Discussion paper
January 2022

Solving the post-trade transparency challenge

The case for a unique transaction identifier in securities

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Foreword

While the securities industry has improved automation and straight-through processing rates over the past decades, transparency and end-to-end visibility on the status of transactions along the settlement and reconciliation value chain continues to be a challenge. The Covid-19 pandemic has highlighted, more than ever, the need to tackle these remaining pockets of inefficiency. Regulators, end investors and market participants of all kinds have weathered intense market volatility and increased volumes, and important lessons have been learned about the benefits of greater post-trade visibility to reduce settlement failures and operational risk.

On the client side, the digital transformation agenda across the financial services sector has raised expectations for enhanced services across the spectrum, from front-office to back-office. Clients want to understand their positions and exposures with the immediacy that the market environment demands. The global focus on improving operational resilience across complex, interconnected markets also lends itself perfectly to the case for the adoption of a standard aimed at enabling post-trade transparency.

Leveraging our unique position as a neutral, global cooperative, SWIFT has taken up the challenge to help digitally transform the securities industry and set a path for the future. We started several years ago, with the exploration of data validation and alerting services to help users check the quality of post-trade transactions against reference data, market practices, and regulatory requirements, to name a few. The journey has been accelerated by the upcoming settlement discipline regime under the Central Securities Depositories Regulation (CSDR) and market initiatives to shorten settlement cycles to T+1.

This paper highlights the work that has been completed so far to deliver post-trade transparency at industry level and the roadmap for industry-wide adoption of a unique transaction identifier (UTI) that would allow market participants to track securities transactions from end to end throughout the lifecycle of a trade.

We don't need to reinvent the wheel either. Such a UTI already exists, the ISO 23897:2020, which was created by the securities industry for the purposes of OTC derivatives reporting, but which has the potential to be extended to other types of transactions as well.

SWIFT, together with a working group of financial institutions and several industry associations, has been assessing the challenges and opportunities of adopting the UTI. Industry-wide adoption would require an initial investment by financial institutions to implement it across various systems. However, the working group also envisages significant benefits, including:

- A reduction in the number of pre-settlement matching and timing exceptions that require active investigation with a counterparty by 50%.
- A reduction in the number of matching or timing fails by 90%.

Along with the significant cost savings that come with reduced investigations and fails, industry adoption of the UTI would also reduce operational risk, improve traceability and transparency across the post-trade lifecycle, enable improved client service, and support the industry's digital transformation agenda overall.

The UTI has the potential to be a key enabler of change for the securities industry as a whole. With our community, we will explore and harness the opportunities to create transparency and efficiency across the post-trade settlement and reconciliation value chain.

We would like to thank all the contributors to this discussion paper from the following institutions:

Association for Financial Markets in Europe (AFME)

Depository Trust & Clearing Corporation (DTCC)

International Swaps and Derivatives Association (ISDA)

International Securities Association for Institutional Trade Communication (ISITC)

International Securities Services Association (ISSA)

Securities Industry and Financial Markets Association (SIFMA)

Securities Market Practice Group (SMPG)

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Why are we talking about identifiers?

Let's begin with a quick story to put all of this into context. Around the globe, we've spent the best part of two years navigating lockdowns and movement restrictions. One of the saving graces of this situation is that we have been able, as an industry, to switch from working in an office to working from home. But we can also get just about whatever we want delivered to us too, efficiently and safely. From laptops to pizzas, almost everything can be delivered at the click of a button.

Just think about that delivery process for a second. How happy would you be if you were receiving a high-value item but were unable to identify where that package was in the delivery process at any point in time? If there was a high risk that the package could accidentally be delivered to Jim, four doors down, or Helen, in another city, would you be comfortable with ordering that item? What if that package had to pass through multiple delivery services? Now think about how we operate in the securities markets.

Currently, we have no way of uniquely identifying and tracking a transaction across all the intermediaries in the securities lifecycle. Thinking back to the delivery process for your package, that's like relying on the package being passed through numerous delivery services without a way to ensure it ends up in the right hands at the end of the process, let alone knowing where it is at any point in time.

Now, of course, securities don't often end up in the wrong place but, when they do, significant costs and risks arise, which will be exacerbated once the financial penalties introduced by CSDR's settlement discipline regime come into effect. Given the intense industry focus on operational resilience and risk, this should give your firm's C-suite executives cause for concern, especially if we're trying to reduce settlement failures overall as an industry and modernise our market practices, which will be required in T+1 environments.

The problems we need to solve for

Even though firms are able to trade in fractions of a second and most have a relatively good handle on their execution costs, when it comes to post-trade processing, the industry often struggles with inefficiency due to manual processes and a lack of transparency.

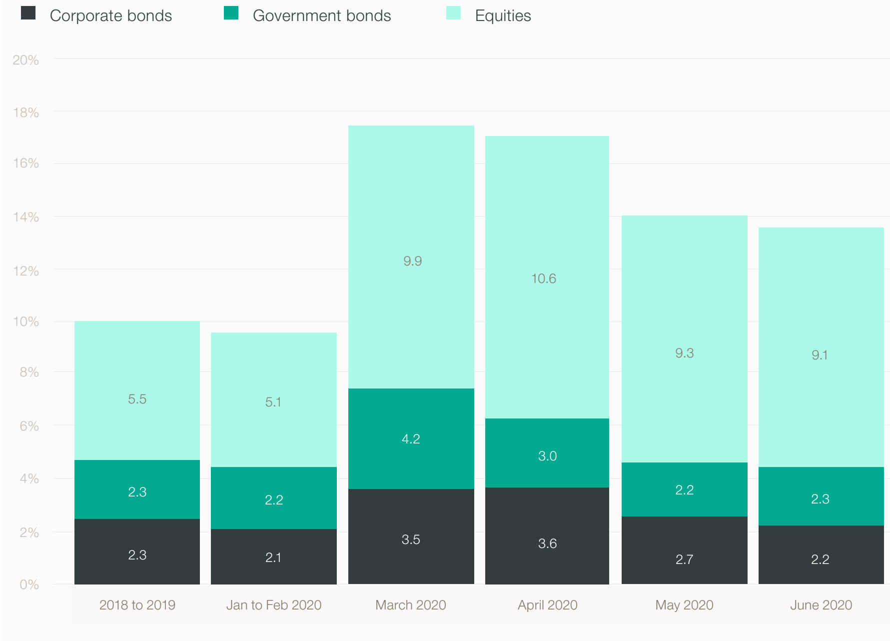
Firms may be able to monitor once a trade has settled, but they have little information while the post-trade process is in-flight. This means end-to-end visibility on the whole lifecycle is extremely challenging and management of any hotspots of operational risk is difficult.

Given the increased industry focus on systemic resilience, this lack of process transparency is concerning. If an intermediary has operational issues and creates a bottleneck, firms need to know that it's happening through real-time visibility so they can manage the situation.

Moreover, as firms continue to focus on improving the client experience across the whole spectrum of services they offer, post-trade transparency becomes even more important. Firms risk ceding clients to competitors if they are unable to keep pace with their peers in servicing client requirements in a timely manner, including responding to queries about the status of transactions and transparency into any settlement issues that arise.

Regulators have begun to take much more interest in these post-trade inefficiencies in recent years too – first with regulations targeted at encouraging centralised clearing and reporting, and later with regulation targeted at reducing settlement inefficiency. The costs of trading, clearing and settlement are under the microscope as a result of industry pressures related to thinning margins and settlement discipline regimes. Regulators generally stop short of mandating standards adoption outside of regulatory reporting formats, but that doesn't mean the industry shouldn't take action to increase end-to-end transparency.

Share of failed settlement instructions in 31 European countries as a percentage of value, 2018 to 2020



Source: European Securities and Markets Authority (ESMA), *Report on Trends, Risks and Vulnerabilities, No. 2, 2020*

Operational risk stems from the plethora of messaging formats and communication and data standards used across the whole lifecycle of a trade, as well as the various technology platforms that this information must pass through within different intermediaries. As the industry witnessed in 2020, equities settlement failures increased significantly in the early days of the pandemic and the industry still sees higher than normal levels of failures in the EU. As an industry, if we are to keep failures to a minimum, then we need to work in a smarter way.

If we take the ESMA statistics as a representation of fails at the global industry level, an average of 5% to 10% of equity settlements fail and an average of 2% to 4% of bond trades fail. This may not seem like a lot, but it adds up to billions in operational costs and fees.

All firms in the settlement chain are financially or operationally impacted by those failures and their impact can extend beyond those firms if the wider group of counterparties in the repo and securities financing chain are taken into account. Lending activity can actually slow down if a cascade of settlement and collateral movements are impacted by a large trade failure.

Firms of all sizes can experience trade failures. Larger firms often attribute fails to "broker locate issues" due to securities being unavailable as they are on loan. Smaller firms tend to have many more internal operational issues underlying their failure rates, for example, manual processes and "fat finger" entry of trade data, such as standing settlement instructions (SSIs).

Add into the mix that most financial institutions are attempting to digitally transform their operations at scale, and every firm is at different stages of this evolution. Some firms are building distributed ledger technologies to transform their approach to data storage, while others are building new services and application programming interfaces (APIs) to make consumption and transmission of data easier. And there's one thing that all of these efforts need to enable interoperability between next generation technologies and incumbent or legacy platforms across all market participants – consistent, standardised data.

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With a baseline of common information that can be communicated between these platforms, the industry can avoid a lot of pain in converting data from one format to another. Market participants also reduce the operational risk and cost involved in their digital transformation activities. The biggest beneficiaries of this work will likely be the buy-side as the reduction in settlement penalties expected under the settlement discipline regime, and staff hours required to deal with failures, will ultimately benefit the asset owner in terms of fees charged by intermediaries. All other market participants will benefit too, as staff hours dedicated to dealing with failures, and costs related to buy-ins or financial penalties, will be reduced.

Why are we doing this now?

Commercial, compliance and cost pressures have combined with ongoing digital transformation projects to create an opportunity to overhaul the way that the industry approaches the post-trade lifecycle. The priority should be eliminating redundancy and improving efficiency, where possible, and it is here that standards must play a key role. Technology alone cannot solve the industry's challenges.

A unique transaction identifier (UTI) already exists in the securities industry as part of the ISO stable, namely ISO 23897:2020. Industry-wide adoption of it would help to reduce risk and improve the client experience across the full trade lifecycle.

What's more, a unique transaction identifier (UTI) already exists in the securities industry as part of the ISO stable, namely ISO 23897:2020. Industry-wide adoption of it would help to reduce risk and improve the client experience across the full trade lifecycle, regardless of the technology platform a firm is using. The business case is there, but it takes more than just creating a standard to make it successful. Success is predicated on industry adoption, agreement on the principles of the standard, and the process through which it is implemented. And although the UTI would reduce cost and risk for all market participants in the short and long-term, implementing it will require an upfront investment on the part of all market participants.

The business case to adopt the UTI can be built by highlighting several key benefits:

- Improved status timing – reducing latencies and gaps in status exchange.
- Greater transaction visibility – connecting the delivery and receipt instructions across the lifecycle stages, reducing costly counterparty communication, and faster determination of root cause/owner.
- More accurate issue detection – earlier identification of settlement data discrepancies.
- Enhanced workflow processes – self-sourced data, improving decision making, whether action is required and next steps to ensure settlement.

Statistics can also be helpful when building a business case and the estimated savings from adopting the UTI, based on working group discussions, include:

- A reduction in the number of pre-settlement matching and timing exceptions that require active investigation with a counterparty by 50%.
- A reduction in the number of matching or timing fails by 90%.

Addressable market calculations

The following information provides guidance to identify an organisation's current spend on exceptions and estimate the equivalent savings from cost reduction. While UTI transaction data will not eliminate pre-settlement matching and timing exceptions, it will identify them sooner, provide the data points required to determine the cause of these exceptions and facilitate faster subsequent actions. It will also reduce the number of instances where a firm needs to query their counterparty. Consolidated data from UTI adoption can also directly eliminate some failures from matching and timing issues.

Pre-settlement exceptions calculation

Average cost / effort per exception = A Unit
Count of exceptions = B
Proportion with matching or timing issues = C%

Organisational current spend = (A * B * C) on target exceptions

Failed trades calculation

Average cost / effort per failed trade = X Unit
Count of fails = Y
Proportion of fails with matching or timing issues = Z%

Organisational spend = (X * Y * Z) on target fails

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How do we get there?

The industry should be in the driver's seat to ensure the UTI's usage properly meets the requirements of the market. Industry standards should be at the forefront of our design ethos as we build the financial infrastructures and services of the future – common standards are the foundations of current and future interoperability. Something as important as these foundations should be shaped by industry experts and supported by all financial market participants.

The UTI will not replace the existing transaction references that firms use today. Instead, it will provide a transaction-linking reference that everyone in the transaction chain can use to unify the process. In a practical sense, the UTI will be assigned at the block level, for matching purposes, and separate UTIs will be assigned for each allocation that is instructed downstream to the custodian. The same reference would be persistent throughout the lifecycle of a transaction and be maintained for the majority of amendments or version changes from exceptions, however, certain conditions such as novation or netting would trigger a new reference.

A group of early adopters has begun the groundwork to implement the standard and this work is expected to be completed in 2022. These market participants have identified the challenges to overcome, the workflows and segments to focus on, and the benefits they will receive as first wave adopters of the standard. They will lay the groundwork for future waves and are building on top of the work that has already been done in other areas such as securities finance.

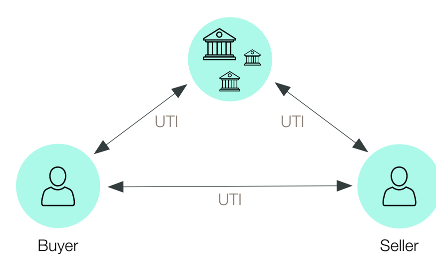
The following diagram shows when and how a UTI will get assigned and how it flows through the system:

How the UTI flows through the settlement lifecycle for securities trades: Generation and communication

The UTI identifies a securities transaction obligation between a **buyer and seller** that is allocated to settlement accounts with SSI data, an agreed instrument and quantities.

Generation of the UTI for a settlement transaction occurs as part of the **trade allocation / confirmation** process between a buyer and seller via:

- central generation by trade venues / matching platforms / market infrastructures
- instructing party generation who communicates the value to their counterparty



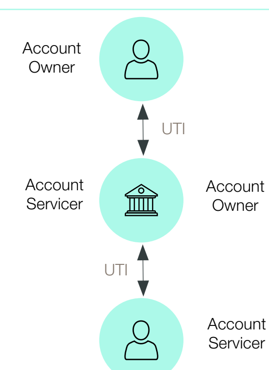
Communication of UTI values within securities settlement workflows

'Account owners' sending instructions to their 'account servicers'

- Populate UTI: from an agreed trade confirmation or allocation process
- Maintain UTI: use same UTI for version changes and lifecycle updates

'Account servicers' receiving instructions from their 'account owners' and 'account servicers' sending statuses and confirmations to their 'account owners'

- Echo UTI: populate same UTI on status and confirmations sent for received instructions
- Persist UTI: populate same UTI when instructing onward delivery or receipt for received instructions



A UTI can be applied to all securities post- trade settlement workflows including both CCP cleared and non-CCP settlements.

Industry standards and market best practice on UTI generation and communication:
IOSCO / ESMA / ISDA / GFMA

Learning from the UTI in Europe

The implementation of the UTI that was mandated for reporting as part of the European Markets Infrastructure Regulation (EMIR) and the EU Securities Financing Transactions Regulation (SFTR) is, in many ways, a frontrunner that can provide the industry with a number of important lessons. Europe was not alone in implementing identifiers either, as the Dodd-Frank Act in the United States also required the introduction of a UTI-like unique swap identifier (USI) to be included in swaps reporting, under part 45 of the regulation.

The implementation of the UTI that was mandated for reporting as part of the European Markets Infrastructure Regulation (EMIR) and the EU Securities Financing Transactions Regulation (SFTR) is, in many ways, a frontrunner that can provide the industry with a number of important lessons.

There is also support for the introduction of the UTI at a global level, with the International Organization of Securities Commissions' (IOSCO) recommendations to use the identifier for derivatives transaction reporting. Although CPMI IOSCO developed the UTI for the purposes of OTC derivatives reporting, they acknowledged at the time that it could be extensible for other types of transactions as well.

EMIR came into force in February 2014 and SFTR in July 2020. As part of both regulations' requirements, financial institutions are required to include an alphanumeric code of 52 characters (ISO 23897:2020), the UTI, in their transaction reports to a registered trade repository. The UTI is generated by one of the two counterparties in the derivatives or securities finance transaction and then communicated to the other party for use within the reports of both parties. The UTI can also be generated by a market venue, which is then consumed by both counterparties.

If we look at some of the challenges that firms have faced in adopting the UTI, one of the greatest problems has arisen because of uncertainty about which party is responsible for generating the code. That's why the industry needs a commonly agreed rulebook for these processes that is rigorously followed by all market participants.

Another challenge is communication of the UTI between counterparties that do not have dedicated in-house or vendor solutions in place and that are reliant on manual processes. This is why some firms in the Danish market turned to SWIFT messages early on as a solution to the problem. The communication of the UTI in either an ISO 20022 or ISO 15022 message removes the need to use third-party solutions or manually exchange files.

The key lesson here? Careful planning and hard work need to go into making sure best practices are understood and followed by market participants. And SWIFT is a key facilitator to make sure the industry's adoption journey is as smooth as possible.

The challenges along the way

Sharing the actual identifier is not a technically difficult task using one that is already in place: ISO 23897. Adopting the identifier will require some internal changes, such as making sure systems are able to accommodate the new data field for the identifier and its requisite character length. The real challenge across the industry, however, is ensuring that everyone involved in a securities transaction uses the same identifier and that market practices are clear and well-defined. This is where key market participants and working group members are tasked with focusing their efforts in the coming months.

This work will involve discussing and understanding any challenges firms may face in adopting the standard. Standards adoption typically requires firms to update their internal data models and client and counterparty interfaces to be able to ingest and transmit the identifier unchanged across the chain of intermediaries involved in the securities lifecycle. At a high level, passing on the UTI will require all parties in the trade lifecycle to conduct system development to consume the identifier and functionally support the identifier in the lifecycle, such as to provide any status changes to vendor transparency tools.

Firms would be required to populate and receive UTI values on inbound and outbound messages, as well as sharing settlement data downstream on corresponding instructions and upstream on status response messages.

This means they must be able to pass the same UTI onward to the next party in the chain for instruction front-to-back, as well as status updates or confirmations back-to-front in terms of trade flow. This may entail the reconfiguration and adjustment of multiple internal systems in order to accept the new identifier.

The importance of market infrastructures and networks

Market infrastructures and network providers play a key role in enabling the industry to adopt new market practices, including data standards. By acting as champions for the adoption of the standard and leading the way in identifying common approaches to system changes across industry practitioners, these bodies can become a market-neutral central resource for all firms.

As key players in the ecosystem, CSDs can use the UTI to propagate transaction information much quicker across systems in the processing chain to increase settlement efficiency through early visibility. By adopting the UTI, CSDs will facilitate processes such as forecasting, claims management and pre-validation of data. The UTI can also be used to improve the regulatory reporting that some CSDs offer, as well as pre-matching services. In addition, the UTI can greatly improve cross-CSD settlement and cross-markets interoperability.

The Depository Trust & Clearing Corporation (DTCC), SWIFT and Hong Kong Stock Exchange are some of the market participants working together to support the introduction of the identifier.

These market infrastructures will also adopt the standard within their various services and solutions to enable market participants to effectively communicate the identifier with their counterparties and clients. The UTI will therefore be generated as early in the transaction chain as possible, as it is important to get the UTI assigned at an allocation level with the first entity in the trade lifecycle. For example, DTCC will generate the UTI in its matching platform when it is the party instructing on behalf of a buy-side firm, which should reduce some of the industry friction when it comes to counterparty interactions. The UTI will also likely complement and improve the matching process between the various intermediaries, such as the executing broker, prime broker, global custodian and sub-custodians, by providing a common, industry standard reference for case creation and workflow management post-allocation.

DTCC indicates that its Institutional Trade Processing (ITP) business creates the UTI within its Central Trade Manager (CTM) service and then passes it to its Settlements Management solutions to instruct the global custodian. The custodian will capture the UTI and pass it along to the local sub-custodian and depository for settlement. The UTI is then passed back to ITP, via settlement status and confirmation messages, in order to provide full trade lifecycle management for clients to monitor settlement and actively manage exceptions. Furthermore, this UTI could be used to manage post-trade settlement position reconciliation issues, in addition to trade settlement claims, of which the industry expects to see a spike due to CSDR’s discipline regime.

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What benefits will this bring?

To keep it simple, the benefits of the new identifier will be to reduce operational risk, improve traceability and transparency across the post-trade lifecycle, enable improved client service, and support the industry's digital transformation agenda overall.

To come back to the analogy of a delivery service, rather than a chain of intermediaries scrambling to track where a transaction is in its lifecycle, providers will be able to offer their clients the ability to see where their instructions are at any point in time. Service providers and the sell-side will be able to provide value-adds for their clients, and the buy-side will benefit from these offerings. Each market participant will benefit in its own way from adoption of the standard.

Improving transparency

The chain of intermediaries across the securities lifecycle will all benefit from a common identifier that enables them to track the transaction from trade execution to settlement, regardless of the technology platforms used. This visibility throughout the transaction chain will allow firms to identify and resolve any bottlenecks or settlement cycle issues more rapidly; thus, bringing down cost and risk. More transparency also enables proactive operational efficiency improvements across the post-trade lifecycle – executives can effectively see where to focus the efforts of their time-constrained teams. It will also enhance the ability of intermediaries to tell clients exactly why a transaction is mismatching, and to therefore resolve breaks caused by incorrect standing settlement instructions (SSIs) more rapidly.

As the industry gradually adapts to the new standard, adoption barriers can be minimised by the reuse of MT and MX messages, the development of a graphical user interface (GUI), and the introduction of new application programming interfaces (APIs).

Enhancing client service

At a basic level, greater post-trade transparency will mean intermediary firms are better equipped to answer any client queries about clearing and settlement processes in a rapid manner when they arise. On the other side of the equation, asset manager clients will have more timely access to information about the post-trade lifecycle, which will allow them to better mitigate risk across their portfolio. Greater transparency will also reduce the number of times firms have to chase information from intermediaries further down the chain.

Furthermore, this data can also be integrated into intermediaries' value-added post-trade services, such as self-service client portals. Both buy-side and sell-side firms continue to focus on improving operational resilience, and keeping a close handle on post-trade processes is a part of this endeavour. Firms could also take advantage of this more real-time view of their clients' activities to build out support services further in future.

Lowering operational risk and cost

The UTI will be a building block to improve the industry's settlement efficiency. Firms active in the European Union must comply with CSDR, which increases the financial impact of settlement failures via a new regional penalty regime and mandatory buy-ins. A unique identifier will help firms to avoid these fines by enabling issues to be resolved proactively and, if fines do occur, enable firms to accurately attribute those fines and fees to the relevant party in the transaction chain. An identifier can help firms provide evidence and transparency into the underlying causes of failures and quickly resolve any disputes and claims resulting from those failures.

The current industry focus on improving operational resilience and reducing operational risk can also be better supported by the adoption of a standard that facilitates the reduction of settlement failures. It may also prove beneficial to firms as they re-architect their systems ahead of a move to T+1 settlement in key markets such as the United States and Canada.

Supporting digital transformation

We need common foundations to digitally transform our industry. No matter what stage of the journey your firm is at, if you have consistent data at the heart of your platforms, you can better communicate information from one system to another. As you adopt next generation technology tools and solutions, the identifier remains the same and enables effective transmission and tracking of transactions between legacy and next generation technology environments.

The Covid-19 crisis has also highlighted the importance of integrated communication tools to better enable collaboration between teams working in various locations across the globe. The identifier can provide a connection point for these new systems and tools for communicating between internal teams and external clients and counterparties.

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So, what next?

The first wave of early adopters working on the implementation of the standard expect much progress to be achieved over the coming months. The identifier will be embedded within the post-trade services of several market infrastructures to begin with. This started at the end of 2021, and more market infrastructures are expected to embed it as well over time. The working group will also be gathering input from their peers and clients to feed into the future roadmap of the standards initiative.

Complete transaction lifecycle adoption will be important to realise ROI with the implementation and persistence of the UTI across the various intermediaries involved. SWIFT's community of users, along with collaboration with global trade associations, like ISITC NA, SMPG, and others, will help drive adoption through endorsing usage within market practice recommendations. In fact, ISITC NA's leadership was involved, from the beginning, in the design and the creation of this UTI.

The UTI working group is keen for the wider industry to provide feedback on their views of the identifier and the challenges and benefits they foresee ahead. Industry engagement at the start of the process is key to the adoption of the standard and it is important for as many different types of firms as possible to get involved.

Whether driven by regulations, market infrastructures or industry initiatives, adoption of the UTI has already started and has the potential to be used more widely to increase transparency and efficiency across the post-trade settlement and reconciliation value chain. Many players believe in its broad usage across the securities flows in the medium to long term and some even see benefits in eventually mandating its usage. In short, the UTI is a key enabler for change and we encourage all securities market participants to learn more about the benefits it could bring to their institution.

For more information on the benefits of the UTI and what it could mean for your organisation, please contact your SWIFT account manager or email us at securities@swift.com.

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, standards for communicating and we offer products and services to facilitate access and integration; identification, analysis and financial crime 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, enabling them to communicate securely and exchange standardised financial messages in a reliable way.

As their trusted provider, we facilitate global and local financial flows, support trade and commerce all around the world; we relentlessly pursue operational excellence and continually seek ways to lower costs, reduce risks and eliminate operational inefficiencies. Headquartered in Belgium, SWIFT's international governance and oversight reinforces the neutral, global character of its cooperative structure. SWIFT's global office network ensures an active presence in all the major financial centres.

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