



A2A PAYMENTS

How A2A Payments Will Reach Critical Mass in the UK & Europe

Whitepaper Prepared for Token.io



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A2A PAYMENTS: HOW A2A PAYMENTS WILL REACH CRITICAL MASS IN THE UK & EUROPE

1. Market Overview & Growth Drivers



1.1 Introduction

The past 10 years have seen a massive expansion of the payments ecosystem, with previously niche payment options diversifying into a seemingly endless range of payment types. In recent years, the design of new payments infrastructure, the emergence of open banking and the flourishing of digital wallets has shifted the landscape.

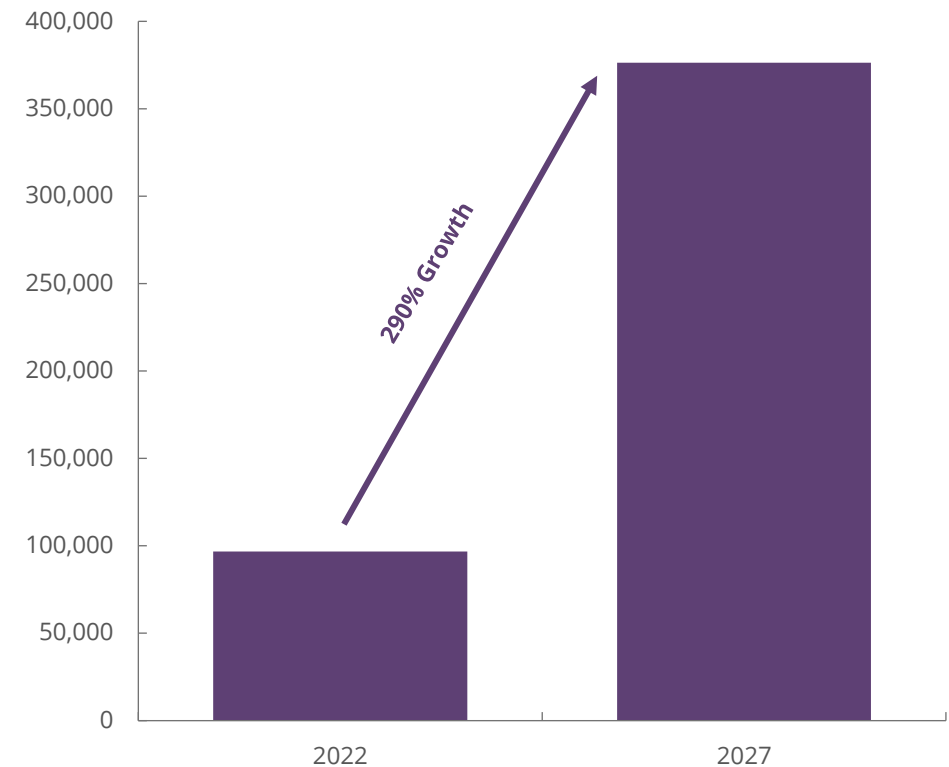
Moving to the present day, we are seeing a once-in-a-lifetime shift in the payments infrastructure – upgrades are being made at a fundamental level, with regulators and payment companies making significant changes to how payments work to enable effective global commerce.

We have seen particular progress in countries including Brazil and India, with Pix and UPI (Unified Payments Interface) respectively being highly transformative. This success has catalysed other markets, such as the US, to launch powerful instant payment systems, such as FedNow. These developments equate to massive progress within the A2A (account-to-account) payments space. It is now apparent that innovation from real-time interbank clearing systems and open APIs (application programming interfaces) represent the greatest potential disruption to financial services in a generation; driving massive potential benefits within payments.

The past few years have seen an explosive growth of A2A payments executed over real-time payment rails, and this is expected to continue. Indeed, as can be seen in figure 1.1, we anticipate that the instant payments transaction volume will grow by nearly 300% between 2022 and 2027 globally.

Globally, there has been a significant jump in the number of real-time payment systems in service, with almost 80 instant payment schemes projected to drive continued A2A payment growth globally. Within this context, it is important to understand examples of where A2A payments are flourishing, how they will grow over the next few years, and what this means for the payments market.

Figure 1.1: Growth in Instant Payments Transaction Volume (m), Global, 2022-2027



Source: Juniper Research

1.2 Definitions

To aid in understanding sometimes complex payment systems, we will begin by examining definitions of key terms.



1.2.1 A2A Payments

A2A payments are becoming increasingly important in the payments market. Juniper Research defines an A2A payment as the below:

'A2A payments move money directly from one bank account to another bank account, without the need for additional intermediaries or payment instruments, such as cards. A2A payments can cover many use cases, such as P2P (Person-to-Person), P2B (Person-to-Business) or G2P (Government-to-Person).'

A2A payments are not a new development, with bank transfers having been possible across markets for a number of years. However, what is new is the speed and ease of integration that open banking APIs and real-time payments have provided, accelerating adoption. While not all A2A payments are enabled by open banking, it has a major role to play in accelerating adoption.

1.2.2 RTP (Real-time Payments)

Within the market, A2A payments are taking off, driven by the increasing availability of real-time payment rails. Juniper Research defines an instant payment, known interchangeably as a real-time payment, as follows:

'Any payment scheme where funds are capable of being received in 10 seconds or under, outside card networks, and confirmation of the payment to the parties is available in one minute maximum.'

Instant payments are noteworthy for the immediacy of the confirmation of payment for both sender and recipient, as well as the use of industry-specific standards in clearance and settlement. A commonly used standard is ISO 20022.

Real-time payments drive A2A payments, as they enable a speed that has previously been difficult to achieve, combined with standardised interfaces that can be leveraged by financial institutions. As such, real-time payments unlock a world of new possibilities for A2A payments, accelerating adoption significantly where deployed.

However, not all A2A payments are processed via formal instant payments rails. Instant payments are not the only growth driver for A2A payments, with consortiums formed by banks in certain markets also driving growth of A2A. Popular consortiums and systems include PayNow in Singapore, Bizum in Spain, and Vipps MobilePay in Denmark & Norway. However, we do see the most rapid growth in markets where A2A payments are executed over instant payment rails, including in Brazil with Pix, and in India with UPI.

1.3 Market Status

In this section, we will analyse the growth of several key real-time payments systems and their implications for A2A payments.

1.3.1 Brazil – Pix

Pix, released in 2020 by the Central Bank of Brazil, is an instant A2A payment platform, which has seen rapid growth since launch. Designed from the ground up to digitise payments and meet a number of different use cases, as of July 2023, 87% of Pix's 3.5 billion payments per month are settled via Brazil's Instant Payment System (SPI), making Pix a model for driving instant payments and A2A payments at scales.

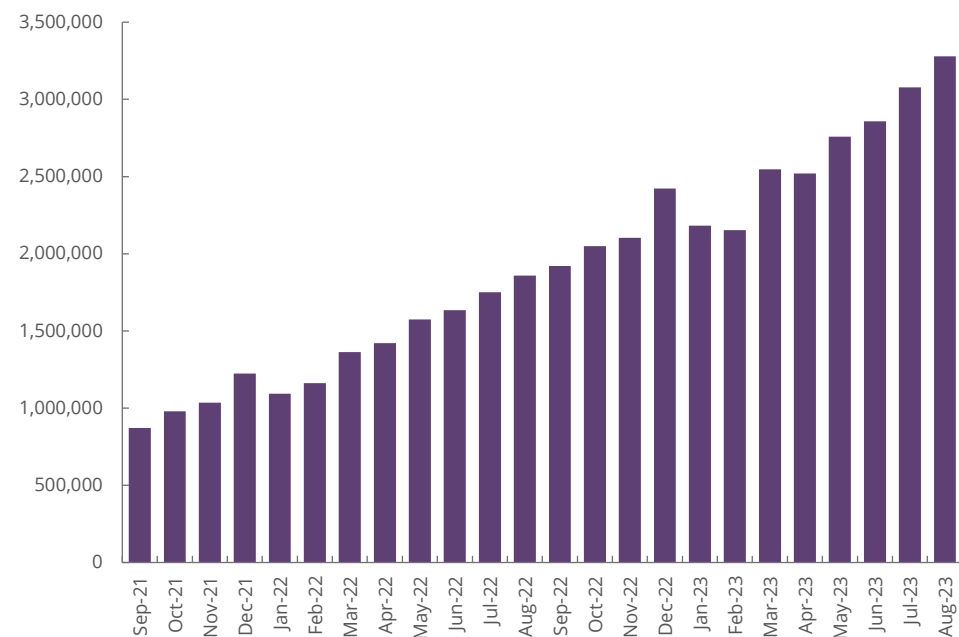
Pix's achievements are impressive – just under a year after Brazil's Central Bank chief predicted that open banking-enabled A2A payments would kill credit cards in Brazil, Banco Central Do Brasil announced that more transactions were made using Pix in



Q1 of 2023 than credit and debit cards combined.¹ Given that Brazil has previously been a card-dominated market, this is an impressive feat.

This growth has been sustained over time as well, with figure 1.2 showing an impressive ramp-up of transaction volume over time.

Figure 1.2: Transaction Volume via Pix (thousands), SPI, August 2021 to August 2023

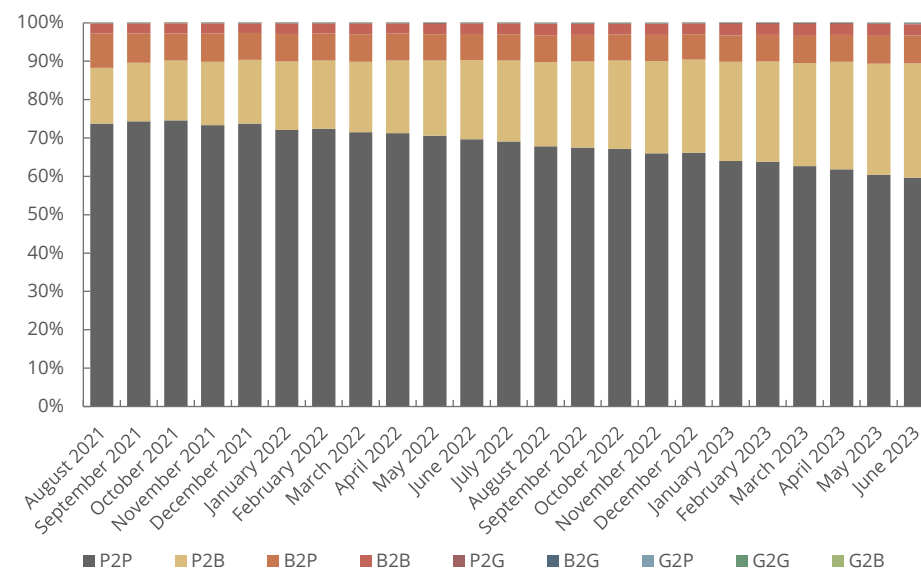


Source: Banco Central Do Brasil²

This impressive success begs a question – how has Pix succeeded so massively?

For a start, this growth has been across different use cases. While initial adoption was for P2P use cases, P2B use cases have grown tenfold in the past two years, owing to the widespread use of QR codes. Figure 1.3 shows a significant change in the distribution of use cases over time, highlighting how Pix has been diversified.

Figure 1.3: Transaction Amounts, Pix, Proportion by Use Case, August 2021 to June 2023



Source: Banco Central Do Brasil³

¹ <https://www.finextra.com/newsarticle/42695/brazils-pix-used-for-more-transactions-than-credit-and-debit-cards-combined>

² <https://www.bcb.gov.br/en/financialstability/pixstatistics>

³ *Ibid*



Definitions: P2P (Person to Person), P2B (Person to Business), B2P (Business to Person), B2B (Business to Business), P2G (Person to Government), B2G (Business to Government), G2P (Government to Person), G2G (Government to Government), G2B (Government to Business)

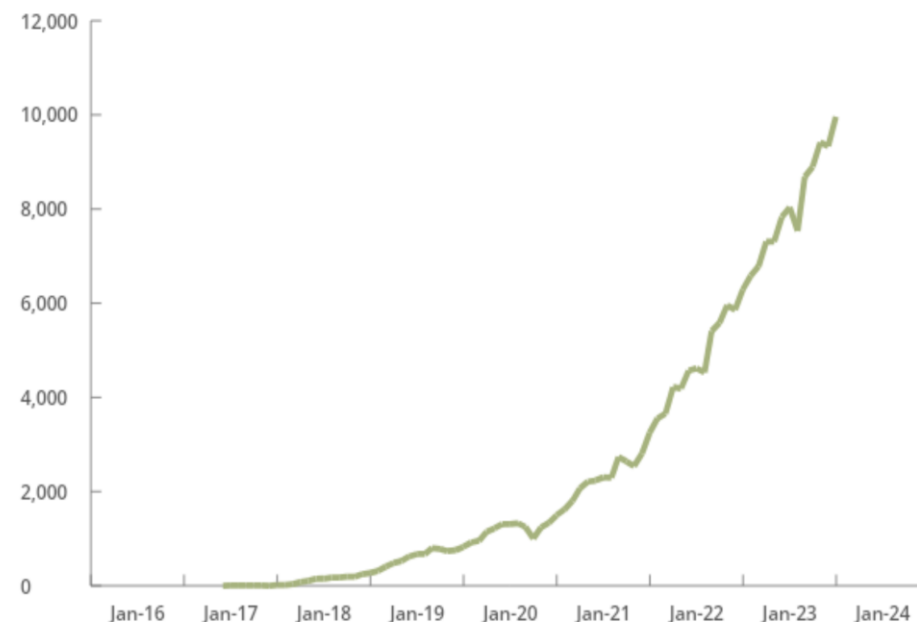
In Q1 2023, 8.1 billion transactions were made using Pix; 30% of these were driven by QR codes, highlighting the diversification of use cases clearly. We expect this forward motion to continue, and Pix to carry on its impressive growth.

1.3.2 India - UPI

UPI, launched in April 2016, is an interoperable payments system powered by a real-time network and open banking, rolled out by the NPCI (the National Payments Corporation of India: an umbrella organisation for operating retail payments and settlement systems in India). The system has been a seismic shift for payments within India, as it digitised its cash transactions, which has been a long-term goal of the Indian government. UPI allows its users to easily transfer money instantly from one bank account to another, from a customer to a business, or between individuals.

Since 2016, the UPI system has seen massive achievements. As of August 2023, 484 banks are now live on UPI and over 10.5 billion payments are processed monthly.⁴ Figure 1.4 shows growth of UPI transactions over time, with figure 1.5 showing how the most popular use cases have recently shifted from P2P to P2B. As UPI became the preferred instrument for P2B payments, in 2022 UPI transaction value and volume overtook credit and debit card totals by a significant margin.⁵

Figure 1.4: UPI Transaction Volume (m), April 2016 – June 2023



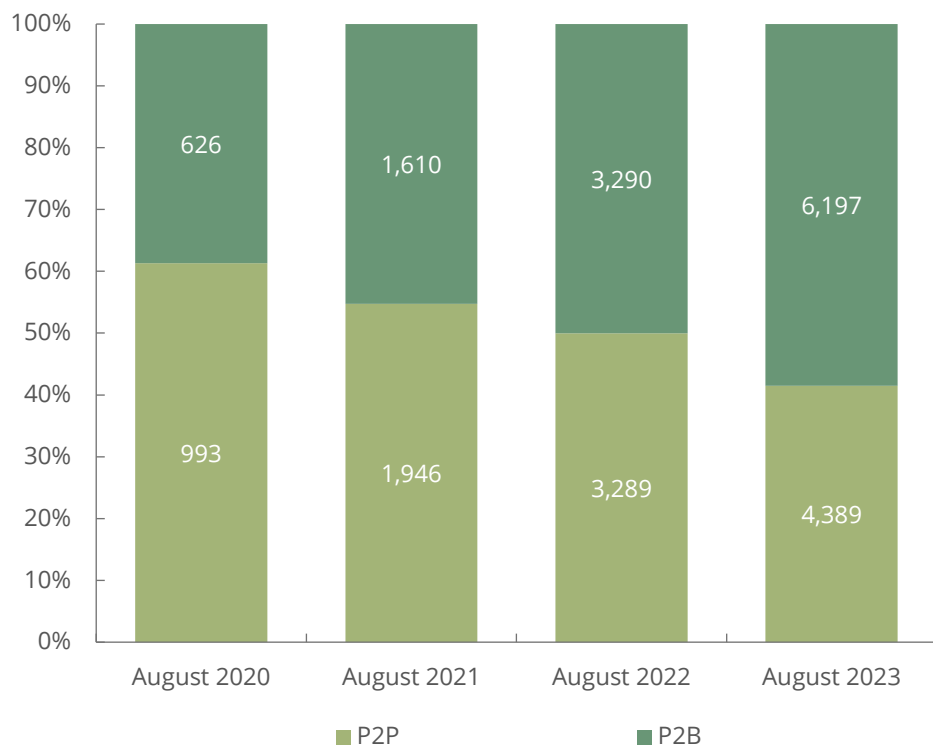
Source: NPCI

⁴ [UPI Product Statistics – NPCI](#)

⁵ https://www.business-standard.com/article/finance/credit-card-linkage-to-upi-uncertainty-over-pricing-leaves-players-in-dark-122061000566_1.html



Figure 1.5: UPI Transaction Volume (m) Proportion by Use Case, August 2020 - August 2023



Source: NPCI

UPI has 300 million users in a population of 1.4 billion, a significant success rate since deployment.⁶

UPI has been a beneficiary of the impact of demonetisation within the Indian economy, launching at the right time to ensure success. However, this has merely accelerated UPI's success. UPI works very well due to its ease of use, wide acceptance at merchants, and its strong interoperability credentials. Its excellent design has led it to be a major shining example of success in instant payment design.

The future for UPI is also very positive. Having achieved a dominant position in payments within India, UPI is now set to tap the global market via interoperability, expanding its scope and reach. In February 2022, Nepal became the first country to adopt India's UPI system. India linked UPI to Singapore's PayNow RTP system in February 2023, and India is now working out agreements with 30 other countries for interoperability. The promise is clear: linking UPI as a system to the world could revolutionise the remittances market, particularly given the large Indian population working abroad.

1.3.3 US - FedNow

The US represents a more complex view of instant payments than in Brazil or India, with A2A payments also being complex. The Clearing House launched the RTP system in November 2017, as a real-time payments system. However, while the system has seen growth, it has not become ubiquitous in the same way that UPI and Pix have. From an A2A point of view, there are existing A2A options, including Venmo (owned by PayPal), Zelle (run by a consortium of the largest US banks) and Cash App (owned by Block, which also operates Square). These A2A services are popular, but have developed largely due to a lack of a centralised instant payments system and the weakness of existing payment systems within the US.

This situation has become even more complex with the launch of FedNow. Launched in July 2023, FedNow is a new real-time payments rail created by the Federal Reserve. The service launched with 41 banks and 15 service providers certified to use the service, including community banks and large lenders like (JPMorgan Chase, BNY

⁶ <https://timesofindia.indiatimes.com/blogs/voices/the-rise-of-upi-transforming-the-way-indians-transact/>



Mellon, US Bancorp). The Fed plans to onboard more banks and credit unions over the next year.

As such, it is clear that the launch of FedNow will potentially have a large impact on A2A payments within the US. Firstly, it is clear that adoption of A2A payments will be different than in Brazil and India, for several reasons:

- In Brazil, merchants were sensitive to costs.
- In India, A2A under UPI was a deliberate replacement for cash during demonetisation.

FedNow is likely to follow a similar adoption curve to Pix given the similar pressures in the US system; initially P2B use cases will grow the fastest, due to the cost benefits they can drive for merchants. For example, in Brazil, P2B payments rose tenfold in two years as cost-sensitive online merchants incentivised consumers to pay with Pix. A similar move with FedNow is likely, given the large costs that many merchants within the US face accepting cards. However, implementation costs may mean that this effect takes longer to appear.

Another factor is the importance of digital wallets, which recently became the leading online payment method in the US. Over the longer term, FedNow could enable A2A to surpass debit and credit cards as the main source of digital wallet funding. However, there will need to be major announcements from the most popular wallet apps to set this up, and this will require considerable adaptation of the apps involved.

Fundamentally, FedNow is a positive development. Its federal nature means that it will be simpler to roll out than privately backed solutions such as RTP, or even the more popular A2A apps, but it will take time to scale up and to achieve the kind of success we have seen in A2A payments elsewhere.

1.4 Perspectives on A2A Payments: UK & Europe

The UK and Europe are very different markets to those examined above when it comes to A2A payments. While A2A payments now exceed cards in Brazil, and they have replaced a significant portion of cash transactions in India, how can they reach

critical mass in markets like Europe and the UK, which are traditionally dominated by cards and wallets?

Firstly, open banking, combined with instant payment rails, is the means that has recently enabled A2A payments to reach greater scale within UK and European markets. By providing an easy-to-integrate and user-friendly interface for instant bank payments, open banking is a major accelerator. This is in the context of domestic schemes which have long dominated in some specific markets, such as the Netherlands and Poland, but which have failed to reach Pan European scale.

Furthermore, while cards are popular in the European market, Europe does not have a particularly entrenched card culture and has always been an obvious potential candidate for widespread A2A adoption. Even governments and central banks within Europe have often spoken about the need to reduce reliance on card payments, showing there is an appetite, but historically, fragmented banking rails have held A2A payments back, for two key reasons:

- Before the introduction of open banking, there was no harmonised means of connecting to banks across Europe for the purposes of initiating payments.
- Payment providers had to navigate Europe's fragmented banking rails themselves, representing a complex landscape with many costs involved.

However, this situation has changed significantly. With the advent of open banking, A2A payments can provide truly Pan-European reach, by leveraging open banking API access. As such, open banking payments are growing exponentially – the outlook for the future is highly positive.

This growth in open banking-enabled payments will result in a shift from cards to non-card transactions in the near future in both the UK and Europe, which will mean there will need to be many changes to the way merchants accept payments, with acceptance strategies anticipated to shift significantly.

Early open banking-enabled payments adoption in the UK and Europe was more merchant driven, as merchants in traditionally high-risk verticals identified opportunities to save costs by leveraging A2A payments. However, as open banking enabled payments go mainstream, it will be PSPs (Payment Service Providers) that drive further growth.



There are other considerable drivers towards A2A payments growth within Europe. For example, governments have been keen to reduce the reliance on international card networks, making accelerating A2A payments a key priority for regulators. Furthermore, the popularity of digital wallets means that adoption of A2A payments could be very simple, if the right mechanisms are offered. Finally, as in the Brazilian example, regulators, merchants, and others are very aware of cost pressures on accepting payments; making alternatives that can lower total costs highly appealing.

1.5 Open Banking

1.5.1 Definition

Juniper Research defines open banking as:

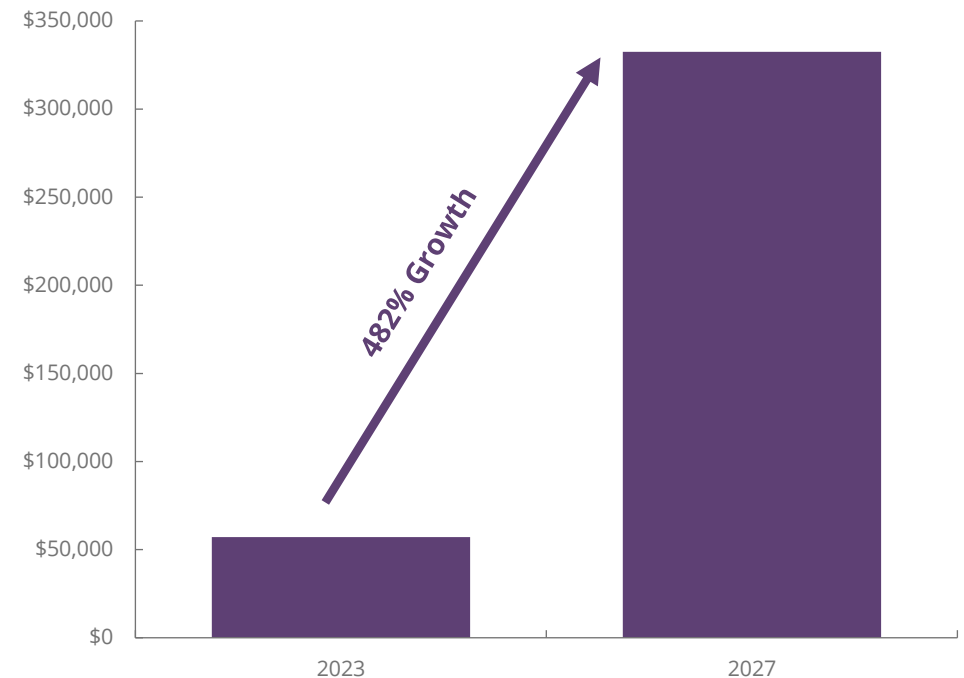
'The practice of sharing, and to an extent controlling, personal financial information between FIs (Financial Institutions) and TPPs (Third-party Providers), mostly in the form of fintech developers, subject to customer consent via the use of APIs (Application Programming Interfaces).'

Fundamentally, open banking offers harmonised access to bank APIs, simplifying access to banking rails compared to all existing methods. Primarily, open banking enables access to the data held by banks, as well as the ability to initiate payments. Fundamentally, open banking is not the end goal in of itself: open banking is the means to the end, namely being a way to access bank APIs to initiate A2A payments, or to access user-permissioned account and transaction data.

1.5.2 Open Banking Growth

Juniper Research believes that the open banking payments market is set for considerable growth. By 2027, Juniper Research predicts that the global value of open banking-enabled payments will exceed \$330 billion, rising from \$57 billion in 2023; representing growth of 482%.

Figure 1.6: Total Value of Open Banking-enabled Payments (\$m), Global, 2023 vs 2027



Source: Juniper Research



Juniper Research forecasts almost 200 million users of open banking in Europe by 2027, showing the scale of this rapidly emerging market.

Services such as credit and loan underwriting, personal finance management apps, and 'Pay by Bank' are experiencing growing uptake, with consumers embracing the benefits that open banking is capable of providing.

Open banking-enabled payments are another space that is expected to undergo considerable growth in the future. Open banking-enabled payments offer consumers the ability to pay directly via their bank; eliminating the need to enter card details or to sign up for a wallet. This convenience is anticipated to drive consumers towards adopting open banking enabled A2A payments, as awareness rises in the future. Furthermore, the advent of VRPs (Variable Recurring Payments) in particular is anticipated to transform the A2A payments space; enabling new use cases and supporting a wider range of businesses. VRPs are expected to help catalyse the growth of open banking-enabled payments, especially as they break-through into the eCommerce market.

1.6 Key Use Cases for A2A Payments Enabled by Open Banking

1.6.1 P2P (Person-to-Person)

- Within the UK, P2P payments being offered by banks were well established under Faster Payments and did not require Open Banking to become popular. However, as bank payments are used for other use cases more widely, we will continue to see cash being displaced by P2P for transfers.
- While we anticipate that P2P will be a significant use case for A2A payments, we believe that it is not Open Banking dependent and will follow a slower trajectory than other use cases. What may occur is the use of Open Banking to embed P2P

transfers within other apps, enabling social payments. However, this is a longer-term prospect.

1.6.2 P2G (Person-to-Government)

- P2G payments represent a great way that A2A payments can scale in both the UK and Europe. Government bodies face tight budgets, so the potential cost savings from transactions via open banking, combined with the benefits of standardisation across government departments, will be powerful motivators.
- The example of HMRC (His Majesty's Revenue & Customs) in the UK shows the potential of Open Banking for P2G. HMRC is the first tax authority in the world to accept Open Banking-enabled tax payments from users, and has seen big success, with acceptance being gradually expanded across 43 different tax services. This is promising to become more widely available across all UK government services, with the UK government reportedly considering offering open banking-enabled payments for all payment services via GOV.UK Pay, theoretically covering all P2G use cases in the UK market.⁷
- Fundamentally, we expect this positive experience to translate into other European markets, particularly as government bodies see the vast success of the HMRC deployment, and realise the cost benefits that can be generated, as well as the improvements to the user experience open banking can lead to.

1.6.3 B2B (Business-to-Business)

- Instant payments are already a growing presence within B2B payments, with instant payments transaction volume within B2B channels expected to rise by almost 270% between 2022 and 2027, based on the latest Juniper Research data.
- Businesses can significantly improve their payment processes by leveraging A2A payments. Not only can these payments be cheaper than other methods, but they can also be easier to reconcile, with the reconciliation of payments being a major, labour-intensive approach with existing B2B payments methods. By leveraging

⁷ <https://thepayers.com/online-mobile-banking/uk-government-considers-offering-open-banking-through-govuk-pay--1263848#>



instant payment rails, businesses can also speed up transactions, again addressing a major existing issue with B2B payment processes.

1.6.4 P2B (Person-to-Business)

For P2B payments, instant payment schemes are increasingly enabling A2A payments to be used as a mechanism across a number of models, which are examined as follows.

i. Single Immediate Payments

a) eCommerce

Fundamentally, we are seeing that the card-based paradigm that has emerged in Western markets for eCommerce is shifting, specifically within Europe, as alternative payment methods rise in importance. We expect more PSPs to launch 'Pay by Bank' as a central feature of eCommerce checkouts, propelling A2A payments into the mainstream. There are two key benefits driving this.

- a) Open banking-enabled payments are lower cost than card payments, which is money that can be saved by merchants, and can have a real impact on margins. Merchants have had a difficult challenge over the years as the eCommerce market has grown, given the cost of accepting payments in this space is typically very high, as it has been card driven, with many associated costs.
- b) Open banking offers pan-European reach, making open banking-enabled payments a reliable payment type that can be offered cross-border within Europe, maximising the opportunities in the increasingly multinational market.

PSPs will be central to these changes. PSPs are an integral part of the payments ecosystem, with more than 80% of merchants using a PSP to control their checkout process and accept payments. This naturally means that the PSPs' choice to offer A2A

payment capabilities to their merchants will have a direct impact upon the dominance of A2A payments, particularly for eCommerce.

Furthermore, the growth in alternative payment methods, combined with the popularity of individual domestic payment types in Europe, has meant that for PSPs to provide merchants with pan-European reach, they must offer a plethora of domestic and alternative payment methods. This increases complexity and cost both for PSPs and merchants, as well as presenting a cluttered and confusing checkout experience for end users.

To simplify this and reduce fragmentation, PSPs have looked to deploy generic 'Pay by Bank' checkout options, underpinned by open banking. The benefits of this approach (versus combining different alternative payment methods) is that open banking-enabled payments offer pan-European reach and a simpler, more convenient and consistent user experience across markets.

By offering a 'Pay by Bank' solution, PSPs can also provide consumers with a cleaner and more frictionless checkout experience. This will remove unnecessary friction commonly associated with card payments, such as manually entering card details; enhancing the customer journey.

b) Digital Wallets

Digital wallets are growing ever more important – a recent Juniper Research study found that the total value of digital wallets transactions globally will rise from \$9 trillion in 2023 to surpass \$16 trillion in 2028, a rise of 77%.⁸

With this popularity of digital wallets, there is the issue of how to fund wallets. While many wallets are card linked, this comes with expenses of its own, adding complexity. Therefore, given the widespread nature of open banking, we expect Pay by Bank funding will become an important way to operate digital wallets going forwards. This approach offers many benefits: it is instant and secure, with widespread acceptance and a clean user experience. We are already seeing growth in this use case; in August 2023, 11.4 million payments were made via open banking in the UK in the preceding year, with account top-ups being the number one use case

⁸ <https://www.juniperresearch.com/press/digital-wallets-transaction-value-16-trillion-2028>



by volume.⁹ We expect that open banking will also enable A2A payments to become integral to the way digital wallets are funded in Europe.

c) Credit Card Bill Payments

While credit cards are losing some of their dominance within payments, as alternative methods rise, they still have an important role to play. Indeed, UK Finance figures show that credit card spend by UK cardholders was 6% higher in May 2023 than May 2022, although when adjusted for inflation, this does indicate a slight fall. Nevertheless, in the current economic climate, credit cards will be important for some time to come. Credit card bill payments are driving significant growth for open banking-enabled A2A payments in the UK (now the second largest use case by volume), as credit card issuers move to offer repayment acceptance via the cheapest and most widespread repayment method. For issuers, this can lower costs and for consumers, using open banking-enabled payments can also be easier than traditional repayment mechanisms.

ii. Variable & Dynamic Recurring Payments

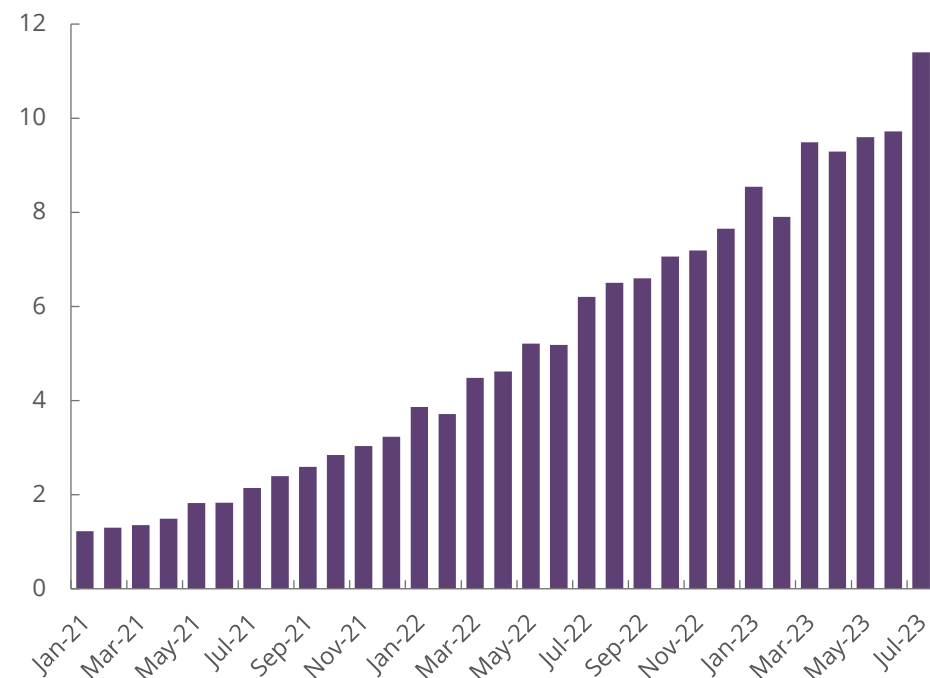
In recent years, VRPs and their European equivalent, DRPs (Dynamic Recurring Payments) have been receiving increasing interest from regulators and vendors within the payments space alike.

a) UK

Variable Recurring Payments (also known as VRPs) are an additional open banking API that enables TPPs to initiate a series of recurring payments for a customer at variable amounts and intervals, advancing open banking beyond the status quo of only allowing TPPs to initiate single immediate payments. With VRPs, consumers will agree to a set of payment parameters with the TPP, authenticating the payment mandate with their bank upfront. Following this, payments can be initiated by the TPP without the need to ask the consumer to take any further action. However, whilst TPPs will be able to initiate payments, consumers still remain in full control, capable of cancelling recurring payments at any time, either by asking the TPP to

cancel the recurring payment or by asking their bank to revoke the TPPs access to their account.

Figure 1.7: Open Banking-enabled Payments Transaction Volume, UK, Jan 2021-July 2023



Source: OBIE

The primary form of VRP, and the first introduced by regulators such as the CMA (Competition and Markets Authority) in the UK is sweeping. Sweeping enables the transfer of money between two accounts belonging to the same person, also known as 'me-to-me' payments. The two primary use cases for sweeping are intelligent savings and smart overdrafts. For intelligent savings, businesses such as Chip and Plum use open banking data to monitor the amount of spare or disposable income a

⁹ <https://www.openbanking.org.uk/news/open-banking-reaches-11m-payments-milestone/>

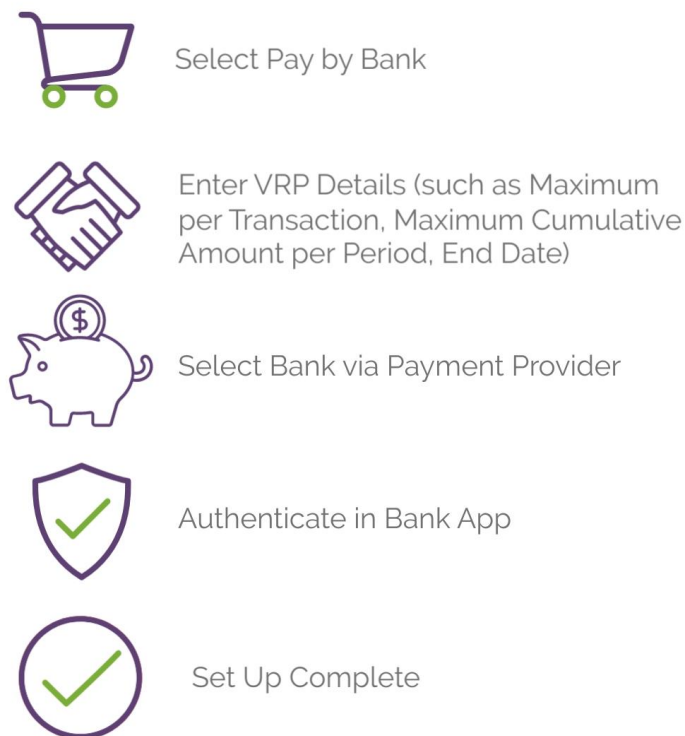


customer has in the accounts. They can automate sending money to savings accounts to maximise its potential. By leveraging sweeping instead of direct debits, these me-to-me payments will be quicker, cheaper, and provide the customer with greater control. Smart overdrafts, on the other hand, will allow customers to ask TPPs to automatically pay off their outstanding overdraft in one account from the balance in another account of theirs that has a positive balance.

VRPs for use in non-sweeping cases are yet to be mandated by regulators. However, there are many opportunities for non-sweeping VRPs (also called commercial VRPs or CVRPs), which help businesses and customers, including:

- Managing regular bills of varying amounts, such as utility payments.
- Helping businesses pay tax bills, by putting tax aside and VAT at the point of invoice collection.
- Removing the difficulties associated with indemnity claims (refunds) for direct debits.
- One-click e-commerce (account on file) payments.
- Charitable donations.

Figure 1.7: VRP Customer Payments Flow Illustration



Source: Juniper Research

Another key use case for VRPs is to manage subscriptions, going beyond the current restraints of traditional forms of subscription management. For example, with VRPs, customers will be able to see which institutions they have agreed to make recurring payments to and the limits of each payment permission. In contrast, banks are unable to provide a list of all the subscriptions paid for by card, and whilst they can show a list of subscriptions paid for by Direct Debit, there is no cap on what future payments there might be.



Perhaps the most exciting key use case for VRPs is one-click ecommerce payments, where we expect to see VRP enabled merchants to replace costly 'card on file' with 'account on file.' With VRP, eCommerce payments can be initiated by the TPP without asking the consumer to take any further action. This would therefore put open banking 'behind' major merchants' popular one-click 'Buy Now' buttons.

VRPs are seen by many within the open banking space as the major catalyst that will drive adoption of A2A payments, with mass adoption expected to occur within the eCommerce market. However, a potential stumbling block is that UK and EU regulators have not been pushing for legislation that mandates the use of VRPs for non-sweeping, and specifically eCommerce, use cases. As a result, banks and TPPs must work together to integrate CVRP support on a voluntary basis to help grow the open banking-enabled payment market and drive adoption of A2A payments. For example, NatWest was the first UK bank to work with TPPs, such as Token.io, to support VRP as a new and convenient payment option for UK businesses and consumers.

Fundamentally, banks have ample incentives to support VRP for non-sweeping (eCommerce) use cases, as well as other types of premium APIs. While open banking regulation pulled banks into the API economy, premium APIs give banks an unprecedented opportunity to drive new revenue opportunities and commercialise their investments in PSD2 and open banking.

By taking action and implementing VRP for commercial, and in particular, eCommerce use cases, adoption of open banking-enabled payments will surge, as these payments will offer an enhanced customer journey, as well as providing customers with greater control, whilst enabling a broader range of use cases.

b) Europe

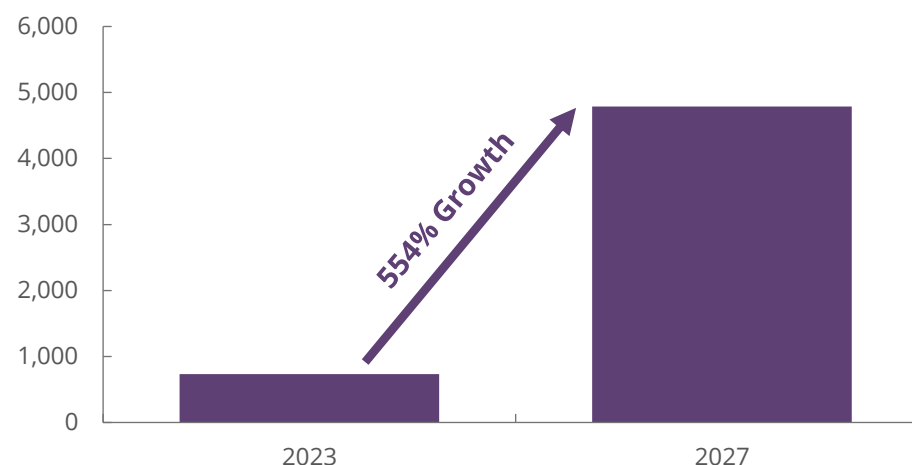
The situation in Europe is different to the UK. In the UK, banks are not mandated to provide APIs for commercial VRPs but will opt to work offer these directly to TPPs. In Europe, banks may opt to provide APIs for DRPs (Dynamic Recurring Payments) through participation in the SPAA (SEPA Payment Account Access) scheme.

DRPs are the European equivalent to VRPs and enable many of the same use cases. (Though, the terms sweeping, non-sweeping/commercial do not apply in the European context, as DRPs are inherently commercial).

With the SPAA scheme, the EPC (European Payments Council) is trying to go beyond the requirements of PSD2 to create more premium API-based services, which provide additional revenue opportunities for banks. The SPAA rulebook contains a standardised framework for these payments, with banks and third-party providers being able to join the scheme as of September 2023.

The SPAA scheme could put account-to-account payments on par with, and possibly even beyond, other (card-based) payment instruments, especially if they are based on SEPA Instant (SCT Inst: the pan European instant payment solution that delivers domestic and cross border Euro Credit Transfers throughout the SEPA zone). Alongside the European Commission's recent move to increase adoption of instant payments, we anticipate that it will lead to faster A2A adoption within Europe, across a broad range of use cases as discussed above.

Figure 1.8: Open Banking-enabled Payments Transaction Volume, West Europe, 2023 vs 2027 (m)



Source: Juniper Research



1.7 Conclusion

Open banking, as an interface for instant payment rails, has the potential to significantly accelerate A2A payments, which offer an irresistible opportunity for merchants, PSPs, governments, and end users to improve their payments experiences.

To realise this potential, we will need to see further regulatory support for open banking, and strong merchant adoption, but the prevailing trends and benefits discussed within this whitepaper show that these are likely.

Leveraging A2A payments means partnering with a vendor with the right set of competencies and capabilities, such as Token.io. Success here will mean accessing the right services, with the right balance of capabilities. Achieving this can mean major savings in terms of costs, as A2A payments accelerate rapidly in the UK, Europe and beyond.



A2A PAYMENTS: HOW A2A PAYMENTS WILL REACH CRITICAL MASS IN THE UK & EUROPE

2. Token.io Profile





2.1 Company Overview

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i. Corporate

Founded in 2016, Token.io is an A2A payment infrastructure provider focused on driving the transition from card and alternative payment methods to account-to-account payments.

Combining industry-leading open banking connectivity with a unique platform, Token.io offers the simplest and fastest way for payment providers to grow their business by launching and scaling their own A2A payment capabilities.

In addition to connectivity for open banking-enabled A2A payments, Token.io also offers account information services (AIS): access to aggregated account and transaction data from over 567 million bank accounts across Europe. This empowers payment providers to develop smarter payment services and deliver smoother financial experiences for end-users.

In 2023, Token.io was awarded the Payments Tech of the Year Award at the Europe Fintech Awards, as well as winning the Fintech for Good award at the PayTech Awards and being named one of the top ten open banking platform providers in fintech by FinTech Magazine. In 2022, Token.io was awarded Juniper Research's own Open Banking Innovation Platinum Award, and was named PayTech Company of the Year at both the Fintech Awards London and UK Fintech Awards.

Key executives at the company include Todd Clyde (CEO); Charles Damen (Chief Product Officer); Saskia Donald (Chief People Officer); Sharof Sharipov (CFO); Artashes Torosyan (CTO); Dr. Lea Maria Siering (Chief Risk & Compliance Officer); Tim Corke (Chief Customer & Strategy Officer); Michael Lane (Vice President Sales); Sunil Gossain (Vice President Customer Success); Jess Gerrow (Vice President Marketing).

ii. Geographic Spread

Token.io operates in 19 EU countries and the UK, with operations in London, Berlin, and San Francisco.

iii. Key Clients & Strategic Partnerships

- Token.io's solutions are used by over 90 customers and partners, with the company processing more than €12 billion (\$13 billion) in customer deposits through its A2A payment infrastructure.
- Token.io has a strong partnership network of banks (BNP Paribas, HSBC), PSPs (Payment Service Providers) and other businesses, such as Mastercard, Nuvei, Paysafe, ACI Worldwide, Fiserv, Total Processing, Computop, Flutterwave and Global Payments.

iv. High-level View of Offerings

Token.io has a set of open banking-powered solutions, including:

a) *Token.io Payments*

With best-in-class open banking connectivity reaching over 80% of bank accounts in 20 countries, this white label-ready platform is purpose built to enable payment service providers, gateways, acquirers and banks to easily launch and successfully manage account-to-account payment propositions. Furthermore, Token.io provides VRP capabilities with major UK banks and is developing them for businesses across Europe.

Today, merchants demand a payment mix that is secure, low cost, instant, boosts conversion and maximises acceptance. To deliver, payment service providers are loading their payment mix with alternative payment methods. Given the continued shift from cards to APMs, payment providers are now growing their market share by launching their own Pay by Bank capabilities.



Open banking-enabled A2A payments (often called 'Pay by Bank') are instant, can reach anyone with a bank account to maximise acceptance, deliver a better UX and offer higher success rates than cards and APMs in many markets.

Overall, Token.io has a robust range of solutions and services for use within the A2A payments ecosystem that are helping accelerate adoption and achieve greater market growth.

- a) Industry leading connectivity: Token.io offers the deepest and highest performing connectivity in the industry, with at least 80% of bank accounts covered in each of its 20 supported markets. Uniquely, Token.io builds and maintains all of its direct bank connections in house to drive the ultimate performance, control and innovative potential.
- b) Flexible integration options: PSPs can easily integrate to Token.io's REST API or plug and play and leverage its certificate management services.
- c) Support for every channel and device: Token.io can enable A2A payments for eCommerce and point of sale (QR code or Pay By Link at mobile, tablet, or till), as well as payment links (via SMS, email and/or popular IM platforms).
- d) Settlement options: PSPs can use Token.io's virtual settlement accounts (Virtual Accounts) or bring their own. With Token.io's Virtual Accounts, PSPs can collect payments in multiple currencies, get real-time settlement updates, and initiate instant refunds and payouts.
- e) Licencing options: PSPs can use Token's PSD2 licences or bring their own. Token.io is a licenced PISP and AISP in the UK by the FCA and in Europe by BaFin. Payment service providers can launch quickly by using Token.io's licence and out-of-the-box authentication flows, or by PSPs bringing their own licence and leveraging Token's certificate management capabilities. PSPs can also rely on Token.io's PCI DSS Level 1 compliance to significantly reduce compliance burdens.
- f) Features to streamline solution management: Purpose built for the payments industry to help payment providers easily manage their solution, Token.io offers a fully brandable merchant dashboard, developer portal,

customer interface that embeds hierarchy to segment merchant reporting and functionality by distributor, certificate management tools, customer billing and programmable authorisations.

- g) Support to grow: To complement its connectivity and technical offering, Token.io has a dedicated Customer Success team that provides go to market consultation and advisory on Minimum Viable Product (MVP); sales training and collateral for product, sales, relationship managers and merchants; joint marketing opportunities; education and advisory; private beta opportunities for new markets and capabilities; sharing of best practice and knowledge assets to support merchant and PSU adoption on an ongoing basis.

b) Token.io Data

This solution enables businesses services with access to real-time financial data. With Token.io's connectivity to 80% of bank accounts in 20 markets, businesses can access user-permissioned aggregated account and transaction data from over 567 million accounts in the UK and the rest of Europe. Token.io Data provides access to a consumer's list of bank accounts, balances, and transaction history. Use cases include securely accessing financial data to autofill onboarding forms, automatic retrieval of KYC information to instantly authenticate users, and confirmation of bank account ownership for fast and simple payment setup.