ISO 20022:

the new standard
in a complex environment

The world of finance is currently undergoing the most profound transformation since the introduction of the first core systems. One of the most important elements of this transformation is the new messaging format for cross-border transfers, which will enter into force in March 2023.

Its foundation is the international standard ISO 20022 Financial Services. It is based on an XML structure, which significantly improves the quality of data in the entire payment ecosystem and allows for its enrichment. In the financial industry, it is not only used in payments but also in card transactions, currency exchange as well as trading securities and services.

By creating a common language and model for payment data, ISO 20022 significantly improves transparency of transactions and increases their efficiency. In addition, richer and more structured data will open new possibilities for personalization and improvement of customer experience in banking.

Author:

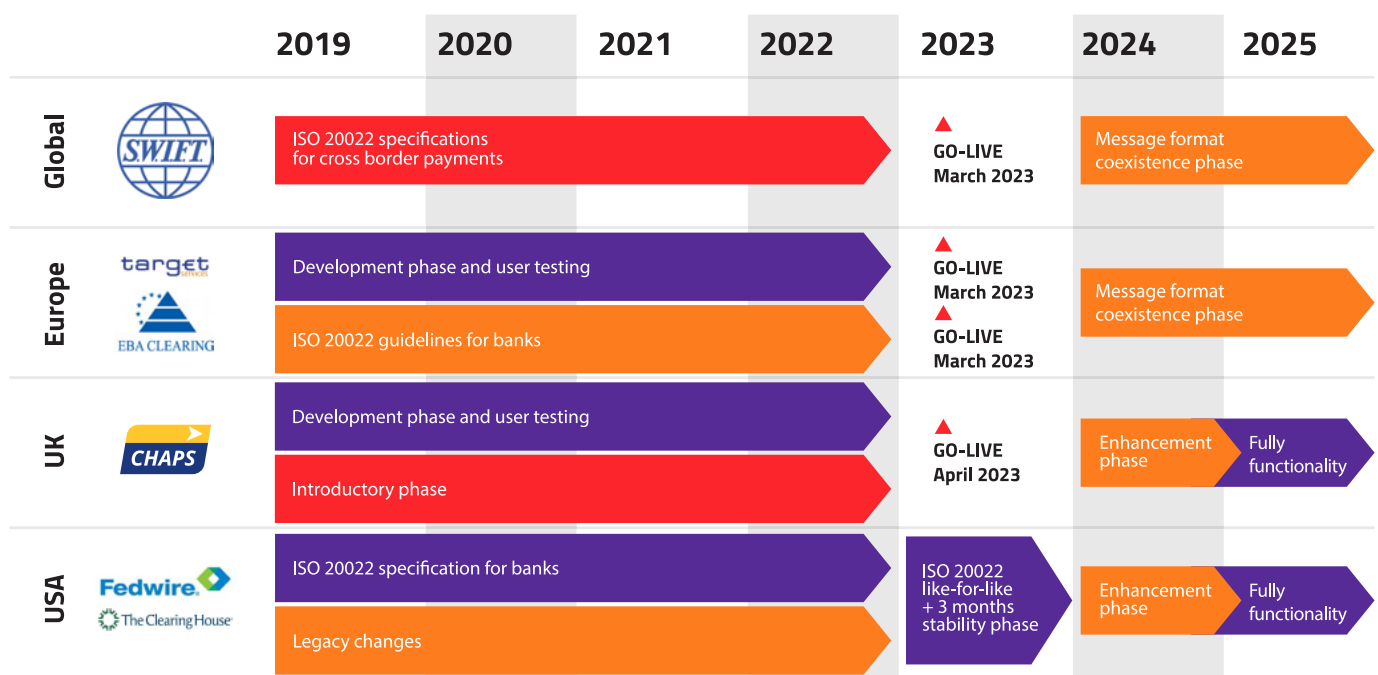**Jacek Nowak**
CEO at CCA Europe

The final stretch to ISO 20022

Initially intended for June 2022, the date of migration to ISO 20022 was later postponed to November 21, 2022, mostly due to COVID-19. However, this deadline also proved insufficient and SWIFT, at the request of financial institutions from all over the world, once again delayed the launch date. The deadline, as announced by SWIFT, is now March 2023 for Europe, except for the UK where it is April 2023.

In the US, the implementation date has been delayed even further. FedNow, a new service offered by US Federal Reserve Banks, will start processing ISO 20022 messages in mid-2023. However, Fedwire, America's national payment system, won't switch to the new XML format until March 2025.

The deadline for disabling the old SWIFT MT standard is 2025.

Implementation schedule of XML ISO 20022 standards for individual payment systems.

		2019	2020	2021	2022	2023	2024	2025
Global	SWIFT	ISO 20022 specifications for cross border payments				▲ GO-LIVE March 2023	Message format coexistence phase	
Europe	target / EBA CLEARING	Development phase and user testing				▲ GO-LIVE March 2023	Message format coexistence phase	
		ISO 20022 guidelines for banks				▲ GO-LIVE March 2023		
UK	CHAPS	Development phase and user testing				▲ GO-LIVE April 2023	Enhancement phase	Fully functionality
		Introductory phase						
USA	Fedwire / The Clearing House	ISO 20022 specification for banks				ISO 20022 like-for-like + 3 months stability phase	Enhancement phase	Fully functionality
		Legacy changes						

Changes related to the implementation of the XML standard apply to all systems, processes, and technologies of banking architecture. Their scope could require an average of two or even three years of work, involving multiple IT teams. Will banks and corporate clients, as well as their partner institutions, manage to successfully migrate and adapt their systems in time for native support of ISO 20022?

It all depends on the adopted strategy. To make it by March 2023, banks must solve many dilemmas at once. They need to meet regulatory and market requirements in time while simultaneously preparing for different future business scenarios – all in the face of the inevitable pressure to optimize the budget.

According to research company Celent, 74% of banks are looking to cut costs while trying to become more agile. As a result, they approach the migration to ISO 20022 in many, often conflicting, ways.

Will banks and corporate clients, as well as their partner institutions, manage to successfully migrate and adapt their systems in time for native support of ISO 20022?

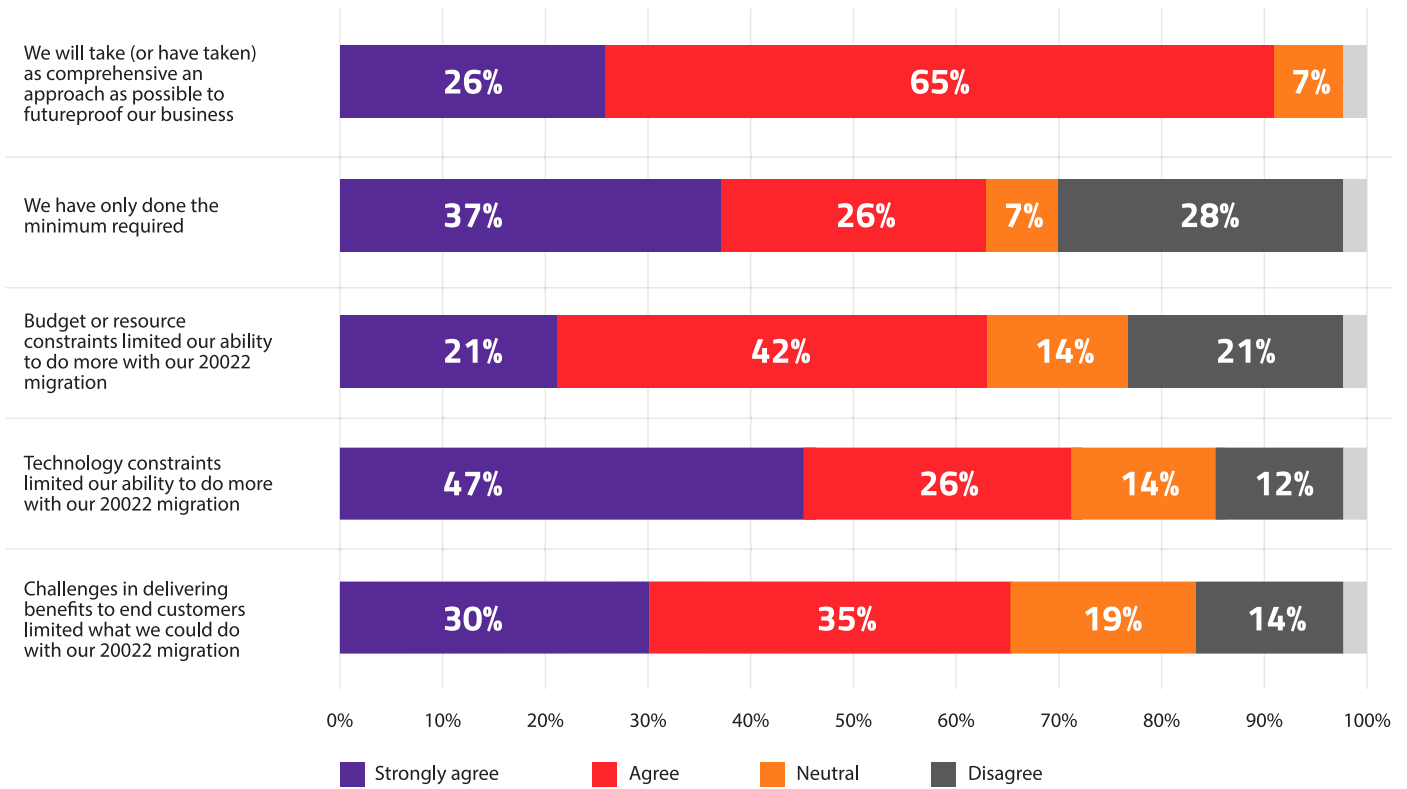# Big banks struggle to meet ISO 20022 migration standards

According to Celent's report „Race to ISO 20022," banks can be categorized into several groups in terms of migration readiness and the degree of advancement of works

The first group are leaders who will do more than the bare minimum by March 2023. The second group will be ready to process the new messages on time, but only at the minimum level. (Celent experts believe most of the banks surveyed by them fall into this category.) The authors of the report note that the respondents strongly declared that they would or had approached the project as comprehensively as possible to make their business future-proof (92% of respondents agreed or strongly agreed with this statement). However, when asked about specific tasks, 63% of respondents said their bank had only completed what was required, with only 30% exceeding the minimum threshold.

As the authors of the report note, implementation of only the required minimum of works was declared mainly by the largest banks with assets exceeding USD 500 billion (82% of respondents). According to Celent, it proves that banks with the largest market share can gain the most, but they face the toughest migration challenges due to their outdated IT systems, which, in some cases, may be over 30 years old. Adapting to the new standard will entail considerable work and costs. Indeed, the banks acknowledged that the issue of funding also played a significant role in their approach to migrating to ISO 20022. 63% of the banks agreed that budget constraints had a major impact on the scope of their IT works.

# How do banks approach the migration to ISO 20022?
(Source: Celent, 2022)

Statement	Strongly agree	Agree	Neutral	Disagree
We will take (or have taken) as comprehensive an approach as possible to futureproof our business	26%	65%	7%	
We have only done the minimum required	37%	26%	7%	28%
Budget or resource constraints limited our ability to do more with our 20022 migration	21%	42%	14%	21%
Technology constraints limited our ability to do more with our 20022 migration	47%	26%	14%	12%
Challenges in delivering benefits to end customers limited what we could do with our 20022 migration	30%	35%	19%	14%

Legend: Strongly agree / Agree / Neutral / Disagree

Source: Celent, 2022. The survey gathered insights from 214 senior executives at banks with a minimum asset size of USD 50 billion from 28 countries across Europe, North America, LATAM, and APAC. Fieldwork ran between May and June 2021.

In the report, Celent indicated a third group of financial organizations: those who believe they have done „enough" but will ultimately not be ready, or those who simply won't get the job done in time. Both of these subgroups will fail to smoothly exchange ISO 20022-compliant messages. According to Celent, this third group is more challenging to identify, especially those who believe they have done enough.

The state of preparation of the banking world for ISO 20022 outlined by Celent experts shows that the common language and model for payment data will initially be used only to a basic extent. What exactly is the technical difficulty that is causing so many problems for banks to have already delayed the implementation of the new standard twice?
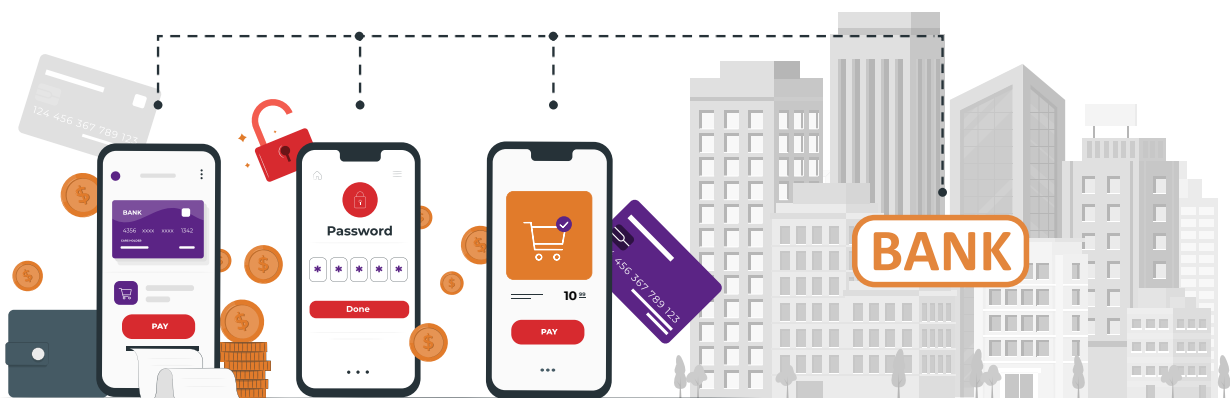
MT to MX conversion:
what exactly is the challenge?

Given the huge number of financial institutions that still use the ISO 15022-based MT messaging format, banks will have to support both MT and MX formats during the transition period. For example, TARGET2 has moved to the MX format, but participating banks are still communicating using MT.

Many banks also have legacy systems that can only handle MT messages, so MT/MX conversions are required within their banking ecosystems. Therefore, the most urgent aspect of implementing ISO 20022 is the reliable and precise two-directional conversion between MT and MX formats.

While the conversion from the new to the old format (MX to MT) is relatively easier, conversion from old to new (MT to MX) requires advanced knowledge of the relationship between the individual message elements.

The new message (MX) has a multilevel structure, and its elements can be easily and unambiguously aggregated and assigned correctly to the old MT format. On the other hand, the information clusters in the old MT format do not always have clear rules for interpreting ("unpacking"). Meanwhile, the system that converts the message must know how to break down each incoming information into individual components, and then correctly assemble and forward it so as not to lose the meaning. Otherwise, errors will occur.
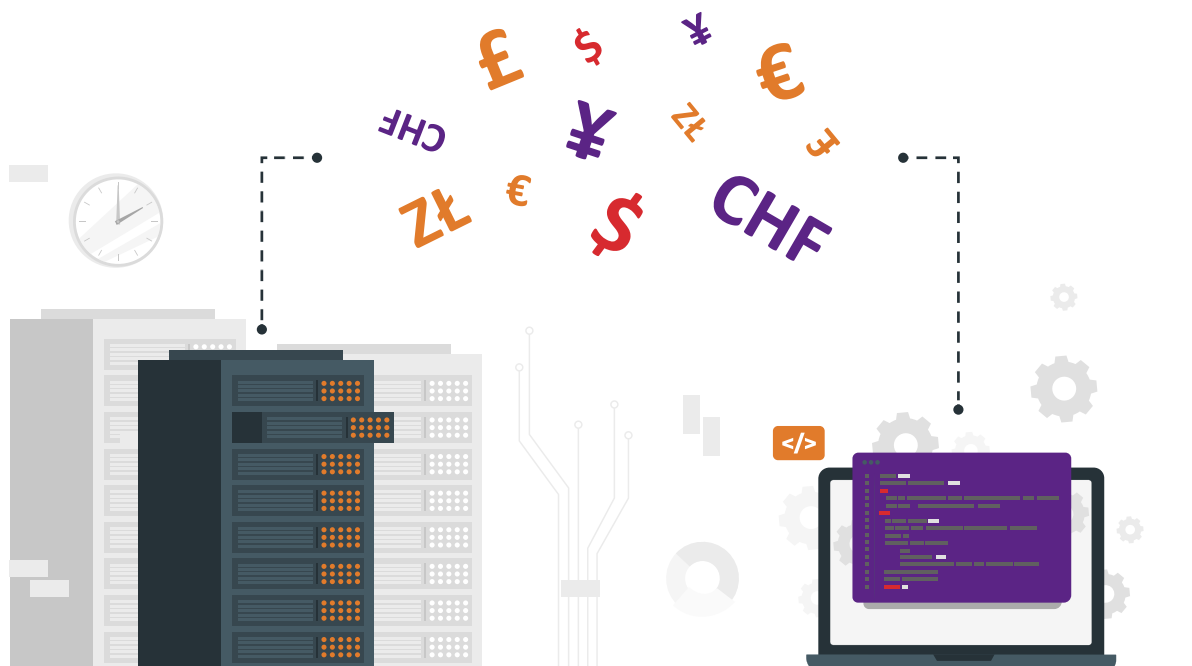
Example:

Bank (BIC: **EXABNL2U**) from Utrecht, The Netherlands, received a transfer order from its client **ACME NV** (**Amstel 344, Amsterdam**) to transfer 12,500 USD on March 29, 2023, from account no. 8754219990.

```
1 ▼ <CdtTrfTxInf>
2        <IntrBkSttlmAmt Ccy='USD'>12500</IntrBkSttlmAmt>
3        <IntrBkSttlmDt>2019-10-29</IntrBkSttlmDt>
4 ▼        <Dbtr>
5              <Nm>ACME NV.</Nm>
6 ▼          <PstlAdr>
7                  <StrtNm>Amstel</StrtNm>
8                  <BldgNb>344</BldgNb>
9                  <TwnNm>Amsterdam</TwnNm>
10                 <Ctry>NL</Ctry>
11             </PstlAdr>
12         </Dbtr>
13 ▼     <DbtrAcct>
14 ▼         <Id>
15 ▼             <Othr>
16                  <Id>8754219990</Id>
17             </Othr>
18         </Id>
19     </DbtrAcct>
20 ▼     <DbtrAgt>
21 ▼         <FinInstnId>
22                  <BIC>EXABNL2U</BIC>
23             </FinInstnId>
24         </DbtrAgt>
25 </CdtTrfTxInf>|
```

▲ MX   ▶ MT

```
1   :32A:091029USD12500
2   :50F:/8754219990
3   1/ACME NV.
4   2/AMSTEL 344
5   3/NL/AMSTERDAM
6   :52A: EXABNL2U
```

(!) In the new MX message (see bottom left), each value is contained in a separate element that has a unique label to identify and interpret its value. In the old MT format (right), the same values are much more difficult to interpret.

Does an MT/MX SWIFT converter solve the problem of complex conversion?

As shown above, preparing legacy systems for two-way messaging in the ISO 20022 standard requires redefining the system logic in the entire IT infrastructure. To relieve the financial and technological burden of such changes, in the transition period of 2023–2025 banks can resort to an ad hoc solution – a message converter.

A number of message translators supporting validation, translation, and enriching any standard or format have already appeared on the market. One of them is a native SWIFT converter, implemented as a standalone product or integrated with the SWIFT communication interface (IPLA, AMH, SIL). The SWIFT translator manages and maintains SWIFT MT and ISO 20022 libraries, as well as predefined translation libraries such as CBPR+ and TARGET2. However, SWIFT only supports its users by providing them with pre-processed MT messages, and the prerequisite for the full use of the new format is the ability of individual banks to receive these messages in their systems.

Ad hoc solutions are a dead end

With the launch of ISO 20022, banks face an operation much larger than any regulatory projects implemented in the last 10 years, including SEPA, which cost over £10 billion to implement in the UK alone.1 Can the mandatory and costly implementation of ISO 20022 be approached in a way to get the most business benefits from it? Can technological changes be leveraged to leapfrog the competition and bring additional revenue?

Modern banking is no longer based on simple transaction processing but on providing the best-in-class customer experience. With the introduction of ISO 20022, banks will be able to obtain rich data on both the financial decisions of their clients and on market dynamics.

However, such benefits cannot be achieved with "just" an MT/MX converter. A future-proof technological solution is needed. An **independent MT/MX converter application, integrated with the core system, can be enriched with the** **possibility of processing information** in the spirit of data-driven banking. A good example of such a solution is our proprietary system, Payres.

# How Payres supports ISO 20022 migration

MT/MX CONVERTER

With Payres, systems that are not quite ready to migrate to ISO 20022 can still easily receive messages in the new MX format. Payres intercepts incoming MX messages, converts them using the rules engine to MT format, and forwards them to MT-compliant bank systems. Then, the process is reversed. The MT message coming from the banking system is processed, converted to the MX format, and sent to the SWIFT gateway.

Individual Payres instances can be adapted to ISO 20022 compatibility at the level of specific communication channels. Banks can decide which system will receive which format. In this way, Payres could be a time buffer for banks, a way to extend the system adaptation deadline.
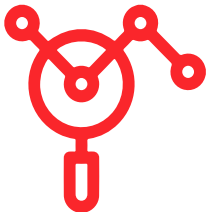
SUPPORT FOR THE TESTING PROCESS

Payres accompanies the process of implementing subsequent stages of ISO 20022 so it can efficiently support the processing and analysis of many test cases in a short time. Processing such cases manually would be too time-consuming, but with Payres, the process can be significantly accelerated and streamlined. When translating messages from the old to new format, Payres collects information that can be anonymized and reused in the automatic ISO 20022 readiness tests of individual applications.

With a view to accelerating the work of testers and also reducing costs for companies, we integrated the proprietary PATT application with one of the most popular solutions for testing web applications, Selenium. From the point of view of the end user, integration enables a comprehensive validation of the system, ensuring a reliable representation of the banking process and verification of the correct exchange of messages.

# How PAYRES supports the migration to ISO 20022

SUPPORT FOR CORPORATE CUSTOMERS

The implementation of the new standard applies not only to banks, but also to their corporate clients. Major manufacturers or service providers automatically process tens of thousands (or more) of international transactions per month. Of course, corporate accounting and billing solutions must also be adapted to the new message format.

With Payres, a bank can also offer this additional migration buffer to its corporate clients. If several of them require additional support in translating messages to the new format between their accounting systems and their bank's core system, Payres can also handle this.
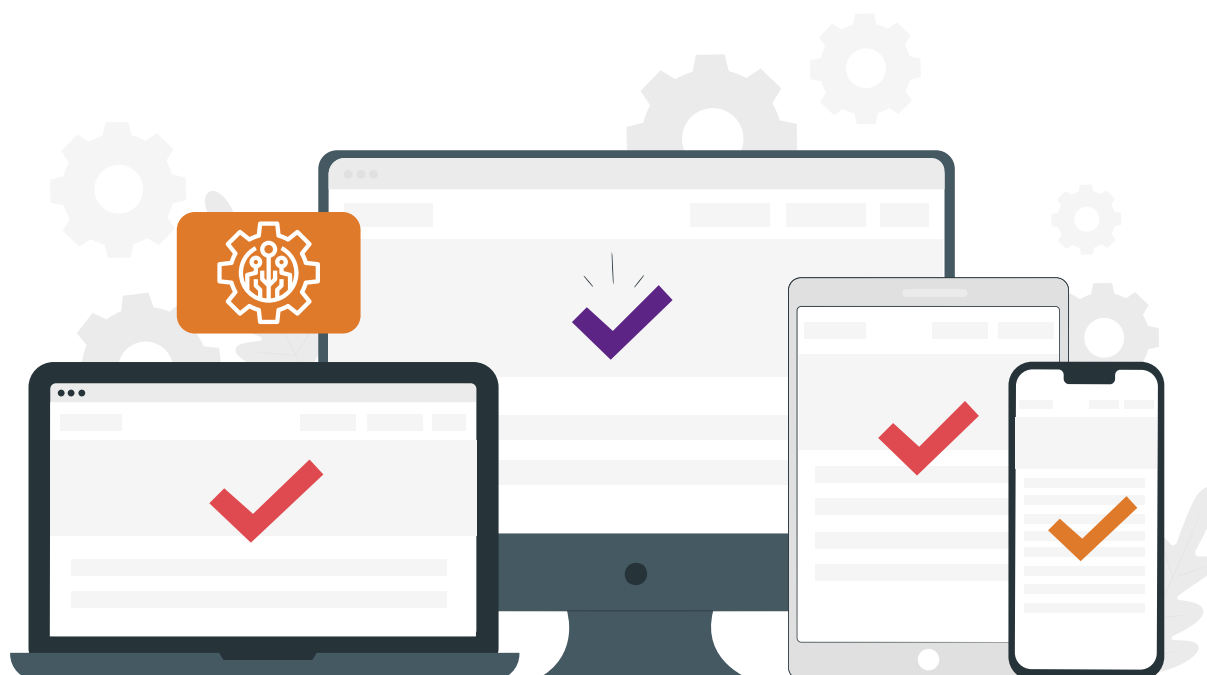
New quality in banking

Payres is more than an efficient MT/MX converter. The solution additionally processes data exchanged between the bank's core system and applications in real time. In this way, the bank can launch a variety of additional processes, taking the next step on the path towards implementing a data-driven banking concept.

With properly designed business rules, Payres can intercept additional information contained in translated messages and trigger desired actions in external systems. When its role as an MT/MX converter in the central system interface layer is fulfilled, it can still process data and activate it in real time. This makes Payres suitable even for organizations that plan to implement MX messaging in the core system itself.

They will also be able to use the new communication standard to their advantage when additional information becomes available. In the mature phase of ISO 20022 implementation, when messages are enriched with additional information, Payres will use this new data to create added value for the bank.

TRANSLATE

INCOMING MESSAGE

BANK A

Rules

Engine

YOUR BANK

OUTGOING MESSAGE

TRANSLATE
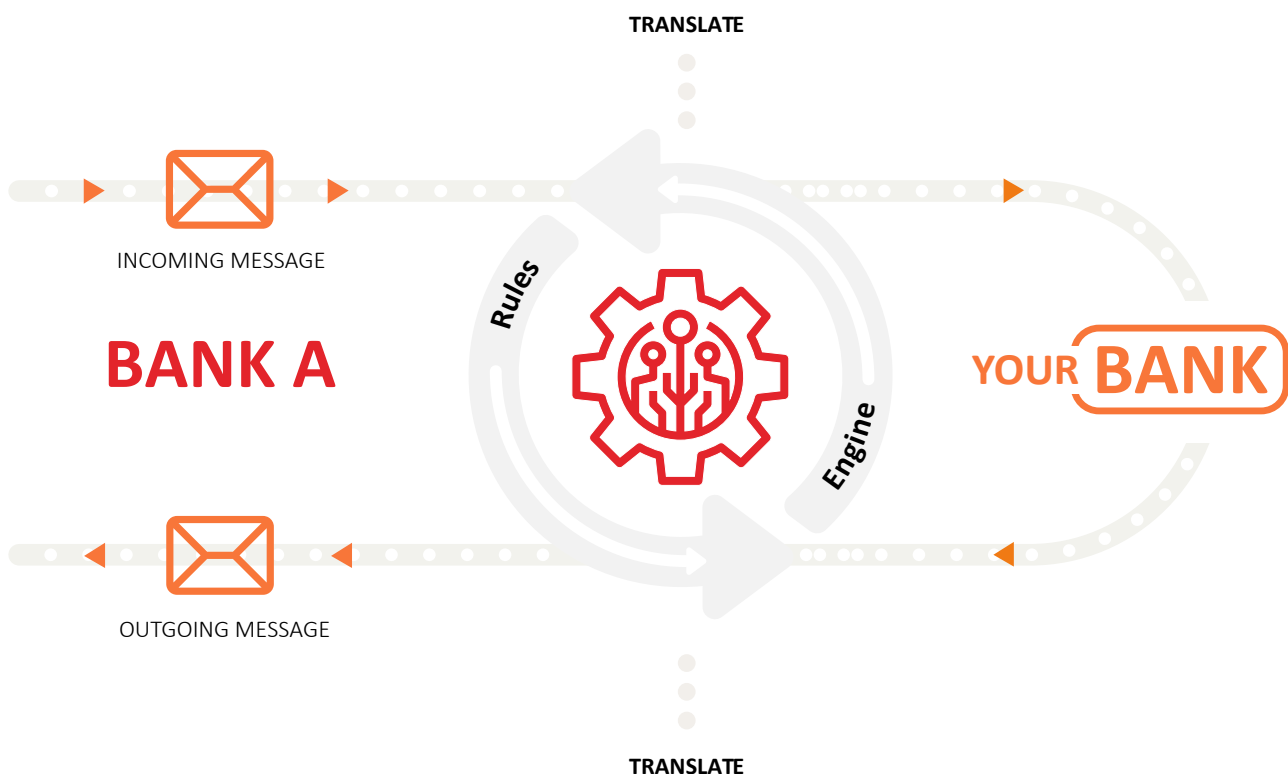
A temporary converter is the perfect solution to keep pace with global banking changes. Payres is a future-proof tool that secures both the initial and subsequent stages of ISO 20022 implementation. Banks just need to add business rules that will activate new data exchange processes. Payres can cope with any business scenario, as systems, messages, and even individual pieces of information contained in a message can all be adjusted using business rules.

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ISO 20022 is an industry standard, and banks are obliged to comply with it when it is in force. Despite the initial migration hardships, we would like to think of it as a great opportunity for financial institutions! Implementation work related to the new standard can be used as a catalyst to strategically exploit the benefits of the new standard and create added value.

If you need an experienced implementation team, or wish to consult our analysts, feel free to contact us.

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CCA Europe

For over 16 years, CCA Europe has been providing specialized software for the financial sector in Poland and globally. We have established an in-house team dedicated to instant payments and ISO 20022. Together, we consider how best to prepare our clients and business partners for the upcoming changes. As a team of over 30 experienced specialists, we have carried out comprehensive core banking system development projects, payments, card transactions, internet and mobile applications, as well as automation and tests. Our company specializes in card and payment systems. We have had successful collaborations with major banks such as Credit Agricole, ING, and Vietin Bank in several countries.