SWIFT

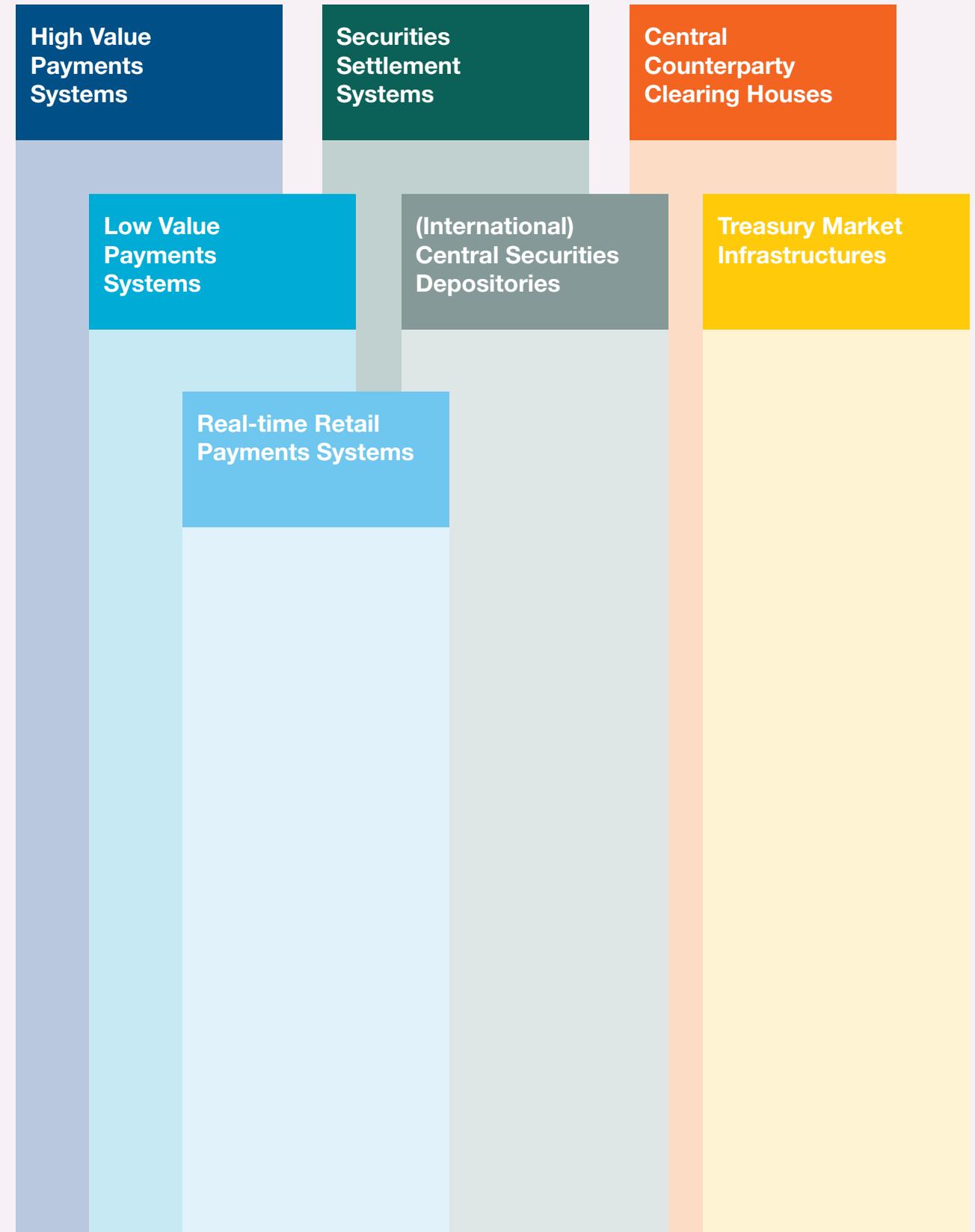# Supporting your business, connecting your community

**SWIFT for Market Infrastructures**

Every day, SWIFT supports the financial markets by enabling critical service providers to process their financial transactions, mitigate risk, increase operational efficiency and ultimately pass on the benefits of reduced costs and risks to their participants.

SWIFT provides robust, reliable and secure financial messaging solutions to more than 235 payment, securities and treasury infrastructures, globally, across three continents.

In addition to being able to use our standardised messaging solutions and value added services, market participants can reuse their existing SWIFT infrastructure to connect to multiple MIs and achieve significant economies of scale.

**235 live MI systems in 110 countries**

**High Value Payments Systems**

**Securities Settlement Systems**

**Central Counterparty Clearing Houses**

**Low Value Payments Systems**

**(International) Central Securities Depositories**

**Treasury Market Infrastructures**

**Real-time Retail Payments Systems**

## Market Infrastructure Segments

### SWIFT for Securities Market Infrastructures

SWIFT helps securities market infrastructures (SMIs) across the globe to automate trade clearing, settlement, custody, asset management, risk management and regulatory reporting functions. Securities infrastructures including ASX, Clearstream, DTCC, Euroclear, T2S, SIS, Strate, all rely on SWIFT to safely transport their transactions.
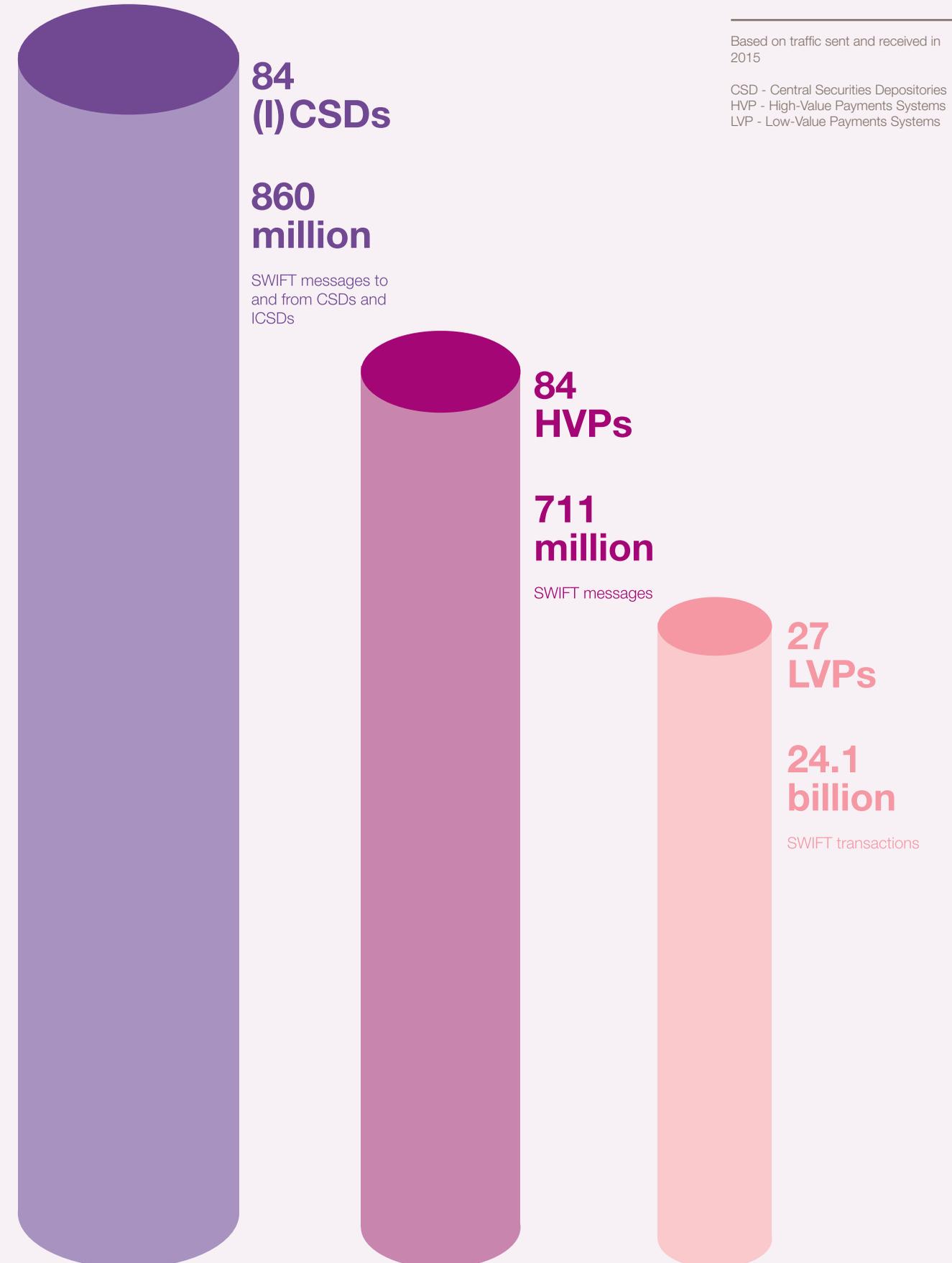
### SWIFT for Treasury Market Infrastructures

SWIFT has been providing services to CLS for more than 12 years and is the sole messaging provider supporting CLS and its community in its core Treasury, or Foreign Exchange (FX) settlement flows. CLS provides a global clearing and settlement system for the simultaneous settlement of both currency legs of foreign exchange (FX) trades, thus reducing banking and systemic risk.

### SWIFT for Payments Market Infrastructures

SWIFT supports more than 80 high value and 25 low value payment market infrastructures (PMIs) by offering common message standards, and a highly secure and resilient messaging and connectivity service. PMIs such as TARGET2, EBA EURO1/STEP1 and CHAPS rely on SWIFT to carry their high-value payments, whilst numerous ACH operators offer SWIFT as a choice to expediently exchange files of low-value payments.

Fueled by increasing customer expectation with regard to speed and transparency, PMIs around the world are developing new solutions so that retail payments can be cleared and settled instantaneously.

These new systems must be cost-effective, resilient, fast, and also offer their members the opportunity to create innovative new customer services, using the latest technology. One way that SWIFT is supporting this new trend is by delivering new infrastructure and services in Australia, to support their New Payments Platform (NPP).

**84 (I)CSDs**

**860 million**

SWIFT messages to and from CSDs and ICSDs

**84 HVPs**

**711 million**

SWIFT messages

**27 LVPs**

**24.1 billion**

SWIFT transactions

## SWIFT for Market Infrastructures
## Benefits

# Secure
highest levels of security and privacy

# Reliable
a proven track record of 99,999% network availability

# Global
supports MIs around the globe

# Standardised
global standards to automate the processing of all business transactions

# Cost-effective
attractive pricing offers for MIs and their communities, re-using connectivity, standards and solutions

# Reduces operational risk
solutions to mitigate risk and ensure business continuity

# Community driven
collaborative approach and support to adopt, implement, roll-out and test
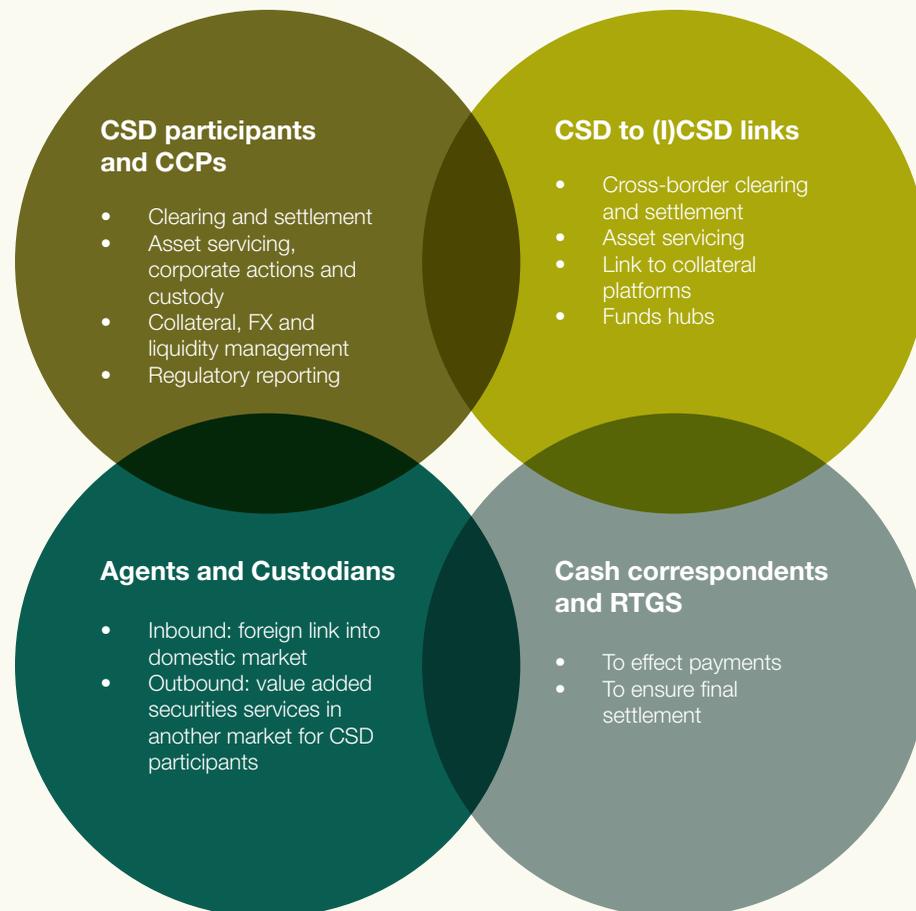
## SWIFT for Market Infrastructures
## Portfolio at a glance

| Standardised financial messaging | Resiliency products and services | Consulting, training and operational services | Value-added solutions |
|---|---|---|---|
| **Standardised business flows and messages** Supporting flawless and automated execution of financial transactions | **Market Infrastructure Resiliency Service (MIRS)** A robust RTGS third-site recovery solution that can be used in the event of severe operational disruption | **Services** A range of services to assist market infrastructures and their communities with all phases of their projects | **SWIFT Scope for Central Banks** To support central banks with regulatory reporting |
| **Secure, reliable, messaging services** Suite of efficient messaging services on a resilient network | **Operational excellence** An independent review of operational processes and environment | | **Standards management** MyStandards and MyStandards Readiness Portal Standards tools to facilitate cost-effective standards implementation |
| | **Premium Plus Support** Mission-critical support, and personalised incident management | | **SWIFTRef** To guarantee a single source of reference data across communities |

# Standardised financial messaging

## Standardised business flows and messages for SMIs

Central Securities Depositories (CSD) can use SWIFT to support all of their business processes. The SWIFT network enables CSDs not only to connect with their own customers and providers, but also to exchange critical data with other MIs such as Real-Time Gross-Settlement System (RTGS) and Central Counter Parties (CCP).

### CSD participants and CCPs

- Clearing and settlement
- Asset servicing, corporate actions and custody
- Collateral, FX and liquidity management
- Regulatory reporting

### CSD to (I)CSD links

- Cross-border clearing and settlement
- Asset servicing
- Link to collateral platforms
- Funds hubs

### Agents and Custodians

- Inbound: foreign link into domestic market
- Outbound: value added securities services in another market for CSD participants

### Cash correspondents and RTGS

- To effect payments
- To ensure final settlement

## Standards for market infrastructures

Since the 1970s, SWIFT has been pioneering the development of standards to support the automation of manual and error-prone business flows and processes.

### SWIFT MT

The extensive portfolio of SWIFT MT messages supports high straight-through-processing (STP) rates for payments clearing and settlement by PMIs.

SWIFT, under contract to ISO, also acts as a Registration Authority for two open messaging standards: ISO 15022 and ISO 20022.

### ISO 15022

is used by a large number of SMIs and other securities participants for post trade transaction flows, including settlement and reconciliation, asset servicing and custody, as well as collateral management. ISO 15022 includes a Data Dictionary and a Catalogue of Messages.

### ISO 20022

Building on ISO 15022 concepts, ISO 20022 is a methodology for creating financial messaging standards, as well as a repository of content. It includes XML as a universally acknowledged syntax to facilitate efficient implementation.

ISO 20022 is already used by a number of large MIs including T2S, JASDEC, DTCC and CLS. In addition it is used for SEPA, and has now firmly established itself as the chosen standard for real-time retail payments.

### Reference data standards

SWIFT also acts as a Registration Authority for ISO reference data standards such as LEI and BIC. These identifiers facilitate straightforward and unambiguous identification of parties involved in a financial transaction. The LEI is increasingly required in securities transactions for regulatory reporting.

### Standards Market practice

SWIFT works with the user community to specify and publish market practice: rules and best-practice advice on how standards should be deployed to meet particular business needs or to comply with regulation. For example, we facilitate the Securities Market Practice Group (SMPG) and support the Payments Market Practice Group (PMPG).

## Standardised business flows and messages for PMIs

### High-Value Payments Systems

| Interbank payments processing | Liquidity management | Report management |
|---|---|---|
| Allows participants to submit customer and financial institution payments to the RTGS system and receive credit or debit notifications, if settlement has been confirmed. | Enables participants' liquidity management application to exchange information to monitor their accounts, operate their reserve, manage their payments or act on their limit. | Allows participants and MIs to exchange batches of financial messages and large reports. |
| *Based on SWIFT MT or ISO 20022* | *Based on SWIFT MT or ISO 20022 (or Web-based application)* | *Based on SWIFT MT or ISO 20022 (or proprietary format)* |

### Low-Value Payments Systems

SWIFT offers a scalable and reliable platform that supports cost efficient and interoperable file transfer services for interbank processing of retail payments within and across automated clearing houses (ACHs).

Business flows include:

- Interbank payments processing
- Exception handling
- Transaction status reporting

*Files can include SWIFT MT, ISO 20022 or proprietary messages.*

### Real-time retail payment Systems

Standardised and orchestrated business flows are of key importance in achieving instantaneous clearing and settlement.
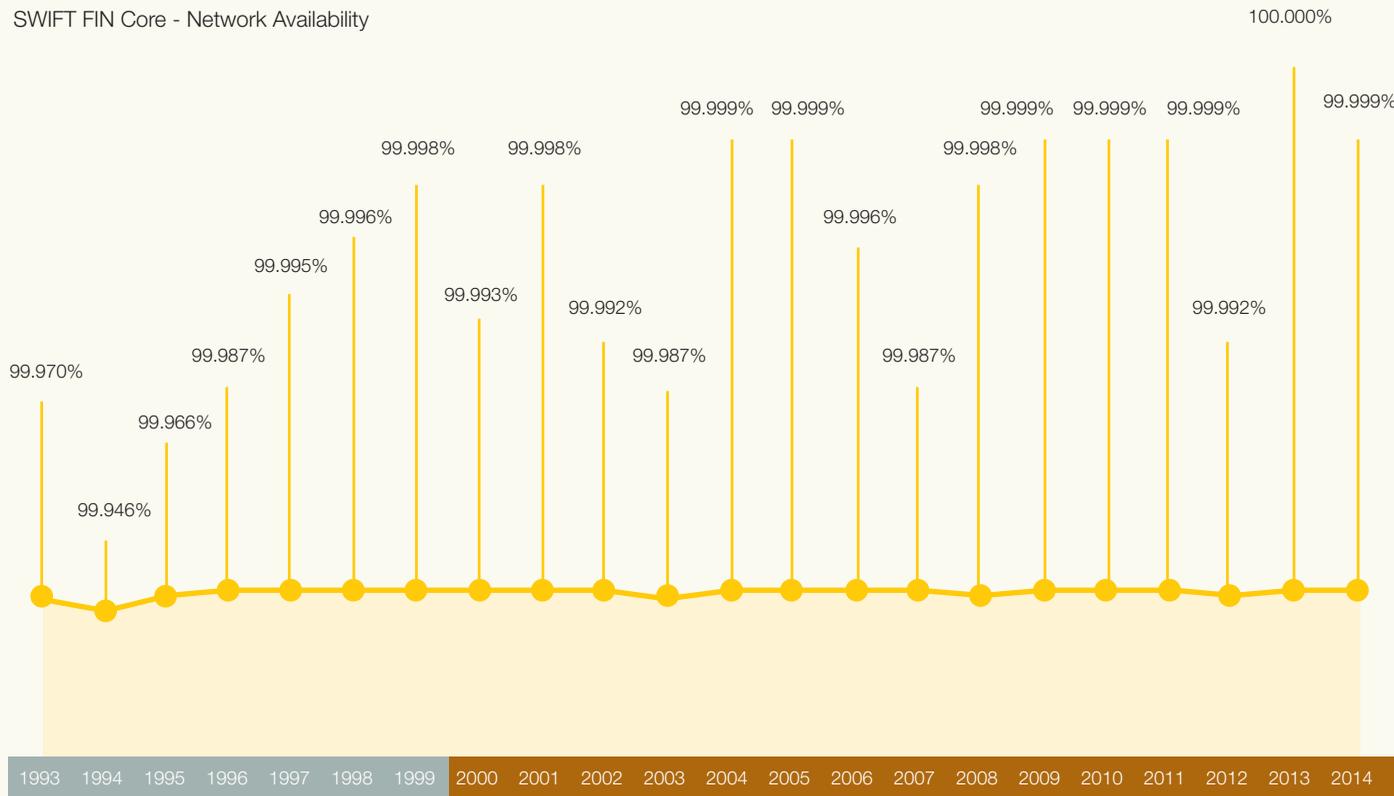
Business flows include:

- Payment initiation
- Interbank payments processing
- Transaction status reporting

*Based on ISO 20022*

Secure, reliable messaging
for Market Infrastructures

The SWIFTNet messaging services run on SWIFT's
Secure Internet Protocol (SIPN), a protected,
private network offering the highest availability
rates in the industry. These services enable
MIs and their participants to securely and reliably
exchange financial messages and files, and to
browse securely via online portals.

SWIFT FIN Core - Network Availability



| | Secure message exchange | Secure file exchange | Secure web access |
|---|---|---|---|
| | **FIN**<br>SWIFT's core service for the secure and reliable exchange of single financial messages (SWIFT MT and ISO 15022). FIN includes authentication and integrity control. It also offers non-repudiation, delivery monitoring and prioritisation, online retrieval of previously exchanged messages and central message validation, enabling increased STP rates. | **FileAct**<br>provides a cost-effective and secure way to exchange large volumes of data in different formats. It is typically used for the transfer of bulk payments, documents, images, statements and reporting of transactions. | **SWIFT WebAccess**<br>offers MI participants a highly secure and reliable screen-based channel to access web applications and services – using participants' existing SWIFTNet infrastructure. SWIFT operates the user authentication service centrally, whilst the MI remains in full control of the institutions that can access their application to monitor current positions, credit risk exposures and transaction flow and status. |
| | **InterAct**<br>enables the exchange of ISO 20022 messages, offering the same secure and value-added features as FIN. | | |
| | **MI Channel**<br>meets the needs of large market infrastructures and their participants, to exchange very large amounts of data. It caters for extra processing capacity, high-speed performance and offers advance data recover features. | | |
| | **DMC**<br>SWIFT's low latency Domestic Messaging Channel (DMC) is used to clear and settle single real-time retail payments, based on ISO 20022. The DMC manages the high volume peer-to-peer communication over the SWIFT low latency network, on a 24/7/365 basis.<br><br>DMC is typically used in combination with the SWIFT Payment Gateway (PAG) which orchestrates the real-time payment flows and allows for easy integration with value added overlay services. | | |

Highly secure

Unrivalled reliability and
availability

Solutions designed to
meet all data transfer
needs

### SWIFT Copy services

FINCopy, SWIFTNet Copy, FileAct Copy and FINInform are value-added features
of SWIFT's messaging services that enable the sender of a message or file to
trigger a copy to a copy destination for authorisation or further processing.

Authorisation by the central bank (or provider) can depend on contents of the
message, account balance, collateral or credit line. It provides a simple, flexible
and secure way for MIs to monitor or control traffic flows.

## Market Infrastructure Resiliency Service (MIRS) for High-Value Payments Systems

Due to the systemic importance of real-time gross settlement systems (RTGS), central banks must ensure they are resilient enough to withstand a variety of threats to their security and integrity. These include natural disasters, data corruption, loss of essential services, unavailability of staff and, of course, cyber-crime.

The importance of resilience is clearly reflected in recently published papers by CPSS-IOSCO ("*Principles for financial market infrastructures (PFMI), December 2015*" and "*Guidance on cyber resilience for financial market infrastructures, June 2016*") that describe the importance of having plans to guarantee continuity of service.

In order to help comply with CPSS-IOSCO guidelines, SWIFT has worked with some key RTGS operators to develop the Market Infrastructure Resilience Service (MIRS).

MIRS is a fully diversified RTGS application, hosted and operated by SWIFT, that provides operational and business continuity services to RTGS operators in case of failure of primary and secondary sites. MIRS runs as a shared platform that offers RTGS systems all the functionalities needed to process and settle payments.

**MIRS: Main features**

| 1 | 2 | 3 |
|---|---|---|
| MIRS provides a unique combination of software, staff, technological and geographical diversity for a maximum threat coverage | MIRS rebuilds balances at point of failure in less than 2.5 hours without requiring direct data replication which increases protection against cyber threats | Although MIRS is a shared platform, each customer receives its own instance customised to mimic behaviour of the primary site |

| 4 | 5 | 6 |
|---|---|---|
| MIRS is a scalable solution set to process peak traffic from the full RTGS community | MIRS can be activated at any point in time by the RTGS operator and will remain in service as long as needed to fix primary site | MIRS takes over traffic fully transparent to the SWIFT participants |

## Operational excellence

Market infrastructures know that having the right tools in place to prevent security incidents is no guarantee of a secure operational environment. If staff are not experienced enough, or do not follow the correct process, this may lead to a delayed and inefficient response to protect operations, especially in crisis situations.

To address these concerns, SWIFT has developed a set of operational excellence solutions for MIs, which is founded on our 40 years of experience managing a critical infrastructure that is used by a large and highly diverse community of users.

SWIFT's operational excellence service supports MIs with the review of their operational processes and environment, and highlights potential gaps and opportunities for improvement.
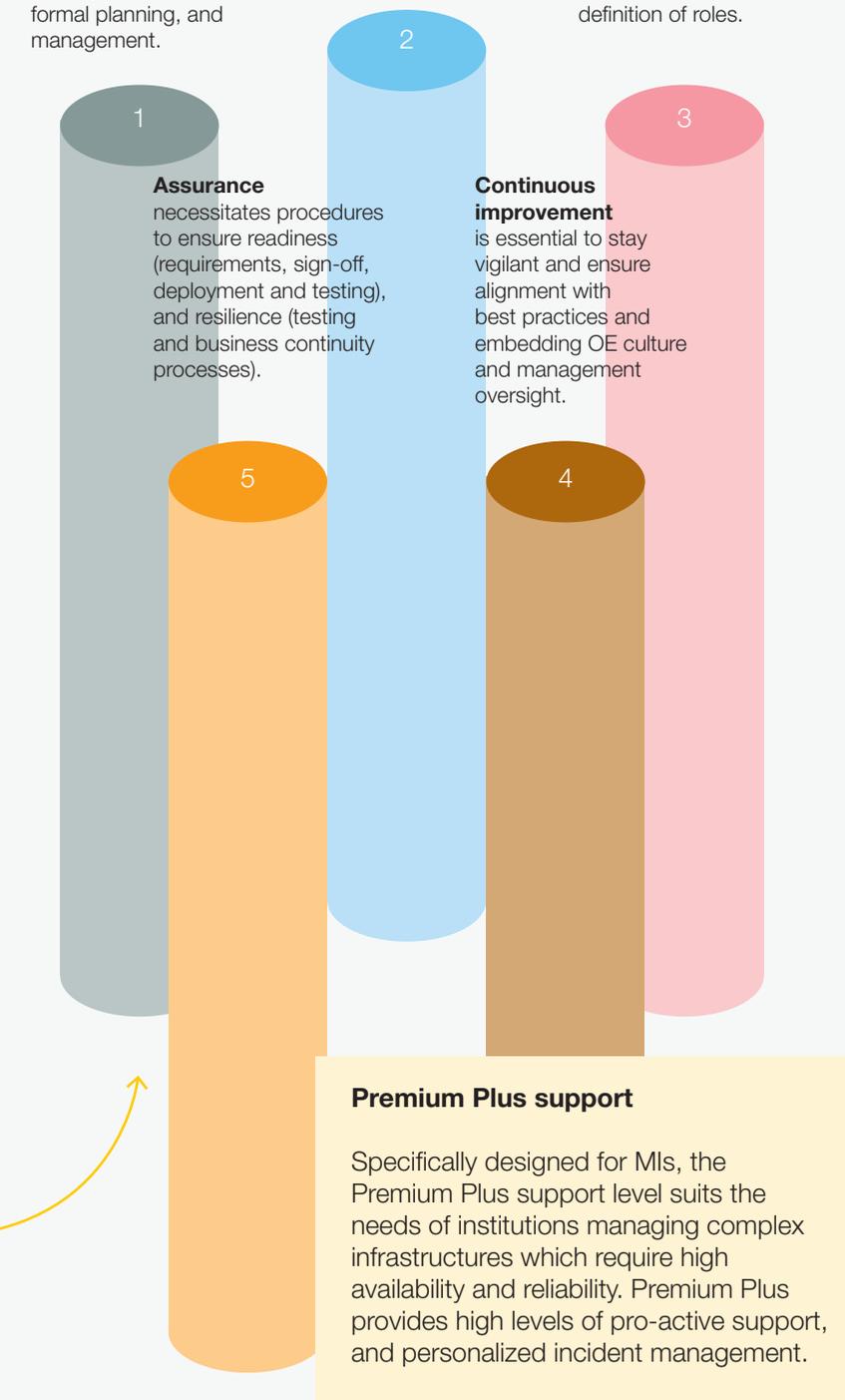
The overall aim of the service is to help MIs reduce the likelihood of incidents and improve responsiveness if incidents do occur. As an example, we provide recommendations to optimise escalation processes so that they are effective during crisis situations.

Our service focuses on **five pillars**, that can be tailored according to specific needs.

**Processes** provide a consistent approach in handling operation functions such as deployment, monitoring and control, and change, incident, and crisis management.

**People and culture** involves relevant training, certification, formal planning, and management.

**Command and control** includes process and security monitoring and definition of roles.

**Assurance** necessitates procedures to ensure readiness (requirements, sign-off, deployment and testing), and resilience (testing and business continuity processes).

**Continuous improvement** is essential to stay vigilant and ensure alignment with best practices and embedding OE culture and management oversight.

### Premium Plus support

Specifically designed for MIs, the Premium Plus support level suits the needs of institutions managing complex infrastructures which require high availability and reliability. Premium Plus provides high levels of pro-active support, and personalized incident management.

## Consulting, training and operational services

To assist Market Infrastructures and their communities with large projects

SWIFT has an extensive and proven track record in supporting the design and delivery of large complex market infrastructure projects such as SWIFT India, TARGET2, TARGET2-Securities as well as the global CLS service.

The creation and implementation of new market infrastructure projects is a complex journey which encompasses different phases, milestones and requirements. These projects also cut across different business areas, departments, locations, resources, and pools of skills and knowledge.

SWIFT's portfolio of consulting services can help market infrastructures and their communities with each of these phases, from design right through to go-live and future evolution, with standards, integration, business and technical advice. And because each project is different, we can tailor our offering to meet specific needs and timelines.

### Benefits

Reduce risk

Reduce time to market

Reduce Total Cost of Ownership

Support for MIs and their communities

| 1. Design phase | 2. Implementation and roll-out | 3. Live operations | 4. Planning for the future |
|---|---|---|---|
| SWIFT can support MIs from the early stages of their project. This includes development of the business case, requirements gathering, analysis and optimisation of business flows. Our consultants can help design a cost efficient and risk-free infrastructure that meets regulatory requirements and constraints. | Our consultants can help accelerate business and technical implementation, ensuring applications and software are implemented in accordance with best practice. We can manage complex MI projects, and offer on-boarding services so that all participants are informed, trained and ready to take part in planned testing. | Once the testing phase has been successfully concluded, we can assist with migration support to go live. We can also provide regular technical reviews once the MI goes live. | SWIFT has developed a methodology to assess the impact of a migration and change on business operations. We can provide a detailed roadmap for implementation of future operating models in line with evolving business needs. |

### Training

Over the last 30 years, SWIFT has trained more than half a million people worldwide. We work with our customers to deliver training programmes that suit their schedule, learning preferences and knowledge level, while responding to ever-changing market and industry challenges.

SWIFT's certified instructors can deliver tailored training at institutions' premises, designed to meet specific training requirements. Our series of in-depth bootcamps covers topics such as security, operational excellence, connectivity and messaging. In addition, SWIFT's new eLearning platform - SWIFTSmart - will enable students to work at their own pace.

### Operational services

SWIFT provides a wide range of support levels, geared to the needs of MIs. This includes a range of stand-alone options such as remote support, operational check-up, monitoring and alerting, system cares as well as standalone health checks.

**SWIFT Scope for Central Banks**
Information and analysis of cross-border
flows to support central banks

Central banks monitor markets and transaction flows
in order to understand the impact of monetary policies,
to meet prudential and supervisory objectives and to
support their national economies.

To gain the insights they need, central banks require
commercial banks to regularly report payment flows
with increased frequency and granularity.

This places a cost and resource burden on both the
central banks, who must consolidate and analyse the
information, and on the reporting banks required to
extract, format and report large quantities of data.

SWIFT Scope for Central Banks is a business
intelligence solution for central banks that automates
the collection and analysis of cross-border transaction
flows from SWIFT message data. It can also collect
and consolidate data from other information sources
to provide full and comprehensive coverage of cross-
border activity.

## Benefits

Accurate and timely
information

Business-focused
analysis

Automated data
gathering

Diverse information
sources

Lower cost of
reporting for
commercial banks

**Analysis example**
Which countries have positive balance of
cash movements with mine?

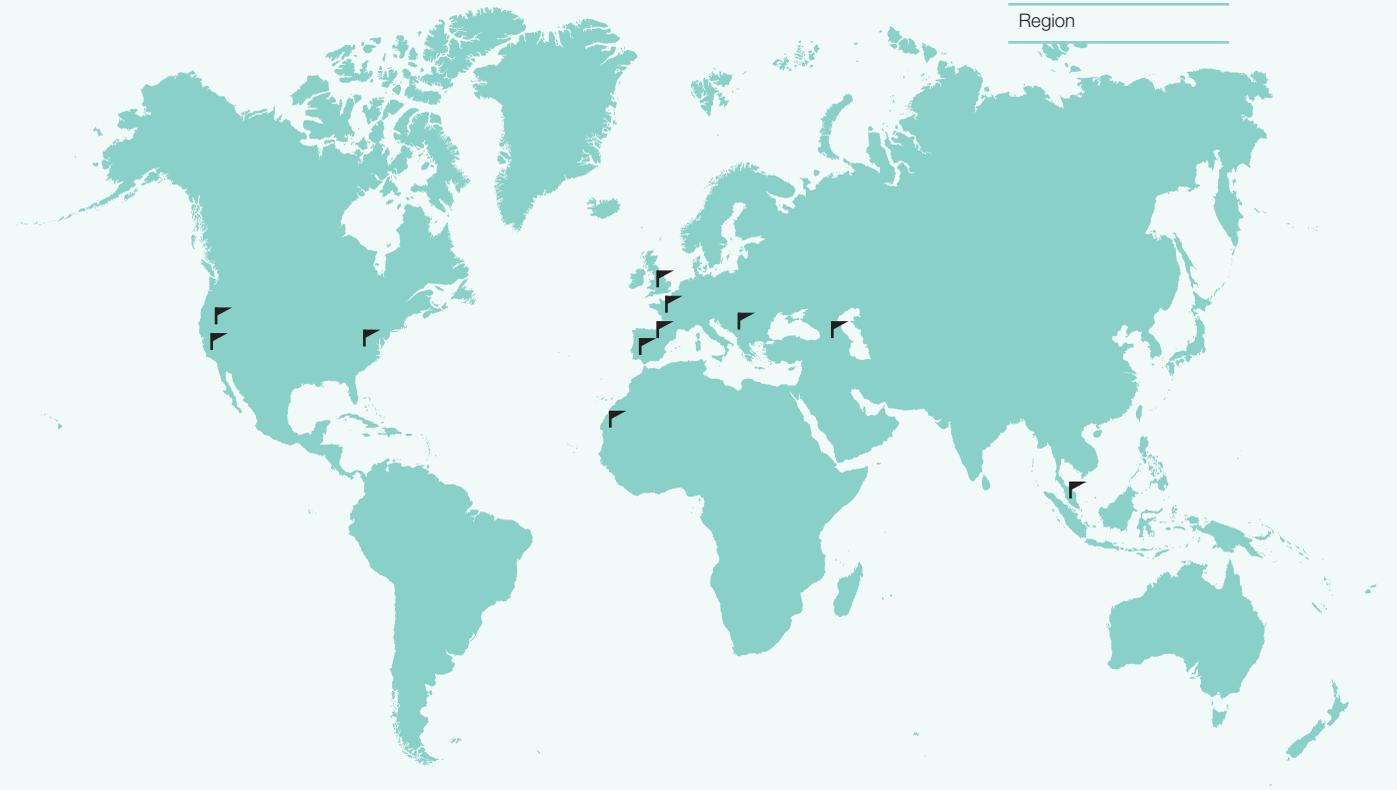| Query parameters |
| --- |
| KPI |
| Message type |
| Period |
| Currency |
| Region |



**Analysis example**
Which foreign banks are most crucial
to processing payments from/to my
country?

| Query parameters |
| --- |
| KPI |
| Message type |
| Period |
| Currency |
| Region |

## Standards management
### Rolling out standards for MI communities

ISO 20022 is emerging as the preferred choice of financial messaging standard for market infrastructures around the world. SWIFT plays a central coordinating role across all participants and offers a common ISO 20022 harmonisation framework to avoid fragmentation and share best practices. MyStandards provides a single, centralised web-based platform to share and publish standards information.

### MyStandards

MIs can use MyStandards to publish their usage guidelines for SWIFT MT and ISO 20022 in an unambiguous and consistent way. MI participants will be able to browse these specifications and generate user-friendly documentation, enabling them to reduce time, effort and risk to manage and implement standards.

### MyStandards Readiness portal

MIs can provide their participants with offline testing capabilities, which significantly reduces the risk, time and effort of going live with new standards. Participants can test against the MI's specific messaging formats online at the click of a button, while MIs can fully monitor progress and help them along the way.

## SWIFTRef
### Increasing straight-through-processing

SWIFTRef offers a single source of reference data that is needed for flawless straight-through-processing and accurate reporting.

**410,000+**
LEIs

**250**
Countries & regions with holiday information, country & currency codes

**110,000+**
ISO-registered BICs from financial institutions and corporates worldwide

**1,000,000**
National bank identifiers from 180+ countries

**190,000+**
Global Intermediary Identification Numbers (GIINs)

**810,000+**
Standard Settlement Instructions

**71**
IBAN countries including 34 SEPA

**About SWIFT**

SWIFT is a global member-owned cooperative and the world's leading provider of secure financial messaging services. As a global member-owned cooperative and the world's leading provider of secure financial messaging services, SWIFT enables more than 11,000 banking and securities organisations, market infrastructures and corporate customers in more than 200 countries and territories to communicate securely and exchange standardised financial messages in a reliable way. As their trusted provider, we facilitate global and local financial flows, relentlessly pursue operational excellence, and continually seek ways to lower costs, reduce risks and eliminate operational inefficiencies. We also bring the financial community together to work collaboratively to shape market practice, define standards and debate issues of mutual interest.

For more information,
visit www.swift.com or follow us
on Twitter: @swiftcommunity
and LinkedIn: SWIFT

Financial Crime
Compliance Services

Set the
standard in
financial crime
compliance

Focus on the Core

Driving
security and
efficiency

Reinventing
Banking

Delivering
the future of
cross-border
payments

SWIFT for
Market Infrastructures

Supporting
your business,
connecting
your
community