ISO 20022:

a new standard for a complex environment

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The financial industry around the world is undergoing the most profound transformation since the launch of the first core systems. One of the most important elements of this transformation is the new cross-border transfer format, which goes into effect in November 2022.

The foundation of the new and more flexible standard is the international ISO 20022 Financial Services standard. It is based on an XML structure that significantly improves the quality of data throughout the payment ecosystem and allows its enrichment. In the financial industry, it is used not only in the area of payments but also card transactions, currency exchange, and trading services.

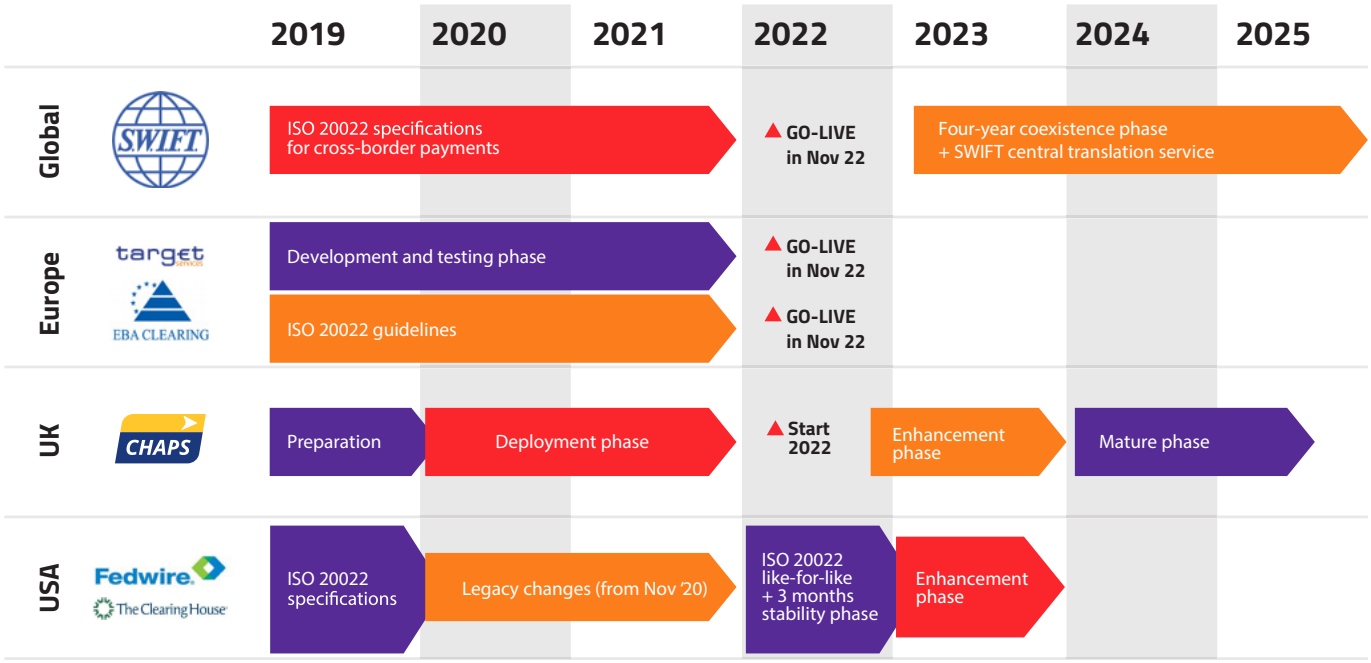
By creating a common language and payment data model, the ISO 20022 standard significantly improves transaction compliance and efficiency. Moreover, its richer and more structured data will open up new opportunities for personalization and user experience.

The ISO 20022 clock is ticking

Due to the epidemiological situation, the migration date for the ISO20022 standard has been postponed until **November 21, 2022**. This decision was made to allow financial organizations additional time to successfully migrate and integrate their IT environments. **The deadline to switch off the old SWIFT standard (ISO 15022) has been set for 2025.**

Do tego czasu banki i instytucje współpracujące, a nawet klienci korporacyjni muszą przygotować swoje systemy backoffice do natywnej obsługi ISO 20022. Zmiany związane z wdrożeniem standardu XML dotyczą zatem wszystkich systemów, procesów i technologii architektury bankowej. Zakres wymaganych zmian może wymagać średnio nawet dwóch lub trzech lat pracy i zaangażowania wieloosobowych zespołów IT.

Implementation schedule for the XML standard in individual payment systems



Adapting infrastructure to the new standard presents a number of challenges. Banks must clearly define a long-term migration strategy and perform a comprehensive impact assessment. The testing process is also a serious challenge. The number of test cases banks will need to prepare and verify to avoid negative impacts of the transition to ISO 20022 on customers and operations is huge. Banks are facing an operation much larger than any regulatory project in the last 10 years, including SEPA.

MT to MX conversion: what's the challenge?

Given the large number of financial institutions that still use ISO 15022 messages (MT format), banks will need to support both MT and MX formats during the 2022-2025 transition period. For example, TARGET2 has moved to the MX format, but participating banks still communicate using the MT format.

Many banks also have legacy systems that can handle multiple MT messages, so MT/MX conversions are required internally. Therefore, the most pressing aspect of ISO 20022 implementation is the reliable and accurate conversion between MT and MX formats in both directions.

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

The "new" message (MX) has a multi-level, organized structure, which allows easily and unambiguously to aggregate its elements and assign them correctly to the "old" MT format. On the other hand, the data 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 single components and then properly recreate it in the default format to lose any information and certainly not generate an error.

Example:

Bank (BIC: **EXABNL2U**) from Utrecht, The Netherlands, received a transfer order from his client **ACME NV (Amstel 344, Amsterdam)** to transfer **12,500 USD on October 29, 2019** from their account, no. **8754219990**.


```
<CdtTrfTxInf>
    <IntrBkSttlmAmt Ccy='USD'>12500</IntrBkSttlmAmt>
    <IntrBkSttlmDt>2019-10-29</IntrBkSttlmDt>
        <Dbtr>
            <Nm>ACME NV.</Nm>
            <PstlAdr>
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                <BldgNb>344</BldgNb>
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                <Ctry>NL</Ctry>
            </PstlAdr>
        </Dbtr>
        <DbtrAcct>
            <Id>
                <Othr>
                    <Id>8754219990</Id>
                </Othr>
            </Id>
        </DbtrAcct>
        <DbtrAgt>
            <FinInstnId>
                <BIC>EXABNL2U</BIC>
            </FinInstnId>
        </DbtrAgt>
</CdtTrfTxInf>
```

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

In the "new" MX message (see below 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.

More than a MT/MX converter

Preparing legacy systems for ISO 20022 messaging requires redefining the entire IT infrastructure. Any change of this caliber is a multi-step operation requiring investments that banks must quickly discuss with stakeholders and partners.

In the interim period, banks can turn to a temporary solution: a message converter. There are already converters available that support the validation, translation, and enrichment of any messaging standard or format into another. One of them is a native SWIFT converter, either implemented as a standalone product or integrated with a 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+ or Target2.

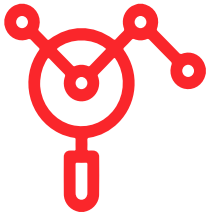
However, the implementation works to bring the infrastructure up to ISO and implementing an MT/MX converter can also be used to increase market advantage. Just reach for a future-proof technology solution: an independent MT/MX converter in the form of a business application integrated with the core system. It can be enriched with additional information processing features, in the spirit of Data Driven Banking. **A good example of such a solution is our proprietary system, Payres.**

How PAYRES supports the migration to ISO 20022

MT/MX CONVERTER

With Payres, systems that are not ready by the end of 2022 can easily receive messages in the new format. Payres intercepts incoming MX messages, transforms them to MT format using a rules engine, and forwards them to the bank's unmodified systems. The reverse process occurs when the message leaves the core system. The MT message is processed and converted to MX format, to be sent to the SWIFT gateway.

Individual Payres instances can be customized for ISO compatibility at the level of specific communication channels, to decide which system receives which format. In this way, Payres act as an extension of the deadline for banks to align their systems, even if their ISO 20022 implementation project timeline spans beyond the year 2022.



TEST SUPPORT

Payres accompanies the ISO milestone implementation process, so it can serve as a powerful support for processing and analyzing a large number of test cases in a short period of time. Manual preparation of such cases would take a lot of time, but with Payres, the process can be completed much faster and more efficiently. When translating from the old to the new format, Payres collects messages that, once anonymized, can be reused in automated ISO 200022 readiness testing of individual applications.

To speed up the testing works, but also to reduce business costs, in the last quarter of 2020, we integrated our proprietary PATT application with one of the most popular web application testing solutions, Selenium. From the end user's point of view, the integration enables extensive system validation, ensuring a reliable representation of the banking process and verification of correct message exchange.

How PAYRES supports the migration to ISO 20022

CORPORATE CUSTOMER SUPPORT

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

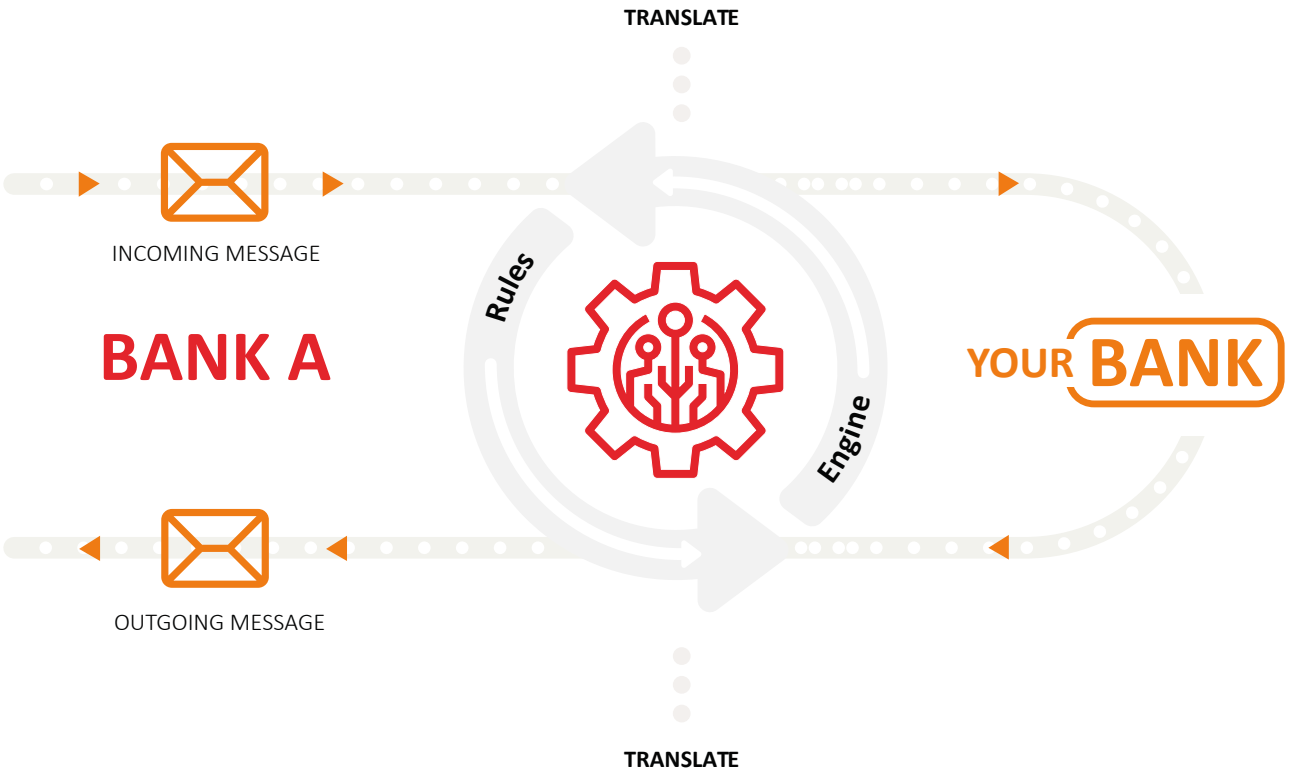
Thanks to Payres, your bank can also offer extra time for migration to its corporate clients. If they require additional support in translating messages to a new format between their accounting systems and your bank's core system, this can also be handled with Payres.

New quality in banking

Payres is more than an efficient MT/MX converter. Our solution processes data flowing between the core banking system and applications in real time. In this way, the bank can activate additional processes, taking another step on the path towards the Data-Driven Banking concept.

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

They will also be able to use the new communication standard to their advantage as additional information becomes available. In the next phase of ISO 200022 implementation, when the messages are enhanced with additional data, Payres will use them to create added value for the bank.



A temporary converter is the perfect solution to ensure that you don't lose your voice in global banking when the new communications standard is implemented in 2022. However, Payres is a future-proof solution that secures not only the initial, but also the subsequent stages of ISO 200022 implementation. Simply add business rules that trigger new data exchange processes to model systems, messages, and even individual information contained in a message. Payres can handle any business scenario.

ISO 20022 is an industry standard that banks are required to comply with. However, we see it as a huge opportunity for financial institutions!

Implementation works on the new standard can be used as a catalyst to strategically leverage its benefits and add value.

If you need experienced engineers or require consulting support, feel welcome to contact us.

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CCA Europe has been providing specialist software for the international financial sector for over 16 years. We have established an internal team dedicated to instant payments and ISO 20022. Together, we're looking at how best to prepare our customers and business partners for the coming changes. As a team of over 30 experienced professionals, we have completed complex development projects for core systems, payments, card transactions, business and mobile applications, as well as automation and testing. Card and payment systems are our specialty, as demonstrated in projects for the largest market players.