 fields when translating from MT

Example: In MT messages only 35 characters are allowed per line. As name length in this example exceeds 35 characters, two lines are used for the name in the MT format. Given that, when translating into ISO 20022, the designated ISO 20022 name element is not complete, the address line information gets polluted with incorrect information which doesn't belong there. This may have implications for sanctions screening and other anti-financial crime analytics.

#### SWIFT FIN MT103 Filed 50K

:50F:/123456789  
GRAND CAYMAN ENERGY SERVICES CORPOR  
ATION P.O. BOX 12345  
340 NORTH SOUTH ROAD  
GEORGE TOWN KY1-111, CAYMAN ISLANDS

Character  
limitation:  
35  
characters

#### ISO 20022 CBPR+ pacs.008 Debtor element

```
<Dbtr>
  <Nm>GRAND CAYMAN ENERGY SERVICES CORPOR</Nm>
  <PstlAdr>
    <AdrLine>ATION P.O. BOX 12345</AdrLine>
    <AdrLine>340 NORTH SOUTH ROAD</AdrLine>
    <AdrLine>GEORGE TOWN KY1-111, CAYMAN ISLANDS
  </AdrLine>
  </PstlAdr>
  <CtryOfRes>KY</CtryOfRes>
</Dbtr>
<DbtrAcct>
  <Id>
    <Other>
      <Id>123456789</Id>
    </Other>
  </Id>
</DbtrAcct>
```

Name  
translated as  
part of Postal  
Address



When translating MT to ISO 20022, designated ISO 20022 fields get "polluted" with additional information which may lead to issues in sanctions screening processing



### Remittance Information

The ISO 20022 format offers richer structure for Remittance Information, so there is a need to decide how to include this information in the remittance block of an MT message.

The MX message contains several possible source elements to fill in the MT remittance information, including Ultimate Debtor, Ultimate Creditor, Purpose Code, End-To-End-identification, Related Remittance Information and Remittance Information. Once translated, the information is likely to be truncated and identified in most cases with the sign "+" at the end of the mapped string. Therefore, depending on the number of characters remaining and the presence of the elements in the physical message, priority principles will need to be applied. In all cases, Ultimate Debtor and Ultimate Creditor will have the top priority to be copied into the MT Field 70 Remittance Information based on guidance from the Wolfsberg Group.



**Point of attention: Truncation of Remittance Information in translated MT messages**

Remittance information is among the most frequently truncated data points when translating from MX to MT messages.

In the example below, the End-To-End-identification is 35 characters (35-character maximum, as per CBPR+ Usage Guidelines), the Purpose Code is four characters and the Remittance Information is 84 characters (140 character maximum, as per Usage Guidelines). To avoid data truncation, all of this information would need to be mapped onto the MT message.

However, the character restriction for the equivalent MT field, as per FIN MT User Handbook is four lines, each totalling a maximum of 35 characters. In this example, the End-To-End-identification and Purpose Code can be mapped in full, while the Remittance Information is truncated because of character limitation.

**ISO 20022 CBPR+ pacs.008**

Credit Transfer Transaction Information

```
<CdtTrfTxInf>
  <PmtId>
    <InstrId>INSTRID-TMP001</InstrId>
    <EndToEndId>END2ENDID-TMP00123456789-1234567890</EndToEndId>
    <UETR>4f334519-092f-49fa-acf9-ce93c267ac8c</UETR>
  </PmtId>
  [...]
  <Purp>
    <Cd>GDDS</Cd>
  </Purp>
  [...]
  <RmtInf>
    <Ustrd>BELEG 1301 2019 RG.OPTIK/03/19-20 V.312589 RG.OPTIK/ 02/19-20 V.1234567890-123456789</Ustrd>
  </RmtInf>
</CdtTrfTxInf>
```

Character limitation 35 characters

Character limitation 140 characters

**SWIFT FIN MT103**

Field 70

```
:70:/PURP/GDDS///ROC/END2ENDID-TMP00123456789-1234567890///URI/BELEG 1301 2019 RG.OPTIK/03/19-20 V.312589012 RG.OPTIK/ 02/19-20 V.1234567890-123+
```

Field limitation 4 x 35 characters

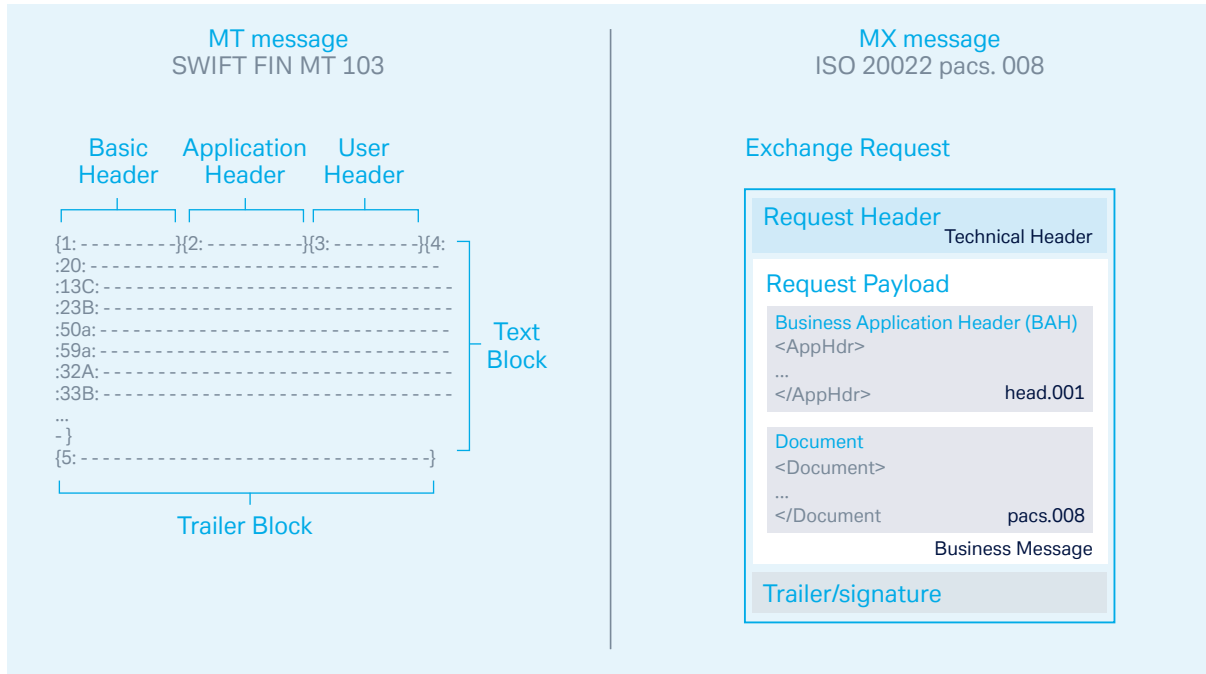
⚠ The rich structure of ISO 20022 format may pose a challenge when mapping into the remittance block of a FIN MT – several source elements in ISO 20022 to be prioritised ⚠

**2.3.5 Excursus: CBPR+ ISO 20022 message structure**

In June 2020, SWIFT published an updated CBPR+ User Handbook on MyStandards, which provides relevant, practical use cases and demonstrates how a CBPR+ message should be read and understood. The document will continue to evolve as market practice guidelines for additional messages are made available.

So, what exactly does a CBPR+ ISO 20022 message look like? The business information of an ISO 20022 message is contained in the Request Payload/Business Message, which consists of the Business Application Header (BAH) (head.001) and the actual message payload/business document (e.g. pacs.008). Below, Figure 19 shows the difference in the structures of the MT message format, and the MX message format.

Figure 19: Differences between the MT and MX message structures



Source: Deutsche Bank

### The Business Application Header (BAH)

The BAH is a header that can form part of an ISO 20022 business message. Specifically, the BAH is an ISO 20022 message definition (head.001.001.0x), which can be combined with any other ISO 20022 message definition to form a business message. The BAH gathers together data about the message – including the organisation that has sent the business message, the organisation that is to receive it, and the specific identity of the message itself, among others – all in one place.

The BAH provides a consistent and predictable way for this data to be conveyed with the message, regardless of implementation factors such as the choice of network. This does not prevent such data being conveyed either within the ISO 20022 message definition itself, or as part of a network header.





ISO 20022 messages use a variety of Headers, which might be confusing at first sight. The overview below provides an explanation on how to differentiate between them.

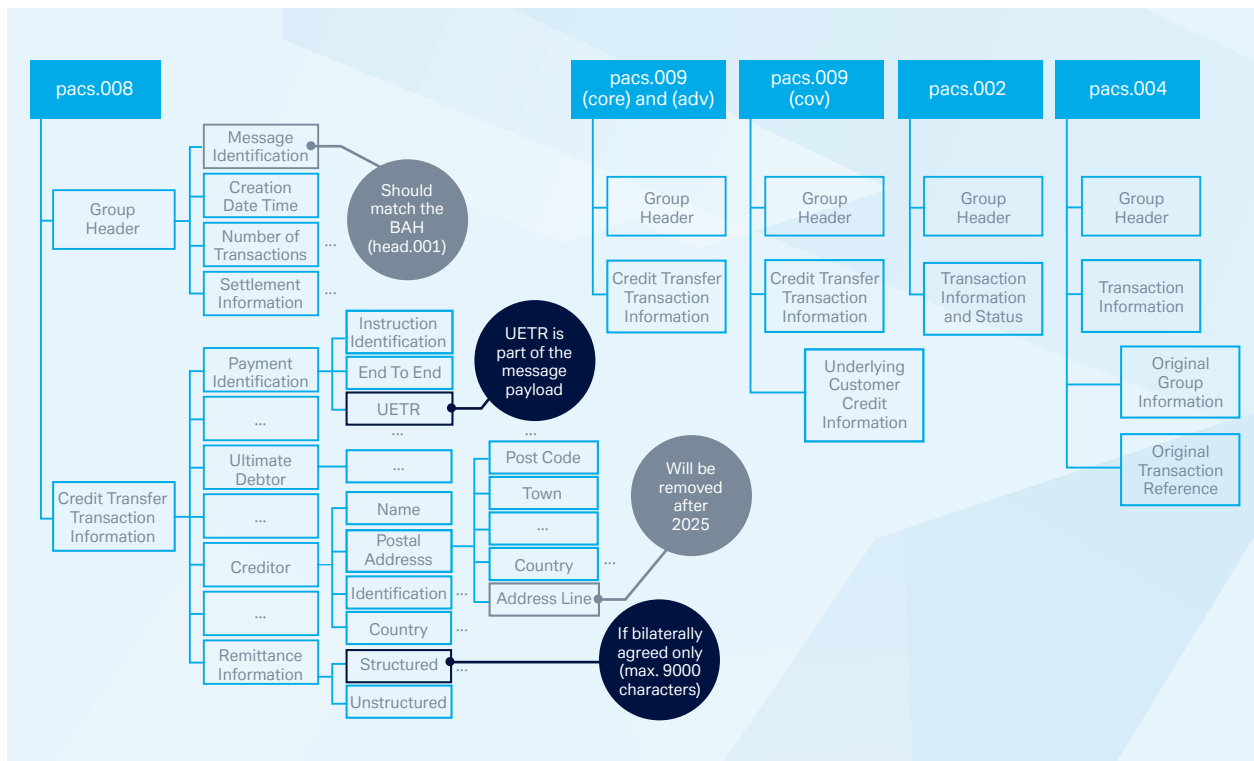
Technical Header	Part of the Request / Request Header; network technical header carrying delivery channel specific information (see Figure 11)
Business Application Header	Part of the Business Message; BAH gathers together data about the message, enabling both application routing rules and logic without having to read the Business Document
Group Header	Part of the Business Document; carries a set of characteristics shared by all individual transactions included in the message (esp. relevant for multiple payments)

### ISO 20022 message payload

The June 2020 edition of the CBPR+ User Handbook outlines the structure of four “core” pacs messages (see Figure 20):

- **pacs.008 FI to FI Customer Credit Transfer:**  
The pacs.008 is used for FI-to-FI Customer Credit Transfer messages and is composed of two core elements: The Group Header, which contains a set of characteristics that relate to all individual transactions, and the Credit Transfer Transaction Information, which contains elements providing information specific to the individual credit transfer transaction.
- **pacs.009 (core), pacs.009 (cov) and pacs.009 (adv) FI Credit Transfer:**  
The pacs.009 has three main use cases: as a “core” Financial Institution Credit Transfer message, as a cover of the core pacs.009, and as a “cov”, where it is used as cover of (i.e. to settle) a pacs.008.  
As a result, the pacs.009 contains all the information of the underlying Customer Credit Transfer (pacs.008) for use in the cover scenario, which is the key attribute to differentiate between these use cases.
- **pacs.002 FI-to-FI Payment Status Report:**  
The FI-to-FI Payment Status Report message is sent by an instructed agent to the previous party in the payment chain. It is used to inform this party about the positive or negative status of an instruction, as well as being used to report on a pending instruction.
- **pacs.004 Payment Return:**  
Much like how the pacs.009 (cov) contains the underlying Customer Credit Transfer, the pacs.004 Payment Return message contains – among other elements – the Original Group Information, which captures the original UETR and the original Interbank Settlement Amount. It also contains the Original Transaction Reference, which houses the key elements of the original payment (including the Debtor, Creditor etc.)

Figure 20: pacs message structures



Source: Deutsche Bank



### Point of attention: UETR generation

The Unique End-to-end Transaction Reference (UETR), initially introduced with the SWIFT gpi initiative – a string of 36 unique characters featured in all payment instruction messages carried over SWIFT – is mandatory in MT 103, MT 103 STP, MT 103 REMIT, MT 202, MT 205, MT 202 COV and MT 205 COV messages.

CBPR+ mandates the use of a UETR in ISO 2022 equivalent messages where end-to-end tracking applies. This includes: pacs.008.001.08, pacs.009.001.08, pacs.004.001.10 and pacs.002.001.10.

In ISO 2022 messages, the UETR forms part of the business payload (in FIN, the UETR is in Block 3, outside of the business payload in Block 4).

#### Implications

- Payment systems must be able to generate a UETR when creating the payment instruction.
- Middleware solutions must add UETR in ISO 2022 payload when not present.
- UETR will become the de-facto reference for the transaction lifecycle, including returns, reporting and exceptions & investigations. Banks must include this requirement as part of the ISO 2022 migration project to avoid delays due to UETR generation issues or disruption in case of follow-up activities.
- Banks should use an RFC4122-version-4-compliant UETR-generation algorithm to avoid bad quality UETR impacting the end-to-end tracking.

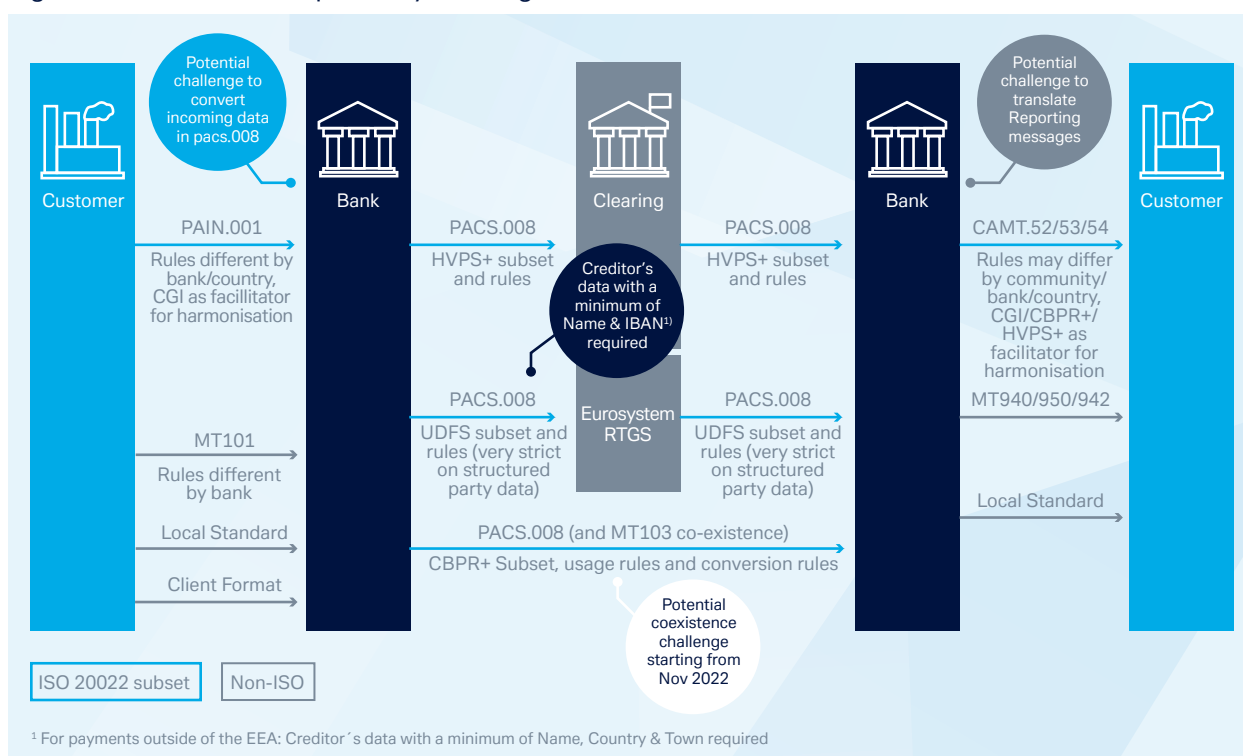
More information on gpi in relation to ISO 2022 can be found in the two earlier editions of this Guide.

3

# Cross-border interoperability

While the introduction of ISO 2022 will clearly deliver widespread benefits, there are several implementation issues on the migration journey ahead – most notably issues surrounding interoperability (See Figure 21). Building on the payment flow overview from the previous edition of this guide (see *Guide to ISO 2022 migration: Part 2*), we will go one step further – highlighting the challenges banks have identified within their internal ISO 2022 migration projects.

Figure 21: Potential interoperability challenges



Source: Deutsche Bank

In the following passage we outline some of the interoperability issues, as a useful reference for what to keep in mind when implementing ISO 2022.

## 3.1 Interoperability between Market Infrastructures and SWIFT

Some Market Infrastructures, such as the BoE, are going live before SWIFT's migration start date. During this seven-month period, Direct Participants may receive payment messages from customers and correspondents in the MT format, which may then need forwarding across CHAPS as ISO 2022 messages, and vice versa. To minimise potential truncation issues arising from this timing "gap", the BoE has now confirmed that CHAPS will initially go-live in spring 2022 with like-for-like ISO 2022 messages only, which are largely aligned with existing MT messages. This will mean that enhanced data cannot be sent via CHAPS during this period (see 1.2 Sterling area).

Another potential challenge arises from the recent decision to postpone the Eurozone migration. With the Eurosystem/EBA CLEARING now going live in November 2022, there is a high delivery risk for European banks. The risks include:

- The preparation period for T2 User Testing will run in parallel to the BoE's migration
- The Eurosystem's go-live date will coincide with the go-live date for SWIFT.

### 3.2 Interoperability between HVPS+ and CBPR+ Usage Guidelines

Given that one of the major goals of the ISO 20022 implementation is the international harmonisation of payment standards, a key principle in the design of the future ISO 20022 messages is international alignment and compatibility.

As outlined in *Guide to ISO 20022 migration: Part 2*, the High-Value Payment Systems Plus (HVPS+) Usage Guidelines (UGs) were developed for use in the one-to-many space only (Market Infrastructure), while Cross-Border Payments & Reporting Plus (CBPR+) UGs will be used in the correspondent banking space. This means that when a payment is initiated within a Market Infrastructure ecosystem, it is based on HVPS+ UGs, while the outgoing payment (leg-out) is based on the CBPR+ UGs.

While both Usage Guidelines are closely aligned to support interoperability, due to the nature of the different payment scenarios, some differences between the two guidelines are required and justified (see Figure 22).

Figure 22: Key differences between HVPS+ & CBPR+

Element	CBPR+	HVPS+
Number Of Transactions	Single (multiple foreseen, when bilaterally agreed)	Single
Settlement Method	INDA, INGA or COVE	CLRG only
CLS Time	Used	Not used
Settlement Account	Used	Not used
Instructing Agent & Instructed Agent	Present under Transaction Information only	Present either in Group Header or under Transaction Information with recommendation to use them at Transaction Information level only
Instruction Identification	Mandatory and limited to 35 characters pacs.004: Original Instruction Identification optional	Optional and limited to 35 characters
Original Identifications in pacs.004	Rule: Must transport OriginalEndToEndIdentification and OriginalUETR of the underlying pacs.008/pacs.009 Recommendation: If present in underlying pacs.008/pacs.009, the original instruction ID, Transaction & Clearing System Reference must be transported in the pacs.004	Recommendation: If present in the pacs.008/pacs.009, the identification must be transported in the Return messages
pacs.004: Compensation Amount	Not Used	Used
pacs.004: Original Transaction Reference	Used	Not used
pacs.002: Status Identification	Not used	Used

<sup>1</sup> Note: as per latest decision, special characters \$ >< will be used in CBPR+ as well (originally only foreseen for HVPS+ only)

Source: Deutsche Bank

### 3.3 Interoperability between messaging formats during coexistence period

A coexistence period is scheduled from November 2022 to November 2025 in the correspondent banking space, meaning interoperability with MT messages will be required (see 2.2.2 Translation). The ISO 20022

users will be able to send ISO 20022 messages to all users, including those who have not yet migrated. Banks still on MT should note that when receiving an ISO 20022 payment message from another agent, some data truncation may be necessary due to the richness of the ISO 20022 format.

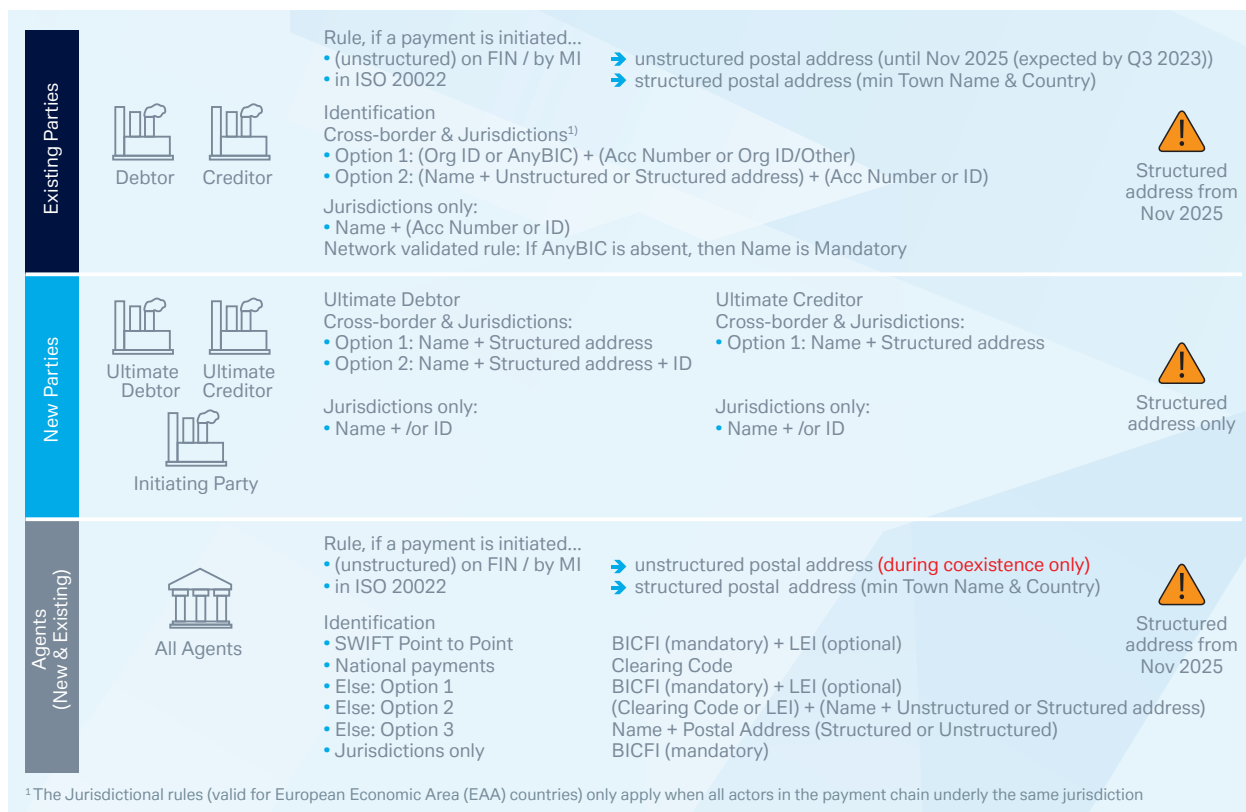
Taking this example, it becomes apparent that due to the imperfect nature of the translation, it will be necessary to have access to both the MT and the original ISO 20022 versions of the message for transaction due diligence, such as sanctions screening – creating additional challenges for banks that continue to use MT messages. As such, every bank is well advised to migrate to ISO 20022 as soon as possible, which will unlock the benefits of the new format and reduce coexistence costs.

### 3.4 Interoperability between pacs and camt messages

As outlined above, ISO 20022 messages include more data and richer data structures than those of the current MT standard. The move to richer ISO 20022 data model is clearly an opportunity to address current limitations and facilitate frictionless and fast cross-border payment processing. As such, the provision of structured data will help automate screening which, in turn, will speed up straight-through processing (STP). This also supports the Committee on Payments and Market Infrastructures' (CPMI) objective to further improve the cross-border/correspondent banking space.

In addition, the ISO 20022 UGs, as defined by CBPR+ and HVPS+, have taken into account the Financial Action Task Force (FATF) recommendations, as well as the Wolfsberg Group's Payment Transparency Standards – both of which go beyond the current level of information customers and banks can provide, given the limitations of the MT standard (see Figure 23). For example, both advocate the use of structured address information for party identification, which is defined in the ISO 20022 repository (i.e. the address of the Debtor and Creditor has to include Country and Town as a minimum).

Figure 23: Agents & Parties Identification in CBPR+



It should be noted that these changes will also impact Payment Initiation and Cash Management standards and will introduce various requirements for participants in order to facilitate fast and frictionless end-to-end payment processing across the payment chain. These include:

- Review and clean-up of existing party static data for any parties in the payment chain, such as clients, counterparties and agents, in order to provide structured data in line with the future payment standards
- Redesign of any customer payment initiation media and channels to eliminate unstructured data options from the point of initiation (as it will be disallowed from 2025)
- Client education and vendor engagement to ensure counterparty information is delivered in the target standard. A further challenge will be to educate corporate clients about the different requirements due to various timelines between certain MIs and SWIFT Corporates: for example, sending “restricted” ISO 20022 messages to the BoE and “fully-fledged” ISO 20022 to the Eurosystem and SWIFT from November 2022.

Another important aspect to be considered is that the new ISO 20022 messages will be exchanged via SWIFT FINplus (InterAct Service) and will contain a Business Application Header (BAH) as part of the message structure. Corporates are advised to migrate to the latest Common Global Implementation (CGI) ISO 20022 version (pain.001.001.09 or V9) in order to benefit from a harmonised cross-border payment experience and the latest value-add services.



## 4

## What's next?

Though the industry has made a number of steps forward on the ISO 20022 journey in the last few years, the recent delays may be seen by some as a step backwards. But it is important to note that the ISO 20022 destination remains fixed – we are simply taking a diversion to get there.

In *Guide to ISO 20022 migration: Part 2* we said that “now is the time to prepare schedules, securing resources, allocating budgets and informing senior management”. Despite recent developments, this still holds true, we urge you not to take your foot off the pedal. The journey to ISO 20022 continues to move ahead at speed – and internal projects need to reflect this. This is why Deutsche Bank is continuing to advance its front-to-back implementation of ISO 20022, with the aim of becoming a “native ISO 20022 speaker” ahead of the November 2022 migration.

As this year has proved, nothing is set in stone. The ISO 20022 migration involves a lot of moving parts and keeping abreast of the latest developments is critical for banks and corporates alike. As the deadlines near, and the ISO 20022 story develops, this series of guides will continue to highlight key points for consideration over the coming years.

We look forward to continuing to share the journey with you.

## 5

## Learning

As the migration journey continues, learning and understanding ISO 20022 remains one of the most essential exercises. To make this easier, below is a collection of links and additional tips. We hope this helps streamline the learning process – accelerating your ability to “speak” ISO 20022 and to stay abreast of the latest developments.

### General ISO 20022 knowledge

To assist familiarity with the ISO 20022 standard, visit the ISO Organisation’s website: <https://www.iso.org/>. There you can also request a copy of an introductory book on ISO 20022, which was developed in close cooperation with SWIFT: <https://www.iso.org/request-your-copy-iso-20022-dummies-book>.

### The Eurozone

General information and the latest documents on the T2-T2S Consolidation project can be found on [the ECB’s website](#). In addition, the ECB is currently developing a communication plan for the T2-T2S Consolidation, which will consist of the following:

- The ECB will be holding a number of focus sessions and national events:
  - ECB Focus sessions: Will provide a general T2-T2S Consolidation project update, with a focus on a specific topic in each session.
  - National Central Bank (NCB) sessions: NCBs take the lead with support from the ECB and the 4CB.
- Potential WebEx Sessions on requested topics:
  - Hosted by the ECB.
  - Presentations recorded and available on the ECB website.
- Potential online presentations or tutorials on requested topics:
  - Available on the T2-T2S Consolidation webpages.

### Sterling area

The BoE offers a free newsletter on the RTGS Renewal Programme, which provides the latest communication on any project updates. In addition to this, more information on expectations and timelines for the CHAPS transition to ISO 20022 messaging can be found on [the BoE’s website](#).

### US dollar area

The latest information on the migration to ISO2002 in the US dollar area can be found on [the Federal Reserve’s website](#).

### Correspondent banking/SWIFT

SWIFT also has a host of communication tools to help participants with their migration to ISO 20022:

- SWIFT’s [MyStandards](#) portal is a collaborative web application that simplifies how banks manage financial messaging standards. More than 40,000 users create, publish, share and consume message specifications and usage guidelines. To access MyStandards, users must first register for a free account with SWIFT and then search for the specific Usage Guidelines, e.g. CBPR+. In addition, MyStandards offers an option to subscribe to a collection of Usage Guidelines to receive automatic updates once Usage Guidelines get updated (MyNotifications tab).
- [SWIFT’s ISO 20022 Programme website](#) provides insights and news around the latest developments.



- SWIFT Smart is an interactive, cloud-based service that provides more than 800 different learning opportunities in multiple languages. Whether it is a basic introduction to SWIFT or advanced instructions on payment systems, the service provides the flexibility to train your staff anytime, anywhere and from any device.
- SWIFT will also continue to hold a series of webinars exploring the ISO 20022 migration.

### Deutsche Bank

And, finally, Deutsche Bank will continue to support the industry effort by sharing the latest developments and know-how on the ISO 20022 migration, with a host of discussions and publications planned:

- Following on from *Guide to ISO 20022 migration: Part one*, *Guide to ISO 20022 migration: Part 2* and this, *Guide to ISO 20022 migration: Part 3*, Deutsche Bank plans to publish further guides as the ISO 20022 migration draws ever nearer.
- Deutsche Bank continues to update the detailed FAQs that have already been published for its clients.
- Deutsche Bank's *flow* magazine publishes the latest insights on ISO 20022 and transaction banking as a whole.
- Deutsche Bank will engage with its clients through a series of webinars, including a deep-dive session on ISO 20022 on 1 October 2020.
- Finally, your Client Manager always remains at your disposal for arranging a one-on-one discussion on ISO 20022.

## References

<sup>1</sup>*Guide to ISO 20022 migration*, Deutsche Bank, May 2019, see <https://cib.db.com/insights-and-initiatives/white-papers/ultimate-guide-to-ISO-20022-migration.htm>

<sup>2</sup>ECB steps in over Swift's ISO 20022 migration delay, Finextra, May 2020, see <https://www.finextra.com/newsarticle/35764/ecb-steps-in-over-swifts-iso-20022-migration-delay>

<sup>3</sup>*Blueprint (draft) ISO 20022 for Eurozone High Value Payments with cross-border leg*, SWIFT, May 2020, see [https://www.swift.com/sites/default/files/documents/swift\\_ecb\\_hvp\\_blueprint\\_draft.pdf](https://www.swift.com/sites/default/files/documents/swift_ecb_hvp_blueprint_draft.pdf)

<sup>4</sup>*T2 Migration, Testing and Readiness Strategy*, ECB, February 2020, see [https://www.ecb.europa.eu/paym/pdf/consultations/t2\\_migration\\_testing\\_and\\_readiness\\_strategy\\_v1.1.pdf](https://www.ecb.europa.eu/paym/pdf/consultations/t2_migration_testing_and_readiness_strategy_v1.1.pdf)

<sup>5</sup>*User Detailed Functional Specifications v2.1*, ECB, December 2019, see [https://www.ecb.europa.eu/paym/pdf/consultations/RTGS\\_UDFS\\_V2.1\\_clean\\_20191220.pdf](https://www.ecb.europa.eu/paym/pdf/consultations/RTGS_UDFS_V2.1_clean_20191220.pdf)

<sup>6</sup>The Wolfberg Group, accessed Sept 2020, see <https://www.wolfsberg-principles.com/>



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