Tech Horizon | Consumer Payments 2026

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Tech Horizon

The Tech Horizon visualises Juniper Research's vision for emerging and disruptive technologies in various market industries. In each version, we have identified several technologies that will impact the market.

Created, assessed and scored by Juniper Research's leading in-house experts, the technology provides readers with an understanding of our views on the future success of a technology and whether we feel these technologies will 'sink or swim' in the market's future. To accomplish this, Juniper Research has separated the technologies scored here into 'Strong Performing' and 'Underperforming'.

In addition, Juniper Research has identified our 'Top 3 Major Movers'; these technologies are those that we believe are primed for the greatest growth over the next 12 months in the fintech space.

How to Use the Juniper Research Tech Horizon

All players across the financial technology and payments ecosystem must remain current with the latest opportunities and developments across key technologies. Our Tech Horizon considers the progress of these technologies and whether they are performing strongly (above the line) or underperforming (under the line) against expectations.

We define a technology's expectations by:

'The expected impact a technology will have on its intended market, in terms of its intended purpose, its potential to disrupt established processes, and the benefits it is expected to bring to both service providers and end users.'

The Consumer Payments Tech Horizon

The Consumer Payments Tech Horizon is Juniper Research's visual representation of technology trajectories across the payments market. Designed to help stakeholders understand how different payment technologies are evolving, it enables better strategic decision-making and anticipation of future market developments. The following make up the current market position:

- Stage of Development: The current status of the technology. It considers the technology's history, ease of implementation, and investment into the technology.

- Market Performance: Whether the technology is strongly performing or underperforming. It reviews market growth and performance against market expectations.

Juniper Research has also identified the top three major movers within the payments market. These are the key technologies that Juniper Research anticipates will experience the greatest development and increase in performance over the next year.

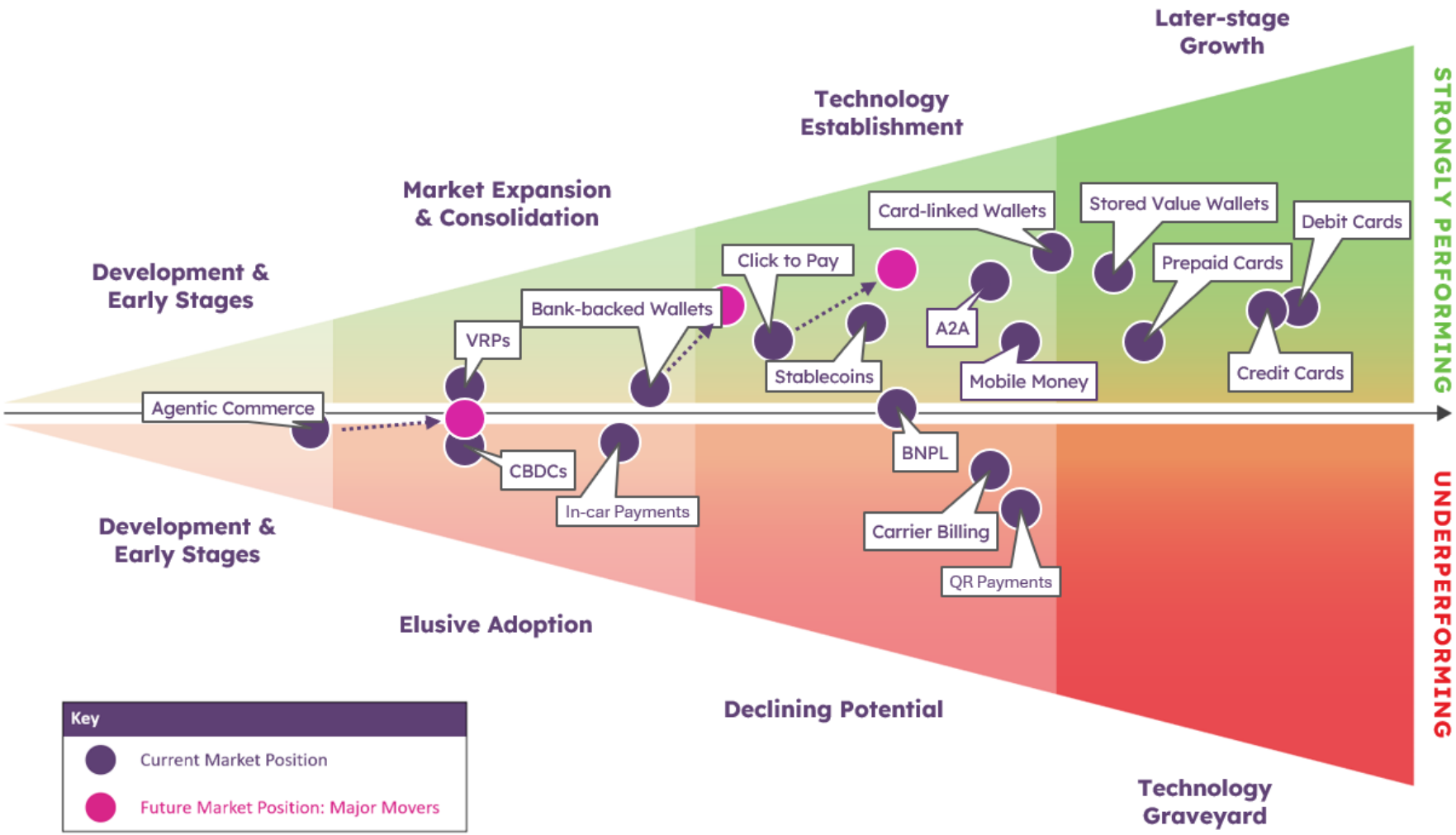
These are major opportunities that stakeholders must look to invest in now to be early movers and capitalise on the growth in revenue from each technology over the next 12 months.

Tech Horizon

Consumer Payments

June 2026

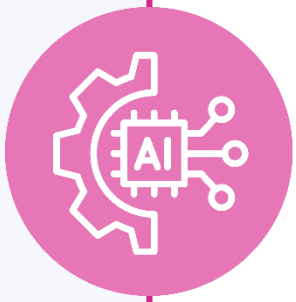
JUNIPER RESEARCH



Top 3 Major Movers: Consumer Payments 2026

Juniper Research has identified Bank-backed wallets, Agentic Commerce, and Click to Pay as the top three major technology movers in the consumer payments space.

As shown in pink in the Consumer Payments Tech Horizon, these technologies are expected to experience significant movement in the market; anticipating the future development and performance of the technology over the next 12 months.



Bank-backed Wallets

Bank-backed wallets were considered as a below-the-line technology in our 2025 edition, but in our estimation have significantly improved their performance. This comes as Wero slowly scales up within Europe, and shows the strong potential of a bank-backed wallet.

Going forward, we forecast that bank-backed wallets will increasingly outperform expectations. The further growth of Wero, the launch of new bank-backed wallets, and the decision by Apple to open its NFC capabilities to third parties will be instrumental in the future predicted success of bank-backed wallets.

Agentic Commerce

Agentic commerce has emerged on the scene in recent months in a major way, but is undoubtedly still in its early stages. The payments market is pushing ahead and investing heavily in building payments capabilities and frameworks.

Over time, we actually believe that initial agentic commerce adoption will disappoint. While still a strong long-term bet, agentic commerce to start with will see uncertain adoption, as liability issues, and uncertain consumer demand restrict growth.

Click to Pay

Although Click to Pay was only launched in 2019, it has quickly become prominent due to payment network requirements for issuers to implement this technology.

Click to Pay implementation deadlines have already passed, and indeed, usage is surging within eCommerce, with Click to Pay being an increasingly common sight at eCommerce checkout. We expect the card networks to focus on this going forwards; sustaining growth.

Above the Line Technologies

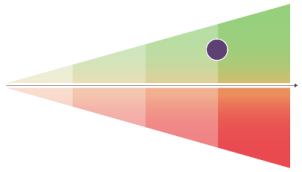
Technologies classified as ‘Strongly Performing’ or ‘Above the Line’ are those that are exceeding expectations from initial launch and are having the desired impact on their respective markets, either through revenue adoption or efficiency gains. These technologies are providing their markets with clear benefits, and adoption has been strong.

Stakeholders that have invested in these markets have seen good return on investment over the last two years. However, stakeholders must be aware of other emerging technologies that will look to disrupt the market.

Common observations of strong performing technologies:

- High adoption rate in their market
- A clear path to securing a return on investment
- Disrupting an incumbent or established technologies
- Growing ecosystem that underpins other markets

Card-linked Wallets



Above the Line, Undergoing Technology Establishment

Card-linked wallets, such as Apple Pay, Google Wallet, and Samsung Pay, use cards as a funding source by storing card tokens. These are also called 'pass-through' wallets, as the card payment information is utilised directly, instead of taking place over multiple stages. In this sense, the wallets are a wrapper over traditional card payments, rather than having stored value capabilities. Key drivers include the following:

- The development of push-provisioning capabilities, which enable the issuer to 'push' a card token directly into a digital wallet without requiring users to manually enter card details. This makes it faster and more convenient for consumers to add cards to their digital wallets; boosting adoption. Indeed, with virtual cards becoming increasingly popular, this allows non-traditional issuers to push their cards to wallets, without requiring physical cards.
- Biometric authentication in mobile wallets provides a smoother experience for users without compromising security. Compared to physical cards, card-linked wallets do not require users to remember a password or PIN. These biometric capabilities are typically linked to elevated contactless payment limits, though this can vary by retailer/payment service provider.
- One-click buy buttons at checkout allow users to click 'Apple Pay' or 'Google Pay' and buy the product immediately, even in stores that they have not bought from before. This avoids the lengthy process of guest checkout, where the user must manually enter their card details, billing address, and shipping address.

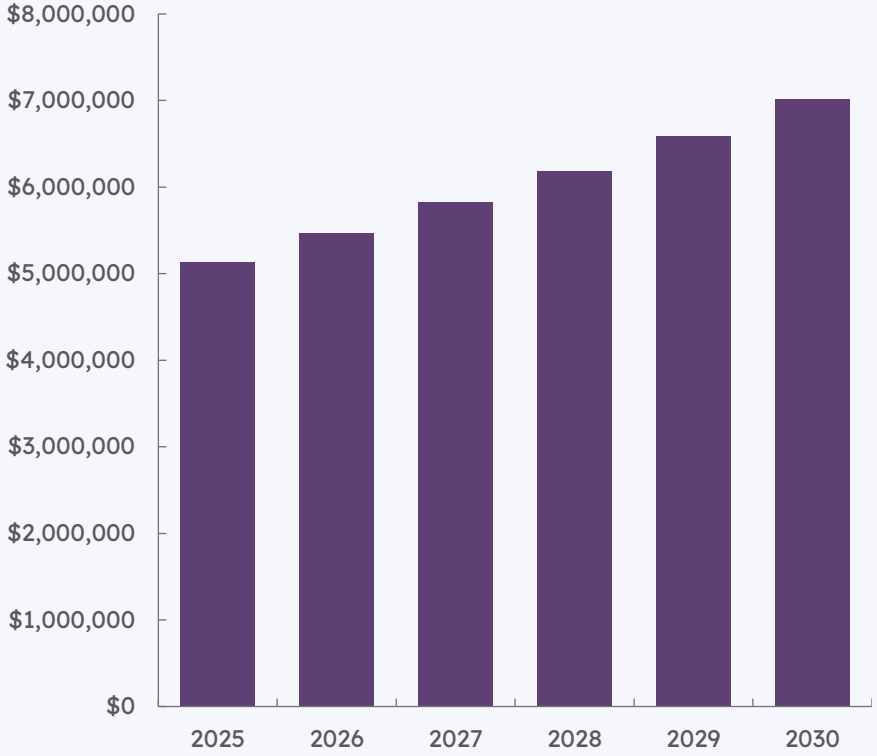
While account to account (A2A) instant payment rails present a growing threat, they are unlikely to significantly impact market share for card-linked wallets in the next year. Indeed, A2A payments represent an opportunity for card-linked wallets, with these wallets offering an opportunity for A2A to integrate with contactless capabilities for in-store payments; a gap for which A2A has struggled. For cryptocurrency, cards are emerging as a way to access mainstream payments, so again, card-linked wallets stand to benefit. As card-linked wallets have excellent adoption in developed markets, we expect them to play an important role within agentic commerce as well.

While organic growth of card-linked wallets will likely slow as markets near saturation, new use cases should sustain growth; allowing card-linked wallets to further sustain their dominant role in certain markets.

Figure 1: Phases of Card-linked Wallets Evolution

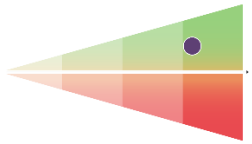
Source: Juniper Research

Figure : Total Digital Wallet Spend, China, ($m), 2025-2030



Source: Juniper Research

Stored Value Wallets



Above the Line, Undergoing Later-stage Growth

Stored value wallets refer to those that allow users to preload funds from a variety of different sources. These can be closed loop, such as the Starbucks App, which are specifically designed to be used within the merchant's ecosystem, or they can be semi-closed loop, such as Alipay and WeChat Pay, which enable transfers from different accounts and to merchants who have collaborated with the wallet issuer. Stored value wallets have been in use since the early 2000s; initially gaining traction in the peer-to-peer (P2P) market and expanding to consumer payments. In China, mobile wallets have become the dominant payment method, due to integration into popular messaging and social media apps. Growth in stored value wallets is high, driven by:

- Mobile money growth: mobile money solutions are growing rapidly in emerging markets; driving the next cohort of wallet users.
- Rising demand for cross-border P2P payments: stored value wallets are strongly positioned to fulfil this due to the integrated currency conversion features and fast settlement times.
- Growth of loyalty schemes and reward points: closed-loop wallets are ideal platforms for integrating loyalty programmes. Closed-loop wallets can streamline checkout, speed up return times, and enable access to rewards such as discount or cashback; fostering customer loyalty.

Wallet interoperability initiatives such as Alipay+ and PayPal World will only reinforce this growth; giving stored value wallets a strong future.

Debit Cards

Above the Line, Undergoing Later-stage Growth

Debit cards are a prolific type of payment; establishing dominance particularly in the European payments landscape. Debit cards are more accessible than credit cards, as the barriers for acquiring one are typically lower.

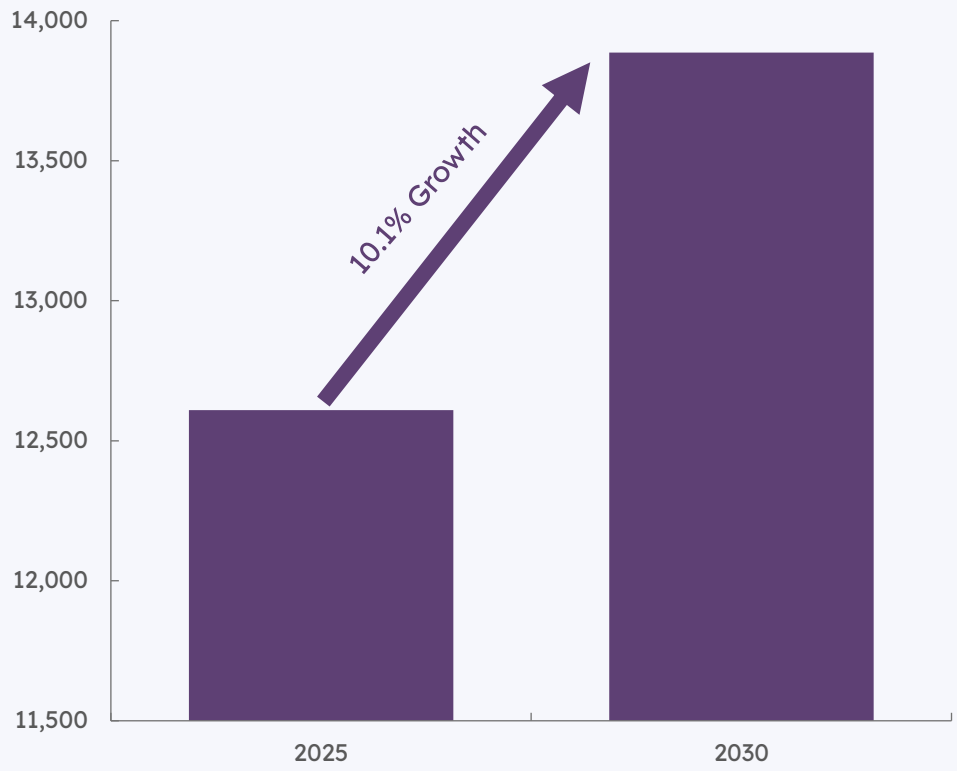
Further to the broad availability, debit cards are being modernised in several different ways. The development of application programming interfaces (APIs) for digital-first card issuing enables financial institutions to quickly and easily modernise their card issuance process. This facilitates increased personalisation when interacting with consumers; allowing users to personalise their card, choose their PIN, and access new cards on demand.

Debit cards are also gaining popularity within markets where credit has traditionally been more dominant, such as in the US. Debit cards are a high growth service in the US, and as such are attracting a lot of attention.

Debit cards are also benefitting from the growth of digital wallets where card-linked wallets are gaining traction, as the payments are still being made using debit card credentials. The advent of flexible credentials, where a card can be linked to multiple credentials which can be switched by the customer at will, will only reinforce this further.

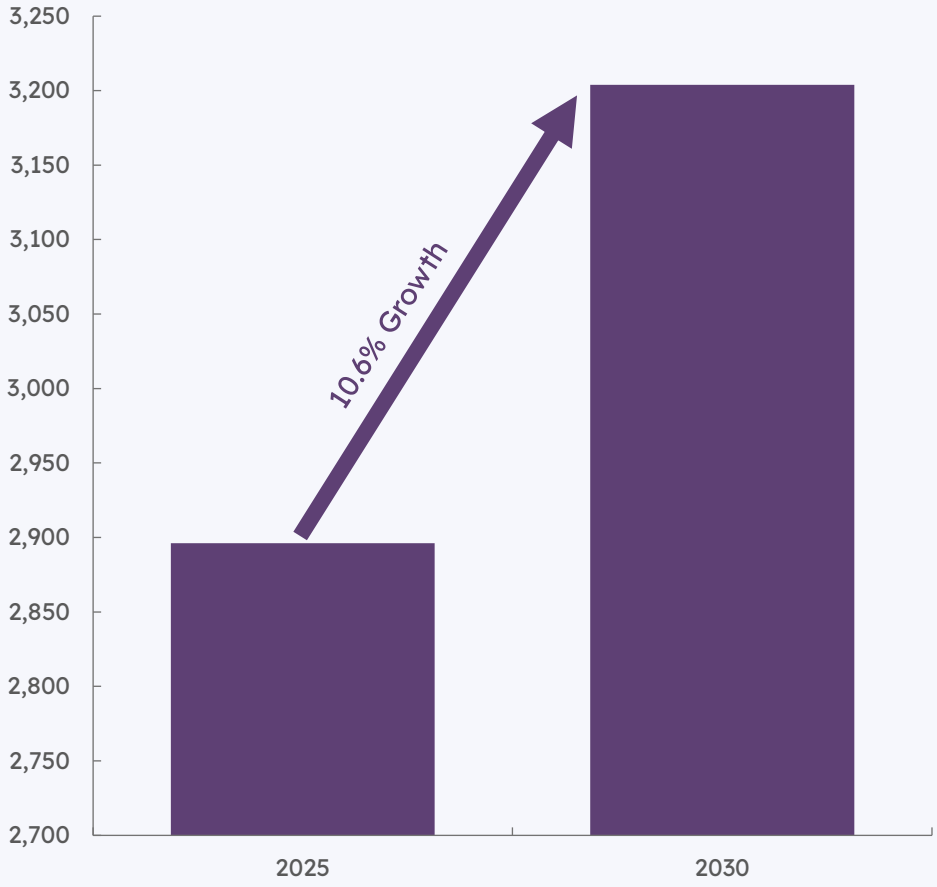
Even in emerging markets, debit cards are increasingly seen as a valuable additional service beyond a traditional mobile money wallet; further boosting their growth. As such, we expect debit cards to continue to grow, despite their age in the market.

Figure 3: Global Debit Cards in Issue (m), 2025 vs 2030



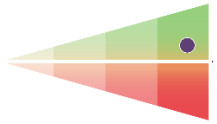
Source: Juniper Research

Figure 4: Global Credit Cards in Issue (m), 2025 vs 2030



Source: Juniper Research

Credit Cards



Above the Line, Undergoing Later-stage Growth

As one of the oldest methods of electronic payments, credit cards are firmly entrenched in the consumer ecosystem. The ability to borrow money to pay for products and services is crucial for many consumers and businesses. However, as credit cards act as loans, this method requires more stringent eligibility checks than other payment methods, which limits useability.

Despite this need for caution, credit cards will grow slightly faster than debit cards over the next five years; reflecting that they remain appealing, despite the advent of new products such as Buy Now, Pay Later (BNPL).

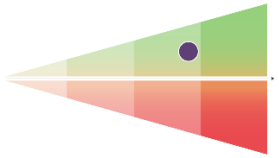
With the emergence of BNPL, many credit card issuers have launched instalment offers, and boosted cashback rewards in order to maintain their appeal; refocusing their efforts on the premium segment.

Wallets have had an interesting effect on credit cards, with card-linked wallets offering a new access method, but stored value ones offering competition. Furthermore, some wallet providers have started offering their own versions of credit cards (eg Apple, and PayPal), which can integrate with their other services and products to create a holistic offering.

What this reflects is the credit card's ability to adapt. Whether created from new card materials such as metal, rewards, or wallet integration, credit cards keep evolving. Rising affluence in emerging markets, and interest in credit from the younger demographic will continue to boost credit cards.

A2A Payments

Above the Line, Within Technology Establishment



Account-to-account (A2A) payments are those made directly between bank accounts; skipping the use of card networks or other intermediaries. Early versions of this were bank transfers, which shifted towards real-time payments when instant A2A payments rails began to be developed. While this mainly began as a P2P mechanism, national schemes such as Unified Payments Interface (UPI) and Pix have popularised A2A merchant payments in developing markets. As a real-time payment method, A2A payments improve cashflow for businesses, as well as reducing transaction fees.

Alongside massive growth in certain markets, such as India, Brazil and Thailand, there will also be strong growth in developed markets, such as Europe and North America. While not all A2A schemes are real time, the launch of real-time schemes has been shown to majorly boost A2A prospects. As such, the US is seeing a major surge in A2A transactions, with the FedNow system scaling up, with future potential in Canada with the launch of the long awaited Real-Time Rail moving closer. In Europe too, A2A payments increasingly underpin solutions such as Wero, with the UK exploring accelerating A2A payments as part of its National Payments Vision.

Moving forwards, we expect A2A to grow massively; by 113% between 2025 & 2030. This reflects growth from $91.5 trillion to $195 trillion globally; a massive surge.

Key to unlocking this potential will be exploration of cross-border interoperability between A2A schemes. Part of the enduring appeal of payment cards is that they typically work across borders – cards have had a long time to set standards which underpin much cross-border commerce. In contrast, A2A schemes have developed largely independently in country-level silos; limiting interoperability. Fundamentally, we believe a push between international interoperability for A2A schemes will unlock the next phase of growth.

Which Country Spent the Most Via A2A Payments in 2025?

#1 UK $11.4 trillion	#2 Japan $9.7 trillion	#3 India $8.9 trillion	#4 Germany $7.2 trillion
#5 US $7.0 trillion	#6 China $4.2 trillion	#7 Brazil $4.1 trillion	#8 France $3.5 trillion
#9 Italy $2.5 trillion	#10 Mexico $2.4 trillion	#11 Australia $2.2 trillion	#12 Spain $1.9 trillion

Source: A2A Payments Market 2025-2030
Published: September 2025

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Prepaid Cards

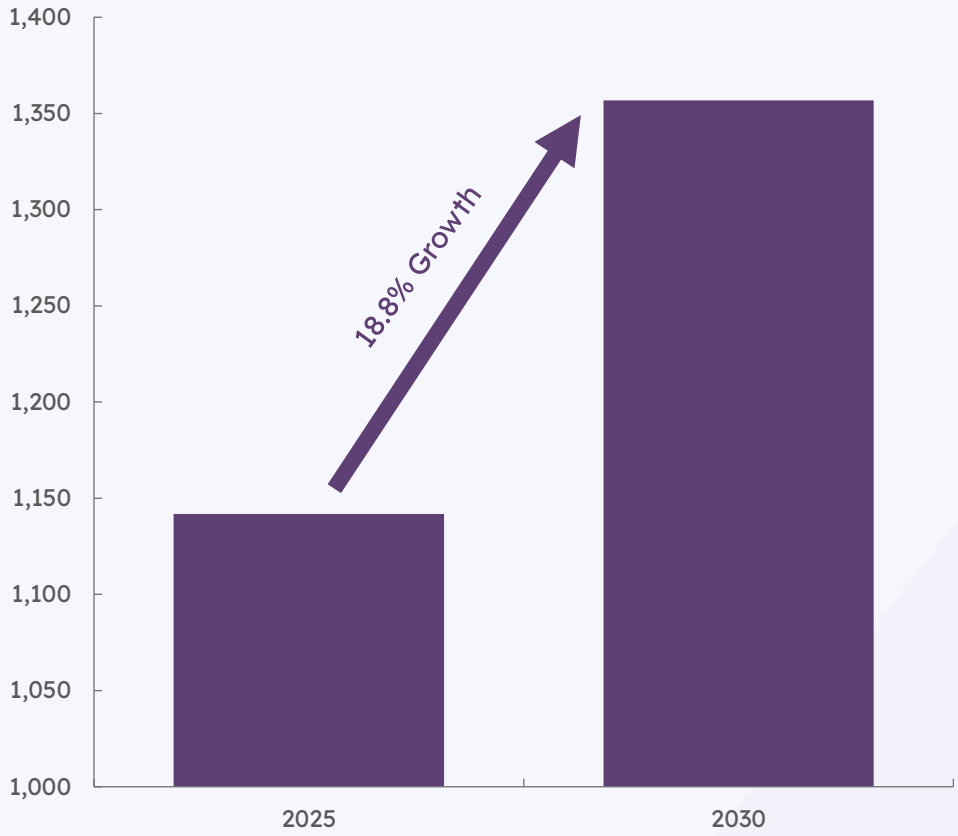
Above the Line, Undergoing Later-stage Growth

Prepaid cards are not linked to a credit or bank account, instead being loaded with a balance ahead of time. Prepaid cards can either be one use, or increasingly, they are reloadable; typically via a retail network or an app. Prepaid cards are more accessible than debit and credit cards, as a bank account is not required to use them. Fintechs such as Paysafe have leveraged prepaid cards to help people in cash-dominant economies to access the digital commerce market, by partnering with local stores to allow consumers to load their virtual cards with cash. Prepaid cards can also provide fraud protection during eCommerce transactions, as they can be created to be single use; rendering them unusable by malicious actors after the transaction has been complete.

Government disbursement is a major large-scale use case for prepaid cards, as this method does not exclude those without bank accounts or a smartphone. This allows for widespread disbursements in the case of disaster relief, or regular welfare disbursements. The US is a massive part of the market, with welfare often being distributed via prepaid cards.

The rise of digital issuance is transforming prepaid cards. This enables prepaid cards to be issued as virtual cards; being electronically issued and delivered. This lowers the barriers to entry for prepaid cards even further. It also enables more granular control and visibility over card use, such as imposing spend limits. These capabilities will allow virtual cards to be leveraged in a corporate context more heavily, with virtual prepaid cards being used for corporate expenses, employee benefits, and loyalty rewards. This specific appeal, combined with greater availability of prepaid cards, will see prepaid card usage continue to surge through to 2030.

Figure 5: Global Prepaid Card Users (m), 2025 vs 2030

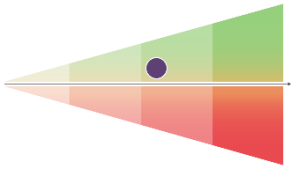


Source: Juniper Research

Figure 6: Click to Pay

Source: Juniper Research

Click to Pay



Above the Line, Undergoing Technology Establishment

Click to Pay is an initiative from EMVCo to promote eCommerce card payments. Click to Pay acts as a type of digital wallet that allows users to create one profile to store multiple payment cards. Once enrolled, the customer does not need to enter any payment card information or shipping information to complete a transaction.

This is enabled by EMV Secure Remote Commerce (SRC), which is a technical standard that allows industry players to create a more secure and consistent checkout experience across digital channels. It provides an alternative to card-on-file, which requires customers to sign up and store their card details separately with each retailer. Click to Pay is intended to streamline guest checkout scenarios, where a customer is a first-time buyer.

Since it was launched in 2019, adoption at merchant checkout has soared as payments providers are required by the card networks for implementation. This is important, as card-based payments are facing heavy competition at checkout from digital wallet 'buy buttons', which require no entry of payment information and just two clicks – one to buy, one to confirm. For example, Apple Pay requires users to click the Apple Pay option, confirm with their fingerprint, and nothing else. Compared to the manual entry of card details and shipping information, this convenience has led to a strong user preference for these methods. Click to Pay represents a pushback from the card networks and issuers, who benefit more from direct card purchases than from transactions that are routed through digital wallets.

Moving forwards, we expect adoption to soar; both as the networks continue to encourage usage, and as consumer familiarity grows. We expect further initiatives from card networks and payment service providers to further encourage Click to Pay registration; boosting usage significantly.

Figure 7: Mobile Money Use Cases

SERVICE 01

International Remittances

Facilitates low-cost, safe, and fast transfers across borders between mobile money account holders.

SERVICE 02

Microloans

A small loan made with low interest to a small business, usually carrying flexible qualification requirements.

SERVICE 03

Microsavings

No minimum amount is required and very small deposits are permitted.

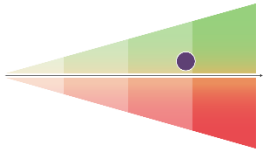
SERVICE 04

Microinsurance

Provides low-income individuals with flexible and affordable insurance coverage.

Mobile Money

Above the Line, Undergoing Technology Establishment



Mobile money is an alternative financial instrument that allows users without an account at a traditional financial institution to engage in financial activities such as paying bills, accessing loans, and checking their balance through their mobile devices. This is mainly popular in emerging markets, as it drives financial inclusion.

In cash-reliant markets, mobile money has helped to bring consumers and businesses into the digital economy. As Internet penetration and infrastructure further develops, more users will be interested in accessing financial services which can connect them to online storefronts.

International remittances are another key pillar of mobile money in emerging markets. There is a high demand for cross-border money transfer, particularly as access to remittances is poor, and the transfer cost is especially high compared to other types of transaction. Remittance flows to low and middle-income countries are consistently growing, and mobile money operators are well placed to develop solutions to cater for this demand. This is not only on the send side of the transaction, but also on the receive side, where mobile money services represent a great delivery point.

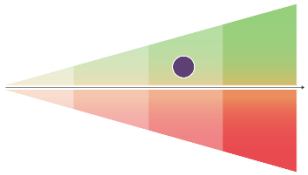
Over time, we will see further development of mobile money services into new areas. One way we are seeing exploration is in offering cards – credit and debit. As affluence rises in emerging markets and a middle class arises, traditional financial products are becoming increasingly relevant. Mobile money services are well placed to cater to this demand; typically being the most popular financial brands in the countries they operate within.

A recent Juniper Research study found that mobile money users in emerging markets will reach 2.2 billion by 2030; reaching over 53% of the adult population. This represents a gain of over 370 million additional users versus 2026.

The rising adoption of open platforms and APIs is driving this shift, as it is enabling interoperability. Interoperability enables providers to integrate seamlessly with key partners such as banks, financial institutions and fintechs; unlocking new use cases such as mobile microloans, microinsurance, savings, and BNPL schemes.

Stablecoins

Above the Line, Within Technology Establishment



Stablecoins have increasingly strong potential, with the payment type increasingly moving from niche use cases around the periphery to more mainstream use cases.

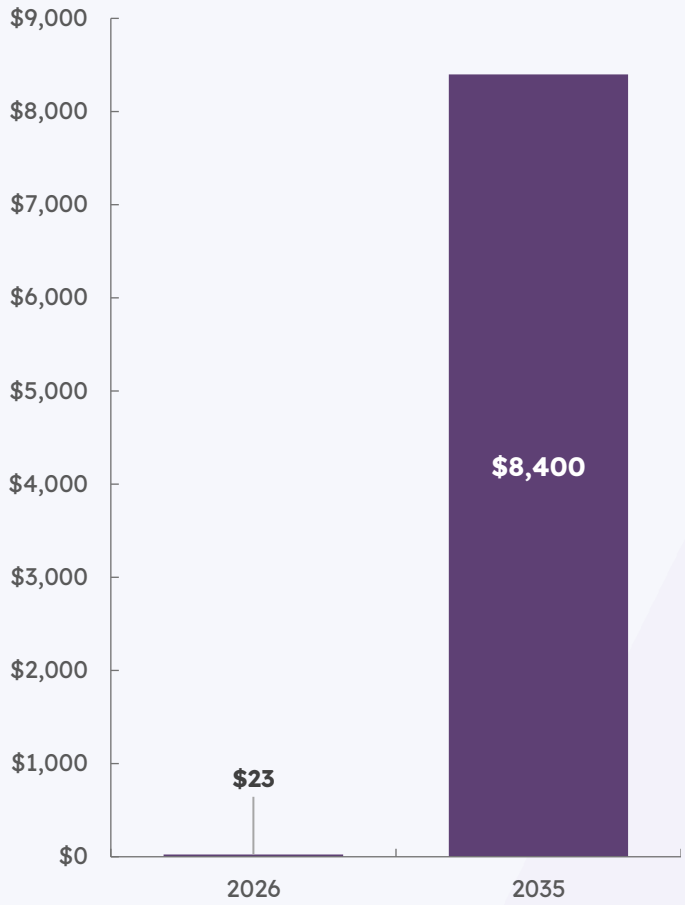
However, this potential is largely expected within B2B payments and infrastructure use cases, rather than featuring in a direct consumer role. A recent Juniper Research study into stablecoins found that 85% of stablecoin transaction value in 2035 will be B2B, with stablecoins shifting from a speculative asset to a foundational layer of institutional payment infrastructure. Stablecoins are increasingly embedded in cross-border B2B transactions, treasury operations, and supply chain settlements, where their programmability and 24/7 settlement finality offer advantages over correspondent banking rails.

Cross-border B2B payments will be the largest driver of stablecoin transaction value growth through 2035. Traditional correspondent banking introduces settlement delays and intermediary costs such as correspondent fees, FX conversion margins, and SWIFT messaging charges. Conversely, stablecoins settle on-chain in near real-time; substantially reducing per-transaction costs to a fraction of conventional rails; making it ideal for high-value, time-sensitive corporate transfers across corridors, especially where dollar-denominated stablecoins offer a neutral settlement asset.

Stablecoins are not replacing payments infrastructure; they are being adopted where the advantages are most pronounced. Cross-border B2B is where those advantages are greatest, and it is where we expect the most sustained volume growth over the forecast period. Stablecoin issuers and payment service providers should prioritise enterprise integration and treasury partnerships to capture the majority of this value.

In terms of true consumer use cases, we are starting to see these emerging. While direct use within eCommerce transactions remains unlikely, we have seen stablecoins being used as a reliable store of value in markets where the native currency is very volatile, such as in Argentina. We expect consumer use to increase from there – as the ease of access to stablecoins creates a mechanism whereby consumers can use it for whatever use case they like. As stablecoins become better supported in terms of on and off ramps, we expect remittances to be a major area, as well as niche use cases such as payouts for gig workers across borders.

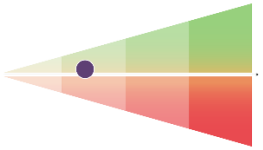
Figure 8: Total Transaction Value from Cross-border Stablecoin Payments, 2026-2035, Global



Source: Juniper Research

Variable Recurring Payments

Above the Line, Market Expansion & Consolidation



Variable Recurring Payments (VRPs) are facilitated by Open Banking initiatives; enabling third parties to make recurring payments on the behalf of consumers. VRPs are set up to be configurable by the users in terms of limits; providing flexibility.

Currently, the most common form of VRPs are sweeping VRPs. Sweeping VRPs involve moving money between accounts belonging to the same account holder, a 'me-to-me' payment. This is used to avoid overdraft fees, facilitate savings automation, and improve budgeting. Small payments can also be automatically directed towards paying off loans or credit cards, reducing interest charges over time.

Beyond this, the availability of non-sweeping VRPs has been limited. Non-sweeping VRPs enable payments between a consumer and someone else, and are usually called commercial variable recurring payments (cVRPs). Until recently, cVRPs were fairly limited, due to a weak commercial model. However, in the UK, this has changed significantly. In June 2026, the UK payments industry announced the launch of the UK Payments Initiative (UKPI).

The UKPI scheme establishes a shared rulebook, commercial model and operational standards for flexible, automated, or recurring A2A payments, powered by Open Banking. The collaborative nature of this is interesting – founding shareholders include high street banks such as Barclays, HSBC, Lloyds Banking Group, NatWest and others, as well as digital and neo banks including Monzo, Revolut, Starling, and fintechs such as Token.io, Truelayer, and Yapily.

With such support from the payments' ecosystem within the UK, we expect cVRPs to finally start rolling out at scale within the UK. This will serve not only as a testbed for the technology, but also as a test for the collaborative model with which the UKPI was designed.

International examples can give hope to the UKPI, with Pix Automático, a new recurring payments capability in Brazil, seeing strong growth; reaching almost 3 million transactions per month by May 2026, just 11 months since launch. If the UKPI can replicate anything near this adoption curve, then it can be considered a drastic success.

Following the UK example, we expect the EU to follow suit in developing VRP capabilities, as the European market looks for ways to boost sovereign payment systems.

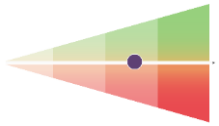
Figure 9: Selected UKPI Shareholders

Source: Juniper Research

Figure 10: Global Value of Remote Physical Good Purchases Made Via BNPL ($m), 2025 vs 2030

Source: Juniper Research

BNPL



Above the Line, Within Technology Establishment

Buy Now, Pay Later, a technology often referred to as instalment plans in its infancy, has matured quickly into a substantial player in the payments landscape. As an alternative to credit, BNPL solves a major pain point for consumers who are financially vulnerable and worry about risking a decline if a hard credit check is done.

As seen in figure 9, BNPL will account for almost $490 billion in consumer spend on physical goods by 2030; showing that BNPL is still growing significantly.

This does not however mean that individual BNPL providers are having an easy ride. BNPL is very saturated in terms of providers; meaning that most individual BNPL players will decline or struggle with competition. BNPL fintech players are losing market share, and banks, superapps, and credit card networks are gaining it. First-mover BNPL companies such as Klarna and Affirm are also retaining popularity, meaning that smaller, more recent entrants have very little room for growth.

Regulatory intervention will help put BNPL on a more stable footing for growth, but BNPL does have several major challenges:

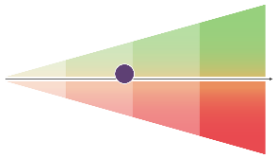
- Difficulty of tracking concurrent BNPL repayment plans, which is exacerbated by the sheer number of BNPL providers. This suggests that there is space in the market for apps that connect to multiple providers; helping consumers keep track of their plans.
- Acceptance issues: as BNPL is in its infancy, compared to other payment methods, acceptance is lower than other payment methods. In order to remain competitive in a saturated market, payment solutions providers have been quick to adopt BNPL. However, merchant acceptance suffers as BNPL has higher default rates than other methods, and the return and refund process can also be more complicated for merchants.
- Overextension of credit: BNPL providers perform less stringent credit checks than credit card providers. This means that credit may be extended to consumers who cannot afford it; eventually leading to defaults. Over time, this may cause BNPL to face regulatory scrutiny and also lose customer trust as it is perceived as a ‘risky’ payment method. However, one of the main reasons why consumers would choose BNPL over credit is accessibility and availability; so any attempts to tighten access and perform more thorough credit checks may reduce the appeal of BNPL in the eyes of its target market.

Over time, we expect BNPL to continue to grow, but the market will struggle to overcome its challenges, with the competitive landscape being mixed.

Figure 11: Bank-owned Digital Wallet Examples

Bank-backed Wallets

Above the Line, Within Market Expansion & Consolidation



Bank-backed wallets are digital wallets launched by one bank or a consortium of banks. Consortium wallets generally experience the highest degree of success, as they can tap into a wider customer base and leverage existing relationships from all their partner organisations to encourage adoption. Consortium-backed wallets have become a dominant payment method in markets such as Swish in Sweden and Vipps in Norway.

However, bank-backed wallets historically tend to have undershot expectations or been withdrawn. For example, JPMorgan decided to discontinue its Chase Pay digital wallet due to a lack of adoption, as did Wells Fargo. It is notable that failed wallets were generally launched in markets where OEM pay wallets were already strongly established, such as North America; which likely contributed to the lack of traction. OEM wallets are favoured by consumers due to familiarity, the ability to add multiple cards and funding sources to the wallets, and contactless functionality that allows them to be utilised across all aspects of payments.

Access to NFC capabilities granted by Apple has given these wallets a boost, with Vipps MobilePay being one of the first brands in Europe to take advantage of these capabilities.

The European Payments Initiative is seeing success with Wero, which is slowly scaling across Europe. As of June 2026, Wero has been live for P2P payments in Belgium, France, and Germany since 2024; currently serving 55 million users. For retail payments, Wero has been live in Germany since the end of 2025, with a progressive roll-out in France and Belgium throughout 2026. Major migrations of at least 15 million consumers are also planned for Payconiq in Luxembourg (by 2026) and iDEAL in the Netherlands (by 2027). This demonstrates the vast potential of bank-backed wallets in Europe.

As in Europe in particular, governments and regulators look to maximise their independence and sovereignty, we expect bank-backed wallets, built on instant payment rails, to be a major initiative going forwards. As different countries look at their reliance on American companies for payments, we expect this view to broaden, with bank-backed wallets benefitting from this increasingly widespread view.

It will however require regulators to intervene – where cards are popular now, changing user behaviours is difficult, and will need major intervention to shift perceptions.

Below the Line Technologies

Technologies classified as ‘Underperforming Technologies’ or ‘Below the Line’ are those that have been identified to not meet market expectations. This could be through not securing a return on investment for the technology, through either a lack of adoption or lower than anticipated revenue.

However, market movements or announcements may impact the classification of any technology over the next year. This is especially the case for early-stage technologies. Later-stage technologies which have shown decline may be less likely to recover; owing to the emergence of new, disruptive technologies.

Common observations of underperforming technologies:

- Lack of adoption or competing technologies with greater adoption
- Lack of clear benefits to the end user
- Slower than anticipated uptake
- Diminishing ecosystem

CBDCs (Central Bank Digital Currencies)

Below the Line, With Elusive Adoption

Retail CBDCs are digital currencies issued by central banks for public use; enabling individuals and businesses to make everyday transactions directly between themselves. These are at an early stage of development, with only three nations currently having launched retail CBDCs with general availability. There are however over 40 countries piloting CBDCs, so the technology is being considered, but at the moment, it is not progressing into full launches and consumer adoption.

There is increasing divergence in the types of CBDCs being pursued. While developing nations are moving forward with retail CBDC development, many developed countries are beginning to put their projects on pause. Emerging economies are motivated by the need to promote financial inclusion and address digital divides, whereas the vast majority of consumers within developed economies already have reliable payment systems. Whilst a retail CBDC is still useful for promoting resilience and choice within developed economies, central banks in developed countries are likely to prioritise wholesale CBDCs over retail CBDCs in the short term.

There is however momentum within Europe, which is keeping CBDCs at the forefront, despite scepticism in the US in particular. The EU is looking at launching the digital euro in 2029, with the UK also continuing to explore a digital pound, without a firm commitment to deploy the system.

As such, CBDC momentum is somewhat stalled, but positive developments without European can shift this dynamic.

Figure 12: Design Principles of the Digital Pound

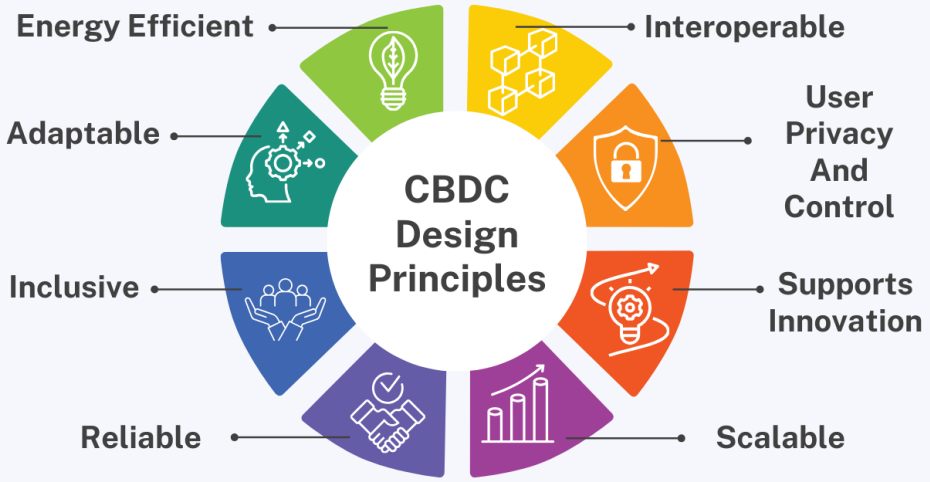
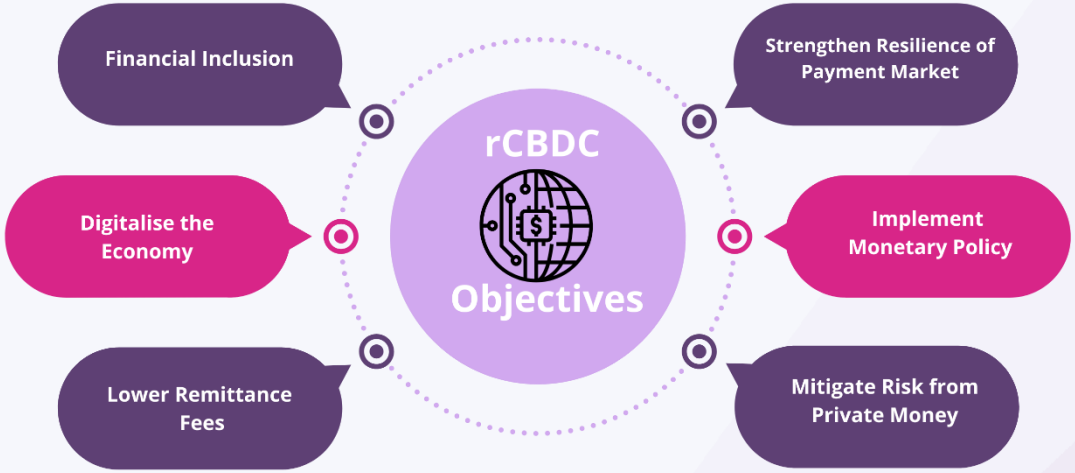
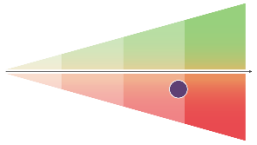


Figure 13: Objectives of Launching Retail CBDC Objectives



QR Code Payments

Below the Line, With Declining Potential



QR code payments are a form of contactless payment that transfer money via the user scanning a QR code with its phone's camera, which automatically opens a payment link. Codes can either by static or dynamic, with dynamic being favoured for security reasons. They are primarily used for in-store retail purchases, ticketing, and transport. The Asia-Pacific market has the heaviest reliance on QR codes, with nations such as Thailand, Singapore and Vietnam establishing national standards for QR codes. These nations have expressed interest in forming a QR code regional cross-border payment network, which would further increase use.

QR code payments are scored as significantly below the line. Although they represent an established technology, they are forecast to underperform market expectations in Western markets over the next year; largely due to heavy competition from NFC payment methods.

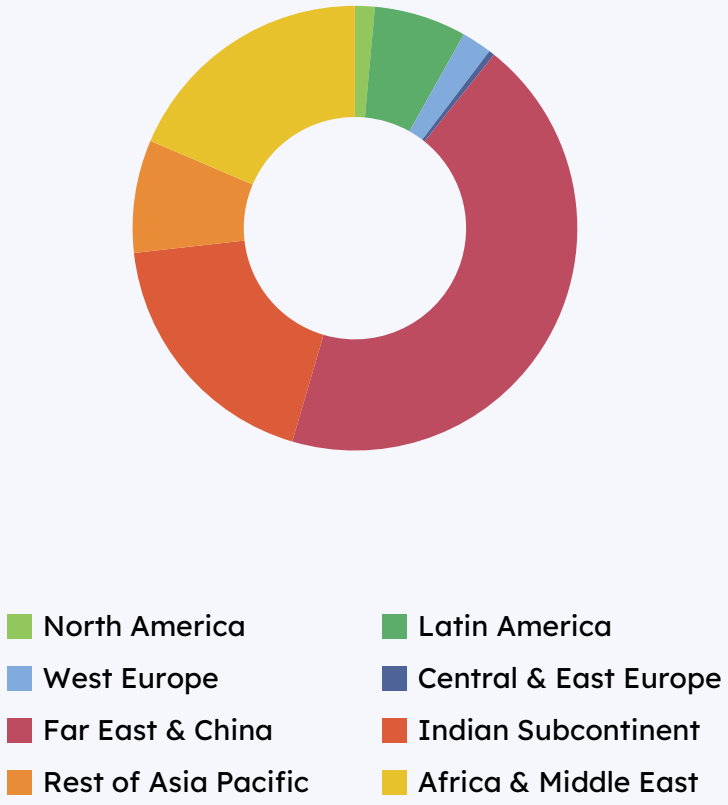
NFC directly competes with QR codes, as both enable contactless in-person transactions. However, NFC offers a faster and more seamless interaction with a tap, whilst QR codes require the user to scan an image. Whilst NFC codes require compatible hardware; an increasing number of merchants are adopting this solution.

The move by Apple to open up NFC access to third parties has led to a loss of activity where QR codes were already popular in Europe. For example, Vipps MobilePay in Norway, which traditionally featured QR, has integrated NFC compatibility.

However, QR code infrastructure still has a lower barrier for entry than NFC; allowing street vendors, drivers, and independent workers to readily accept payments. This market can still continue to be targeted, as the accessibility of the technology and implementation costs continue to be an asset.

QR code use in Southeast Asian markets is expected to continue growing, due to efforts to encourage a cashless society. However, as digital payments begin to plateau in terms of adoption in certain markets, we expect growth to begin slowing.

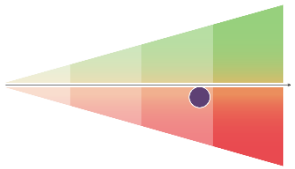
Figure 14: Total Number of QR Code Payment Users in 2025 (m), Split by 8 Key Regions: 2.9 billion



Source: Juniper Research

Carrier Billing

Below the Line, With Declining Potential



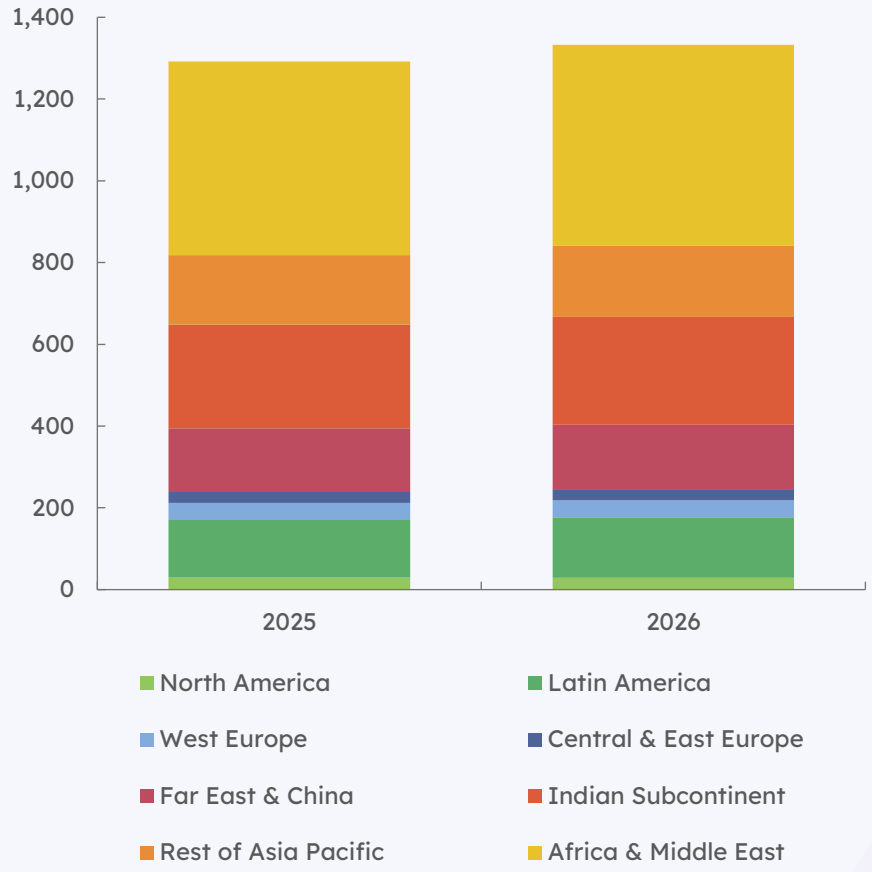
Carrier billing is a mobile payment method that allows users to charge purchases directly to their mobile phone bill, facilitated by telecom operators. This is available to anyone with a phone and does not require a bank account or Internet connection.

As carrier billing is typically paid monthly, one fast-growing use case for carrier billing is subscriptions. Another common usage is microtransactions, particularly during in-app purchases, such as topping up virtual currency though mobile carrier billing. The mobility sector and tollgate transactions are also processes which can be enhanced through the integration of carrier billing. Instead of entering sensitive information at each toll transaction, or during ridesharing, users can enter their mobile number.

The appeal of this method lies in its accessibility, ease of use, and security. Users only need to enter their mobile number and verify the transaction with a code or SMS. The majority of carrier billing use is situated in developing regions, particularly where card usage and banking penetration is limited, but mobile phones are widespread; making it accessible to those underserved by traditional payment systems. However, the rise of digital wallets, mobile payment systems, and credit alternatives such as BNPL has led to the decline of the potential of carrier billing and an underperformance compared to market expectations.

As displayed in the following figure, the number of carrier billing users is largely expected to stagnate over the next year; the global average number of carrier billing users is expected to grow by 3.2%. As such, whilst carrier billing is useful for its wide reach, it is being outpaced by other digital payment methods.

Figure 14: Total Carrier Billing Users (m), Year End, 2025-2026



Source: Juniper Research

Agentic Commerce

Below the Line, With Elusive Adoption

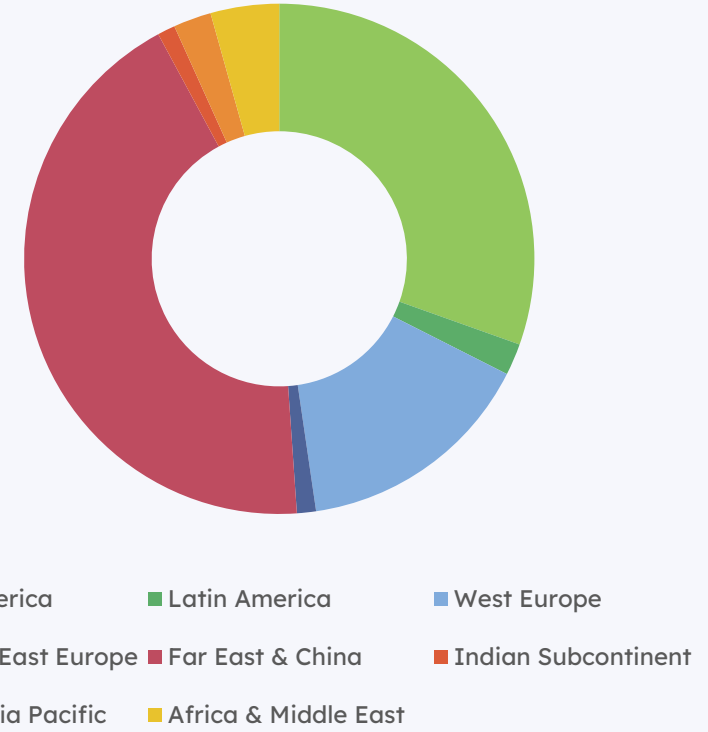
Agentic commerce refers to the increasing ability for AI agents to play a role within eCommerce. AI abilities have progressively increased over time, from use in specific models such as risk analysis, to being more useful general tools, such as Claude and ChatGPT.

These abilities have now created a situation where AI tools are going to disrupt the very way in which users make purchases every day. This has already started with product discovery, with users leveraging AI tools to identify the right product or find the best deal. From this point, it is only a simple logical leap to have the AI agent empowered to make the transaction itself – disintermediating the current checkout process.

Indeed, we have seen payments companies invest heavily within agentic commerce. Mastercard and Visa have both rolled out agentic capabilities; typically based on card rails and tokenisation. We have also seen lots of involvement from other payments players; participating in agentic commerce frameworks with AI market leaders.

This begs the question – why is the technology below the line? Fundamentally, agentic commerce will grow rapidly, but at present, there is a wide gap between the noise and the actual market activity. Over time, this gap will close, and AI-led purchases will be a trend, but this is at the very early stages, and the hype is not currently matched by genuine user activity.

Figure 15: Total Agentic Commerce Market Size in 2030, Split by 8 Key Regions: $1.5 Trillion

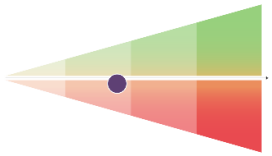


Source: Juniper Research

Agentic commerce spend will reach $1.5 trillion in 2030; growing from only pilot deployments in 2025 and 2026.

In-car Payments

Below the Line, With Declining Potential



In-car payments are a payment system where the vehicle itself is empowered to make payments, using tokenised capabilities, often via the infotainment system.

In-car payments have been a topic of interest for some time – but they have made limited impact, with the mobile app proving to be the dominant method for making payments on the move. Key use cases for in-car payments include:

- Fuel & charging: In this scenario, the car is empowered to liaise directly with the fuel pump or charging station, with the user not having to manually make payment.
- Tolls: The car is set up to be able to automatically pay toll road charges; creating a seamless experience.
- Parking: The car can autonomously link up with the relevant parking system and pay the correct amount.

The challenges in this space really all boil down to fragmentation. There is a large number of different car manufacturers, and while there has been some consolidation, the rise of Chinese brands in particular is increasing the number of different vehicle providers. As such, agreeing common standards is hard. This lack of standards means that merchants are not buying into car payments as a method. As such, we expect in-car payments to remain niche and limited to buying access to in-car services.

Figure 16: Major Vehicle Manufacturers & Their Payment Systems

BMW In-car Payment

Mercedes Pay

Kia CarPay

About Juniper Research

Juniper Research has been a trusted source of market intelligence to the banking, payments, and anti-fraud sectors for over 20 years.

Our fintech and payments research portfolio spans more than 45 reports; covering everything from established markets including QR Code Payments and Virtual Cards to fast-evolving technologies such as CBDCs & Stablecoins.

With regular forecast updates and dedicated client support, we help you keep pace with a rapidly changing market - so you're never caught off guard.

For more information, contact Nick Maynard, VP of Research:

nick.maynard@juniperresearch.com

Or Nick Mardell, VP of Sales:

nick.mardell@juniperresearch.com

You can also visit the website at

https://www.juniperresearch.com