



# The Payments Data Revolution

How ISO 20022 is  
transforming the  
language of payments

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Payments are constrained by poor quality data

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# 1. Payments are constrained by poor quality data

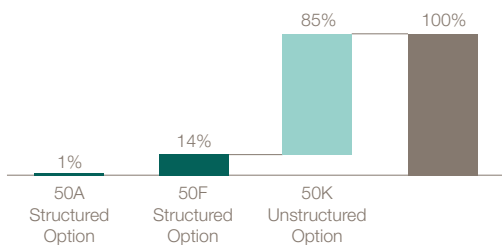
Correspondent banking has extraordinary reach, facilitating cross-border payments, their confirmations and account statements the world over. It comprises a robust and highly reliable network of financial institutions that instruct one another with a common, well-established language. The system has served us well for several decades. With SWIFT GPI the system has also become transparent and fast, with more than 40% of payments settled within five minutes. The next stage of transformation will come from better-quality data in those payments. This will further improve the efficiency, speed and compliance of payments, enabling better customer experience and opportunities for new client services.

Cross-border payments today are constrained by unstructured, incomplete and inconsistent data. This poor quality data, sourced from a variety of clients and disparate domestic payment schemes, is subject to interpretation and can require manual intervention and repairs before processing. For example SWIFT traffic shows 72-94% of party data fields in payments use free-format options with unstructured data to identify parties, with potentially vague or missing critical information needed to effectively screen and process payments. Financial institutions cite up to 10% of payments requiring manual intervention as a consequence.

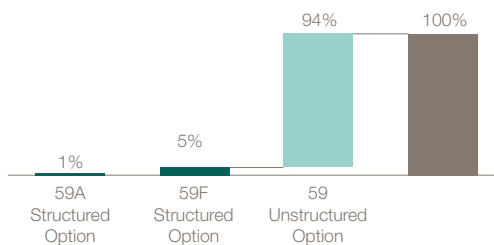
## Majority of party details in payments use unstructured data

September 2017 to May 2018 SWIFT traffic data

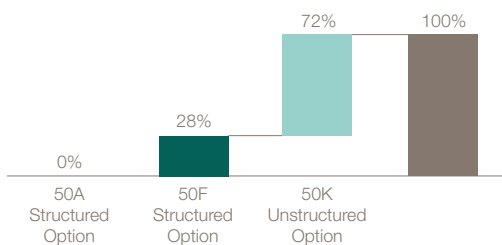
MT 103, Field 50 Ordering Customer



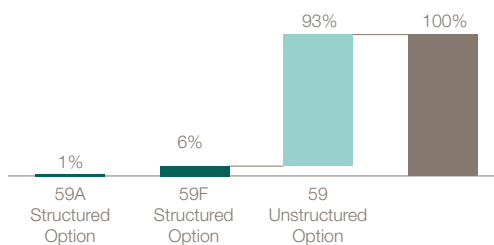
MT 103, Field 59 Beneficiary Customer



MT 103 STP, Field 50 Ordering Customer



MT 103 STP, Field 59 Beneficiary Customer



Moving to better quality data in payments is important, bringing significant benefits in increased automation, faster processing, more effective reconciliations, improved mitigation of financial crime risk, and better data-driven insights on the purpose and context for payments. Better data is also a platform for innovation, enabling banks and third parties to offer new, value-added services for customers. Improvements in data need to happen consistently and end-to-end across client payment initiation, domestic payment systems, financial institutions and their payments providers.

To realise these benefits, a modern data standard is required that is data rich, ensures consistent interpretation and is widely accepted. ISO 20022 is that standard. It is an open international data standard being adopted around the world for domestic payments systems and will be adopted by the SWIFT community for cross-border payments and reporting.

## 2. Why ISO 20022?

### Quality data is needed now

Financial institutions and their payments businesses are under increasing pressure from competing incumbents and new entrants, and from regulators demanding increasing transparency, compliance and security. The licence to operate is increasingly complex and costly. The need for better quality data in payments is urgent and brings a number of significant benefits:

- It enables counterparties, intermediaries and beneficiaries to increase automation in payments processing and reconciliation, reducing costly manual interventions, and improving visibility on cash flows and cash positions.
- It provides banks with better insight into the business purpose of a payment, enabling improved value-added services to be offered.
- It enables businesses as payment users to gain more insight from their payments' data regarding the behaviours and choices of their own customers.
- More complete and accurate party data leads to more effective and efficient screening, compliance and anti-money laundering (AML) processes.
- It enables payments scenarios such as 'Payment on Behalf of' (POBO) to be fully supported, avoiding complex workarounds.

Better payments data cannot be achieved by any one institution alone; it must be adopted in a coordinated way across the payments ecosystem. Comprehensive, well-structured and correctly labelled data must be sourced from clients at the point of payment initiation and carried across payment systems and correspondents in a consistent manner. This will avoid instances of data truncation, misinterpretation and ultimately breakdown of quality of service.

Better quality data and ISO 20022 assist in addressing all of these issues, and banks that adopt ISO 20022 early will improve and defend their competitive advantage.

### ISO 20022 is the path to better quality data

In its July 2020 report for the G20 titled 'Enhancing cross-border payments: building blocks of a global roadmap', the Committee on Payments and Market Infrastructures (CPMI) identified 'Data and Market Practices' as one of its five focus areas. Within this, one of the building blocks identified is to adopt a harmonised version of ISO 20022 for message formats, noting that common message formats mitigate the 'friction around fragmented and truncated data' and 'improve compliance processes and address data handling issues'.

#### ISO 20022 is a recipe for making financial messaging standards



**A methodology** to develop common financial messaging standards, **based on a business dictionary**



An open, neutral and global standard, **freely implementable** by anyone and supported by an **open governance process**

**Business model**

**Message model**

**Syntax**

**Syntax independent business model**, commonly implemented in XML and may be represented in any other future format including JSON for APIs

ISO 20022 is more than a standard library of messages; it is the agreed methodology and data dictionary used by the financial industry to create consistent data exchange standards across all the business processes of the industry. It's a recipe for creating financial standard definitions that consists of three layers: a top layer of business process and concepts, a middle layer of logical messages or message models, and a third layer dealing with the message syntax (typically XML, or JSON).

The business model defines the business process or activity, the business roles and actors, and the business information required for the activity. The logical message describes all the information needed to perform a business activity; it is made up of message components organised in a hierarchical structure. And the message syntax is the physical version of the logical message in a defined industry syntax. A key feature of ISO is its syntax-independence; its messages can be instantiated in many formats (for example XML, ASN.1, JSON, gRPC, flat files).

The ISO 20022 standard derives all data elements from a rich repository that consists of a data dictionary and a business process catalogue. ISO 20022 standardises all such components across all messages used in the financial industry. A key theme is re-usability for all instances of a business component in any ISO 20022 exchange. Currently the ISO 20022 repository holds around 750 business components and more than 1,900 message definitions.

The ISO 20022 standard brings a number of improvements over MT messaging, including an element hierarchy enabling nested elements for logical grouping of data, and dedicated elements for vital data fields. It offers an enhanced data model that encompasses local practices and their variants, and introduces new elements to enhance the scope of messaging.

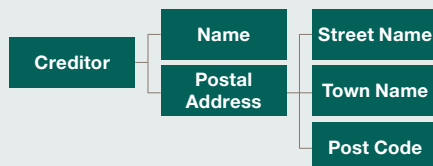
Syntax-independent business modelling is key to the ISO 20022 standard, because it ensures that the business standard (the models) remains stable and evolves with the business only, while the formats evolve with the technology to benefit from the latest innovations with regard to automation, ease of implementation, openness, and pricing.

## What improvements does ISO 20022 bring over MT?



### Element hierarchy

Nested elements for logical grouping of data



### Enhanced data model

Extensible financial language that accommodates local practices and their variants, for example:

- Accounts identified by sub-elements such as **IBAN** or **Other** proprietary identification
- Codes identified as **Proprietary** or as an ISO recognized **Code**, which may be defined independent of the message
- Agents and party identification includes **LEI** and more granular **Postal Address**



### Dedicated elements

For example:

- Mandatory **Debtor Agent** and **Creditor Agent** are static roles which clearly identify who services the customer
- Dedicated **End-to-end Identification** customer reference from Debtor to Creditor
- **Service Level Code** or **Proprietary** description to capture specific service expectations



### New elements

For example:

- Enabling On Behalf Of (OBO) payments for example using **Initiating Party** field to capture details of party initiating credit transfer on behalf of **Debtor**
- Structured **Remittance Information** can include rich invoice information to support reconciliation for the **Creditor**
- Dedicated instruction elements allow instructions for specific parties, such as **Instruction for Creditor Agent** and **Instruction for Next Agent**

### 3. Cross-border payments are moving to ISO 2022

In 2018 the SWIFT community decided to adopt ISO 2022 for cross-border payments and reporting. With the new standard used in over 70 countries, and forecast to be used in 80% of clearing and settlement of high value payments by 2025, financial institutions gave SWIFT the mandate to facilitate the move to this new language of payments. At that time, the SWIFT Board approved plans to facilitate a community migration to ISO 2022, starting in November 2021 and running for four years. This co-existence period would include 'in-flight' translation to provide interoperability with counterparties using MT.

#### Updated ISO 2022 adoption approach

In June 2020 SWIFT announced a better approach to the adoption of ISO 2022. The new approach uses new transaction management capabilities in an enhanced SWIFT platform, and enables the community to more quickly reap the benefits of rich data, while adopting ISO 2022 in a less disruptive way. The vision aims for instant and frictionless transactions where rich ISO 2022 data is the foundation.

The objective of the updated plan is to more quickly achieve adoption of rich, structured data in cross-border payments in a less disruptive way.

#### Key design principles

##### Transaction management

- A new platform that maintains full ISO 2022 transaction data
- Accessible by any authorized party in the payment chain
- Eliminates the need for all users to receive ISO 2022 from the start of coexistence, and the problem of intermediaries 'breaking the chain' by not passing complete data

SWIFT's platform will maintain full ISO 2022 transaction data that any authorised party in the payment chain can access. This eliminates the problem of intermediaries 'breaking the chain' by not passing on complete data. Therefore members can choose to benefit more quickly from rich data, without needing to wait for all parties in the payment chain to use ISO 2022.

##### Backward compatibility

- Supports ISO 2022-based APIs and messaging, SWIFT MT messaging, and GUI access
- The platform adapts to its users' capabilities, providing data in the format and protocol chosen by the user

The platform adapts to the capabilities of financial institutions, so can be accessed using MT or ISO 2022-based APIs or messages. The platform provides coexistence until November 2025 and financial institutions can adopt ISO 2022 at their own pace.

##### API native

- Provides rich data and coexistence measures over APIs
- Enables easier integration with users' applications, and better payment services to clients

To enable easier integration with financial institutions' applications, and to support coexistence and development of new client solutions, the platform will provide API-based services. Furthermore, for the first time a fully capable API channel will be provided for cross-border payments and reporting, allowing the community to build on investments in open banking and other API initiatives.

#### Enablers



##### Standards specifications Define and publish

- CBPR+ messaging market practice
- CBPR+ based API specifications
- MyStandards Readiness & Translation portals



##### Product readiness Enable SWIFT and vendors

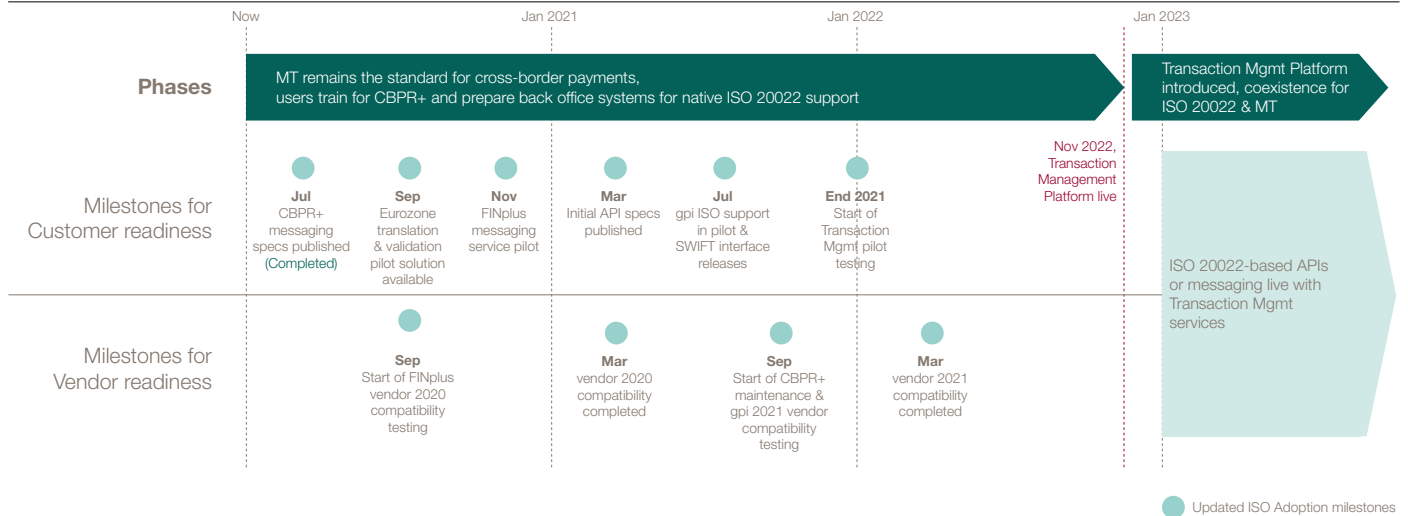
- Transaction Management Platform with coexistence measures
- Vendor self-attestation and compatibility labels



##### Customer adoption Support preparation and adoption

- SWIFTSmart & tailored training
- Impact assessments & integration solutions
- Test environment with sparring partner

## Updated ISO 20022 adoption plan



The new approach comprises three phases:

### Phase 1, now to November 2022

MT remains the only standard for cross-border payments. Financial institutions continue to invest in:

- Training staff on the Cross-Border Payments and Reporting (CBPR+) ISO 20022 market practice published in [MyStandards](#);
- Enabling channels, payments processing and screening systems to natively support the CBPR+ ISO 20022 dataset, with additional elements for party details, extended remittance information, regulatory reporting and others;
- Implementing domestic payment systems moving to ISO 20022, with the ability to integrate with cross-border ISO 20022 payments, such as TARGET2, the UK's new RTGS (CHAPS), MEPS+, Philpass and others.

### Phase 2, from November 2022 to November 2025

SWIFT transaction management services are introduced, supporting:

- CBPR+ dataset for ISO 20022-based payments and reporting over APIs and messaging;
- Coexistence with financial institutions that choose to stay on MT. The platform will mediate between counterparties using different protocols and formats as necessary, based on mutually agreed business relationships. ISO 20022 adopters do not need to wait for their counterparts to be ready;
- Financial institutions that continue to use the MT format up to November 2025.

### Phase 3, November 2025 onwards

MT format decommissioned:

- MT 1, 2 and 9 series messages are decommissioned for correspondent banking;
- All interactions with the SWIFT platform, whether API or messaging, use CBPR+ ISO 20022 dataset.

With SWIFT gpi bringing speed and transparency to payments, with ISO 20022 enabling rich, efficient and more compliant payments, and with transaction management services facilitating and orchestrating transactions between counterparties, these major developments taken together are delivering significant modernisation of global payments.

## 4. How do I prepare for ISO 20022?

### A. Establish a long-term roadmap

ISO 20022 provides a rich data dictionary, beyond current MT and proprietary standards. To store, process and serve rich data elements to internal consumers and clients will require financial institutions to conduct a strategic and systematic evolution of their channels and transaction processing architecture. Short-term, stop-gap, translation solutions for SWIFT and domestic payment systems will be complex, inefficient and will not yield benefits for either financial institutions or their clients.

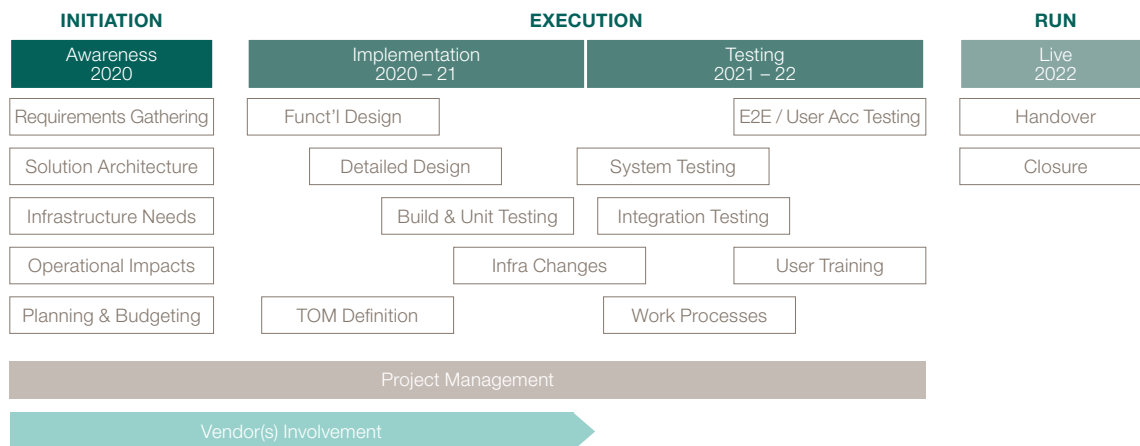
As best practice, a data quality programme should be established that takes inventory of domestic and SWIFT payment schemes evolving to ISO 20022. The initiative should then design an enterprise data model for the institution, rally internal and vendor resources, and define new client propositions and metrics of success. Finally it should sequence and execute a long-range roadmap of change to achieve better quality data.

It is important to note that all users, including those that do not plan to adopt ISO 20022 immediately, are still responsible for compliance screening of the full transaction data. Users will have the option to have full transaction data screened by the platform before the transaction data is delivered for processing. Alternatively, the user may opt to screen transaction data locally.



## B. Plan your cross-border adoption

Adoption of ISO 20022 for cross-border payments and reporting will require a well-planned project comprising three stages:



### Awareness in 2020

The new language of payments is significantly different from MT standards. SWIFT provides:

- the CBPR+ ISO 20022 dataset and definition of MX messaging specifications in MyStandards, alongside MT to MX translation rules and testing portals. No connectivity to SWIFT is required to test compliance with CBPR+ message specifications or translation rules;
- SWIFTSmart e-learning modules, and on-site tailored training courses where required.

This content and these resources should be used to raise awareness within the institution, train product, IT and operations staff, and develop specifications to upgrade systems and processes.

API and transaction management specifications will be provided in H1-2021 with additional details.

A project team should be established, with necessary funding and vendor support to implement, test and go-live. This project should consider how ISO 20022 is adopted in cross-border alongside domestic payment systems that will have cross-border 'leg-out' payments, and how ISO 20022 data elements from domestic market practice will bridge to CBPR+.

### Implement and test, 2021 to 2022

In collaboration with SWIFT, payment processing, screening and other vendors will implement necessary changes. SWIFT is working closely with key vendors, providing resources and testing capabilities to support their own adoption of CBPR+. Vendors self-attesting their readiness for CBPR+ and confirming compatibility to CBPR+ are published on [swift.com](https://www.swift.com).

SWIFT will provide a CBPR+ messaging channel in November 2020, and a sparring partner test facility to simulate business scenarios with counterparties in Q1-2021. A similar test environment will also be provided in the SWIFT Developer Portal for APIs in 2021. A full pilot environment for transaction management services will be provided by Q1-2022.

### Go-live from November 2022 onwards

Transaction management services will be live from November 2022 and financial institutions can adopt ISO 20022-based APIs or messaging for cross-border payments.

## C. Raise awareness and coordinate with your clients

During the coexistence period mandatory data elements in the CBPR+ market practice are defined to keep it interoperable with MT. CBPR+ will however support the ability to provide additional optional data, such as extended remittance information. This additional data will allow financial institutions to better serve their clients, for example with more information for faster reconciliation.

Also, during the coexistence period financial institutions may agree with their clients to provide cash management reporting either using MT or ISO 20022. The SWIFT platform will not provide translation services for cash management reporting but will support both MT and ISO 20022, as agreed between financial institutions and their clients.

Financial institutions should engage with their clients, raising awareness of new features and services that will be provided and their respective timelines. A mutually agreed roadmap should be established to move to ISO 20022-based client services over time.

## Where can I get more help?



### Webinars & work sessions

[Webinars & information sessions](#) are available for you to register and get your questions answered

### SWIFTSmart

The [SWIFTSmart](#) e-learning platform includes training modules for:

- Introduction to ISO 20022
- CBPR+ market practice
- FINplus messaging service

### WWW

### ISO 20022 Programme hub

The ISO 20022 Programme [Document Centre](#) now includes:

- ISO 20022 for Dummies e-book
- Bank and Corporate case studies
- Past webinar recordings



### MyStandards

The MyStandards [CBPR+ group page](#) includes:

- (Updated) Phase 1 & 2 Usage Guidelines
- (Updated) User Handbook
- (New) Translation rules offline documentation
- Readiness & Translation Portals

### Knowledge Centre

The [Knowledge Centre](#) includes updated documentation:

- [Frequently Asked Questions \(FAQ\)](#)
- [Customer Adoption Guide](#)
- [FINplus Service Description](#)



### Adoption services

Get support for your project with:

- Training
- Impact assessment
- Standards specifications
- Integration solutions

### Vendor support

A [Vendor Readiness Portal](#) is live, allowing vendors to test their applications

A [self-attestation](#) and [certification](#) framework has been launched to allow vendors to confirm and promote readiness for CBPR+

### Customer support

[SWIFT Customer Support](#) is available to answer questions if you do not find the information you are looking for

## 5. Early adopters will capitalise on quality data

Moving to higher quality data in payments is important, bringing significant benefits in increased automation, faster processing, improved mitigation of financial crime risk, and better data-driven insights on the purpose and context for payments. Better data is also a platform for innovation, enabling banks and third parties to offer new, value-added services for customers. Early adopters that mindfully plan their adoption of ISO 20022 are set to reap these benefits for themselves and their clients. The time to get started is now!

### References

[ISO 20022 Programme Hub](#)

[MyStandards CBPR+ Landing Page](#)

[Customer Adoption Guide](#)

[SWIFTSmart ISO 20022 Adoption Curriculum](#)

[2021 Budgeting Tool](#)



## **About SWIFT**

SWIFT is a global member owned cooperative and the world's leading provider of secure financial messaging services.

We provide our community with a platform for messaging and standards for communicating, and we offer products and services to facilitate access and integration, identification, analysis and regulatory compliance.

Our messaging platform, products and services connect more than 11,000 banking and securities organisations, market infrastructures and corporate customers in more than 200 countries and territories. While SWIFT does not hold funds or manage accounts on behalf of customers, we enable our global community of users to communicate securely, exchanging standardised financial messages in a reliable way, thereby supporting global and local financial flows, as well as trade and commerce all around the world.

As their trusted provider, we relentlessly pursue operational excellence; we support our community in addressing cyber threats; and we continually seek ways to lower costs, reduce risks and eliminate operational inefficiencies. Our products and services support our community's access and integration, business intelligence, reference data and financial crime compliance needs. SWIFT also brings the financial community together – at global, regional and local levels – to shape market practice, define standards and debate issues of mutual interest or concern.

Headquartered in Belgium, SWIFT's international governance and oversight reinforces the neutral, global character of its cooperative structure. SWIFT's international office network ensures an active presence in all the major global financial centres.

For more information about SWIFT, visit [www.swift.com](http://www.swift.com).