

# The Faster Payment System: A Five-Year Journey of Innovation and Growth

*by Financial Infrastructure Department*

The Faster Payment System (FPS) celebrated a significant milestone in 2023, marking its fifth anniversary. Born out of the demand for more convenient and efficient retail payment services, the FPS was launched in 2018 as the world's pioneering multi-currency instant payment system, seamlessly connecting banks and stored value facilities (SVFs). Over the years, the Hong Kong Monetary Authority (HKMA) has continued working with the industry to enhance the FPS through the introduction of new system features and expansion of its applications to support new use cases. The FPS has garnered popularity, evident in its widespread adoption and usage, supporting the increased use of e-payment and development of a diversified payment ecosystem in Hong Kong. This article delves into the remarkable journey of the FPS over the past five years, highlighting its key milestones and offering a glimpse into its voyage ahead.

## Introduction

Not too long ago, initiating a fund transfer to a friend would often start with the question of whether both the payer and the recipient held accounts at the same bank. Topping up one's e-wallet usually entailed a physical visit to a convenience store. Making "online" payments to third parties would involve a multi-step process, which first required depositing money at an automated teller machine (ATM) or a bank branch, double-checking if the account number was correct and then sending a picture of the physical payment slip to the recipient.

In September 2018, the HKMA launched the FPS, operated by Hong Kong Interbank Clearing Limited (HKICL), to support instant retail payments in Hong Kong. This new piece of financial infrastructure has revolutionised the payment landscape. With the launch of the FPS, payments could now be made instantly, anytime and anywhere with a mobile device. Payments could also be made more easily with the use of account proxies such as a mobile number and email address, instead of the input of a long string of digits of bank account numbers.

This article offers an overview of the developments of the FPS over the past five years since its launch. The following sections review the adoption of the FPS, recap its major features together with the enhancements, and examines its usage in different types of payments, including its application in both domestic and cross-border payments.

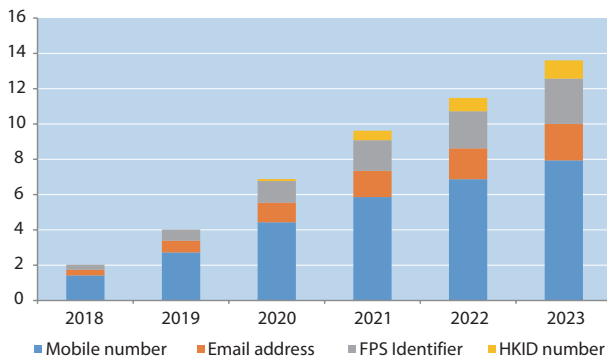
## Adoption of the FPS

Adoption of the FPS has continued to grow in the past five years. The number of FPS registrations expanded more than six times from more than 2 million at the end of 2018 to 13.6 million at the end of 2023 (Exhibit 1), marking an average annual growth of 46%. Driven by a gradual extension in the scope of usage, the turnover of the FPS has also seen a similar upward trend (Exhibit 2). The average number of Hong Kong dollar real-time transactions reached 1.25 million per day in 2023, marking an average annual increase of 64% since the first full year of operation of the FPS in 2019. The average daily value of Hong Kong dollar transactions was HK\$9.0 billion in 2023, marking an average annual increase of 38% since 2019.

### Exhibit 1

#### Number of FPS registrations

No. of registered accounts (million)

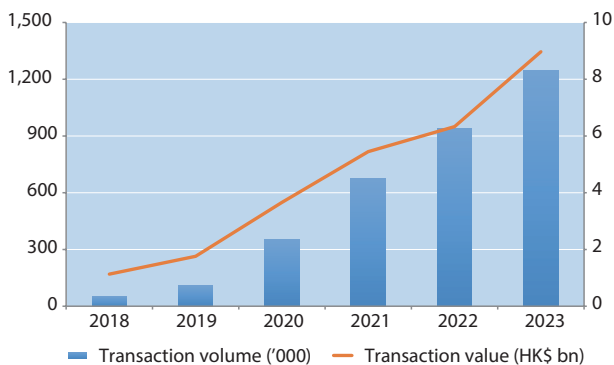


### Exhibit 2

#### Average daily turnover of Hong Kong dollar real-time payments in the FPS

Average daily transaction volume ('000)

Average daily transaction value (HK\$ billion)



## Major features

The FPS is a unique piece of financial infrastructure, with its round-the-clock operation, use of account proxies, real-time deal-by-deal settlement, multi-currency capabilities, and full connectivity between banks and e-wallets. The major features are mentioned below, coupled with the major enhancements over the years (Exhibit 3).

### i. Instant payment

The HKMA has been monitoring the system performance closely, in particular whether FPS transactions can be completed almost immediately as expected. Indeed, on average, the time required by the FPS to process a transaction is only a fraction of a second. From the perspective of a user, transactions are completed in the blink of an eye.

### ii. 24/7

The FPS is available round-the-clock, regardless of extreme weather conditions or holidays. Since its launch, FPS system availability has been maintained at a high level of 99.5% and above. The brief periods of unavailability were mainly due to planned service suspensions scheduled in the early morning hours for system upgrades and enhancements.

### iii. Full connectivity

The FPS achieves full connectivity between banks and SVFs. Payments between different banks, between banks and SVFs, and between different SVFs can now be done easily. The hassle of making small-value interbank transfers or e-wallet top-ups is therefore a thing of the past. Fund transfers between banks and SVFs are instant and usually free of charge in respect of person-to-person (P2P) payments. The number of institutions offering real-time FPS service has increased from 31 at the time of launch to 52 at the end of 2023.

### iv. Account proxies

The FPS offers four types of account proxies (known as proxy IDs) for receiving payments: phone number, email address, FPS Identifier (FPS ID, a unique string of numbers generated by the FPS) and Hong Kong Identity Card (HKID) number. For the payee, the use of these proxy IDs offers an added layer of privacy and convenience as there is no need to disclose bank account information to the payer. For the payer, the use of proxy IDs ensures a secure payment while saving the trouble of entering a long string of bank account numbers. On entering a proxy ID such as a mobile number or an email address, the payer is shown the partially masked name of the payee before confirming the payment, enabling the payer to verify if the payee is correct.

The number of proxy ID registrations stood at 13.6 million at the end of 2023, far exceeding the population of Hong Kong. Besides the popularity of using account proxies, the ability to use a single mobile number or email address to link up with more than one bank or SVF is another reason for the outsized number of registrations. Meanwhile, banks and SVFs have provided an interface to help users look up the full list of registered institutions under the same proxy ID.

In 2020, the HKMA added the fourth account proxy: HKID number. It can only be used to receive payments from institutions (but not in P2P transactions), such as salary payments from employers that already possess the user's HKID number. The use of a payee's HKID number as an account proxy saves institutions the need to verify the bank account information when disbursing funds to individuals. Meanwhile, recipients can change the receiving account at any time without having to notify the paying institution, making the process seamless and hassle free.

### v. Multi-currencies

The FPS is perhaps the world's first instant payment system that supports multiple currencies. Currently, it supports both Hong Kong dollar and renminbi. While the majority of usage is in Hong Kong dollar, the usage of renminbi is expected to grow further with initiatives like e-CNY and further integration in the Guangdong-Hong Kong-Macao Greater Bay Area.

vi. Settlement mode

While the FPS mainly caters for real-time transactions, the system also includes a function to process transactions in batches (which is useful for bulk disbursements such as salaries and execution of standing instructions by banks). More recently, the banking industry has started to migrate autopay transactions (including both auto-credit and

auto-debit transactions) from the Electronic Clearing system of the Real Time Gross Settlement system to the FPS. The migration of such payments from the legacy infrastructure will pave the way for more innovative and efficient batched payments in the future. Against this background, the total volume of transactions processed by the FPS, including both real-time and batched payments, has increased further (Exhibit 4).

Exhibit 3

Key milestones of the FPS

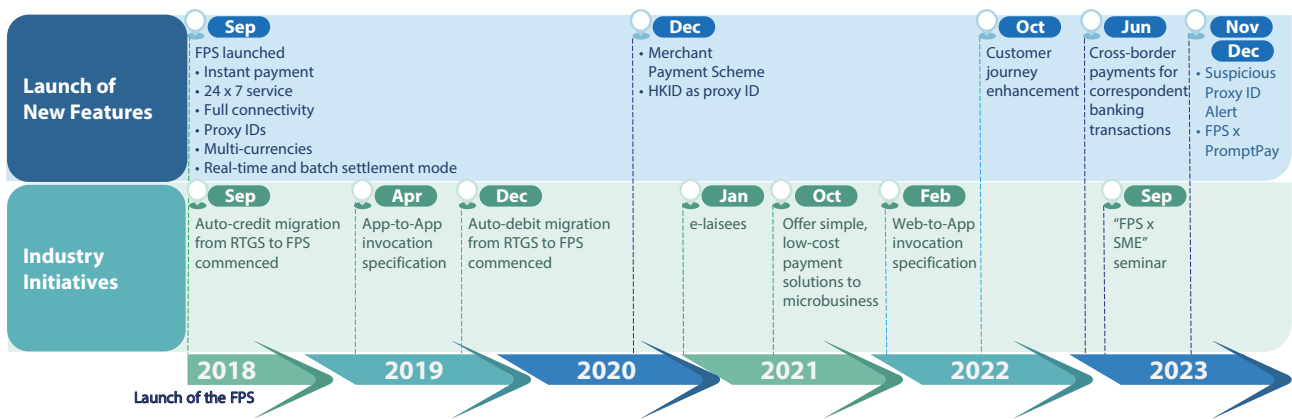
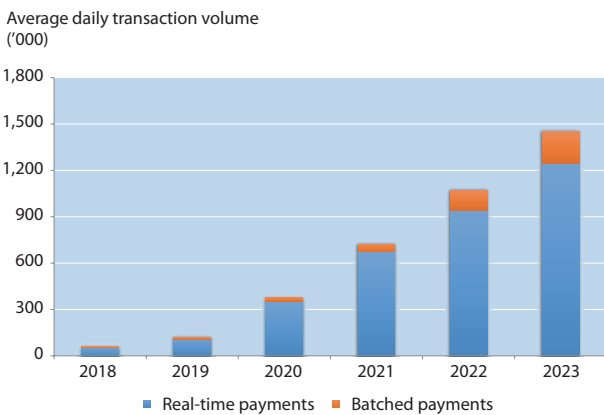


Exhibit 4

Average daily turnover of Hong Kong dollar real-time and batched payments in the FPS



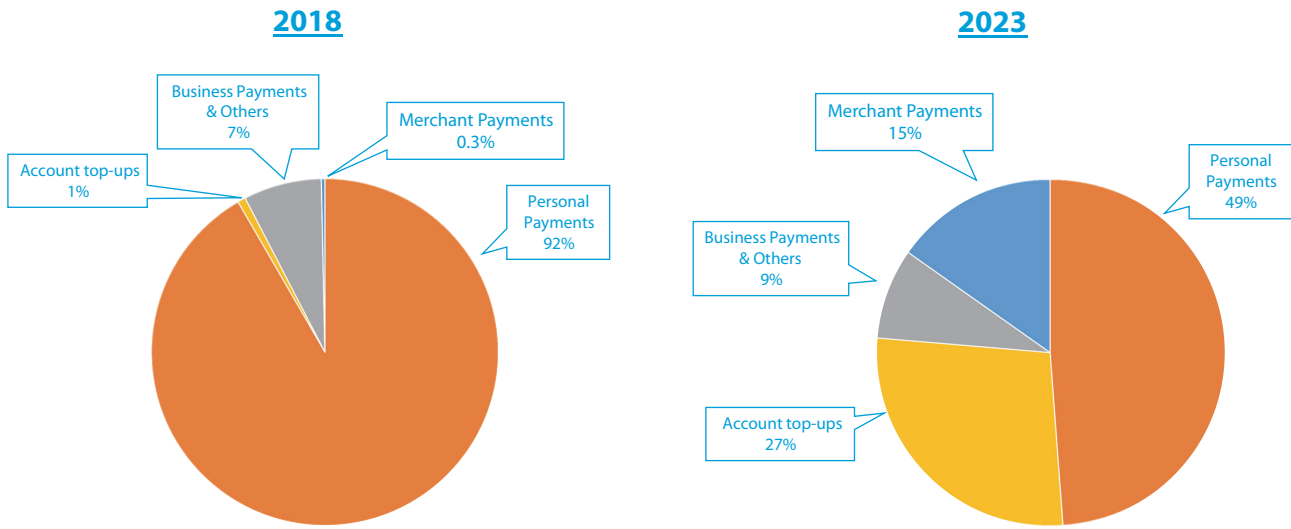
## Applications of the FPS

### Domestic payments

The FPS was initially used primarily for P2P payments, but its usage gradually expanded to include account top-ups, bill payments, merchant payments and business payments (Exhibit 5).

#### Exhibit 5

#### FPS usage breakdown



### Personal payments

P2P payments is the most common use case of the FPS because of the convenience of using a mobile number in place of an account number to send funds, and the full connectivity between banks and SVF e-wallets. Today, the majority of real-time payments processed by the FPS involve the use of account proxies (60%), while the rest (40%) use account numbers.

One of the more notable innovations in the use of the FPS in personal payments is electronic “lai-sees” (e-laisees). Since 2021, the HKMA has worked together with the industry to encourage the public to send e-laisees via the FPS, partly to promote environmental awareness and partly to support efforts to mitigate the risks posed by COVID-19 at that time. Today, most retail banks make the e-laisees function available for use during Chinese New Year.

Another major use of the FPS is account top-ups. Top-ups to SVF e-wallets as well as bank accounts are now made easy with the FPS function of direct debit, coupled with the setup of electronic direct debit authorisation (eDDA). The App-to-App (ATA) function provides an alternative means to support real-time account top-ups through credit transfers. In conjunction with full connectivity, these functions have supported the development of a more diverse ecosystem in payments, providing a level playing field for all players to compete with the traditional ones.

While the FPS makes payment easier, the HKMA also places great importance on enhancing the customer experience.

Since October 2022, payee banks or SVFs have been required to provide feedback on the credit status of a payment to payer banks or SVFs, which in turn updates the payer. This feedback could include whether a payment is successfully posted to a payee's account or, in case of a failed payment, the reason for rejection (such as name mismatch).

In November 2023, the Suspicious Proxy ID Alert was introduced to caution users of associated fraud risks before conducting transactions using the FPS. The alert mechanism was developed through a collaborative effort involving the HKMA, the Hong Kong Police Force (HKPF), HKICL and the industry, utilising data stored in the Scameter (an anti-fraud search engine developed by the HKPF). Under this mechanism, users are alerted of the high risk of fraud if the payee's FPS proxy ID (including mobile phone number, email address, FPS ID) falls within the list of proxy IDs labelled as "High Risk" on the Scameter. An alert message will be displayed to users, reminding them to think twice before deciding whether to cancel the transaction or continue with the payment. This initiative enhances user awareness and supports them to make informed decisions, safeguarding against potential fraudulent activities.

### **Payments to the Government**

The Government was one of the early adopters of the FPS. Since 2019, the Government has been accepting bill payments via the FPS. Members of the public can scan the QR code printed on bills using a supporting mobile banking or SVF e-wallet app to pay taxes, rates and Government rent, water charges and General Demand Notes issued by the Government. Acceptance of FPS payments was later extended to designated counters and self-help kiosks in December 2020, and further to online Government payments in December 2022 utilising the ATA or Web-to-App (WTA) payment function. Currently, more than 90% of Government departments accept the FPS as a means of payment. Members of the public can use the FPS to make payments for various kinds of public services, such as fees for tunnels, leisure facilities, Government car parks, public rentals and public hospitals.

### **Merchant payments**

The private sector has similarly adopted the FPS for accepting payments. Initial use cases were mainly bill payments, by printing FPS QR codes on bills issued to customers. Through collaborative efforts with the industry, the FPS has gradually gained adoption from merchants across a broad spectrum of sectors, with notable examples including the education, insurance and property management sectors, as well as various professional bodies. Additionally, new use cases have been developed, with the adoption of the ATA/WTA feature to facilitate on-mobile payments for merchants and small and medium-sized enterprises (SMEs), thereby enhancing operational efficiency and lowering administrative costs. For example, some schools collect school fees via the FPS and some securities firms provide this function for their clients to top up their cash accounts via the FPS for securities trading.

According to market feedback, start-ups and small merchants are more interested in adopting the FPS for merchant payments, especially in online scenarios, because of the ease and low cost of set-up. In fact, promotion of the FPS to SMEs has been a key focus of the HKMA, as it facilitates the adoption of e-payments by small merchants and aligns with the HKMA's goal of promoting financial inclusion. To this end, the HKMA has encouraged the banking industry to offer simple, easy-to-use and affordable FPS payment solutions (such as the provision of FPS QR codes) to microbusinesses to help small merchants embrace the era of e-payment. The HKMA took the lead to gather the industry and SMEs at the "FPS x SME" seminar held in September 2023 to further promote the benefits of the FPS. As a further step to promote SME adoption, HKICL provided a settlement fee exemption for banks and SVF operators for real-time payments from corporates and merchants in October 2023, and encouraged banks and SVF operators to pass on the benefits to SMEs and merchants.

## Cross-border payments

While the FPS mainly caters for domestic payments, it has begun venturing into cross-border use. In addition to offering fast and convenient user experiences, the FPS's support of cross-border payments also strengthens regional integration and promotes financial inclusion by enabling individuals and businesses to participate more seamlessly in the global economy. This fosters economic growth, facilitates global trade, and empowers individuals and businesses to explore new markets and collaborations.

### *Cross-border payment service in correspondent banking business*

In June 2023, the FPS expanded its suite of functions by supporting cross-border payment services in the correspondent banking business. Banks are able to provide their customers in Hong Kong with more efficient correspondent banking payment services through the FPS. With its 24/7 availability and real-time settlement features, the FPS enables banks to receive overseas remittances or remit money to destinations abroad more swiftly than before.

### *FPS x PromptPay*

In December 2023, the FPS debuted its first cross-border linkage. The HKMA and the Bank of Thailand jointly launched the "FPS x PromptPay" for cross-border QR payments between Hong Kong and Thailand. Through this linkage, travellers from the two jurisdictions can make retail payments simply by using mobile payment apps to scan the Hong Kong FPS QR code and Thai PromptPay QR code displayed by merchants, offering the general public a safe, efficient and cost-attractive alternative for retail payments. The initiative provides travellers with greater convenience, hence supporting tourism and economic activities of Hong Kong and Thailand. It also paves the way for similar collaborations in the region in the coming years.

### *Expanding the cross-boundary e-CNY pilot in Hong Kong*

The HKMA has been working closely with the Digital Currency Institute of the People's Bank of China to further expand the cross-boundary e-CNY pilot in Hong Kong. The pilot involved the use of the FPS to top up e-CNY wallets and the use of e-CNY in making merchant payments. A drill that involved four Mainland operating institutions and 18 local banks in Hong Kong was completed in early 2024, paving the way for further expansion of the pilot in the future. It is expected that e-CNY will provide residents of Hong Kong and the Mainland with an additional safe, convenient and innovative option for making cross-boundary retail payments, and will help further promote interconnection in the Guangdong-Hong Kong-Macao Greater Bay Area.

## Conclusion

While this article does not detail each and every enhancement of the FPS in the past five years, the initiatives covered demonstrate how the FPS has become a household name of payment and has changed the payment landscape in Hong Kong. Looking ahead, the HKMA will remain committed in ensuring the stability and resilience of the FPS, and will continue to work with the industry to explore new use cases and opportunities both within and outside Hong Kong with the aim of supporting further innovation in payments.