# ALTIMETRIK

## The Transformational Power of

# ISO 20022 in
# Modernizing
# Banking
## and Payments

# Introduction

In the rapidly evolving landscape of global finance, the intricate web of interconnected systems and processes that underpin banking and payments has resulted in a rise of incessant advancements in this sector that transcends boundaries and technologies. Payments today can no longer be limited to a region or a landscape. The wave of digitalization has resulted in unifying various countries to engage and look beyond the traditional messaging standards to not only achieve their payment objective but also improve customer experience.

The conventional methods of conducting banking and payments have encountered limitations in an era defined by digital acceleration, cross-border transactions, and diverse financial instruments. These limitations have led to fragmented data structures, communication barriers, and suboptimal processing speeds. This has necessitated a need for a universal language that facilitates frictionless interactions across global ecosystem while overcoming the limitations of the traditional systems.

This demand for seamless interoperability, increased efficiency, and enhanced data richness has given rise to ISO 20022, a groundbreaking standard that stands as a beacon of modernization in the world of financial transactions. ISO 20022 emerges as a response to these challenges, offering a comprehensive framework that empowers institutions, businesses, and individuals to communicate and transact with unprecedented clarity, accuracy, and ease. ISO 20022 embodies a harmonized approach to structuring financial messaging. Unlike its predecessors, this standard provides a universal vocabulary for describing various aspects of transactions, embracing not only payments but also securities, foreign exchange, trade finance, and more.

The benefits of ISO 20022 are multifold and transformative. Financial institutions can streamline their operations, optimize liquidity management, and reduce reconciliation efforts through the standard's enhanced data richness and structured format. Businesses can unlock new efficiencies in their supply chains, treasury functions, and reporting processes. Moreover, the end-user experience receives a significant boost as transactions become more transparent, traceable, and reliable.

However, the journey to ISO 20022 adoption is not without its challenges. Institutions must navigate the complexities of migrating legacy systems, ensuring data integrity during the transition, and effectively training personnel to leverage the new standard's capabilities. Additionally, stakeholders must align their internal strategies with industry timelines and best practices to ensure a smooth and successful integration.

In this exploration of modernizing banking and payments through ISO 20022, we delve into the intricacies of the standard's architecture, its impact on various stakeholders, and the steps required for successful implementation. Join us as we embark on a journey through the transformative landscape of ISO 20022—a landscape where traditional barriers dissolve, possibilities flourish, and the future of banking and payments unfolds with unprecedented potential.

# Global initiatives to implement
# **ISO 20022**

Owing to the benefits for ISO 20022, SWIFT (Society for Worldwide Interbank Financial Telecommunication) had announced a global migration to ISO 20022 for cross-border payments, securities, and trade finance messages. The SWIFT ISO 20022 migration timeline was initially planned as follows:

## 1. Cross-Border Payments

(SWIFT MT to ISO 20022):

- Migration Wave 1 (November 2022): Migration of correspondent banking and cross-border payments messaging.

- Migration Wave 2 (September 2023): Migration of high-value payments and cover payments messaging.

- Migration Wave 3 (November 2025): Migration of bulk payments, regulatory reporting, and other remaining payments messages.

## 2. Securities

(ISO 15022 to ISO 20022):

- Securities Settlement (November 2022): Migration of securities settlement and custody messages.

- Securities Corporate Actions (November 2023): Migration of corporate actions messaging.

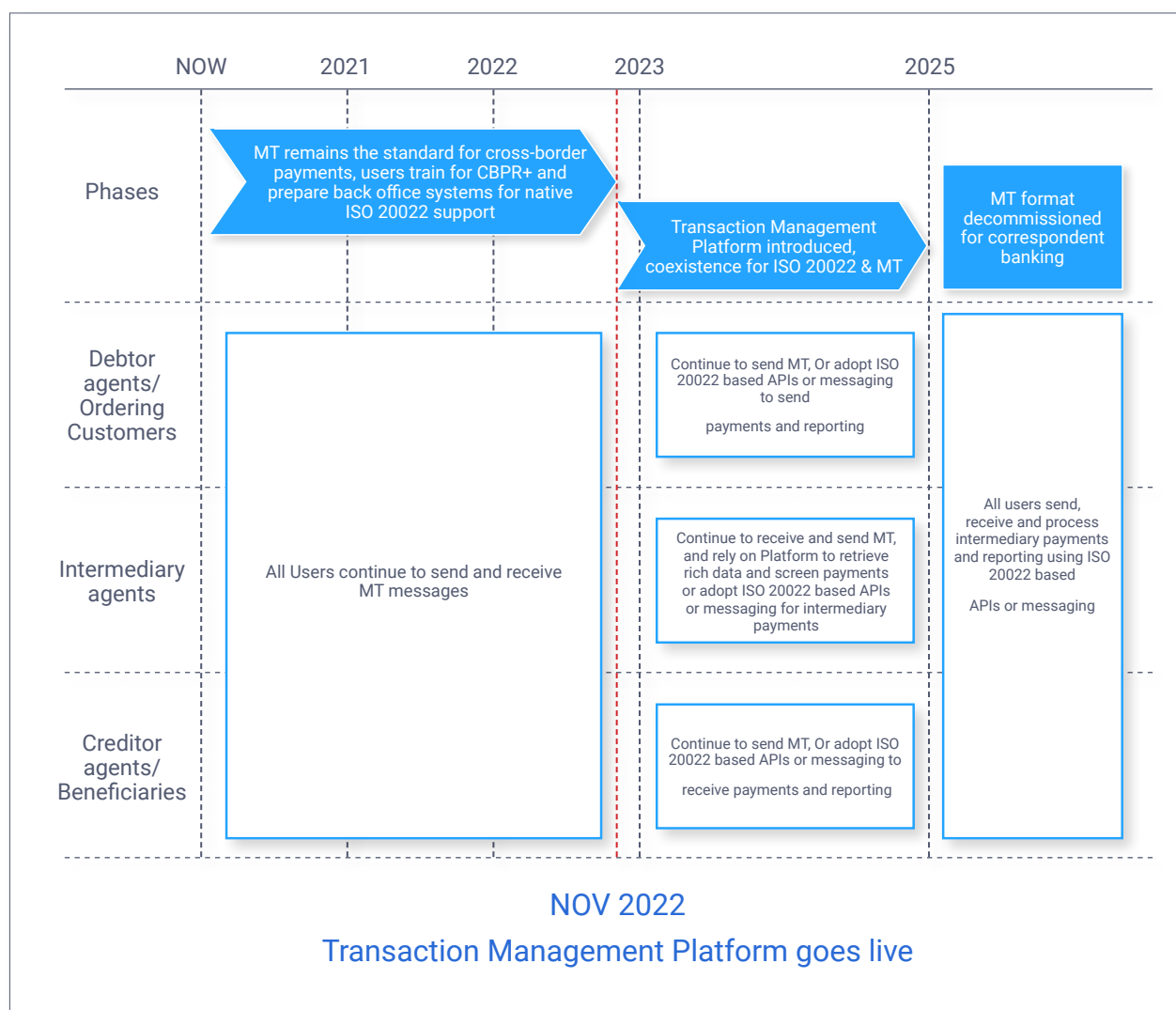- Funds (November 2025): Migration of investment funds order and reporting messages.

## 3. Trade Finance

(ISO 20022 Trade Services Utility - TSU):

- Trade Services Utility (2021-2025): Phased migration to ISO 20022 for trade finance messages.

# To understand the various parties involved along with their migration timelines are displayed as below:

| | NOW | 2021 | 2022 | 2023 | 2025 |
|---|---|---|---|---|---|
| **Phases** | MT remains the standard for cross-border payments, users train for CBPR+ and prepare back office systems for native ISO 20022 support | | | Transaction Management Platform introduced, coexistence for ISO 20022 & MT | MT format decommissioned for correspondent banking |
| **Debtor agents/ Ordering Customers** | | | | Continue to send MT, Or adopt ISO 20022 based APIs or messaging to send payments and reporting | |
| **Intermediary agents** | All Users continue to send and receive MT messages | | | Continue to receive and send MT, and rely on Platform to retrieve rich data and screen payments or adopt ISO 20022 based APIs or messaging for intermediary payments | All users send, receive and process intermediary payments and reporting using ISO 20022 based APIs or messaging |
| **Creditor agents/ Beneficiaries** | | | | Continue to send MT, Or adopt ISO 20022 based APIs or messaging to receive payments and reporting | |

### NOV 2022
### Transaction Management Platform goes live

# How Banks are implementing **ISO 20022**

Banks are implementing ISO 20022 migration in several stages, as part of a global effort to standardize and improve the efficiency of financial messaging. ISO 20022 is an international standard for financial messaging that provides a common platform for the development of financial message standards. Here are the typical steps and considerations involved in banks' implementation of ISO 20022 migration:

- **Assessment and Planning**

  Banks start by conducting a comprehensive assessment of their existing messaging systems and infrastructure to determine the extent of the migration effort required.

  They assess the impact on various business processes and systems, including core banking, payments, securities, and reporting.

- **Training**

  Banks provide training to their staff and clients to ensure that they understand the ISO 20022 standard and its implications.

  Training may include workshops, seminars, and online resources to familiarize employees with the new message format and associated processes.

- **Data Mapping and Transformation**

  Banks identify the data elements in their current message formats and map them to the equivalent ISO 20022 data elements.

  Data transformation tools and scripts may be developed to convert existing messages to ISO 20022 format.

- **System Upgrades or Replacement**

  Banks may need to upgrade or replace their existing systems, including payment systems, messaging middleware, and data repositories, to support ISO 20022.

  This may involve working with vendors to ensure that their solutions are ISO 20022 compliant.

- **Testing and Validation**

  Extensive testing is crucial to ensure that the ISO 20022 implementation works correctly and aligns with industry standards.

  Banks conduct multiple rounds of testing, including unit testing, integration testing, and end-to-end testing with counterparties and clearing systems.

- **Regulatory Compliance**

  Banks ensure that their ISO 20022 implementation complies with regulatory requirements in their respective jurisdictions.

  They collaborate with regulators and industry bodies to align their migration plans with regulatory timelines.

- **Client and Counterparty Engagement**

  Banks communicate with their clients and counterparties to inform them about the ISO 20022 migration and coordinate the transition.

  They may provide documentation and guidance to assist clients in making the necessary changes to their systems and processes.

- **Parallel Operations**

  During the transition, banks often run parallel operations, processing both legacy and ISO 20022 messages to minimize disruption.

  This allows banks and their clients to gradually migrate to the new standard.

- **Monitoring and Support**

  Banks establish monitoring and support mechanisms to address any issues that may arise during the migration.

  They also provide ongoing support to clients and internal stakeholders as they adapt to the new messaging format.

- **Post-Migration Assessment**

  After the migration is complete, banks conduct a post-implementation review to evaluate the success of the migration, identify any remaining issues, and make necessary improvements.

  ISO 20022 migration is a complex and resource-intensive process, and its scope and timeline can vary depending on the size and complexity of the bank's operations. Collaboration with industry peers, standardization bodies, and technology vendors is essential to ensure a smooth transition to ISO 20022 messaging standards.

# Role & Impact

Regional banks and their worldwide counterparts will be required to make several adjustments to their payment chain, however with significantly increased optionality. As a result, regional banks will also be significantly impacted by the migration. Despite having more time and flexibility to complete their migration than banks based in Europe, these institutions nonetheless need to analyze their prior payment records. By providing insights on their GPI traffic, important currency correspondents, and total traffic, those adopting SWIFT Insights can greatly benefit.

The impact of ISO 20022 on small and medium-sized businesses (SMEs) will be minimal, although an assessment is nonetheless advised given their global engagement. Retail clients won't be significantly affected; they simply need to be aware of the additional data requirements if they use cross-border or RTGS payments.

Below is the representation of impact and efforts in payment market from SMEs to Global banking institutions

## Figure 12: Heatmap of impact by market participant[1]

| Payment Market Participation | Overall Impact/ Efffort | Payments | | | | | | Account Information | | | | Need for Action |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Handling of structural payment party information | Handling of ultimate party information | Handling of structured remittance information | Full support of ISO Messages in clearing | Full support of ISO data in Anti Financial Crime controls | Full support of ISO data in processing/product design | Handling of additional data in account statements & EB | Provision/usage of structured remittance in statements & EB | Provision/usage of ultimate party info in statements & EB | Provision of camt statements/ utilisation in reconciliation | |
| Global Banks | High | M | M | M | M | M | M | M | M | M | M | ▪ Global project required ▪ Assess impact on commercial level |
| Regional Banks (EUR) | High | M | M | M | M | M | O | M | M | M | M | ▪ Project required |
| Regional Banks (non-EUR) | Medium-High | M | M | M | M | M | O | M | M | M | M | ▪ Project required |
| Large Corporates/ Multinationals | Medium-High | M | M | M | | | | M | M | M | O | ▪ Project recommended |
| Small/Medium Enterprises | Low | M | O | O | | | | O | O | O | | ▪ Assessment recommended |
| Retail (when using HVP or x-border payments) | Low to Zero | M | | | | | | O | | | | ▪ Awareness needed (if using X-border or RTGS payments) |

**Key**

M = Mandatory implementation

O = Implementation with some optionality

Source: Deutsche Bank

Source: URL

# Impact on the lifecycle of a payment instruction

## End Customer

- Maintaining compatibility with any payment initiation method for cross-border transfers that is not ISO 20022, such as a local file format, to be able to offer the bare minimum of information.

- Be ready to provide recipients' structured names and addresses.

- Verify that client static data is accessible to payment processing in a structured fashion so that debtor information may be populated.

## Customer Service

- Ensure that online banking and other digital sources can use ISO 20022 message Elements

# Impact on the systems and statements used by customers

- Create a method to display additional payment information as necessary.

- Modifications to the payment information displayed on current account statements.

## Ramifications for Payment Initiation Channels

- Demand or make it possible to collect structured party data for international payments.

- To support the ultimate parties, improve online banking and integration channels.

- Think about enabling the capture of structured remittance information.

- Bolster the UTF-8 standard.

- Expect modifications in the way that the CGI standard supports ISO 20022 pain instructions.

- As some local instruction formats do not support the minimal standards of cross-border payments, expect them to be phased away.

- Improve validation criteria to consider the minimum data requirements for HVPS+/CBPR+.

## Integration and Routing

- Assure a rich and comprehensive data flow to apps for downstream processing.

- Support internal messaging/APIs by at least adhering to the ISO 20022 business elements. Think about the payment-relay scenario.

# Information about payment status

- Think about implementing ISO 20022 feedback message types widely. Payment status feedback for payments handled in ISO 20022 messages is presented on automated report screens

- Enhance older or customised feedback channels to provide accurate payment status information for ISO 20022 transactions

# Payment processing

- **Qualification**

1. Improve qualifying rules so they can handle the new ISO 20022 message's data format

2. Think about the entire ISO 20022 message body, including the additional agent fields.

- **Auto Repair**

1. In addition to corresponding FIN elements, auto-repair rules should be adjusted to support ISO 20022 message elements.
2. Create fresh auto-repair guidelines for fresh message components.

# Manual Repair

1. Choose/implement ISO 20022 components that fall under the manual repair umbrella.
2. choosing a payment method.
3. Develop the capacity to decide on the preferable or necessary payment method by taking into account new ISO 20022 message elements.
4. Picking an intermediary bank, if necessary.
5. Adapt the reasoning for choosing intermediary banks to include more agent fields.

- **Charging Process**

1. Control the complexity of FIN & ISO 20022 charge bearer codes coexisting
2. impose rigorous guidelines on the collection of charging information in PACs messages.

- **Controls**

1. To better screen all increased payment data, extra parties, and agents, improve embargo filtering
2. During the co-existence phase, make sure filtering systems can handle ISO 20022 and SWIFT FIN MT feeds concurrently.
3. Using fine-grained ISO 20022 data items in data-feeds and risk typologies, improve AML Transaction Monitoring.

- **Create Advice**

1. Provide structured party information (Debtor/Creditor) when creating pacs advice messages in accordance with CBPR+ usage requirements

# Impact on Financial Messaging

- Implementation of a translator for incoming and outgoing traffic that still comes from MT.
- DN format adoption for routing, Create a backup strategy.

### RTGS and Local Clearing

- Customised options for moving infrastructure assisting with pacs messages.
- Mode of exchanging messages (Y Copy).
- FIN and the InterAct RMA database coexist.

### Interbank statements and Account Information.

- Provisioning MT & ISO 20022 account statements concurrently
- Be ready to deliver expanded payment details to correspondent banking clients by using the required ISO 20022 camt statements.

### Exceptions and Investigations

- All investigation steps should display ISO 20022 message elements, and new ISO 20022 investigation messages should be supported
- Compared to FIN messaging, evaluate the process changes brought on by a more detailed message portfolio for investigations and exceptions.
- Choose an alternative to the existing free format message usage (MTx99) practise.

### Nostro Recons

- Make it possible for reconciliation engines to use ISO 20022 camt account statements that Nostro Agents have sent you, together with any additional information
- Work with Nostro banks to determine the best method for implementing camt statements
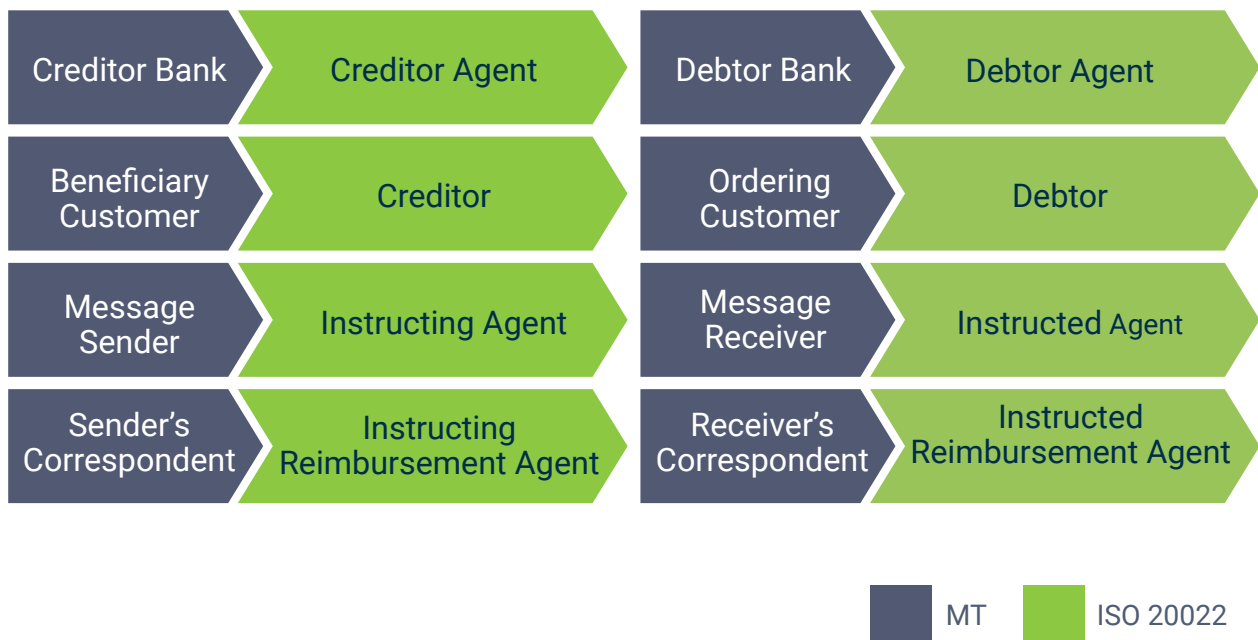
### Pricing, billing and chargebacks.

- Redesign the sender identification procedure for payments obtained through V-shape topology clearing.  Examine the 'OUR'/"DEBT" claim processes for any effects.
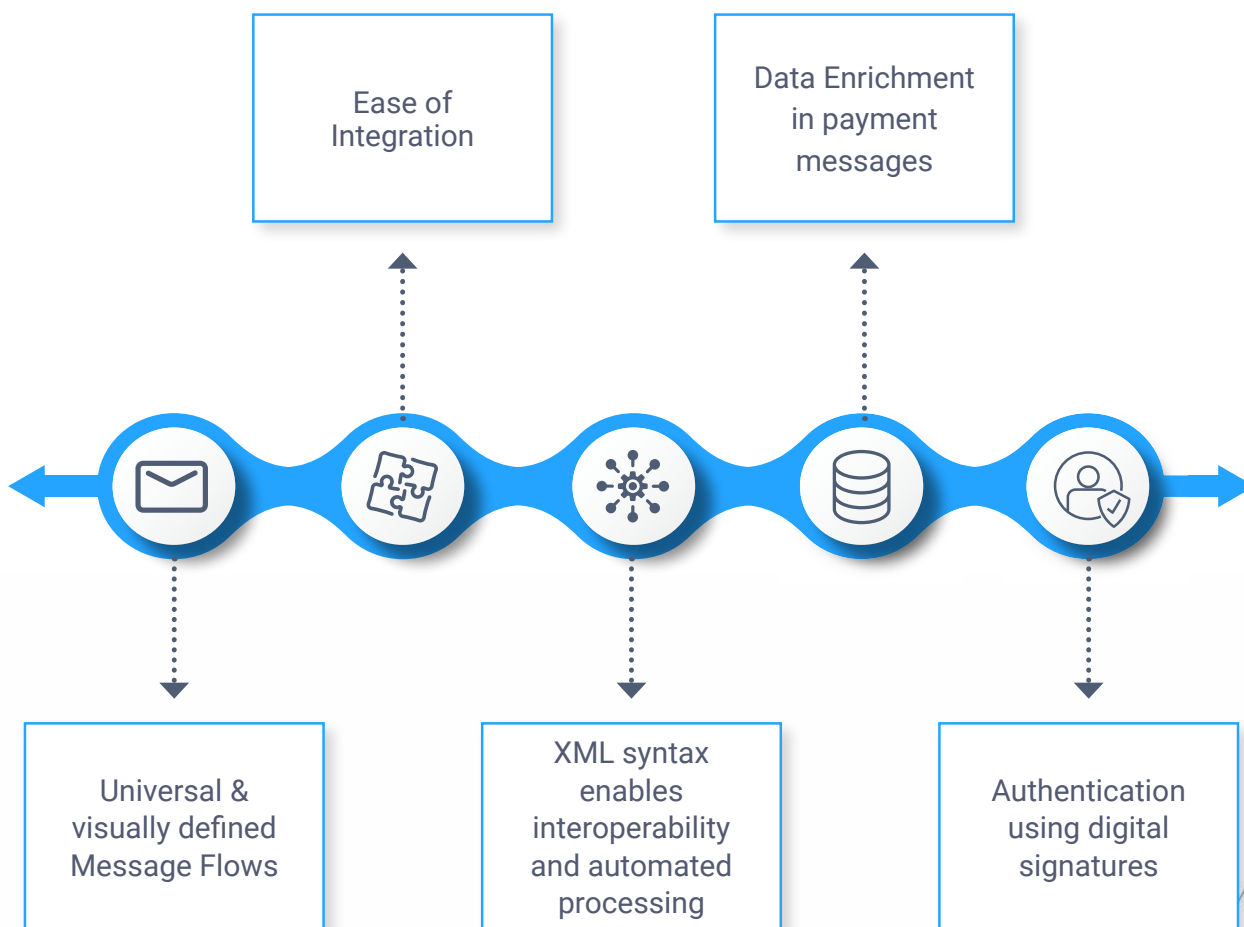
# Impact on Reports and Archives.

- Review the retrieval procedures to determine whether ISO 20022 data items should be used as indexing and search criteria.
- As part of the new standard, archives will record the extra data.
- Payments processed in accordance with ISO 20022 must automatically update existing MIS reports. reports that list the number and recipients of payments made using both MT and MX.

# Terminologies changes from
# ISO 150022 to ISO 20022

| MT | ISO 20022 | MT | ISO 20022 |
|---|---|---|---|
| Creditor Bank | Creditor Agent | Debtor Bank | Debtor Agent |
| Beneficiary Customer | Creditor | Ordering Customer | Debtor |
| Message Sender | Instructing Agent | Message Receiver | Instructed Agent |
| Sender's Correspondent | Instructing Reimbursement Agent | Receiver's Correspondent | Instructed Reimbursement Agent |

■ MT   ■ ISO 20022

# Benefits of **ISO 20022**

- Enhanced Data Richness: ISO 20022 provides a standardized framework for richer, more detailed data exchange, enabling improved transaction accuracy and transparency.

- Interoperability: The universal language of ISO 20022 promotes seamless communication across different systems, platforms, and institutions, eliminating the barriers posed by disparate messaging formats.

- Comprehensive Scope: Beyond payments, ISO 20022 encompasses various financial domains such as securities, trade finance, and foreign exchange, fostering a holistic approach to data exchange.

- Real-Time Settlement: ISO 20022's structured messaging streamlines settlement instructions, facilitating real-time fund transfers and reducing settlement risk.

- Customer Trust: The transparency and visibility enabled by ISO 20022 enhance customer trust through better transaction tracking and timely updates.

- Global Standardization: ISO 20022's adoption across international financial markets fosters harmonization, simplifying cross-border transactions and minimizing complexities.

- Innovation Enablement: The standardized data structure paves the way for the integration of emerging technologies and payment models, driving innovation in financial services.



Ease of Integration

Data Enrichment in payment messages

Universal & visually defined Message Flows

XML syntax enables interoperability and automated processing

Authentication using digital signatures

# How will Altimetrik help here?

Altimetrik, a leading technology solutions provider, stands at the forefront of financial industry innovation by offering a cutting-edge ISO 20022 message migration accelerators. Leveraging their deep expertise in financial technology and extensive knowledge of the ISO 20022 standard, Altimetrik's ISO message migration accelerators have demonstrated considerable worth by simplifying input translations, empowering business users with increased control, and ensuring the preparation of processing components well in advance, thanks to extensive utilization of testing simulators. With Altimetrik's ISO 20022 accelerators, financial institutions can embrace this global standard with confidence, positioning themselves for a future of enhanced efficiency and connectivity in the financial world. Let's take a closer look to gain a deeper understanding of the offering by Altimetrik.

# ISO 20022 Message Simulator

A significant obstacle to the adoption of ISO 20022 is the intricate nature of its message set. The message simulator serves as a tool that simplifies ISO 20022, making it more accessible to developers, testers, and product managers, thus expediting the standard's adoption.

## Standout Attributes

### 1. Explore

- Explore messages such as pacs.xxx or pain.xxx using a simple Excel like interface
- Identify minimum set of attributes that make up a message such as Pacs008, Pacs009, etc.
- Templatize the message for your environment by adding additional 'required'

### 2. Generate

- Generate custom messages with values for minimum set of attributes
- Auto-fill meta data such as '<messageID>' etc.
- Add a custom header with attributes and attribute values specific to the clearing network you are connecting to.

### 3. Review

- Review the custom XML message
- Quickly identify attributes with custom values
- Add or edit custom header

### 4. Manage

- Download the message as XML, xls, xlsx, CSV or JSON
- Save downloaded message files for future reference
- Re-use prior generated message files
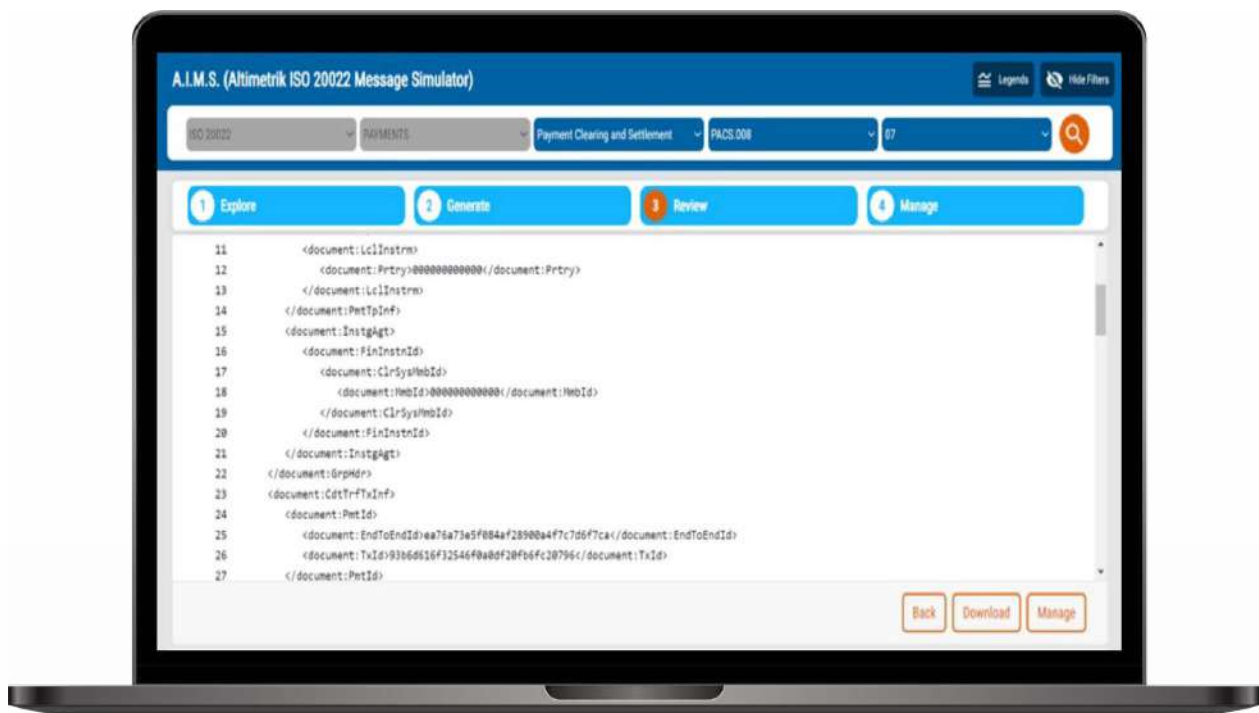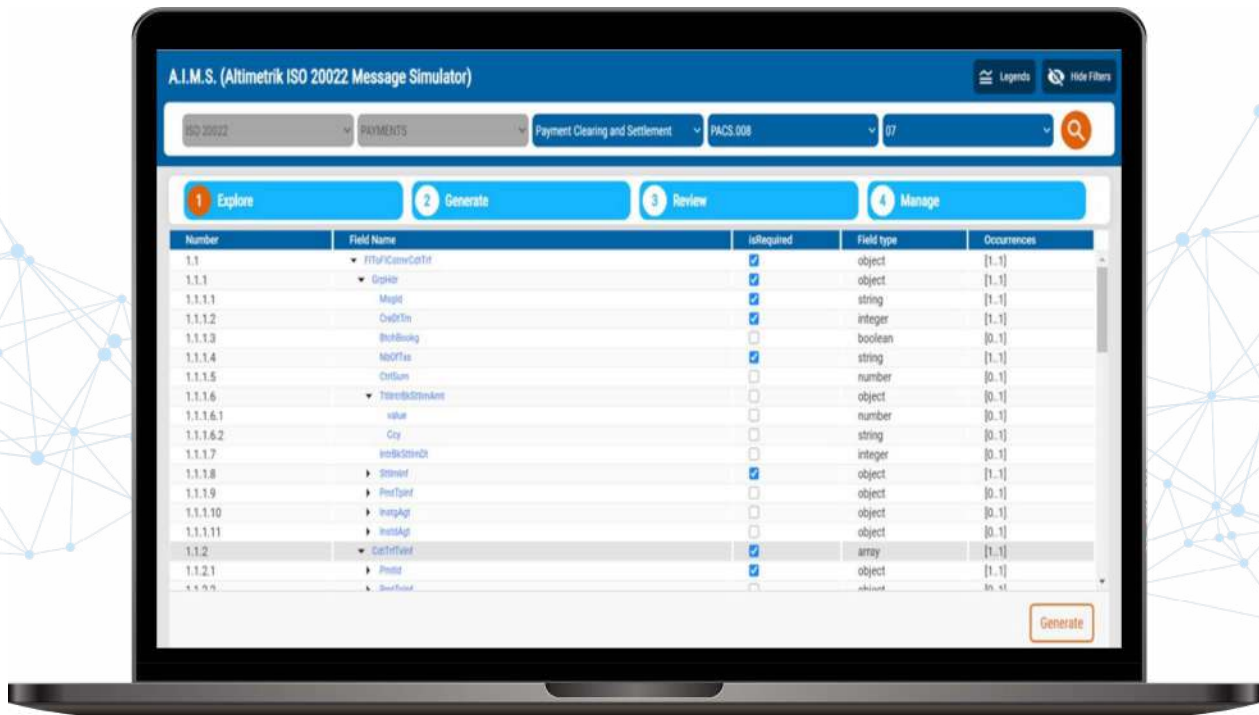
# ISO 20022 Message Mapper

To accelerate the implementation of payment platform testing, we offer automated and simplified message mapping. This service efficiently maps MT format to MX format messages and various other formats used across financial networks. It utilizes a configuration-driven approach for mapping to the target format and message type, streamlining the process and enhancing efficiency.
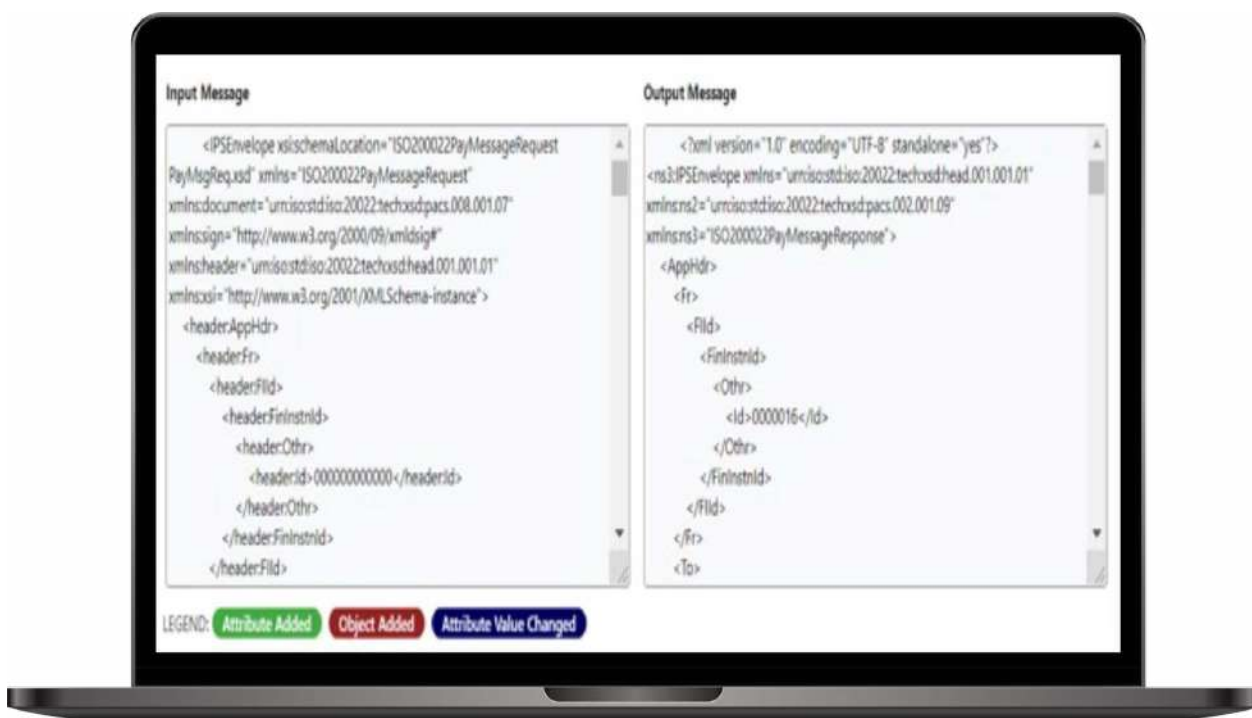


## Instant Payment Accelerator

Instant Payment (IP) is a transformative force in the payments industry. Adapting existing solutions for IP often results in increased operational complexity and costs. Altimetrik's Payment Accelerator is designed as a nimble, lightweight tool that provides a head start in constructing Instant Payment processes by extending existing solutions.

## Standout Attributes

1. Support multiple IP flow for a country(s)

2. Light weight event driven payments processor

3. Build on Open source, future ready and cloud agnostic technologies

4. Configuration driven build and integration of IP flows in the framework
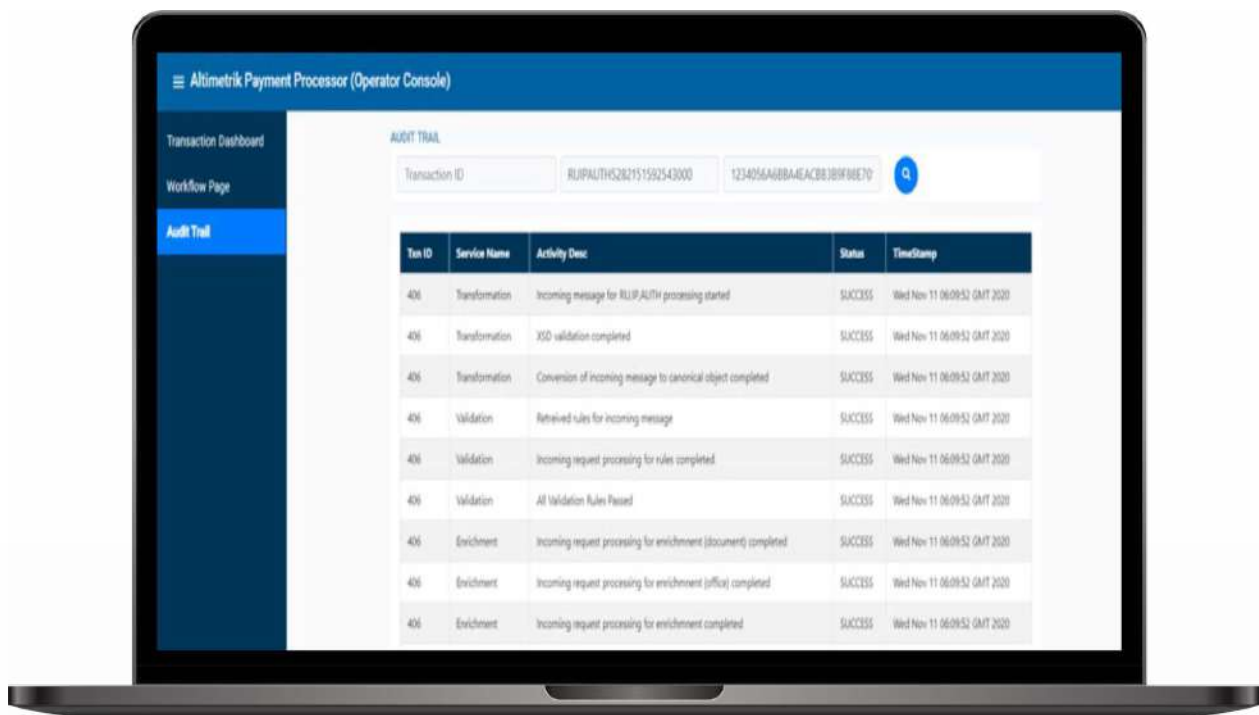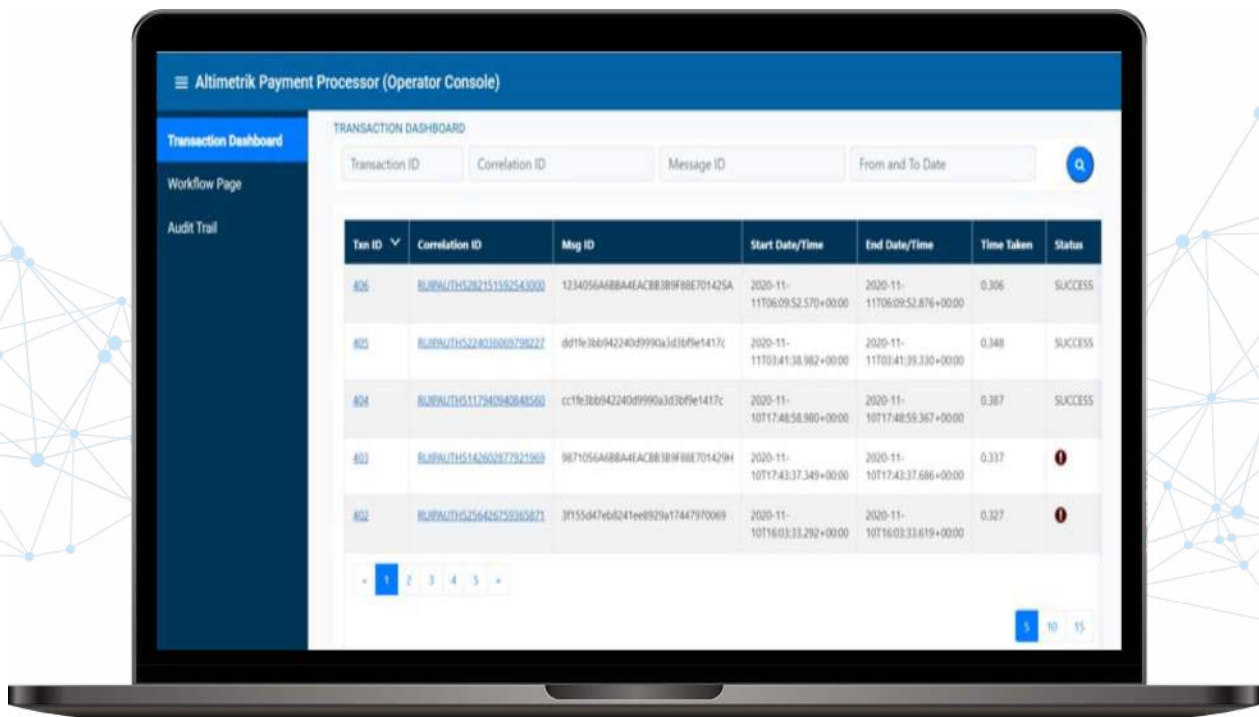
# Benefits of Atimetrik's ISO 20022 message migration accelerators

These tools serve as centralized hubs for managing the migration process and provide a range of features and capabilities to assist banks, financial institutions, and businesses in their transition to ISO 20022. Here are some key characteristics and functionalities of ISO 20022 migration aggregator tools:

- **Message Transformation and Conversion:** These tools offer robust message transformation capabilities, allowing users to convert messages from legacy formats (e.g., SWIFT MT messages) into ISO 20022 messages. They typically provide mapping and translation functionality to ensure data consistency.

- **Data Mapping and Validation:** ISO 20022 migration aggregator tools enable users to map data elements from their existing message formats to the ISO 20022 format. They often include validation features to ensure that converted messages adhere to ISO 20022 schema and rules.

- **Schema Management:** These tools help manage ISO 20022 message schema versions and ensure compliance with the specific version of the standard required by the user or regulatory authorities.

- **Testing and Simulation:** Users can conduct testing and simulation of ISO 20022 messages within the platform, allowing for thorough validation of message flows and identifying potential issues before migration.

- **Error Handling and Reporting:** They offer error identification and reporting features to help users quickly identify and resolve issues during the migration process. Detailed error logs and reports assist in troubleshooting.

- **Message Repository and Management:** These tools often include message repository and management capabilities to store, search, and retrieve ISO 20022 messages. This helps with auditing, compliance, and traceability.

- **Integration with Core Systems:** ISO 20022 migration aggregator tools integrate with a bank's core banking systems, payment systems, middleware, and messaging networks to ensure seamless message processing within the existing infrastructure.

- **Compliance Monitoring:** They assist in monitoring and ensuring compliance with regulatory requirements related to ISO 20022 adoption, generating compliance reports and documentation as needed.

- **Client and Counterparty Connectivity**: These tools facilitate connectivity with clients, counterparties, and clearing systems by providing features for message transformation, routing, and interoperability.

- **Workflow Management:** Some platforms offer workflow and process management capabilities to orchestrate and automate various stages of the migration project, from message mapping to testing and deployment.

- **Version Control:** They help manage different versions of ISO 20022 message definitions and ensure that messages align with specific versions of the standard.

- **Collaboration and Communication:** ISO 20022 migration aggregator tools often include features for collaboration and communication among stakeholders involved in the migration project, such as internal teams, clients, and counterparties.

# Conclusion

The promise of ISO 20022 extends beyond technical advancements. Financial institutions can provide their customers with enhanced visibility into transaction status, bolstering trust and fostering improved client relationships. Moreover, businesses can access real-time insights that inform their decision-making processes, allowing for more agile responses to market changes and opportunities.

However, embracing ISO 20022 is not without its challenges. The transition requires a comprehensive strategy, involving technology upgrades, data mapping, staff training, and stakeholder collaboration. Yet, the investment is justified by the substantial benefits that await, including reduced operational costs, increased competitiveness, and the ability to tap into emerging payment models and technologies.

**A**ltimetrik is a leading globally trusted pure-play digital enablement company accelerating digital business growth with speed, scale, and consistency. Witnessing a growth of 50% y-o-y over the last few years, Altimetrik leverages agile and pragmatic approach that focuses on bite-sized outcomes essential to accelerate business growth. The company's digital business methodology provides a blueprint to develop, scale, and launch new products to market faster without disruption. Over 5,500 employees including practitioners with software, data, and cloud engineering expertise create a vibrant culture of innovation and agility that enhances team performance, modernizes technology, and builds new business models. Altimetrik follows a unique approach of employing a Digital Business Platform (DBP) enforcing the Digital Business Methodology (DBM) across the enterprise for consistency and scale. The company actively supports education, sustainability, and social welfare initiatives, making a positive impact in the communities they serve. For more information on Altimterik, please visit https://altimetrik.com/