Guide to ISO 20022 migration

Part 5

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SPECIAL

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In 2019, we launched this series of guides to help the payments industry prepare for the upcoming migration to ISO 20022. Progress since then has been patchy, but efforts are now reaching fruition. In November 2022, high-value payments in Europe and cross-border payments globally will transition to the new ISO 20022 payments messaging standard.

In this, our fifth – and final – edition in our *Guide to ISO 20022 migration* series, we cover the state of play for each market infrastructure, provide an update on SWIFT's Transaction Manager, explore the evolution of the Relationship Management Application and look at future initiatives that could further harmonise payments.

Contents

Foreword

When we began this series of guides back in 2019, we described the upcoming ISO 20022 migration as a watershed moment for the industry. Three years on – as we near the milestone transition dates for cross-border payments and the Eurozone – our sentiment has not changed. The migration will create two distinct payments eras: "before-ISO" and "after-ISO" – with the latter defined by the uplifted customer experience, streamlined compliance procedures, and the host of new services the new standard will unlock.

But our aim was never solely to educate market participants of the benefits of ISO 20022. It was also to support community efforts to migrate – so that these benefits could be realised by the entire industry. We strongly believe that end-to-end implementation will help accelerate innovation and unlock new payment offerings.

It has always been clear that achieving this vision would not be straightforward. Market participants have diverse and conflicting priorities and, following the onset of Covid-19, resources and timelines have been stretched. Although significant progress has been made, challenges remain.

High on the agenda is the challenge of data truncation. The introduction of ISO 20022 is, at its core, an exercise in harmonisation, but this does not mean that the approaches to the migration have themselves been harmonised. From November 2022, the cross-border space will migrate to the new messaging standards – ahead of some of the world's major markets. The Bank of England, for instance, will only migrate in April 2023. This creates a five-month period – between November 2022 (SWIFT go-live) and April 2023 (CHAPS go-live) – where some participants might face an issue of converting the data-rich SWIFT ISO 20022 into the UK's legacy CHAPS MT messages.

To combat the challenges of co-existence, SWIFT is introducing a central transaction orchestration platform – known as the Transaction Manager. While the Transaction Manager will technically be live from November 2022, the full scope of functionality will not go live until April 2023. This means that some data truncation issues will persist for few months longer than originally planned. The disconnect between the migration of the Clearing House Interbank Payments System (CHIPS) and the Fedwire RTGS funds transfer system (Fedwire) in the US, scheduled for November 2023 and March 2025 respectively, will likely cause further truncation challenges, both domestically and cross border.

Now to come full circle. The reason I began this foreword with a look back at our first guide is that – with the "before-ISO" era nearly complete – this will serve as the fifth and final edition in this series. But, as we all know, the ISO 20022 journey is not yet over. From considerations of the upcoming annual maintenance cycle to the CPMI initiative to harmonise ISO 20022 in the end-to-end payment chain, there will be plenty left to discuss in the "after ISO" era. And we look forward to sharing more insights and opportunities in the future.

Christian Fraedrich,
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Market Infrastructures: Latest developments

It has been over a year since the launch of the previous edition in this series – *Guide to ISO 20022 migration: Part 4* – and we are now even closer to the global adoption of ISO 20022.[1] In the intervening period, there have been several significant developments. For some communities, ISO 20022 is now a reality, while for others – as deadlines draw near – organising pre-migration activities remains the priority.

It was envisaged that one of the first market infrastructures to go live with ISO 20022 would be the Bank of England (BoE), which is responsible for the CHAPS Real-Time Gross-Settlement System (RTGS). However, after a careful assessment of the potential risks and consultation with the community, the BoE decided to postpone the migration to April 2023 and it will be a single event, rather than two stages in June 2022 and February 2023 respectively. Unlike the previous plan, the BoE will now skip the like-for-like phase and move straight into the enhanced phase. In order to bridge the potential data truncation challenges arising from the fact that the ISO 20022 messages will be exchanged in the correspondent banking space as of November 2022, the BoE has also revamped its CHAPS Truncation Technical Guidance. This document, along with the revised Memorandum of Understanding (MoU) between CHAPS Direct Participants and White Label Communications, can be found on the BoE's website.[2]

Amid the changes, there remains some consistency. Several market infrastructures in Asia Pacific – including the Real-Time Gross Settlement systems in Malaysia (RENTAS), Thailand (BAHTNET) and Singapore (MEPS+) – went live with ISO 20022 in summer 2022, as per the plan. Next in line for the region is Australia (RITS), which will introduce ISO 20022 in November 2022.

This is not the only milestone set for November 2022. The Eurosystem and EBA CLEARING in the Eurozone, as well as SWIFT in the correspondent banking space, will be migrating at the same time. For the Eurozone, 2022 has been the year of testing with several migration dress rehearsals taking place in order to ensure a smooth "big-bang" in November.

Looking to the future, the next in line to switch to ISO 20022 will be the US market, where the Federal Reserve Banks and The Clearing House (TCH), which operate the Fedwire RTGS funds transfer system (Fedwire) and Clearing House Interbank Payments System (CHIPS) respectively, have announced their go-live dates. The important change to note here is that the two systems will now have different go-live dates: while CHIPS is expected to migrate in November 2023, Fedwire will not enable ISO 20022 messaging before March 2025.

Figure 1 shows the migration timelines of the major market infrastructures – and in the following section we provide a deep dive on some of the most important developments.
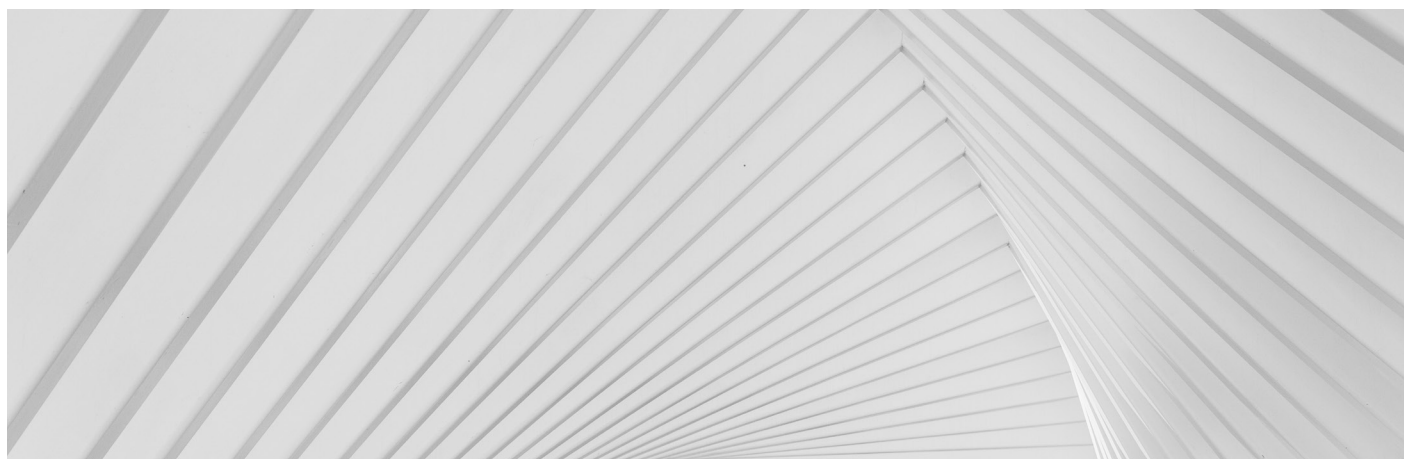
Figure 1: Global ISO 20022 adoption overview

		2021				2022				2023				2024				2025			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4

GLOBAL

- SWIFT — Co-existence period — Nov 2022

EMEA

- T2 & EURO1/STEP1 (EU) — Enhanced ISO 20022 — Nov 2022
- BoE RTGS (UK) — Enhanced ISO 20022 — Apr 2023
- BRPS-BESP (RU) — Enhanced ISO 20022 — Q4 2024
- SEP/NBU (UA) — Enhanced ISO 20022 — Apr 2023
- VIBER (HU) — Enhanced ISO 20022 — Mid-2024

US

- Fedwire (US) — Enhanced — Mar 2025
- CHIPS (US) — Enhanced ISO 20022 — Nov 2023

APAC

- RITS (AU) — Co-existence period — Nov 2022 — Enhanced ISO 20022 — Nov 2024
- BAHTNET (TH) — Enhanced ISO 20022 — Live
- RENTAS (MY) — Co-existence period — Live — Enhanced ISO 20022 — Jul 2024
- CHATS (HK) — Enhanced ISO 20022 — Oct 2023
- MEPS+ (SG) — Like-for-like — Live — Enhanced ISO 20022 — Mid-2023
- BI RTGS (ID) — Enhanced ISO 20022 — 2024 (TBC)
- PhilPaSS (PH) — Enhanced ISO 20022 — Live

1. This overview includes Deutsche Bank Cash Management countries only. Please consult the PMPG´s document centre for the most comprehensive list of migrating market infrastructures
2. Like-for-like refers to an approach that implements a subset of ISO 20022 limited to the same functionality as the standard it replaces, e.g. MT

Source: Deutsche Bank

1.1 The Asia Pacific region

Several ISO 20022 migrations took place in Asia Pacific (APAC) in summer 2022, leading the way for the rest of the world.

Having upgraded to ISO 20022 messaging format in August, the Thailand RTGS system – known as BAHTNET – became one of the first payment infrastructures to introduce ISO 20022 this year. Around the same time, the Malaysian RTGS (RENTAS) introduced a co-existence phase that will last until 2024, during which time both ISO 20022 and MT formats can be used.

Only weeks afterwards, the Singaporean RTGS (MEPS+) introduced its like-for-like phase – with plans to move to enhanced ISO 20022 messages one year later, in July 2023. During the like-for-like phase, ISO 20022 message content will be limited in order to retain interoperability with the legacy MT formats. As a result, there is a chance that transactions originating from the correspondent banking space will potentially experience data loss. To support the community, the Monetary Authority of Singapore has been working on the guidance on how to handle such scenarios (*see 3. Data integrity and harmonisation*).

Australia (RITS) is expected to introduce ISO 20022 in November 2022 – with a co-existence period that will last until November 2024.

Point of attention: Lessons learned

The migration projects in the APAC region have provided a number of learning points for other markets to keep in mind when migrating to the new standard. Among others, users may pay specific attention to:

— **Different migration approaches.** Market infrastructures will follow their own approach to the ISO 20022 migration. And, each different approach – be it a phased "like-for-like" or a "big-bang" – affects the migration project, operations and the end customer in a variety of different ways. As such, when readying yourselves for the next migration, you cannot necessarily rely on your preparations from the one that came before

— **Variety of usage guidelines.** While the message usage guidelines of the large market infrastructures are based on the High Value Payments Systems Plus (HVPS+) market practice and are aligned with the Cross-Border Payments & Reporting Plus (CBPR+), they are not the same across all markets and often only show differences at a detailed element level. These will, therefore, need to be studied very carefully

— **Different data requirements for MT and ISO 20022 messages.** The new messaging standard may require new data elements and lead to to new business requirements for the end customers. For instance, Creditor Account is optional in MT, but mandatory in a specific RTGS for ISO 20022 (e.g. domestic usage in the Philippines)

— **Room for interpretation.** The lack of clear and granular definition/usage rules of the new messaging standard is likely to lead to varying interpretations of data requirements. This could result in formatting errors, investigations and payment delays

— **Insufficient documentation.** Misalignment between the documented usage guidelines and the actual business validation by the RTGS (e.g. if no XSD schema is published) may lead to rejects and further issues in payments processing

— **Misalignment between Corporate-to-Bank (CtB) and Bank-to-Bank (BtB) requirements.** Newly introduced ISO 20022 data elements, such as Ultimate Parties, may be instructed by clients in accordance with a legacy formatting convention/practice, while the RTGS may have introduced new requirements. For example, the Ultimate Creditor element might be instructed with Name only, while both Name and Postal Address are required by the RTGS. As previously, this could lead initially to an increase in investigations and payment delays.

1.2 The Eurozone

1.2.1 Eurosystem (TARGET services)

In November 2022, the Eurosystem is set to follow a "big-bang" approach – implementing fully-fledged ISO 20022 messages for its T2-T2S consolidation project (*see the Guide to ISO 20022 migration, Part 1 for more details*).

Testing phase

From the end of 2021, participants that had successfully passed the necessary pre-conditions (connected to T2 Real-Time Gross-Settlement System via ESMIG, submitted a registration form and set up their reference data) could start User Testing.

To support this process, the Eurosystem provided a set of mandatory test cases to be completed by each participant by October 2022 (*see Figure 2*). It should, however, be noted that these test cases only cover "basic" use cases. To ensure a smooth transition in November, participants are advised to test a wider range of scenarios and create their own comprehensive test catalogues that cover all their applicable business use cases. This includes performing individual tests using the platform and testing bilaterally with other market participants.

> **Point of attention: Final User Detailed Functional Specifications (UDFS 3.0)**
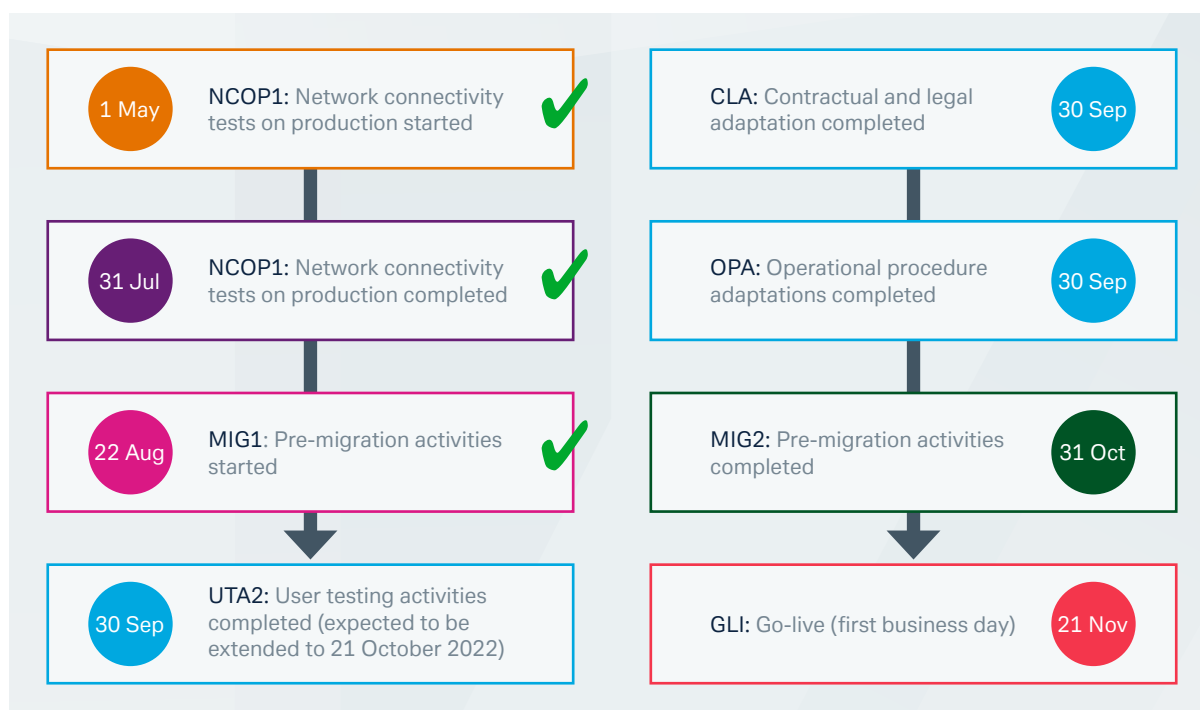> ISO 20022 messages for the Eurosystem's TARGET Services have been specified in the UDFS guidelines. The final version – UDFS v3.0 – will be used for production and is due to be published on 18 October 2022. It will incorporate the Change Requests (CR) that have been approved in the meantime (the full list of CRs has been published on the ECB's website).[3] It should be noted that all relevant CRs for RTGS have been already deployed in UAT.

In addition, during the community testing stage, the Eurosystem has organised further test phases, such as "Business Day Testing", which cover testing of the relevant processes in production-like conditions.

Alongside the community testing, the participants have been involved with migration testing – a set of organised rehearsals that aim to replicate the planned Migration Weekend activities in the test environment (UTEST). The dates of the dress rehearsals (MWDR = Migration Weekend Dress Rehearsal and MWR = Migration Weekend Rehearsal) are as follows:

— 28–31 March (extended to 1 April). MWR in UTEST (executed during business hours)

— 15–17 July. MWDR in UTEST (executed during weekend)

— 23–25 September. MWDR in UTEST (executed during weekend)

— October 2022. MW(D)R in UTEST (optional)

Figure 2: Key migration milestones 2022

1 May — NCOP1: Network connectivity tests on production started ✔	**CLA**: Contractual and legal adaptation completed — **30 Sep**
31 Jul — NCOP1: Network connectivity tests on production completed ✔	**OPA**: Operational procedure adaptations completed — **30 Sep**
22 Aug — MIG1: Pre-migration activities started ✔	**MIG2**: Pre-migration activities completed — **31 Oct**
30 Sep — UTA2: User testing activities completed (expected to be extended to 21 October 2022)	**GLI**: Go-live (first business day) — **21 Nov**

Source: Deutsche Bank

Final preparations

As the Migration Weekend – scheduled for 18-20 November 2022 – draws nearer, participants are required to complete a variety of pre-migration activities. These preparations are not limited to the introduction of ISO 20022, but also the migration to the new liquidity management system, which introduces a new account structure.
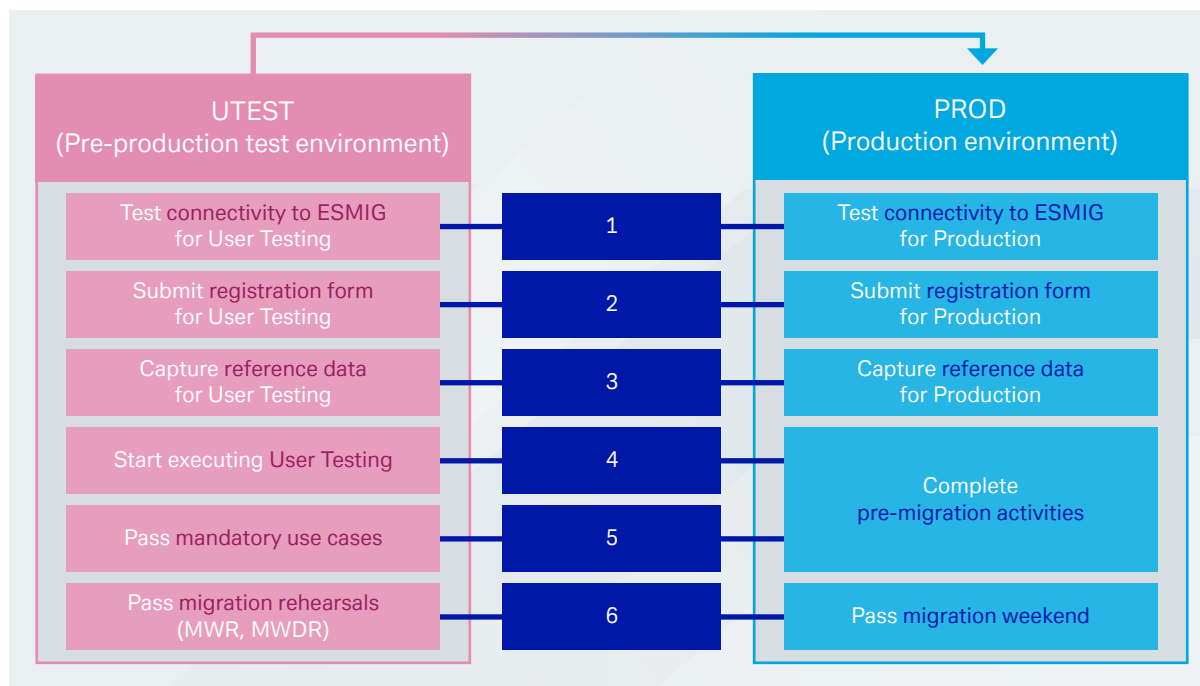
One of the priorities for participants has been connectivity testing for the production environment (PROD), i.e. verifying that T2 (Real-Time Gross-Settlement System) can be reached. This was completed in summer 2022.

The pre-conditions to gain access to PROD were similar to those of UTEST. Participants were required to submit a registration form having first proofed their connectivity. Having captured the participants' data (using the information provided in the registration form), Central Banks then gave the "green light" to participants to start pre-migration activities (e.g. configuring access rights, capturing reference data, etc.). It should be noted that participants are grouped in batches, with a defined start and end time of completion; however, all pre-migration activities must be completed before the end of October. The detailed planning for the Pre-Migration is described in the "Pre-Migration Schedule for T2 Participants", which can be found on the Bundesbank website.[4]

Figure 3 shows a high-level overview of the key preparations for November 2022.

Finally, the Migration Weekend itself will follow a similar approach as laid out in the MWR and MWDR. The Migration Weekend Playbook will be distributed by Central Banks following the September MWDR.

Figure 3: Key steps on the way to November 2022

UTEST (Pre-production test environment)		PROD (Production environment)
Test connectivity to ESMIG for User Testing	1	Test connectivity to ESMIG for Production
Submit registration form for User Testing	2	Submit registration form for Production
Capture reference data for User Testing	3	Capture reference data for Production
Start executing User Testing	4	Complete pre-migration activities
Pass mandatory use cases	5	Complete pre-migration activities
Pass migration rehearsals (MWR, MWDR)	6	Pass migration weekend

Source: Deutsche Bank

Point of attention: "Cut-over" on the migration weekend

On the Migration Weekend, processing will be moved from TARGET2 to the new RTGS T2 system – known as the "cut-over". In addition to the potential risks attached to the migration (e.g. errors due to the incorrect capturing of data), follow-up processes on transactions that were routed via TARGET2 prior to the "cut-over" will require workarounds (e.g. Exceptions & Investigations). For example, a return of a pre-migration MT103 would require a new pacs.008 to ensure the original UETR, as well as the reason for the return, are included in the Information for Next Agent data element.

1.2.2   EBA CLEARING (EURO1/STEP1)

In line with the timetable of the T2-T2S consolidation project, EBA CLEARING is also approaching a major milestone for its EURO1/STEP1 services in November 2022.

In order to verify the readiness of participants, EBA CLEARING introduced several testing phases. By the end of Q1, 2022, participants were required to perform mandatory test cases for the central system functionality and self-certify once completed. The Q2 and Q3 testing phases include liquidity bridge and settlement scenarios, followed by orchestrated migration tests coordinated with the T2-T2S consolidation project.

Once these testing phases are complete, final preparations for the live migration, which is currently scheduled for the weekend of 18-20 November, 2022 (with 21 November as the first business day) can take place.

1.3 Sterling area

In January 2022, the Bank of England (BoE) announced changes to the ISO 20022 implementation plan for its RTGS system, known as CHAPS. The BoE decided to skip the initially planned "like-for-like" implementation stage and will now support enhanced ISO 20022 messaging from April 2023.

Background: "Like-for-like" phase

Previously, CHAPS was set to go-live with the like-for-like phase (limited ISO 20022 messages) in June 2022. The enhanced phase (full ISO 20022 messages) would then have followed in February 2023. The revised plan, which sees enhanced messages go-live in April 2023, came after a consultation with CHAPS participants, which considered a range of factors, including both known and emerging risks, dependencies with other global implementations of ISO 20022, and the continuing uncertainty about the future path of the Covid-19 pandemic.

The change will impact various aspects of the ISO 20022 migration. For instance, the revised timeline creates a period – between November 2022 (SWIFT go-live) and April 2023 (CHAPS go-live) – where some participants could face an issue of converting the data-rich SWIFT ISO 20022 into CHAPS MT messages.

To address this scenario, the previously published three-part framework for handling the potential truncation problem – which consists of a Memorandum of Understanding (MOU), Technical Guidance and White Label communications documents – has been adjusted accordingly. The documents now provide guidance on converting SWIFT ISO 20022 messages (CBPR+) into CHAPS MT messages by pointing directly to the CBPR+ translation rules, as well as the recently published CBPR+ Data Integrity Market Practice Guidance. This also includes a template for a potential query on additional data in the case of truncation, which could arise due to the nature of the translation between the two formats (*see 3. Data integrity and harmonisation*).

In addition, the revised CHAPS timeline triggered changes to the original plan for the introduction of mandatory data elements. In order to maximise the benefits of ISO 20022, the BoE is considering mandating the use of Purpose Codes and LEIs in certain specific CHAPS payments from summer 2024 (instead of spring 2024) and plans on mandating the use of structured addresses and remittance data from November 2025. The BoE will monitor the market situation thoroughly and decide after assessing the benefits and the potential challenges to the market.

In order to support the industry with the preparation for the new go-live date, the BoE has released a new test environment – known as the Pilot Platform – for all CHAPS Direct Participants. This provides a near-live environment to test payment messages and flows in preparation for the move to ISO 20022 messaging in April 2023.

To date, the project has been in the Participant Acceptance Testing phase (PAT). It is expected that participants will complete the PAT phase before starting the Participant Group Testing (PGT). For those who passed PAT, PGT will start on 3 October 2022. The BoE will provide the groups of participants with a similar timetable for testing. The current plan also foresees a second PGT period for regression testing (e.g. for fixes following the SWIFT and Eurozone migrations) before moving towards the 17 April 2023 deadline.

Figure 4 shows a high-level timeline of the CHAPS migration to ISO 20022.

Figure 4: CHAPS revised timeline

	2022												2023			
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr
MyStandards Scheme Testing	Completed end of Apr 2022															
Participant Acceptance Testing (PAT)								15 Aug – 14 Oct 2022								
Participant Group Testing (PGT)										3 Oct – 15 Dec 2022						
PGT Contingency & Regression Testing												5-27 Jan 2023				
Go-Live																17 Apr 2023

Source: Deutsche Bank

1.4 US dollar area

Since the previous edition in this series of guides, some changes have occurred in the US dollar area. One of the major updates concerns the migration timelines for the two US clearing houses: Fedwire, the RTGS funds transfer system operated by the Federal Reserve Banks, and CHIPS, which is operated by The Clearing House (TCH).

While the two market infrastructures had planned to follow a similar timeline for the ISO 20022 implementation, this has now changed – with CHIPS preparing for a migration in November 2023 and Fedwire in March 2025.

1.4.1 The Clearing House (CHIPS)

In May 2022, The Clearing House (TCH) announced that CHIPS would remain on schedule to implement the ISO 20022 message format in November 2023 as planned. The migration will follow a "big-bang" approach, meaning that all CHIPS banks will move to ISO 20022 on a single day.

CHIPS will introduce changes to its legacy format in November 2022. These changes will address the cross-border data mapping issues experienced by participants that – due to the earlier adoption in the correspondent banking space – are already receiving ISO 20022 messages.

As part of this transition project, CHIPS legacy messages will include a new field – known as [900] – to store the complete ISO 20022 payment instruction (*see 3. Data integrity and harmonisation*). Bank testing for the transition project started in August 2022 and will be completed shortly ahead of the various go-live dates in November 2022.

The participant testing phase for the ISO 20022 implementation is expected to start at around the same time, giving participants plenty of time to prepare for the November 2023 go-live date.
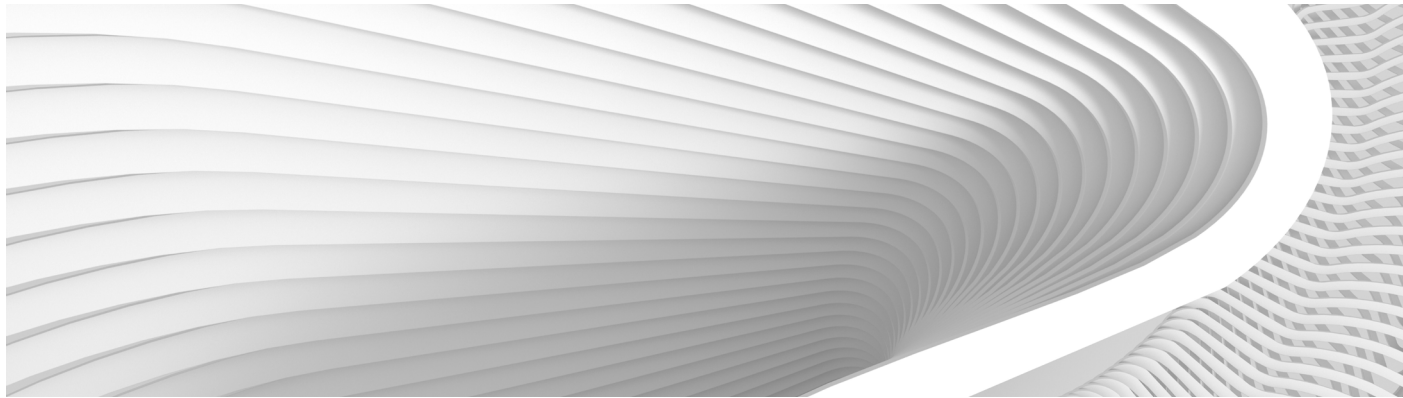
1.4.2   Federal Reserve Banks (Fedwire)

In June 2022, the Board of Governors for the Federal Reserve System announced that the Federal Reserve Banks will adopt the ISO 20022 message format for the Fedwire Funds Service in a "big-bang" approach on 10 March 2025. Among several motivations for the decision was the upcoming launch of the FedNow Service in 2023 and the resulting concentration risk – as well as the need to allow additional time for industry testing of ISO 20022 messages.

While the ISO 20022 implementation is no longer aligned with CHIPS, there are no changes planned to the transition project. As per the previous plan, Fedwire payment messages are set to include a new field – known as [8200] – from November 2022 to support mapping of SWIFT ISO 20022 messages to Fedwire messages (see *3. Data integrity and harmonisation*).

To prepare for the migration of the Fedwire Funds Service to the ISO 20022 standard, the final ISO 20022 message format specifications were published on the Fedwire Funds Service page on SWIFT's MyStandards platform. The Federal Reserve Banks plan to kick off an ISO 20022 education program in Q4, 2022 with a series of webinars that will be made available on the Fedwire Funds Service ISO 20022 Implementation Center. This will be followed by the first pilot testing. Further details concerning the final testing strategy for the Fedwire's ISO 20022 implementation are expected in early 2023.

Figure 5: US ISO 20022 migration project timeline

MUG: Message Usage Guidelines
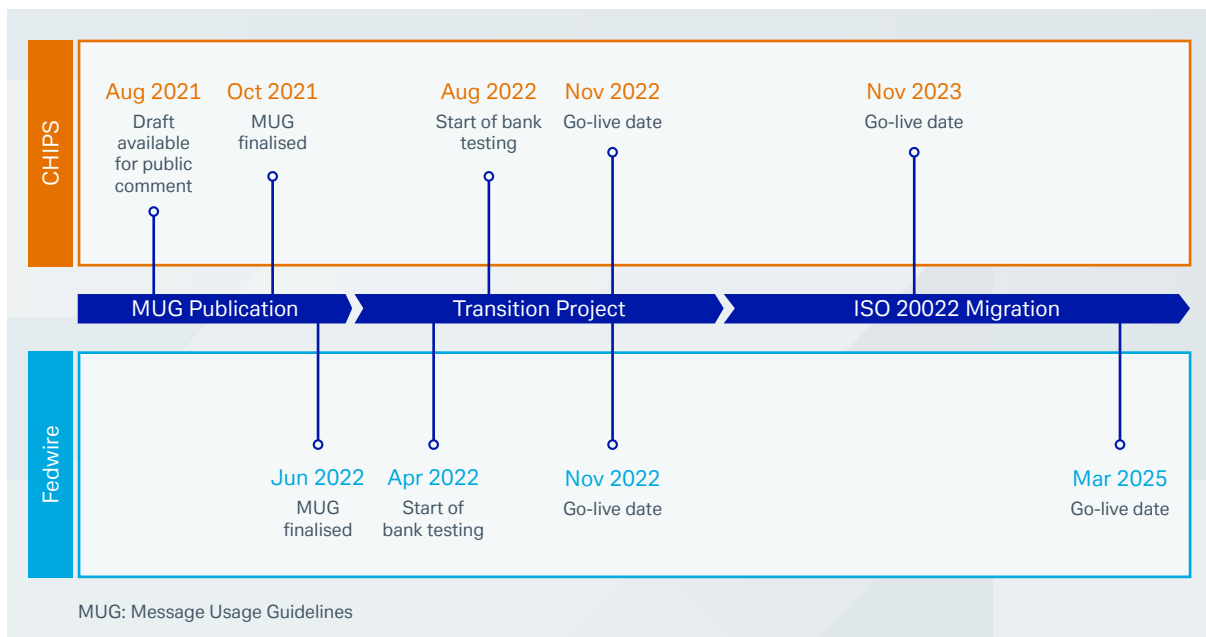
Source: Deutsche Bank

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Correspondent banking (SWIFT) requirements

While Section 1 looked at ISO 20022 projects in various markets worldwide, this section aims to shed light on the migration by SWIFT in the correspondent banking space – as well as the key projects related to its success, including the Transaction Manager (TM) and the evolution of the Relationship Management Application (RMA).

Point of attention: ISO 20022 vs. Transaction Manager

Key questions	ISO 20022 migration	Transaction Manager
WHY	— The limited structure of the current SWIFT MT messages, as well as **different messaging standards across the globe** (SWIFT vs. Market Infrastructures (MIs)), pose various challenges to the banking industry: — High ratio of **"false-positive" hits** — Low straight-through processing (STP) rates — Lack of interoperability and **data loss/truncation** — Need for a **common, harmonised standard**, which would address current shortcomings	— Need to address the "weakest-link" problem of the ISO 20022 migration, i.e. **mitigating the data truncation risk**, that results from MT users acting as intermediaries — Need to move from point-to-point messaging and to ensure **end-to-end transaction data integrity** — Need to address the remaining "pain points" in the industry, further **improving efficiency and reducing total costs** of cross-border payments
WHAT	— ISO 20022 is a **messaging standard** that enables faster processing and improved reconciliation due to its rich structure — ISO 20022 migration is a global initiative pursued by various MIs and SWIFT, which aims to achieve **harmonised** standards for the exchange of payment messages — Adoption of ISO 20022 by MIs will be key to driving a seamless end-to-end payment process, since many cross-border payments originate or terminate in MI transactions	— SWIFT's central orchestration platform – **Transaction Manager (TM)** – will provide a set of processing capabilities on payments-related messages, such as interoperability of **different channels and formats** (MT, ISO 20022, API), **transaction data storage and data integrity controls** — The TM will be rolled out in releases in order to mitigate concentration risk. Release 1 will aim to: — bridge the **ISO 20022-MT co-existence** phase — improve end-to-end **transaction integrity and transparency**
HOW & WHEN	— SWIFT will introduce ISO 20022 during a **co-existence phase from Nov 2022 to Nov 2025**, during which time **ISO 20022 and MT will interoperate** — To support the co-existence phase, SWIFT will enable **central in-flow translation** to convert in one direction only: ISO 20022 to MT, i.e. receivers will get multi-format messages (ISO 20022+MT)	— Release 1 will be **introduced gradually**: — **Nov 2022**: Technical platform deployment (no traffic) — **End of Q1, 2023**: Start of the **build-up** period (only select ISO 20022 messages will be routed via TM)

= Replacing current messaging standard (i.e. MT)

= Replacing current payment processing (i.e. point-to-point messaging)

Source: Deutsche Bank
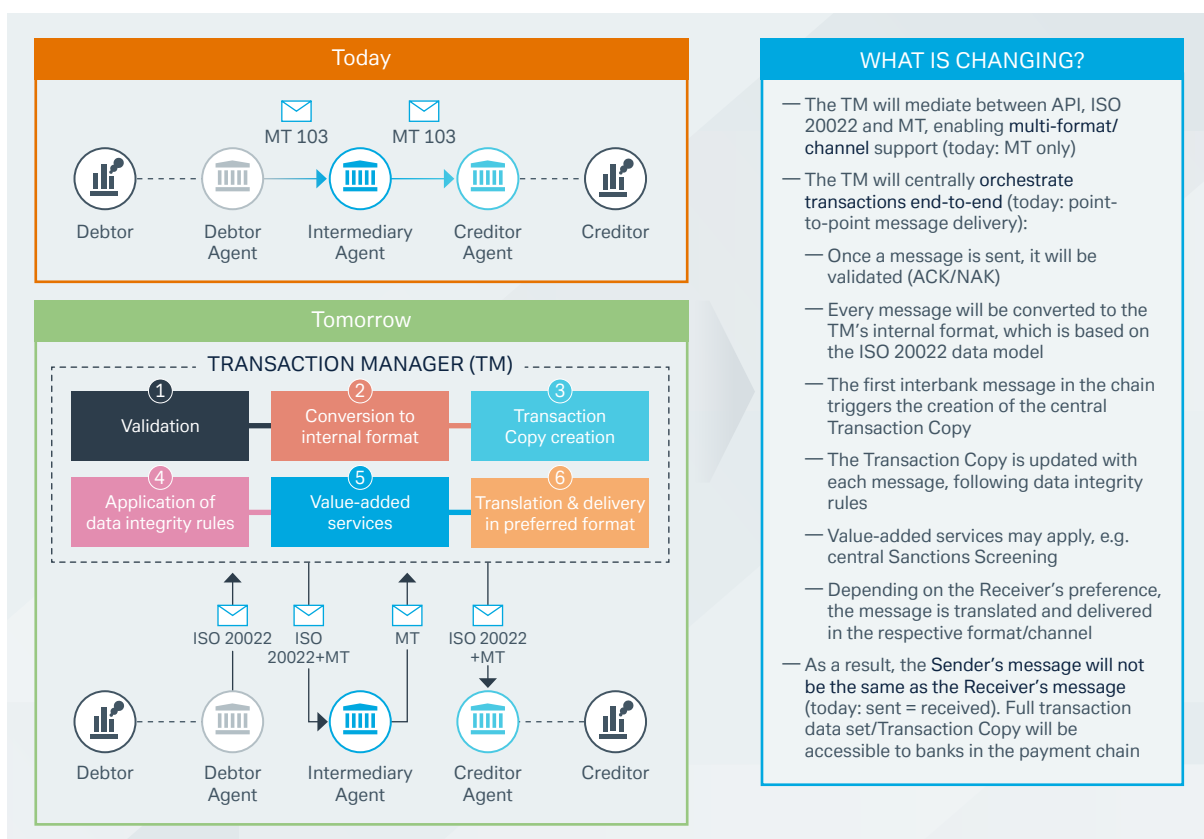
2.1 SWIFT Transaction Manager

In November 2022, SWIFT plans to introduce a central Transaction Manager (TM) platform for correspondent banking transactions, which will be mandatory for all SWIFT users.

The TM will orchestrate transactions end-to-end, replacing the point-to-point messaging that is used today. The platform will also provide a set of processing capabilities on payment-related messages, including the following (*see Guide to ISO 20022 migration: Part 4 for more details*):

— Business workflow. Refers to the orchestration concept, whereby the TM will apply various validations and rules to all messages that share the same UETR (i.e. considering various messages as a single business transaction rather than stand-alone payment "legs")

— Interoperability. The TM will provide interoperability across different channels (e.g. FINplus, FIN and (later) API) and formats (e.g. ISO 20022 messages, MT messages and API calls)

— Syntax and business validation. The TM will validate whether messages are formatted correctly (e.g. ISO 20022 to follow XML schema) and whether they adhere to applicable business rules (e.g. correct type of message used for a given business scenario)

— Transaction data storage. The TM will centrally maintain a complete copy of the latest transaction data, as well as a Change Log to record all changes to the transaction.

By introducing the transaction orchestration concept, SWIFT will improve payments efficiency, while also significantly reducing costs for the community.

Figure 6: What is changing with Transaction Manager

Source: Deutsche Bank

The first release of the new transaction management functionality (technical go-live in November 2022) will lay the foundations for these new processing capabilities. It aims to:

1) Bridge the co-existence period in the correspondent banking space (November 2022–November 2025), during which MT and ISO 20022 messages will interoperate (*see 2.1.1 Interoperability*)

2) Improve end-to-end transaction integrity and transparency (*see 2.1.2 End-to-end transaction integrity*).

The following sections detail how this will be achieved.

2.1.1   Interoperability

Given the scale of the ISO 20022 migration in the correspondent banking space – with over 11,000 financial institutions worldwide set to be impacted – SWIFT will introduce a co-existence phase from 2022 and 2025, during which time MT and ISO 20022 messages will interoperate. The co-existence will, in turn, introduce the so-called "weakest link" concept. This refers to the potential data truncation challenges stemming from instances where MT-only users, acting as intermediaries, are unable to relay the full data received from an ISO 20022 user (*see Figure 7*).

Figure 7: Bridging co-existence period

1) Multi-format message (ISO 20022 + embedded MT)
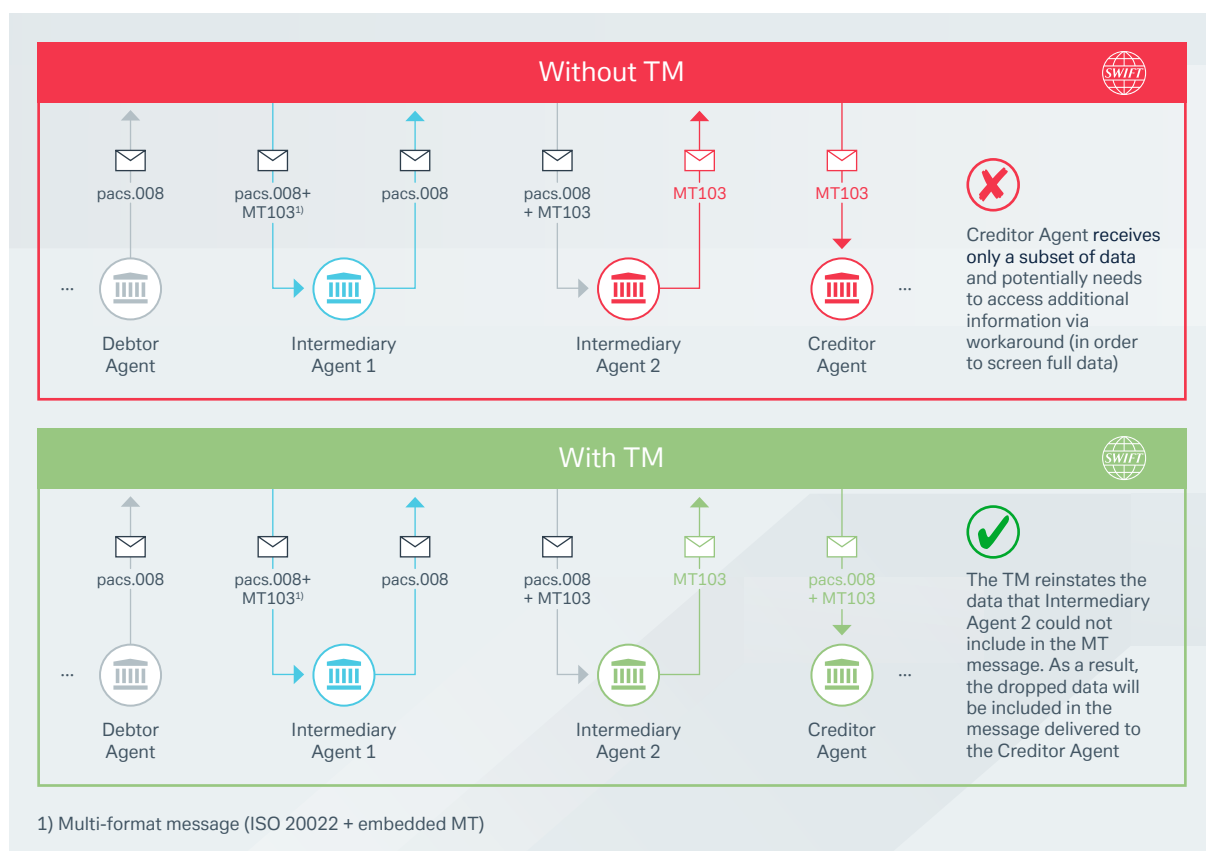
Source: Deutsche Bank

The TM will help solve this problem by centrally maintaining a complete version of the transaction data. This allows for the full data to be reinstated and propagated end-to-end, even if an intermediary is only able to use MT. At the same time, the Transaction Copy (the central record of transaction data) is accessible to all transaction participants during its lifecycle (subject to community-defined rules). Unlike in a simple messaging scenario, participants can access transaction data that changed after it left their institution (e.g. the Intermediary Agent can view the data that the Creditor Agent received).

This functionality supports the ISO 20022 adoption in the correspondent banking space by removing the "weakest link" problem and mitigating the risk of data truncation.

Point of attention: Transaction Copy

The **Transaction Copy** – a central record of the transaction data – is stored in a single place and accessible to all customers participating in the transaction. The rules divide the individual data elements of the Transaction Copy into bilateral (visible to the Instructing and Instructed Agent only, such as Charges Information) and end-to-end data elements (visible to all agents participating in the transaction, such as Remittance Information).

Participating banks will be able to access the Transaction Copy via the gpi Tracker Graphic User Interface (GUI).

More information can be found in the _SWIFT gpi Operations Guide_ document available in the SWIFT Knowledge Center (SWIFT user login required).

Source: SWIFT

2.1.2 End-to-end transaction integrity

The second major reason for Transaction Manager's introduction is to provide end-to-end transaction integrity. Under the current plan, the first message in the interbank chain, routed via the TM, will trigger the creation of the Transaction Copy. The TM will update the Transaction Copy, by incorporating each additional message in the chain. It also applies specific data integrity rules on each message that define which agents can view or change the information. By preventing certain data elements from being changed throughout the payment flow, the TM will introduce strong data integrity controls.

Figure 8: Example of a "locked" End-to-End Identification data element
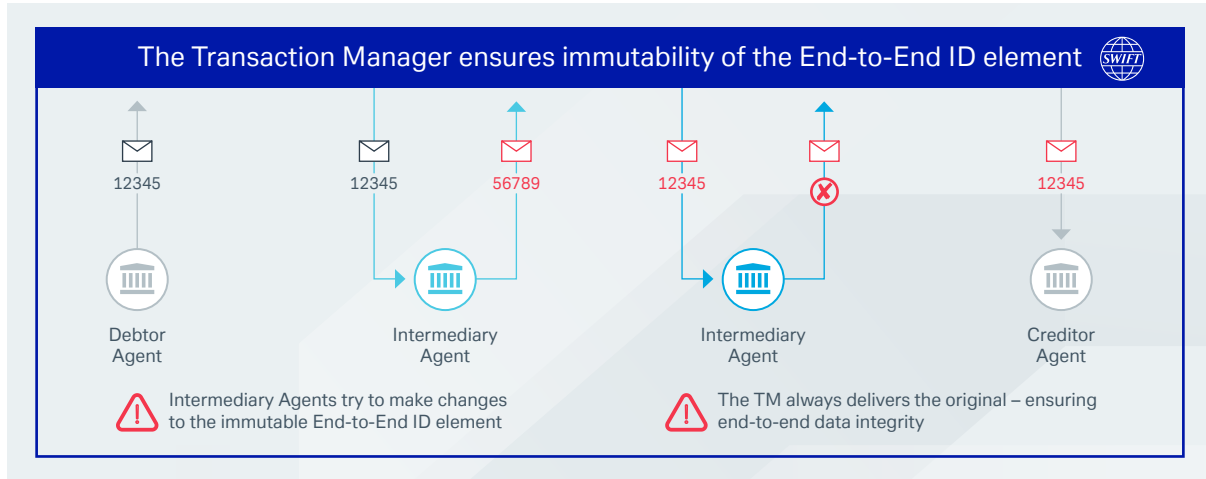
Source: Deutsche Bank

The long-term objective is to prevent as many unnecessary changes as possible, which will not only address a major pain point for the underlying customer (ensuring all information is passed on to the receiver), but also eliminate a major compliance concern (data stripping).

The first release will facilitate different types of data elements: for example, "locked" data that cannot be changed and "editable" data that can to be modified. This approach accommodates current market practices during the co-existence period in order to avoid disruption to payment processing. Today, for example, certain markets require Remittance Information to be modified in the payment chain in order to comply with local regulations (e.g. by adding special codes). If this data element were to be locked today, there is a potential negative impact on straight-through processing.

Figure 9: TM transaction rules

Transaction rules		
1	Locked data	Data elements cannot be modified by any agent in the payment chain. The original data set will always be delivered by the TM **Example:** End-To-End Identification, Structured Remittance Information, Ultimate Creditor
2	Synchronised data	The TM synchronises the data in related cover and advice messages based on the latest data from the Transaction Copy **Example:** Underlying Customer Creditor Transfer
3	Conditionally editable	Data elements can only be modified if specific conditions are met (e.g. if changing to higher quality). If not, changes are discarded **Example:** Debtor, Debtor Agent
4	Editable data	Data elements can be modified. The TM will deliver the last Sender's input to the Receiver **Example:** Creditor, Creditor Agent

Source: Deutsche Bank

While the Transaction Copy only represents the latest state of a transaction, every change applied to the Transaction Copy in the past – regardless of whether it was accepted or ignored by the TM – will be recorded in a dedicated change log. In future releases, this functionality may be exposed to participating banks, e.g. to assist with investigation processes.

2.1.3 Scope and timeline

Since the previous edition of this guide, the scope of the Transaction Manager Release 1 has been reviewed and confirmed. The following messages will be processed by the TM:

— ISO 20022 messages. pacs.008 (incl. STP), pacs.009 CORE, COV and ADV;

— MT messages. MT 103 (incl. STP), MT 202 (incl. COV) and;

— API. Access via API is not in scope of Release 1.

The remaining messages (for example, the rest of the CBPR+ ISO 20022 portfolio) will be exchanged outside of the Transaction Manager in Release 1 (i.e. FIN messages will be exchanged via FIN and ISO 20022 messages will be exchanged via FINplus). The TM processing rules will not be applied to these transactions.

Point of attention: MT-initiated messages in Release 1

It should be noted that MT-initiated messages are not included in Release 1. This means if a transaction has been initiated in the MT format, all subsequent messages will not be routed via the TM (even if the intermediaries in the chain are using ISO 20022). If, however, a transaction has been initiated in ISO 20022 and then translated to MT by one of the intermediaries, all the payment legs of this transaction will be processed by TM, provided the particular message type is in scope of Release 1).

While the TM is expected to be technically enabled in November 2022, it will not process any bank traffic as of this date and the processing rules will not be applied. To ensure platform stability and mitigate concentration risk, traffic will begin routing through the TM in a three-stage, build-up approach, from the end of Q1, 2023 (*see Figure 11*).

Figure 10: Transaction Manager timeline

Note: Anticipated roadmap (timelines are subject to change)
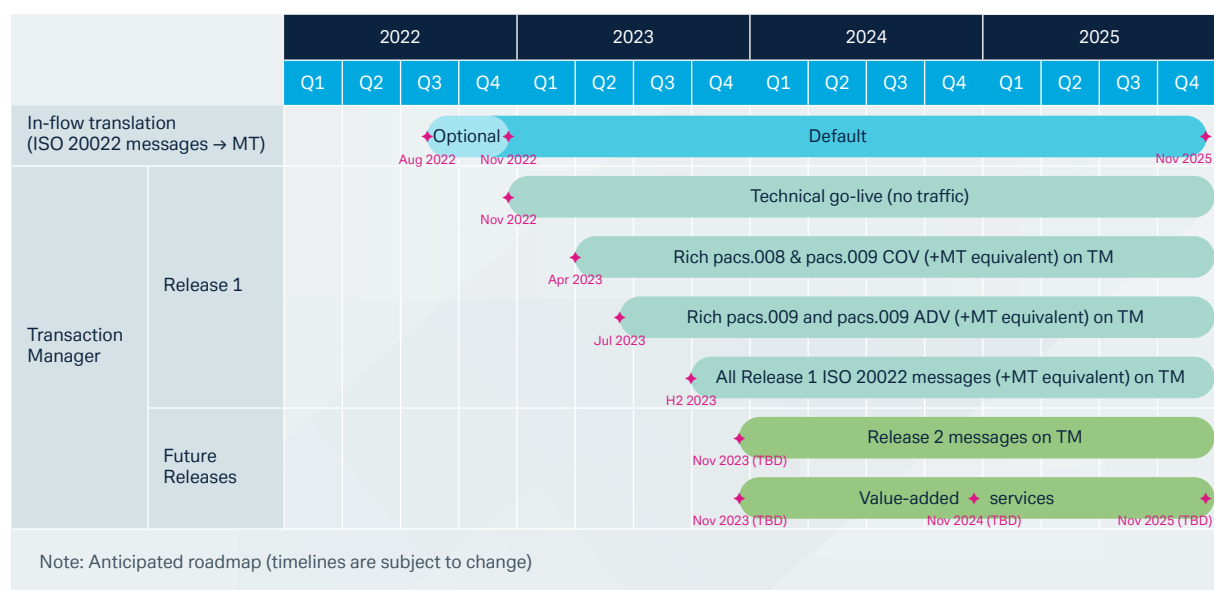
Source: Deutsche Bank

It should be noted that SWIFT will monitor the traffic and react to changing needs. If, for example, an exceptionally high volume of messages for a particular stage were to be detected, SWIFT might decide to introduce additional routing criteria within that stage – to help limit the traffic being routed via the TM. Under current plans, SWIFT will achieve this by broadening or shortening the Unique End-To-End Transaction Reference (UETR) range. For example, if a UETR range is limited to 1A–10, this means that only transactions with a UETR that includes the last two characters from this range will be routed via the TM. While this will not require any additional action from the community, it is worth bearing in mind.

Given that the TM functionality (such as the application of data integrity rules) will not be available from November 2022, there will be a short time period – between the go-live of CBPR+ messages in November 2022 and the TM build-up approach at the end of Q1 2023 – where preservation of rich data will not be guaranteed end to end (*see 3.1.1 SWIFT approach (CBPR+)*).

As for any go-live, a crucial step in the preparation of the TM is testing. To support banks in their testing activities, SWIFT orchestrated a TM pilot phase to a limited number of customers in July 2022. This pilot test aimed to:

— Test the TM's features and banks' FINplus connectivity;

— Gauge the reception of the multi-format messages (ISO 20022 + embedded MT) and;

— Test participants' ability to consume translated and truncated data and handle the Transaction Copy.

Figure 11: Build-up approach

#1

Start with pacs.008 and pacs.009 COV, containing rich data

— Rich data is defined based on the presence of the following ISO 20022 elements:

— Ultimate Debtor/Creditor

— Structured Remittance Information (Remittance Information in pacs.009)

— Purpose/Category Purpose

— Regulatory Reporting

— Rich Debtor/Creditor information (structured address, name >70 characters or LEI)

— MT messages in a transaction, where one of the previous legs contained pacs.008 or pacs.009 COV with rich data, will also be routed via the TM

— All the other messages will not be routed via the TM in the first step

#2

Continue with pacs.009 and pacs.009 ADV, containing rich data

— In the second stage, next to rich pacs.008 and pacs.009 COV, all pacs.009 (incl. ADV) messages with rich data will be routed via the TM

— Within a stage, transactions will gradually be moved to the TM based on the UETR range

— MT messages in a transaction, where one of the previous legs contained pacs.008 or pacs.009 (incl. COV and ADV) with rich data, will also be routed via the TM

#3

Finish build-up with all ISO 20022 messages in scope of Release 1

— All the remaining ISO 20022 messages in scope of the TM's Release 1 will be routed via the TM

Source: Deutsche Bank

Banks assumed different testing roles as part of the pilot. For example, Deutsche Bank acted as Debtor and Intermediary Agent. The pilot has successfully proved the functionality of the TM and lays the foundation for community testing, which is currently planned for September 2022.

More information can be found in the *TM Pilot Report* document available in the SWIFT Knowledge Center (SWIFT user login required).

Point of attention: TM indicator

In order to differentiate messages that have been processed by the TM, there will be an indicator added in the InterAct header of an ISO 20022 message. The indicator consists of a fixed four-character text "TDOK", which is provided for information purposes: SWIFTNet InterAct Header <Sw:TRD>TDOK</Sw:TRD>. In cases where the transaction was not processed by the TM, there will be no such indicator.

This is likely to be most relevant during the build-up phase where institutions will receive both ISO 20022 messages via the TM (with the respective transparency and rulebook applied), as well as ISO 20022 messages via InterAct, with no data in the TM. It should be noted that this information will be available via the messaging interface. Institutions using vendor solutions for messaging interfaces are advised to clarify the inclusion of the TM indicator with their vendors.

Figure 12: Transaction Manager testing
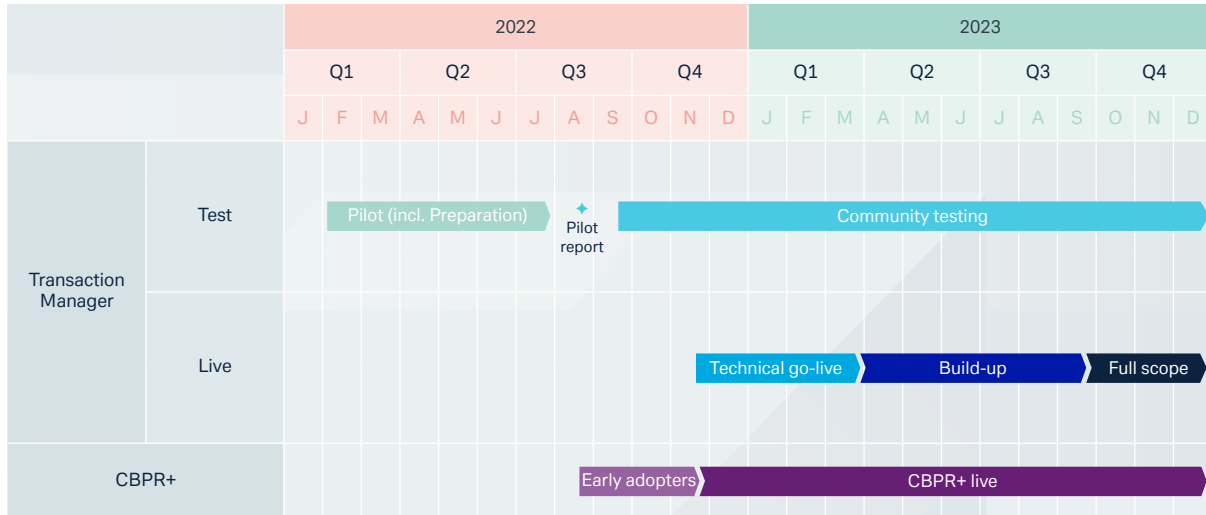
Source: Deutsche Bank

2.2 CBPR+ ISO 20022 migration

With the "core" portfolio of ISO 20022 messages set to go live within weeks, the following section describes the implementation plan, and outlines the path for the remaining messages that will follow soon after.

2.2.1 November 2022 release

To support the first migration of ISO 20022 messages in November 2022, Usage Guidelines have been published to define how "core" messages will be used in the correspondent banking space.

In January 2022, the Cross-Border Payments & Reporting Plus (CBPR+) working group finalised the updated guidelines and transition rules that support the new message collection – "CBPRPlus_ISO 20022 Portfolio_November 2022_Release 2.1" – and published them on the MyStandards CBPR+ landing page.

Point of attention: Opt in for ISO 20022 messages from August 2022

While ISO 20022 messages will be first implemented in November 2022, from August 2022 there has been an option to sign up for early adoption. Participants wishing to do so should actively sign up for early go-live through a subscription form and will then be able to start exchanging messages ahead of the November deadline.

Point of attention: CBPR+ Interactive Readiness Checklist

SWIFT has released a comprehensive CBPR+ checklist outlining the key activities that need to be undertaken ahead of the deadline. This helps institutions to assess their own readiness level. It can be found on the ISO 20022 Programme page in the SWIFT Knowledge Centre (SWIFT user login required).[5]

In addition to the Usage Guidelines, participants are advised to make use of further supporting documentation and tools available on the MyStandards CBPR+ landing page. The following resources are recommended:

— **User Handbook.** Documents business use cases applicable to the CBPR+ ISO 20022 messages, including examples of message flows

— **Samples Library.** Provides examples of the CBPR+ ISO 20022 messages to be exchanged in various business scenarios

— **MT-MX Equivalent Document.** Provides information on MT equivalents to the CBPR+ ISO 20022 messages

— **Translation Rules & Portal.** Provides information on ISO 20022 to MT (and vice versa) conversion, including real-time translation testing functionality

— **Readiness Portal.** Online testing functionality of CBPR+ ISO 20022 formatting

— **In-Flow Translation Document.** Provides information on the translation results (including warning and error codes) used in the translation report as part of the multi-format message

— NEW: **Data Mapping Guidance.** Provides guidance on the creation of subsequent messages, e.g. reporting message camt.053 based on a payment message pacs.008

— NEW: **CBPR+ Data Integrity Guidance.** Provides recommendations on handling potential data integrity challenges arising as of November 2022 (*see 3.1.1 SWIFT approach (CBPR+)*).

Point of attention: pain.001 relay

While the pain.001 relay message will technically be deployed in November 2022, the lack of a legal framework means that these messages are not expected to be adopted until the second half of 2023. The framework will be defined based on the Rulebook (target publication date: November 2022) and serve as a basis for bilateral agreements between participating banks.

The in-flow translation will be among the most important features of the ISO 20022 migration. Provided centrally by SWIFT, the in-flow translation acts as a central translation engine – helping banks that have transitioned to ISO 20022 to deliver their messages, while also supporting those that have not yet migrated to continue using MT messages. The full version of the message will also be used for compliance due diligence. The tool will be key to overcoming the challenges of the co-existence period by translating ISO 20022 messages to the MT equivalent and delivering both formats to the receiver.

For instance, if a data-rich ISO 20022 message was sent to a bank that was not ISO-ready, the message will be subject to the in-flow translation service and delivered via FINplus by default. It will consist of the following parts:

1) The ISO 20022 message;

2) The translated MT message (as per CBPR+ translation rules) in the comments section, and;

3) The translation report, including translation result codes in the comments section (*see Figure 13*).

Additionally, the translation report will provide detailed information on the translated MT. Depending on the translation scenario, it will differentiate between various translation results and related warning and/ or error codes:

— **TROK** = Successful translation without errors (but may be with a warning)

— **TRAK** = Translation Almost OK (in case of the presence of ISO 20022 elements that can never be translated to MT, e.g., <NumberOfTransactions>)

— **TRNR** = Truncation in a non-reference field (e.g., if Remittance Information gets truncated or if there is no space left in F70 and Remittance Information is dropped completely: the former scenario will contain an error code "TRUNC_N.T1000T" and the latter one "TRUNC_N.T0000M" *see Figure 13*)

— **TRFR** = Truncation in a reference field

— **TRNK** = Translation failure (no embedded MT).

Note also that one message may contain multiple translation results, all of which will be listed in the translation report with the respective warning and/or error codes.

This information will be particularly relevant during the early months of the ISO 20022 migration for correspondent banking transactions. Since the Transaction Manager will not be activated until 2023, there will be a period of time where data truncation could occur. The translation report will play an important role by identifying these instances (*see 3.1.1 SWIFT approach (CBPR+)*).

Note that up-to-date SWIFT interfaces – whether provided by SWIFT or third parties – will accommodate the complexity of handling multi-format messages, for example extracting and delivering the MT format to applications that still require MT in a largely transparent way.

Figure 13: In-flow translated message

As shown below, End-to-End Identification has been truncated and identified with a "+" sign. This is represented by the translation result TRNR as well as the TRUNC_N.T0000T error code. Due to the limited space in field 70 and the long Ultimate Debtor name that occupies most of that space, the Unstructured Remittance Information from pacs.008 could not be mapped and has been dropped completely from the MT. This is indicated by TRNR result with the TRUNC_N.T0000M error code.

─── TECHNICAL HEADER ───

```
<RequestHeader>
...
</RequestHeader>
```

─── BUSINESS MESSAGE ───

```
<Request Payload>
```

```
<AppHdr>
...
</AppHdr>
```
◀ Business Application Header (head.001)

```
<Document>
...
<PmtId>
      <InstrId>1234</InstrId>
      <EndToEndId>1234567890</EndToEndId>
      <UETR>8a562c67-ca16-48ba-b074-65581be6f001</UETR>
</PmtId>
...
<UltmtDbtr>
      <Nm>Very very very very very very very very very very very very very very
      very very very long name</Nm>
      <PstlAdr>
            <StrtNm>Dummy street name</StrtNm>
            <BldgNb>1</BldgNb>
            <TwnNm>Frankfurt</TwnNm>
            <Ctry>DE</Ctry>
      </PstlAdr>
</UltmtDbtr>
<Purp>
      <Cd>IVPT</Cd>
</Purp>
<RmtInf>
      <Ustrd>Inv 11111</Ustrd>
</RmtInf>
...
</Document>
```
◀ Message Payload (pacs.008)

```
<!--
{1:...}{2:..}{3:...}{4:^~:20:1234^~:23B:CRED^~:32A:211001EUR100,^~:50F:/1234
5^~1/Debtor AG^~2/Taunusanlage,12^~3/DE/Frankfurt^~:52A:DEUTDEFFXX
^~:57A:BANKGB12^~:59A:CORPGB34^~:70:/ULTD/Very very very very very
very very very very very very very very very very very long name/DE/
Frankfurt///PURP/IVPT///ROC/1234567+^~-} -->
```
◀ Embedded MT Message (MT103)

```
<!-- TranslationResult=TRNR -->
<!– TranslationInfo version 1.0.0.1…
"code": „TRNR"
„message": „TRUNC_N.T0000T: Field content has been truncated.
Value '1234567890' has been altered. „path": …
"code": „TRNR"
„message": „TRUNC_N.T0000M: Input content is not mapped to target
message. Value 'Inv 11111' has been dropped". „path": …-->
```
◀ Translation Report, incl. codes

```
</RequestPayload>
```

Source: Deutsche Bank

2.2.2 November 2023 release

The November 2022 milestone does not mark the end of the ISO 20022 migration. The next major deadline, which will see the introduction of a further set of CBPR+ messages, is targeted for November 2023. The Usage Guidelines for these messages are currently being drafted by the CBPR+ group and are expected to be finalised in late 2022. The message portfolio is shown in Figure 14 and includes messages for further business scenarios, as requested by participants.

Figure 14: CBPR+ 2023 message portfolio

Category	ISO 20022	Description
Cheques	camt.107	Cheque Presentment Notification
	camt.108	Cheque Cancellation Or Stop Request
	camt.109	Cheque Cancellation Or Stop Report
Direct Debit	pacs.003	FI To FI Customer Direct Debit
	pain.008	Customer Direct Debit Initiation
	pacs.010 CCP	Interbank Direct Debit (Central Counter Party scenario)
Cancellation of pain.xxx	camt.055	Customer Payment Cancellation Request (CtB)
Notification to Receive	camt.058	Notification To Receive Cancellation Advice
	camt.059	*Notification To Receive Status Report (subject to removal)*

Source: Deutsche Bank

2.2.3 November 2024 release

In November 2024, a further set of CBPR+ Usage Guidelines will be released. According to the current plan, this will include Charges messages as well as the newly designed Exceptions & Investigations messages.

Charges messages

While Charges messages (*shown in Figure 15*) were originally planned for go-live in 2023, after careful consideration it was decided to postpone the release by one year and optimise the base structure of these ISO 20022 messages via Change Request. The CBPR+ group will develop Usage Guidelines based on the new ISO 20022 version and release these in advance of the 2024 go-live deadline.

Figure 15: Charges messages

Message category	Message type	Message description
Charges Payment Notification	camt.105 (=MTn90 equivalent)	Used to advise charges debited/credited on an account
Charges Payment Request	camt.106 (=MTn91 equivalent)	Used to request payment of charges

Source: Deutsche Bank

Exceptions and Investigations messages

Although there is an existing set of ISO 20022 Exceptions and Investigations (E&I) messages, developed when the process was largely manual, they were never fully implemented due to the underlying complexity of the messages.

Over the years, the payment landscape and technology have evolved – and the introduction of new E&I business scenarios has reinforced the need to revamp the current message portfolio.

For this reason, a dedicated working group (the Exceptions & Investigations Working Group) was set up by ISO 20022 Payment Standard Evaluation Group (Pay-SEG) in 2021 to redesign the ISO 20022 E&I messages to be exchanged between Financial Institutions (interbank). The new set is expected to include only two messages: one query message and one response E&I message to be used in a conversation mode, operating primarily with externally registered new code words. These indicate, for example, the nature of the investigation. This concept promises to be future-proof, as the mandatory usage of the codes makes it easy to cater for end-to-end digital processing and will facilitate emerging scenarios going forward – providing participants with the agility needed to adapt to evolving business needs.

The "base" messages are currently being designed and once available, they will provide a solid basis for the CBPR+ Usage Guidelines definition. The Usage Guidelines are expected to be released in 2023 – well ahead of the 2024 go-live date.

Point of attention: Universal Case Management

It is expected that the CBPR+ Usage Guidelines will be defined together with a mandatory "rule book" for the handling of exceptions and investigations in correspondent banking. Furthermore, Universal Case Management – the orchestration of the investigation case at the centre – will be mandated for all SWIFT users after a short adoption period. This will introduce straight-through-processing of investigations, decrease operating costs and provide end-to-end transparency in case management.

2.3 Relationship Management Application

The set-up of the Relationship Management Application (RMA) is a pre-requisite for a successful migration. As of November 2022, every institution will be able to receive both ISO 20022 (including multi-format options with embedded MT) and MT messages, both of which require the RMA to be in place.

Given that current RMAs capture FIN relationships only for the exchange of MT messages, SWIFT has introduced a "bootstrapping" exercise to support the industry with the migration. The "bootstrapping", which was activated at end of July 2022, involves the automatic creation of FINplus RMAs within the central database, based on the existing FIN relationships. Every institution is responsible for its own RMAs and will therefore have to validate that the FIN and FINplus authorisations have been captured correctly. SWIFT will ensure that the RMAs for the mandatory ISO 20022 messages remain synchronised with the RMAs for their MT equivalent messages. In other words, where a relationship exists for MT, it will not be possible to opt out of receiving the equivalent ISO 20022 messages. For example, if a participant currently receives an MT103 from another institution, that institution will have the choice to send either an MT 103 or pacs.008.

Point of attention: In-scope messages

It should be noted that only a selection of the messages exchanged are subject to "bootstrapping". FINplus RMAs are created for message types as shown in the table below (note that MT102 is not included). In addition, out-of-scope messages will have to be set up for RMA manually.

MT messages authorised in FIN...	... Equivalent ISO 20022 as per "bootstrapping"
MT103	pacs.008
	pacs.004
	pacs.002
MT192/292	camt.056
MT196/296	camt.029
MT202/205	pacs.009
	pacs.004
	pacs.002
MT199/299	pacs.002

Furthermore, there is an optional bootstrapping for reporting messages, given that FINplus requires RMAs for all messages, including camt, while MT equivalent 9xx series do not require RMA. Setting up RMAs for reporting messages will become mandatory before the end of the co-existence period in November 2025.

FIN MT	FINplus ISO 20022
MT941/942	camt.052
MT940/950	camt.053
MT900/910	camt.054

The next step for RMAs will be to group them into Business Profiles to centrally manage relationships. A Business Profile groups different message types that support a given business flow and will ensure that only the traffic supporting the specific business relationship is authorised. This provides granularity and context to the business relationship held between two parties, which will make it easier to reconcile the relationship ownership within an institution and show where responsibility for the KYC due diligence lies.

According to the current plan, the future RMA concept will differentiate between various business domains (e.g. Payment & Cash Management), service domains (e.g. credit transfer) and services (e.g. customer credit transfer).

Figure 16 shows an example of RMA profiles Customer Credit Transfer Request and Customer Credit Transfer Response as part of the Customer Credit Transfer service. The complete list of Business Profiles can be found in the SWIFT Knowledge Center.

Figure 16: Example of a Customer Credit Transfer service with the correspondent RMA profiles

CUSTOMER CREDIT TRANSFER

REQUEST

Bank A ← Bank B authorises Bank A to send a customer credit transfer — Bank B

Message Type	Message Name
MT103	Single Customer Credit Transfer
MT103 STP	Single Customer Credit Transfer
MT103 REMIT	Single Customer Credit Transfer

Message Type	Message Name
pacs.008	FIToFICustomerCreditTransfer
pacs.008 STP	FIToFICustomerCreditTransfer
pacs.002	PaymentStatusReport

Exceptions and Investigations Request	
MT195	Queries
MT196	Answers
MT199	Free Format Message
MT192	Request For Cancellation

Exceptions and Investigations Request	
camt.056	FIToFIPaymentCancellationRequest

Multi Customer Credit Transfer Request/Response	
MT102	Multiple Customer Credit Transfer
MT102 STP	Multiple Customer Credit Transfer

Cash Management Reporting Request	
camt.060	AccountReportingRequest

RESPONSE

Bank A → Bank A authorises Bank B to send a response to customer credit transfer → Bank B

Message Type	Message Name
MT103 RETN/REJT	Single Customer Credit Transfer (RETN/REJT)

Message Type	Message Name
pacs.002	PaymentStatusReport
pacs.004	PaymentReturn

Exceptions and Investigations Response	
MT195	Queries
MT196	Answers
MT199	Free Format Message

Exceptions and Investigations Response	
camt.029	ResolutionOfInvestigation

Cash Management Charges	
MT190	Advice of Charges, Interest and Other Adjustments
MT191	Request for Payment of Charges, Interest and Other Expenses

Multi Customer Credit Transfer Request/Response	
MT102 RETN/REJT	Multiple Customer Credit Transfer (RETN/REJT)

Cash Management Reporting Response	
camt.053	BankToCustomerStatement
camt.052	BankToCustomerAccountReport
camt.054	BankToCustomerDebitCreditNotification

Core profile: mandatory part of the respective business profile (e.g. pacs.008)

Reusable profile: mandatory part of the respective business profile, which is used across various business profiles (e.g. E&I messages)

Optional profile: optional part of the business profile, which may be included or excluded (e.g. camt.060)

Source: Deutsche Bank

3

Data integrity and harmonisation

The migration to ISO 20022 is set to unlock significant benefits for the banking industry –including an increase in the speed and quality of payments processing and improvements in the effectiveness of compliance processes and financial crime due diligence. But, as with most industry-wide changes, the road to implementation is not entirely smooth. And with the new standard set to be introduced for more than 11,000 banks worldwide, over the early months – as participants get used to the transition – breaks in straight-through processing and additional manual intervention should be anticipated.

Point of attention: Auto-repair rules

Banks are well advised to review the auto-repair rules they use for MT messages, which have been created over recent decades. Given the fundamental differences between MT and ISO 20022 messages, it is likely that new auto-repair rules will need to be defined for the processing of non-structured ISO 20022 messages to maintain the current straight-through processing rate for payments. Even banks that remain on MT must anticipate the embedded MT messages received as multi-format messages to use slightly different formatting than native FIN MT messages. The CBPR+ translation library should serve as a useful reference document for this analysis.

The following section will explore how the industry can overcome transition challenges during the early months of the ISO 20022 migration, with a particular focus on how interoperability concerns will be addressed. The interoperability challenges will mostly arise due to the different migration approaches and timelines underway across the world. The mapping of one standard to another will create potential truncation challenges where certain information cannot be relayed due to character/space limitation in another format. To support the community, several industry bodies – including various clearing houses around the world, as well as SWIFT – have issued their recommendations on how to overcome these challenges and benefit from the data-rich ISO 20022 standard.

The ultimate goal is to make the ISO 20022 standard fully interoperable, but, at present, the new standard is being implemented with a variety of versions and data restrictions. To rectify this, there are several new solutions emerging, including the newly established cross-border payments initiative, which is being driven by the G20 leadership and the Committee on Payments and Market Infrastructures (CPMI).

This section will also describe how the ISO 20022 standard is likely to be maintained going forward – especially once the co-existence period in the correspondent banking space ends.

3.1 Data integrity/interoperability efforts

With varying migration approaches and timelines, one of the primary obstacles to overcome is when the full transaction data of the payment fails to reach the beneficiary. This is crucial as the complete data set is needed to perform several different functions, including sanctions screening, compliance/financial crime due diligence, etc. To tackle this problem, SWIFT and market infrastructures have released guidance to help address this format mapping problem.

3.1.1 SWIFT approach (CBPR+)

In the correspondent banking space, the co-existence period is set to take place between November 2022 and November 2025. During this phase, ISO 20022 messages will be translated to MT via a central in-flow translation solution and delivered as multi-format (ISO 20022 with embedded translated MT) messages. Non-ISO 20022 enabled institutions will use the ISO 20022 format to perform the necessary compliance due diligence – but they will still use the MT format for processing.

However, if a non-ISO 20022 enabled institution is acting as an intermediary in a transaction, this institution will send the truncated MT message – meaning that it is not delivering the rich ISO 20022 data it received.

Figure 17: MT user acting as intermediary

Source: Deutsche Bank

Point of attention: Payment Market Practice Group guidance

In view of the potential truncation problem arising in the early months of the ISO 20022 implementation, the Payment Market Practice Group (PMPG) has worked on a recommendation for the market to limit the impact of this challenge (the *ISO 20022 Payments Migration and Interoperability Considerations for the global Community* document).[6] Given that truncation problems – namely the non-delivery of "rich" data – can only happen if client channels are enabled for enhanced data, the recommendation is that participants wait until there is a certain level of stability and reachability in the market before using the rich data. This will help overcome the "weakest link" challenge – and will avoid unnecessary client frustrations that arise from the reconciliation issues surrounding "lost data" in the payment chain.

There are two main types of truncation:

1. **Truncation of data (with "+" indicator).** In cases where certain ISO 20022 data elements could not be mapped in full due to MT space limitations. For example, the Debtor name element in the ISO 20022 standard allows up to 140 characters to be transported, while the MT message limits the name to 70 characters.* In this example, if there was an ISO 20022 to MT translation, the Debtor name would include the first 65 characters and end with a "+" as the last character. This indicates the truncation and that there is more data in the ISO 20022 version of the message.

Point of attention: Truncation sign

Truncation of data due to the mapping of formats and space limitations in MT messages already happens today, such as when banks cannot relay data-rich instructions from their corporate customers due to interbank format limitations. Therefore, the truncation challenge associated with ISO 20022 standard does not represent a new problem, but potentially moves the point of truncation to a new actor. In fact, the use of a truncation "+" sign provides additional transparency, indicating that a truncation has occurred.

2. **Dropping of data/missing data (without "+" indicator).** ISO 20022 messages contain data elements that do not have an exact equivalent in MT formats, e.g. Ultimate Parties, Purpose codes and Structured Remittance Information, among others. To ensure that as much information as possible is still mapped to MT, the industry agreed to map these non-equivalent elements in fields 70 and 72 following the pre-agreed translation priority list (*see Figure 18*).

Figure 18: Data translation priorities

When the originating message is MX, certain data elements are translated to MT with the following identifiers:

Potentially missing data that will not be indicated with a "+" truncation sign

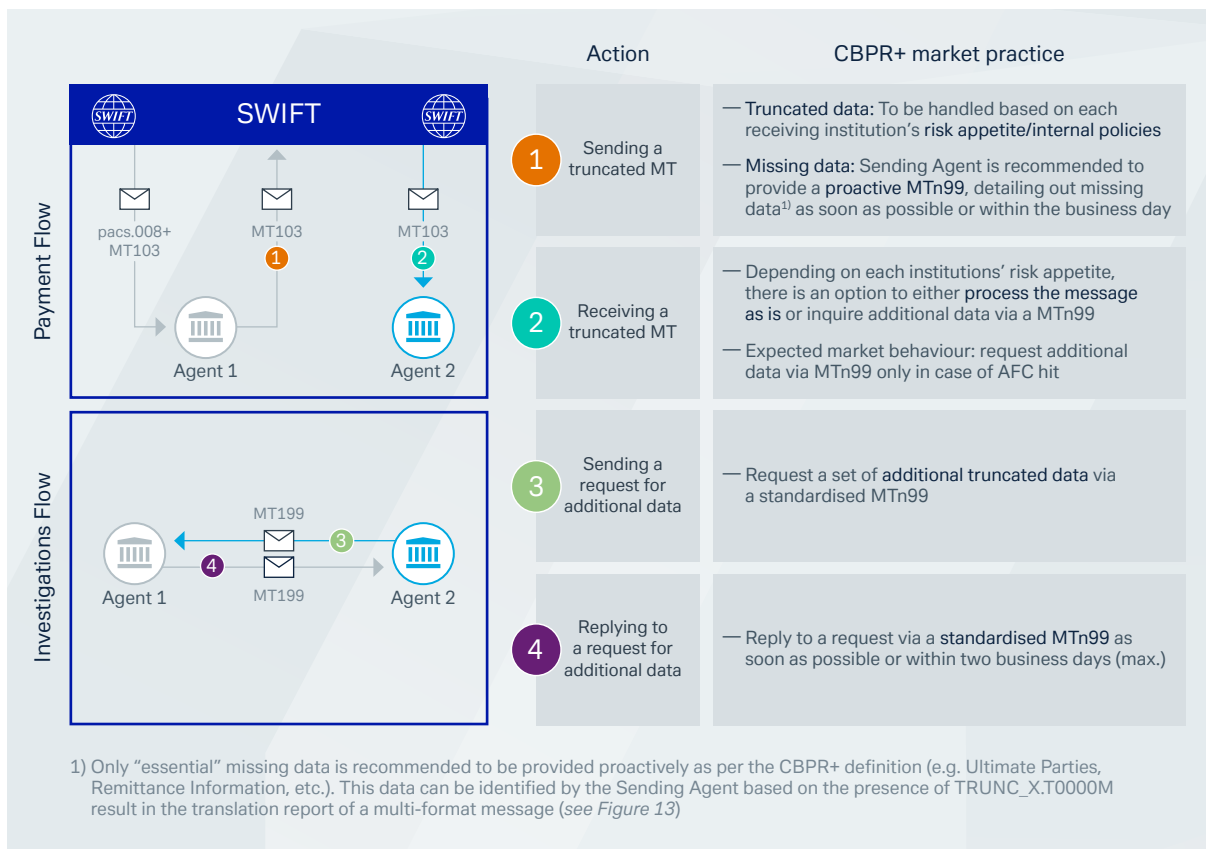| MT 103 field 70 (4 lines x 35 characters = 140 characters in total)		MT 103 field 72 (6 lines x 35 characters = 210 characters in total)	
/ULTB/	Ultimate Creditor information prioritised as Name/Country/TownName. Name can take values up to 140 characters.	/INTA/	Intermediary Agent 2 & 3
/ULTD/	Ultimate Debtor information prioritised as Name/Country/TownName. Name can take values up to 140 characters.	/SVCLVL/	Service Level
/PURP/	Purpose of the payment	/LOCINS/	Local Instrument
/ROC/	End-to-End Identification	/CATPURP/	Category Purpose
/URI/	Unstructured Remittance Information	/ACC/	Instruction For Creditor Agent
/RELID/	Related Remittance Information	/REC/	Instruction For Next Agent
/SRI/+	Structured Remittance Information	/INS/	Previous Instructing Agent 1, 2 & 3

Source: Deutsche Bank

* Remember, the name in an MT message is split across the first two lines, with each line starting with a two-character prefix to identify the data attribute (1/ = name). In total, four characters are taken up by these prefixes, and another character in a truncated message is taken up by the "+" (hence why the data is cut at 65 characters).

In scenarios where the elements of higher translation priority (e.g. Ultimate Creditor) use the entire available space in the MT field, the elements of lower priority (e.g. Unstructured Remittance Information) may be dropped from the message. This will not be indicated with a "+" sign (*see Figure 13 for an example*).

After intensive discussions and analysis of the problem of relaying MT messages with truncated, dropped or missing data, the community came to the conclusion that stopping and holding the payments containing a "+" sign before processing would cause enormous operational friction in the processing chain and trigger liquidity and settlement issues.

Instead, guidance for the market on how to act in this situation was issued. Each institution is tasked with defining their risk acceptance approach based on their internal policies, risk appetite and preferences. The CBPR+ Data Integrity Guidance provides the measures shown in Figure 19 and it is recommended that banks consider implementing these.

Figure 19: CBPR+ Data Integrity Market Guidance

1) Only "essential" missing data is recommended to be provided proactively as per the CBPR+ definition (e.g. Ultimate Parties, Remittance Information, etc.). This data can be identified by the Sending Agent based on the presence of TRUNC_X.T0000M result in the translation report of a multi-format message (*see Figure 13*)

Source: Deutsche Bank

The CBPR+ has provided a standard, global template to be used for an additional data request to handle these cases efficiently. The template mandates a specific message structure, which includes new code words: /CBPRQ/ (=Request) and /CBPRA/ (=Answer) *(see Figure 20)*.

Figure 20: CBPR+ standardised investigation messages
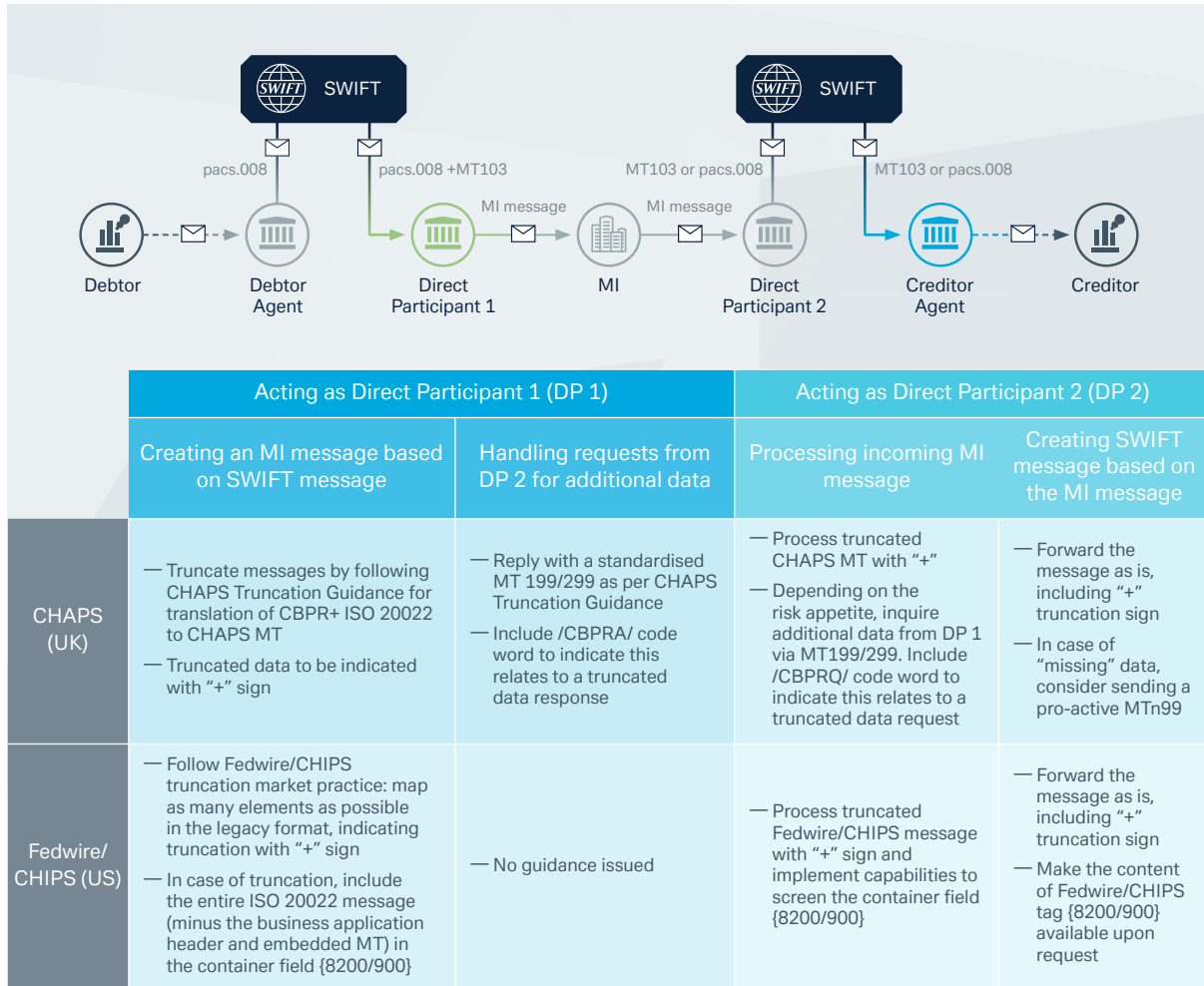

Source: Deutsche Bank

3.1.2 Market Infrastructures (MI) approach

Given that the migration to ISO 20022 is proceeding at different speeds in different markets, local clearing houses have also implemented their own recommendations on how to deal with the conversion challenge.

One of the first market infrastructures to introduce truncation guidance was the BoE, given that the CHAPS system is set to implement ISO 20022 messages from April 2023, compared with CBPR+, which goes live in November 2022. The BoE issued a detailed instruction on how to map the CBPR+ ISO 20022 standard to CHAPS MT, which was mostly based on the CBPR+ translation rules. However, in light of the new Data Integrity Market Practice guidance issued by the CBPR+, the BoE decided to align their recommendation with those that apply to correspondent banking transactions. The BoE's revised document now points directly to CBPR+ translation rules and the interoperability guidance, thereby harmonising the approaches followed by SWIFT and CHAPS.

In the US, the ISO 20022 migration for high-value payments will be undertaken by the Clearing House and the Federal Reserve Banks in November 2023 and March 2025, respectively. Before these dates, participants will receive correspondent banking transactions in rich ISO 20022 formats (as CBPR+ goes live in November 2022) subject to messages being forwarded via clearing systems. Clear guidance has been issued to address the data truncation concerns that arise. This guidance requires participants to use the newly created fields {8200 FED/900 CHIPS} to transport the rich ISO 20022 message (up to 9,000 characters minus the Business Application Header).

Figure 21: Data integrity guidance from around the world

	Acting as Direct Participant 1 (DP 1)		Acting as Direct Participant 2 (DP 2)	
	Creating an MI message based on SWIFT message	Handling requests from DP 2 for additional data	Processing incoming MI message	Creating SWIFT message based on the MI message
CHAPS (UK)	— Truncate messages by following CHAPS Truncation Guidance for translation of CBPR+ ISO 20022 to CHAPS MT — Truncated data to be indicated with "+" sign	— Reply with a standardised MT 199/299 as per CHAPS Truncation Guidance — Include /CBPRA/ code word to indicate this relates to a truncated data response	— Process truncated CHAPS MT with "+" — Depending on the risk appetite, inquire additional data from DP 1 via MT199/299. Include /CBPRQ/ code word to indicate this relates to a truncated data request	— Forward the message as is, including "+" truncation sign — In case of "missing" data, consider sending a pro-active MTn99
Fedwire/ CHIPS (US)	— Follow Fedwire/CHIPS truncation market practice: map as many elements as possible in the legacy format, indicating truncation with "+" sign — In case of truncation, include the entire ISO 20022 message (minus the business application header and embedded MT) in the container field {8200/900}	— No guidance issued	— Process truncated Fedwire/CHIPS message with "+" sign and implement capabilities to screen the container field {8200/900}	— Forward the message as is, including "+" truncation sign — Make the content of Fedwire/CHIPS tag {8200/900} available upon request

Source: Deutsche Bank

In APAC, the Monetary Authority of Singapore suggests mapping rich CBPR+ ISO 20022 data elements into the "like-for-like" version of the Singaporean clearing messages. While MEPS+ – the Singaporean RTGS – went live with ISO 20022 messages in August 2022, this is only the first step in its migration. This initial go-live was for the "like-for-like" phase – meaning that the content of ISO 20022 messages is currently limited. Mapping guidance will, therefore, still be needed for any rich payment instructions received via the SWIFT network (subject to clearing via MEPS+).

Australia's planned migration also introduces a co-existence challenge, as ISO 20022 messages will be enabled in November 2022 followed by a co-existence period until 2024. To comply with local regulations, it is expected that local agents will need to obtain the additional information from the previous agent in the payment chain before they can forward the payment message through the local clearing system. This will likely mean that the community will need to break straight-through processing for messages that contain the "+" character, and to initiate the request for information (RFI) process in line with the CBPR+ Data Integrity Market Guidance. This will ensure the message is enriched prior to introducing it into the local clearing systems.

3.2 Harmonisation efforts

There will be further considerations to take into account once all the interoperability challenges have been resolved and ISO 20022 has been successfully implemented across the entire correspondent banking ecosystem and all the major RTGSs. One is the maintenance of the ISO 20022 standard. Similar to the current MT maintenance, which takes place in annual cycles, there are efforts within the industry to harmonise and maintain the ISO 20022 on a regular basis to ensure it meets future business needs.

For example, the Committee on Payments and Market Infrastructures (CPMI) Cross-Border Task Force is identifying ways to promote cross-border payments that are faster and cheaper, as well as more transparent and inclusive. As part of this initiative, which is supported at a G20 level, the task force will define clear implementation guidelines and set minimum requirements for the core data components of ISO 20022 messages. These are expected to be followed worldwide after 2025. The following sections explain the next steps.

3.2.1 ISO 20022 maintenance

For the industry to achieve its goal of a harmonised payments landscape, a coordinated approach to the future evolution and maintenance of the ISO 20022 standard is needed.

The industry aims to agree on a proposal to establish a new industry group across CBPR+ and High Value Payments Systems Plus (HVPS+) to co-ordinate the global payment industry's approach to the new message versions of ISO 20022 and management of the Usage Guidelines. As such, it has been proposed that the industry should migrate to the latest version of the base ISO 20022 messages on a regular basis to maintain interoperability. Participating institutions will be invited to publish their Usage Guidelines based on the latest available ISO 20022 version, ensuring a harmonised approach. This is intended to take place annually. Currently, the recommendation is to introduce co-ordinated message versioning over the third weekend of November 2025 (in line with the current MT maintenance planning) after the end of the co-existence period with FIN MT messages.

Point of attention: Short-lived data elements

In an effort to accommodate the co-existence period, certain ISO 20022 data elements were introduced, such as the Instruction For Next Agent. Once the co-existence period ends, the plan is to remove such data elements as part of the maintenance cycle (i.e. by November 2025 at the latest). Banks are, therefore, advised to review long-established processes – with a view towards their long-term strategy – and not to consider these data elements for implementation to avoid double investments.

Example: Several banks use particular codes to trigger certain services. These bilateral codes should not be transported with in the Instruction For Next Agent element as, by 2025, it will no longer be in use. Instead, one occurrence of the Service Level element in Payment Type Information should be considered.

Banks providing correspondent banking services are well advised to support their clients and to create their own straight-through processing guide with the requirements that refer to the bank's own implementation of the standard. Note that Deutsche Bank has published its *ISO 20022 Payments Formatting Guide for high value payments*[7] and has provided a Readiness Portal on the dedicated MyStandards page, which enables clients to test sample messages for Deutsche Bank.

3.2.2 CPMI cross-border payments programme

G20 leaders have made enhancing cross-border payments a priority. As part of the initial assessment, there were key areas of work identified, with further individual "building blocks" focusing on specific areas where changes could bring notable benefits to cross-border payments.

As such, fragmented and truncated data standards have been identified as one of the major frictions by the G20 cross-border payments programme. It was, therefore, decided that a separate building block should be created as part of the focus area known as "data and market practices", thereby promoting the adoption of a harmonised version of ISO 20022 and common rules for mapping/converting between different data formats. This, known as building block #14 on the standardisation of ISO 20022, has called on the Committee on Payments and Market Infrastructures (CPMI) to work with industry to facilitate a harmonised adoption of ISO 20022 for cross-border payments from 2025.

Point of attention: Service Level element

As part of the definition of the minimum data requirements for the future CPMI ISO 20022 standard, it was decided that one occurrence of the Service Level data element (the element allows up to three occurrences) will be used to show whether the cross-border payment has been sent in compliance with the CPMI data model. Note that another occurrence of this data element is used for the gpi service, leaving only one occurrence of this data element "free" (which may be used for bank proprietary codes).

The dedicated CPMI task force was formed in 2022 to define the future ISO 20022 core message set. This data model builds upon CBPR+ and HVPS+ foundations to look beyond the co-existence period, when ISO 20022 will be the established global standard. As a result, the core set of messages covers the end-to-end payment chain (from initiation to reporting) and aims to harmonise across market infrastructures and markets (both cross-border or domestic) with a recommendation of minimum requirements to eliminate any friction in the processing chain. An extended report on the progress achieved by the task force, which was published in September 2022, can be found on the CPMI webpage.[8]

Figure 22: Variety of ISO 20022 standard groups
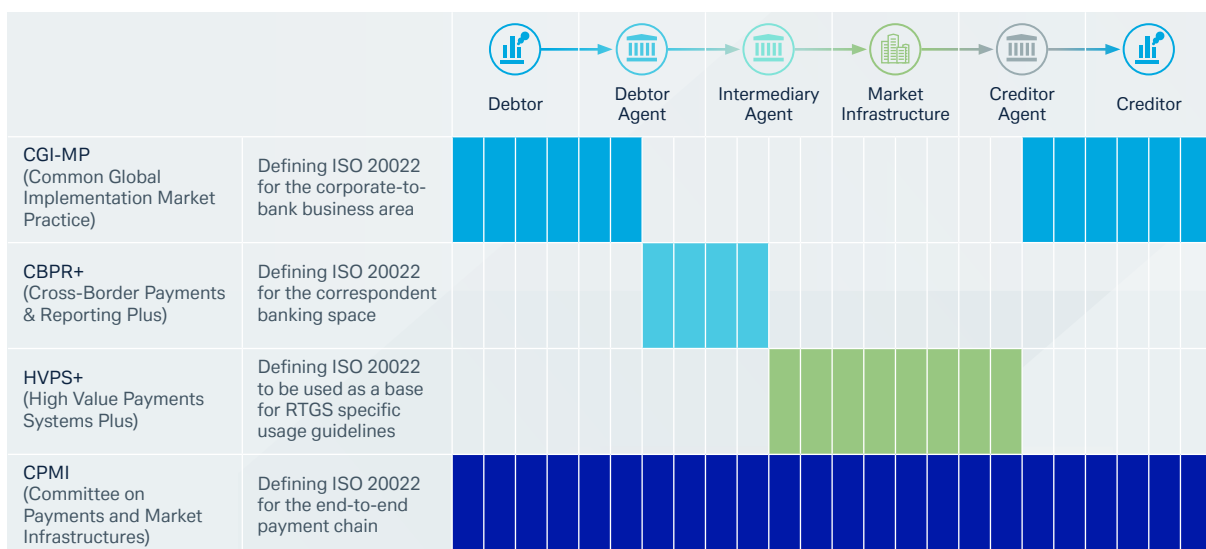
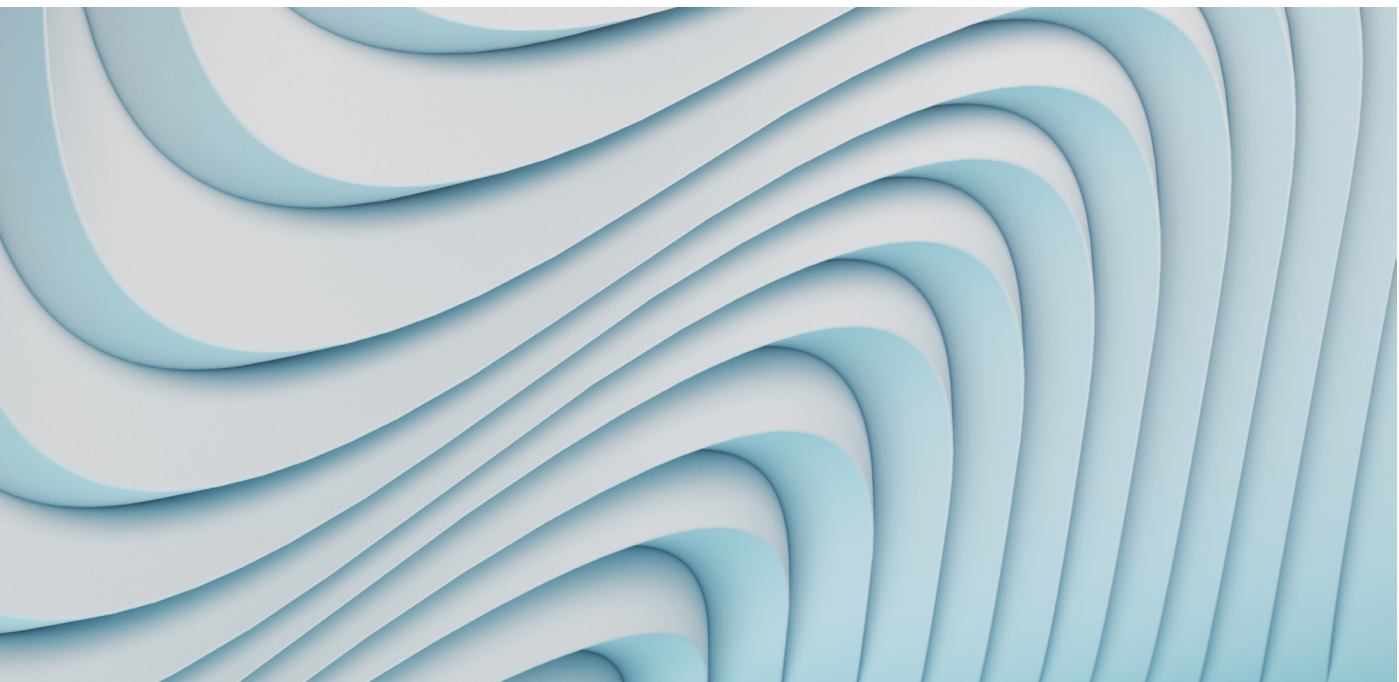
Source: Deutsche Bank

4

The final stretch

The journey to ISO 20022 has been a long one. There have been a few pitstops along the way, and even a couple of breakdowns. But it is not about the journey, it is about the destination. As we close the chapter on not just on this guide, but our series of guides on the topic as well, we leave you with a final call to arms. The ISO 20022 migration is much more than just a new messaging format, it is the start of an entirely new era for payments.

With demand for real-time, digital services increasing, ISO 20022 is a huge opportunity to fundamentally reassess and greatly improve existing business models and solutions. In doing so, it will help the payments community meet the changing needs of their clients – both now and in the future. As we approach the final stretch, industry collaboration remains key to success, both initially, and on an ongoing basis.

Looking beyond the European and cross-border migrations – and towards the "after-ISO" era – there is plenty of room for continued cross-industry engagement. Questions remain on several key issues: How will the industry deal with the challenge of data truncation? How will the US cope with divergent migration milestones? Will the Transaction Manager prove to be an effective tool? How can we implement an effective maintenance cycle going forward?

For now, however, the focus remains on getting across the finish line in November. We wish you all success with the upcoming migrations!

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