



Innovate
with SWIFT

**Join us to build
the future of
global financial
transactions,
together**

To solve shared challenges the financial ecosystem needs to collaborate. We have set a path to reinvent global transactions.

Join us
Innovate with SWIFT

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SWIFT has set a course to fundamentally transform payments and securities processing. Over the next two years and beyond, we will expand our capabilities beyond financial messaging to become a platform for comprehensive transaction management services.

Faster Smarter Better

This transformation will enable our community to deliver faster, smarter, better services to end customers, facilitate the extension of services into new market segments, and reduce cost and investment levels. It will unlock business benefits for the entire financial ecosystem.

We want our community and our ecosystem to join us on this journey. In this paper, we set out the case for collaborative innovation and how it will be crucial for the future of financial services. We look at how SWIFT has pioneered this approach in financial services for more than 40 years and highlight numerous success stories in working with our community — from product innovations such as SWIFT gpi to APIs and cloud, to co-creation projects with others in our ecosystem, and to the exploration of new technologies and concepts such as AI, machine learning and digital currencies.

The paper also looks to the future and considers the complex challenges that the industry needs to overcome to achieve digital transformation. *How can we accelerate growth and maximise the benefit of API services? How do we overcome complexities in securities settlement to make them smarter? How can we simplify the industry's journey to cloud?* And many more.

There are many ways to get involved: join one of our multi-disciplinary hackathons; test new API services in our sandbox; pilot one of our innovative cloud solutions; co-create a mutually beneficial solution with us; or join us to debate ideas at one of our many industry events.

SWIFT is driving change across financial services alongside our community and beyond. So, whether you're a large transaction bank or a FinTech just starting up, if you have big ideas about the future of financial services, we'd love to talk.

Reach out to us at swift.com/innovate, or contact your SWIFT account manager.

Let the journey begin!

Building the future of global financial transactions, together



1.1 The Innovation Challenge

Changing customer expectations, growing competition and new technologies continue to challenge existing business models and put businesses under unprecedented pressure to innovate at pace.

According to McKinsey, 94% of CEOs are unhappy with how well their companies innovate

94%

While there have been pockets of success, existing operating, investment and development structures often struggle to deliver on the ambition to innovation at pace. [According to McKinsey](#), 94% of CEOs are unhappy with how well their companies innovate, and [evidence from PWC](#) demonstrates that most companies struggle to clearly align their innovation efforts with their business strategy.

Striking the right balance is a particularly acute challenge for financial institutions, which often operate across disparate legacy systems that do not necessarily provide a natural canvas for innovation. Institutions need to balance the running of existing operations, protection of customer assets and global regulatory compliance with the design of new infrastructures, financial products and services, and creating the business models of the future.

Increasingly, the financial industry needs to come together to solve common problems

and create shared efficiencies to unlock this challenge. Innovation thrives on collaboration and it has been demonstrated to be one of the five key behaviours that drive successful innovation.¹¹

Collaborative innovation — marrying the advantages of a robust, trusted and scalable financial services sector with the agile and entrepreneurial approach of new entrants and technology companies — can achieve together what individual institutions cannot deliver in isolation. This will help to deliver the best outcomes for customers and for the industry as a whole.

To create an infrastructure that can underpin a digital global economy and provide the fast and frictionless experience that our customers want, the message is clear: the financial services community must leverage new models of cooperation and co-innovation.

¹¹Eat, Sleep, Innovate: How to Make Creativity an Everyday Habit Inside Your Organization (2020), Anthony, Cobban, Painchaud & Parker

1.2 SWIFT - the cornerstone of collaborative innovation in financial services

As an industry co-operative, collaboration is in SWIFT's DNA. And innovation is at our heart. For more than 40 years, SWIFT has brought together financial institutions from around the world to identify industry-wide challenges and pain points, and develop solutions that benefit the entire global financial system.

As a trusted and neutral organisation, SWIFT has demonstrated its ability to deliver innovation at scale. By focusing efforts on shared industry challenges and working with our community to develop solutions and agreed market practices that benefit the wider industry, our collaborative approach delivers more sustainable and inclusive solutions. At the same time,

because solutions have been driven with, and by, the industry our approach helps to drive mass adoption of initiatives and standards.

We've put collaborative innovation at the heart of our strategy. We will focus on driving continuous product innovation, developing our ecosystem through collaborative innovation, and exploring high-potential emerging technologies, then harnessing their power.

Come with us on this journey. Together we will accelerate innovation and unleash new opportunities, deliver value to our community and support sustainable business models.

As a trusted and neutral organisation, SWIFT has demonstrated its ability to deliver innovation at scale

Scale

1.3 What's next? Building the future of global transactions, together

We have already worked closely with the community to remove some of the frictions when transacting across borders, and [SWIFT GPI is a measure of that success so far](#). Now we are taking another leap forward — fundamentally transforming payments and securities processing to help our customers navigate today's complex environment and be ready for the future.

Working with players from across the financial ecosystem, we will evolve our capabilities to enable seamless, frictionless

and instant transactions from one account to another, anywhere in the world.

SWIFT's [next-generation digital platform](#) will use APIs and cloud technology to provide a set of common processing services that banks have historically invested in individually, saving the industry time and money. New and extensive data capabilities will, for example, enable the pre-validation of essential data, fraud detection, data analytics, transaction tracking and exception case management.

Instant Payments Smarter Securities

Frictionless instant payments

In payments, financial institutions will be able to expand their offerings to businesses and consumers and enhance the end-customer experience. Our enhanced platform will orchestrate interactions between financial institutions and other participants to minimise friction, optimise speed and provide end-to-end transparency and predictability from one account to another anywhere in the world. This move has the potential to power instant and frictionless transactions between at least 4 billion accounts serviced by financial institutions across the SWIFT network.

Smarter securities

More than 6,000 securities players transact on our platform. Through good quality reference data, increased transparency along the processing chain and dynamic intraday reporting — for both cash and securities — our enhanced platform will help to prevent fails, reduce costs, and provide actionable insights. Users will benefit from improved reconciliation, reporting and asset servicing processes, as well as a real-time consolidated view of all their holdings. We envisage a world where traditional and tokenised representation of assets coexist, so we will continue work closely with the industry to develop and deploy the standards necessary to support the secure transfer of tokenised assets and provide a harmonised window to both.

1.4 Now is the time to Innovate with SWIFT

We have ensured that Innovation is a key pillar in the execution of our strategy. Our approach to innovation is clearly purpose-led, seeking to accelerate and de-risk the creation of new products and services.

SWIFT has a key role to play in helping the industry benefit from shared solutions that result in far-reaching change. In addition to bringing a range of exciting new capabilities, our platform approach will enable our community and our partners to innovate with us.

By working with our community as well as trusted third parties to co-create new products and services with us, we're entering a new era for transaction management, efficiency and interoperability. Together, we can deliver scaled, platform innovation.

There's no time to lose. We have set our sights on some of the big challenges that the industry will need to overcome in the decade ahead:



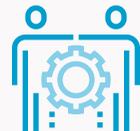
Simplifying the journey to cloud

How can we streamline the migration of highly complex, interwoven applications and infrastructures into the cloud?



Accelerating the growth in API services

How can we fast-track the development of a flourishing API ecosystem in financial services?



Facilitating payments aggregation

How can we enable corporates to better manage their payments across a diverse range of banks and bank accounts in multiple countries?



Making securities smarter

How can we overcome complexities in securities settlement to go faster, work smarter, improve transparency and service new assets?



Combating the rise in cybercrime

How can we beat cybercriminals as their methodologies leverage ever more sophisticated digital technologies?



Meeting the needs of consumers and SMEs

How can we increase efficiencies and reduce costs to meet the low-value cross-border payment needs of consumers and SMEs?



Enabling AI solutions to scale

How can we deliver the clean and structured data that AI and machine learning solutions must have to solve challenging data analytics use cases?



Connecting an ecosystem of services

How can we make it radically simpler for banks to discover and on-board new digital solutions?



Exploring the future of financial market infrastructures across account-based and token-based systems

How can we enable instant, frictionless payments across new and existing technologies?

How can you Innovate with SWIFT?

We collaborate, explore, develop, pilot and deploy alongside our community, from the largest financial institutions with a global footprint to the smallest start-up with a bright idea. We want to work with partners that have smart ideas and want to come up with the best solutions for the industry.

So how does it work? You can Innovate with SWIFT in lots of different ways:

We are driving change across financial services alongside our community and beyond. So if you've got big ideas about the future of financial services, we'd love to talk.

Reach out to us [here](#) to start the conversation about how you'd like to Innovate with SWIFT, or contact your SWIFT account manager.

1

Co-create a mutually beneficial solution one-on-one with us

2

Participate in an industry-wide, multi-disciplinary hackathon

5

Test one of our new API services in our sandbox

6

Partner with us to develop and offer an API to our community

3

Pilot one of our innovative cloud solutions

4

Help establish the proof-of-value for a promising new service

7

Assess a new technology in a proof-of-concept project

8

Or simply join us to debate ideas in one of our many industry events

Success stories in collaborative innovation

2

2.1 A cooperative approach to product innovation

Working closely alongside our customers – defining the challenge before focusing on the solution – **SWIFT** has developed a large number of products, services and initiatives that have helped to transform the way the industry works. Let's take a look at a few recent examples to show the **power of collaborative product innovation.**

Product

SWIFT gpi — The relentless pursuit of better payments

It started in 2016 with a [collaboration of 15 key global players](#) — brought together by SWIFT — to define a set of new rules and services that would dramatically improve the payments experience for end-customers.

Fast-forward four years and more than 4,000 financial institutions are live on the gpi service, exchanging [tens of trillions of dollars every year](#) in 150 of the 180 global currencies. Together, these institutions are delivering fast and secure payments with full transparency over where a payment is at any given time. Pre-and in-flight payment services have reduced friction and created

an even more seamless experience for banks and their corporate customers.

SWIFT gpi is a platform for constant, iterative innovation dedicated to improving the cross-border payments experience. Since the beginning, we have collaborated with the community to develop and deploy a range of product solutions that solve common pain points, from [instant 24/7 cross-border payments](#) to [pre-validation of payments: stop and recall; tracking inbound payments](#) and [frictionless case resolution](#).

The power of open APIs to transform financial services

The industry appetite for gpi also laid the groundwork for further cooperation. Soon after gpi's launch, SWIFT worked with the community to deliver an Application Programming Interface (API) that offered users [open access to the data in the gpi Tracker](#).

The gpi API has given financial institutions a real-time view on the progress of transactions within their software applications; more than that, it has enabled them to pass on this data to end-customers. As a result, corporate treasurers have gained unprecedented transparency on payment status, are able to monitor transactions from within their own treasury management systems with real-time updates via API calls.

SWIFT has also spearheaded an industry-wide move to API adoption and standardisation. In October 2018, we set out our vision to be the [global platform for the financial services API economy](#). The SWIFT [API Programme](#) has delivered on this promise, building a platform on which users exchanged 2 billion API calls in 2020.

Our community can now freely use our latest API-native connectivity solutions — the SWIFT Microgateway and SWIFT Software Development Kit (SDK) — to connect to our open source API Gateway, and consume and exchange data with counterparties in real-time. On our [Developer Portal](#) users can find a growing number of SWIFT APIs, enabling customers to integrate value transaction data into in-house applications, from payments notifications, to reference data, as well as KYC and compliance.

The ability of APIs to communicate and sync data between multiple parties in real-time makes the technology critical to the digital transformation of financial services. Our APIs are enabling our community to easily access data and integrate with services offered by SWIFT, the community and trusted third-parties — streamlining processes, improving end-customer experiences and creating value for all.

The new cloud foundation for SWIFT's services

Adoption of cloud-based solutions in financial services has been slow relative to other industries. Although the benefits of cloud were clear, many institutions were cautious about moving critical applications and infrastructure off-premises because of the potential impact on security and resilience.

This is where SWIFT plays a unique role. Given our position as a trusted steward of transaction data, [when we launched our first cloud messaging interface, Alliance Lite2, back in 2012](#) there was immediate appetite from the community to leverage the advantages of cloud, reassured by SWIFT's proven track record for security and resilience.

Following the success of Lite2, SWIFT quickly recognised the need to deliver the next generation of cloud services to our customers. We have therefore developed a brand new cloud infrastructure, built on the latest containerised cloud technology, as the foundation for SWIFT's services and an enabler for community innovation.

The [first service to go live on the new infrastructure in 2020 was Alliance Cloud](#),

offering a transformed user experience coupled with the capability of scaling-up to meet the needs of customers with very high message volumes. This solution makes cloud a viable messaging interface proposition for our entire user community for the first time — from corporates and small and medium sized institutions, to high-volume global transaction banks.

Our state-of-the-art cloud environment significantly increases the speed at which we can develop, test and deploy innovative services for the benefit of the community. [It will host SWIFT's enhanced platform](#), a cornerstone of our new strategy, which will enable us to expand our capabilities beyond financial messaging to provide comprehensive transaction management services.



2.2 Developing a thriving ecosystem

The best innovation does not happen in isolation — it is unleashed through strategic and systematic collaboration. That is why we work closely with our community members across the industry to identify, validate and prioritise opportunities, then we co-create alongside our partners to ensure we achieve the best outcomes.

We are part of a collaborative ecosystem — ranging from small fintechs to established financial institutions, large technology providers, central banks and major market infrastructures — that is the only way to address often complex or intractable challenges for global payments and securities players. This kind of responsible innovation benefits the financial sector as a whole.

In addition to the development of products and services, we play an important role in providing thought leadership — delivering agenda-setting research and white papers, events and industry initiatives that help define the direction, shape and pace of change across many areas of financial services.

Ecosystem

Co-building solutions with ecosystem players, large and small. As well as working with large groups and initiatives, our innovation agenda also includes projects where we work directly with a single company to develop solutions that are mutually beneficial to both parties and the wider industry.

A new standards alliance to further unlock the potential of API technology

Regulators around the globe are requiring that financial institutions offer their clients standardised APIs that provide the level of interoperability between product and services needed to facilitate choice for end-consumers and provide a truly open banking market.

To this end, [SWIFT has partnered with Berlin Group NextGenPSD2, OBIE and STET](#) to develop a global, common data dictionary on a newly formed collaboration platform. The aim is to eliminate fragmentation and differing standards so that future changes to technical

standards can be harmonised, making it easier for fintechs to connect and provide services to a wider range of customers.

Members of the new alliance have concluded a first phase in which a single, consolidated data model for the revised Payment Services Directive (PSD2) Account Information Services has been defined using common ISO 20022 artefacts. This data model is intended to become the foundation for future API definitions, which will better support interoperability amongst open banking participants globally.

Collaborating to deliver instant 24/7 cross-border payments

2020 saw a unique collaboration between [SWIFT and five banks around the world to pilot instant low-value cross-border payments](#). Involving Lloyds Banking Group, Barclays, Commonwealth Bank of Australia, DBS, Wells Fargo and BBVA, the pilot saw more than 40 payments sent at an average time of around one minute, with the fastest sent from Australia to a UK beneficiary with confirmation of credit and funds available in just 36 seconds.

The SWIFT gpi Instant service went live in December 2020 and now remittance

payments from anywhere in the world can be routed from account to account in seconds, with fee and FX transparency, robust security and full regulatory compliance.

The gpi Instant service works by connecting SWIFT gpi, the high-speed cross-border rails with real-time domestic payments infrastructure. It enables banks to use existing infrastructure to provide better service 24/7, with faster speeds, clarity on fees and, crucially, predictability on when an end beneficiary's account will be credited.

Industry hackathons: unlocking the power of data in financial services

SWIFT regularly brings the financial ecosystem together to discover creative solutions to industry challenges. Most recently in 2021, [SWIFT is partnering with the Bank for International Settlements \(BIS\) on a hackathon](#) to explore the potential of ISO 20022 and APIs to enhance cross-border payments.

Open to banks, fintechs, payment service providers and corporates, the hackathon participants can adapt an existing product or build and demonstrate new solutions that further streamline and automate international payments.

In addition, SWIFT has hosted multiple hackathons at Sibos and its other events around the world, bringing together innovators from across financial services. In 2020, the Sibos Hackathon went virtual, bringing together teams from across the financial industry, with 60 developers and data scientists from 25 organisations and 18 different countries working together on unlocking the power of data in financial services.

The [winning solutions](#) all used advanced analytic technologies, including machine learning and deep learning, to solve industry challenges and deliver better customer outcomes. The stand-out team in the risk category, for example, explored using machine learning to improve cybersecurity for banks by providing a screening tool for payment traffic that immediately alerts banks' cybersecurity teams when unusual FIN payment messages are being exchanged over the SWIFT network.

For the first time, we provided 'synthetic' SWIFT data to mimic traffic flowing over the network. This enabled participants to employ meaningful machine modelling to develop solutions that could be adapted to real transaction flows.



Co-creation to drive global trade digitalisation

Collaboration between SWIFT and Singapore's Infocomm Media Development Authority (IMDA) combines the reach, scale and reliability of SWIFT with IMDA's efforts on technology and legal frameworks to accelerate trade digitalisation.

Building on IMDA's framework for the interoperability of digital trade documentation (TradeTrust), [SWIFT developed a proof of value in early 2020 for digitising trade processes with leading banks.](#)

Moving from manual to digital processes creates opportunities to shorten trade processing times and facilitates the creation of new trade financing offerings.

The IMDA and SWIFT are now working under a memorandum of intent to drive community adoption of digital trade processes, with major banks including DBS Bank, HSBC, JP Morgan and Standard Chartered.

Streamlining liquidity reporting with Suade Labs

One example is our [recent work with the RegTech player](#), Suade Labs which explored how combining AI-based software with SWIFT's unique transaction data could streamline the complex liquidity reporting requirements that financial institutions currently face.

SWIFT's data can provide a unique real time view on the peaks and troughs of economic activity. By monitoring SWIFT data and applying AI, it could be used to identify anomalies and alert regulators in real time. As such, we will continue to explore how we can use new technologies to leverage this data and reduce the liquidity reporting burden on financial institutions.

Contributing our knowledge and resources to industry-level initiatives. SWIFT has been a catalyst of innovation in financial services for 40 years. We bring key people and players together to deliver thought leadership — from leading industry-level initiatives, hosting community events, to publishing agenda-setting research and white papers that help to shape the future direction for financial services.

Hosting community events — inspiring the future of financial services

In addition to the many community events, business forums and regional conferences that we offer, our annual global conference, [Sibos](#) is the world's premier gathering for the global financial community to debate and collaborate in the areas of payments, securities, cash management and trade.

SWIFT Innotribe — connecting today's financial leaders with tomorrow's big thinkers

Since its inception in 2008, SWIFT Innotribe has brought together innovators and investors from leading financial institutions worldwide to identify, develop, and implement transformational products and services.

Through global events such as Sibos and the flagship [Future of Money](#) session, Innotribe introduces the financial industry to emerging technology trends and works with proven fintech enterprises, bank and university innovation labs, and top industry

experts, to stimulate debate and facilitate action across the industry.

In 2020, we launched the Discover Perfect Pitch at Sibos, a fully digital pitch competition showcasing over 50 fintechs from across the globe in three streams — Leadership, Society & Humanity and Sustainability. [Our winners](#) — Agryo, Identiti and Illumio — were awarded access to venture capital, and bank and corporate sponsors.

The SWIFT Institute — bridging the gap between academia and the financial industry

While academic research and programmes have long investigated topics that are highly relevant to the industry, this work has rarely been used to inform decision-makers in financial services. [The SWIFT Institute](#) bridges this gap and has built a body of research based on robust academic principles that is accessible and relevant to the SWIFT community

Through the Institute, SWIFT funds independent research with the aim of supporting both a knowledge-led debate

around the future of financial services, as well as a forum where academics and financial practitioners can learn from each other.

Recent examples of SWIFT Institute funded work include [‘Mapping the Shadow Payment System’](#) a joint paper from Oxford and Cornell Universities, and [‘Cyber Resilience and Financial Organizations: A Capacity-building Tool Box’](#) from the Carnegie Endowment for International Peace.

SWIFT Standards Group — enabling efficient financial communication around the world

The use of common standards in financial communications underpins the industry's ability to offer fast and frictionless experiences to its customers. That's why the creation, maintenance and publishing of international messaging standards, alongside the definition of market practices on how they should be deployed, have been at the core of SWIFT's mission since its inception.

In the early 2000s, the SWIFT Standards Group worked with the broader financial standards community to devise ISO 20022, a richer and more structured financial communication standard than legacy formats. At the same time, we developed

the technology that sits behind it to capture message definitions and publish them. The rich data of ISO 20022 will enable our community to innovate, delivering improved services and better customer experience.

We have been amongst the leaders in supporting the roll out the new standard across the industry. In 2016, for instance, SWIFT launched its [ISO 20022 Harmonisation Charter project](#) which brought together key financial market infrastructures and market practice groups to help institutions across the world implement ISO 20022 using best practices that the group defines together.

2.3 Exploring the potential of new technologies

Thanks to SWIFT's unique position at the heart of the financial industry, we play a vital role in evaluating the viability, practicality and potential of emerging technologies to deliver value.

Working with our community, we identify the real frictions and pain points experienced across the industry and explore the technologies and shared approaches that can address these challenges.

When a technology or other solution demonstrates promise, we focus our efforts on harnessing its power to transform the products and services that our community can offer its customers, or improve the operating environment for the industry as a whole.

Technology

Supporting customers' public cloud strategies. Since public cloud providers have addressed industry concerns and demonstrated the attributes that financial institutions require to host core banking applications off-premise, it is now becoming the norm for new applications and infrastructures to be deployed directly in the public cloud.

To support customers in this area, [SWIFT launched its digital connectivity initiative](#) in 2019 to develop solutions that enable them to deploy SWIFT infrastructure and connectivity components in 'hyper-scale' public cloud platforms, such as Microsoft Azure, Google Cloud Platform and Amazon Web Services (AWS). As part of this initiative, SWIFT is currently developing Alliance Connect Virtual, a network connectivity product that enables users to deploy virtual private networks in public cloud environments.

However, we also understand that migrating existing systems, built in a pre-cloud era, this is not always a straightforward journey for our customers. To this end, a key part of our initiative is working side-by-side with customers to overcome the unique IT and security challenges posed by moving applications to the public cloud. [Watch this recent Sibos session](#) to find out how Standard Chartered Bank is benefiting from just such a collaboration with SWIFT and AWS as it migrates its messaging interface to the public cloud.

Harnessing the power of SWIFT's unique data with AI

Combining AI with SWIFT data has the potential to provide unique insights that can help resolve existing and emerging challenges across financial services without compromising the integrity of transaction data or the privacy of users.

A major challenge for our industry, and others, is how to combat increasingly sophisticated cyberattacks. One example of how SWIFT is leveraging new technologies is a current project exploring how machine learning could help identify fraudulent payment instructions. We're examining AI-based anomaly intrusion detection systems that could learn and model users' normal behaviour patterns on the SWIFT network

over time and alert the system administrator when anomalous behaviours are detected. Can AI efficiently identify fraudulent behaviour at the same time as reducing the resource intensive work firms need to carry out investigating false-positive alerts?

There are many other opportunities for AI to help streamline processes and reduce risk as well as dramatically improve the customer experience. That's why we are building an in-house machine learning sandbox environment that will provide a highly secure hub where we can train and evolve machine learning models under the strictest data privacy conditions. Watch this space!

Unearthing the potential of DLT and digital currencies

SWIFT has been exploring the potential of Distributed Ledger Technology (DLT) ever since the technology first emerged. In 2016, [SWIFT completed a ground-breaking assessment of the status of DLT](#), and we have continued to test and evolve the technology in numerous projects and proofs of concept ever since.

SWIFT followed this up with the largest [DLT project in the financial industry at the time](#), bringing together 34 financial institutions from around the world to test the potential for DLT to enable real-time nostro account reconciliation and liquidity optimisation.

Since then, the discussion has evolved as we see the emergence and development of token-based DLT networks and ecosystems that try to address a variety of challenges in trade finance, securities lending, bond issuance, commercial bank money payments and even central bank money such as the e-krona.

SWIFT is actively engaging with central banks, financial institutions, technology providers and academics to understand possibilities that central bank digital currencies (CBDCs) could enable, and how SWIFT could support central banks should they wish to implement digital currencies in the future.

An Agile development approach

SWIFT has transformed its approach to product development in recent years, moving away from traditional methods of software delivery to adopt the 'Agile' way of working. Based on [a core set of values and principles](#), the Agile approach to product development puts collaboration at the core of the development process – designing organisational structures that drive teams to collaborate with each other and with customers to develop software that better meet their needs.

SWIFT's Agile approach focusses on encouraging its employees to adopt three key behaviours in all aspects of their work: be customer-oriented; be open-minded and curious; and be one accountable team. Agile allows us to take ideas from concept to reality at speed and at scale – enabling us to quickly develop and deliver new products, features and functionalities that meet the exact needs and expectations of our customers.

A state-of-the-art IT platform

SWIFT has recently transformed its platform architecture and technology to offer cloud-like capabilities, such as scalability, by leveraging virtualised and containerised technologies. The technology stack uses modern and mature technologies built on an API-accessible microservice architecture using Kubernetes, offering database-as-a-service, built on highly performant, scalable, NoSQL like Cassandra, mongoDB and RDBMS technologies.

Our journey to the cloud continues with SWIFT's support of the global public cloud providers. Springboot-based applications built on these stacks are connected using event-based architectures such as Kafka. Application orchestration is further enhanced with the use of BPMN-like technologies. We used modern programming language paradigms using Java, Python, Scala, React, AngularJS, NodeJS, Spark to build our stack.

SWIFT's infrastructure is secured using advanced networking technologies. We use best-in-class service management and monitoring tools such as ELK, APM and Microservice security tools. Our application security is based on the state-of-the-art technologies using PKI, HSMs, and we are exploring innovative security schemes to stay ahead (e.g. SMPC, zero trust, etc.). Our development is driven by a DevSecOps model supported by an agile delivery process using a CI/CD pipeline.

Innovate with SWIFT

Join us
swift.com/innovate

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 and standards for communicating, and we offer products and services to facilitate access and integration, identification, analysis and regulatory 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. While SWIFT does not hold funds or manage accounts on behalf of customers, we enable our global community of users to communicate securely, exchanging standardised financial messages in a reliable way, thereby supporting global and local financial flows, as well as trade and commerce all around the world.

As their trusted provider, we relentlessly pursue operational excellence; we support our community in addressing cyber threats; and we continually seek ways to lower costs, reduce risks and eliminate operational inefficiencies. Our products and services support our community's access and integration, business intelligence, reference data and financial crime compliance needs. SWIFT also brings the financial community together — at global, regional and local levels — to shape market practice, define standards and debate issues of mutual interest or concern.

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.

For more information, visit
Web: www.swift.com
Twitter: @swiftcommunity
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