

Payment Solutions

The Future is Frictionless



The payments landscape is evolving, and it is happening fast as technology continues to evolve towards executing payments wherever they are needed. Unprecedented demand for cashless, contactless transactions, and in-store custom solutions are driving the acceleration.

Payments are Everywhere

Payments today have become woven seamlessly into our daily routines. They are everywhere – and they are increasingly automated and integrated across both retail and corporate customer journeys.

Over the last decade, the payments ecosystem has shifted as major global banks and acquirers, issuers, fintechs, and even non-native technology giants are adopting strategies through partnership, acquisition, or merger, to get closer to their customers. Payments are – as concisely stated in Visa’s aptly worded slogan, introduced in 1985 – everywhere you want to be.

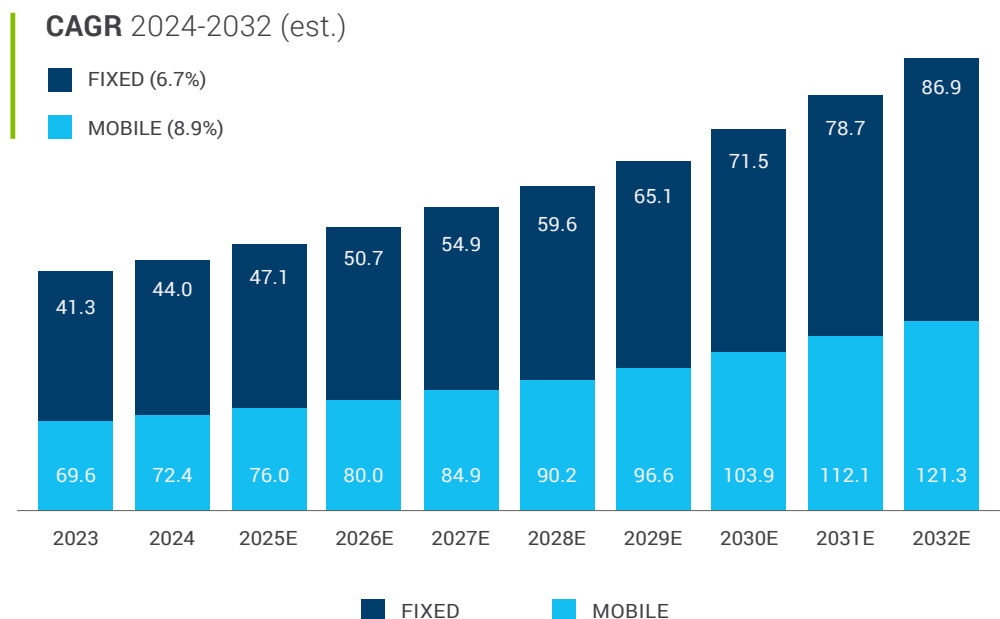
Point of Sale Terminal Growth Projections

Looking out into the next decade, market research and management consulting firm, Global Market Insights, projects a growth rate of 7.5% for the overall point of sale (POS) terminal market, with the growth in mobile POS (mPOS) outpacing fixed POS by a margin of more than 200 basis points.

The primary advantage of mPOS systems is their portability and their ability to streamline checkout. Transactions can be processed anywhere and everywhere providing businesses with varied or changing locations leverage to keep the cash registers ringing. Industries like hospitality and retail particularly value the speed and convenience unlocked by mobile payment terminals.

Consumer expectations for convenience and speed have grown as well. Secure, seamless, and fraud-protected solutions are absolute necessities across the ecosystem with innovative new payment technologies opening the doors to this next-generation, frictionless future.

Global POS Terminal Market Size by Products (\$B USD)



Payments Ecosystem

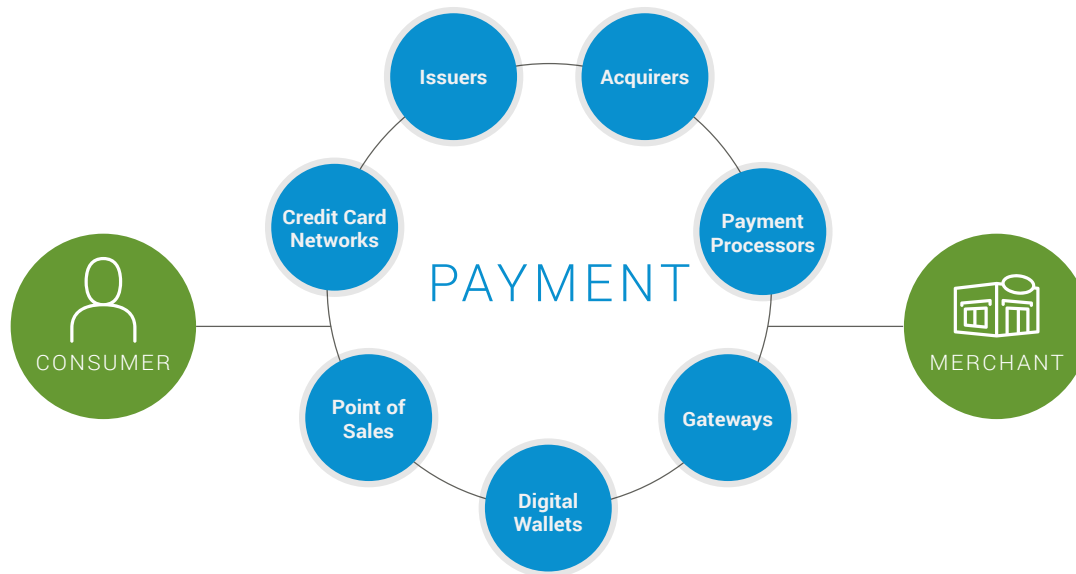
The modern payments industry is a dynamic ecosystem representing the technologies, processes, and regulations that facilitate the increasingly convenient and seamless exchange of monetary value for goods and services. In between customers and the merchants that serve them are a range of players and products, each fulfilling specific roles in the payment transaction and processing cycle.

“Fintech” is an apt descriptor of the merging synergies that are transforming the ecosystem making it less siloed as new platform-based payment systems enable a broader array of value-added services for merchants. The integration of proprietary payments hardware into back-office functions and even lending has been driven by technology-native fintech companies as well as through the significant investments in digital initiatives made by large traditional banks and acquirers.



The Payments Value Chain

Change has been a constant within the industry yet what remains constant is the drive to fuse reliability, security, and innovation to better meet customers' needs and wants. Consider the listing presented here a simplified representation of market participants whose roles will continue to shift and overlap as the value chain evolves and competition intensifies to capture more of the transaction pie.



1 | Credit Card Networks

Facilitate seamless flow of transactions among consumers, merchants, processors, and banks – a critical link between issuing banks and merchant acquirers.

2 | Issuers

The banks and other financial institutions that issue credit cards to consumers.

3 | Acquirers

The banks that enable merchants to accept credit card payments from the card-issuing bank within the credit card network.

4 | Payment Processors

Work in the background to provide payment processing services to merchants.

5 | Gateways

Software applications that enable merchants to accept payments and transmits payment data for processing.

6 | Digital Wallets

Solutions for digitally storing and spending funds that can be linked to cards, loyalty points, or other stores of value, such as boarding passes, movie tickets, loyalty vouchers, and more.

7 | Point of Sales

Card machines, card readers, or terminals – i.e., the merging of electronic funds transfer at point of sale (EFTPOS) equipment used to take debit and credit card payments, as well as mobile payments, if they come with this capability.



Trends Driving Next-Gen Payments

What's required to deliver on the promise of easy-to-use and easy-to-deploy next-gen POS technology at the heart of frictionless transactions?

Efficiency, scale, and agility are more important than ever, particularly in light of the cost and complexity required for the commercialization of secure, robust, and certified POS terminals and other payment technologies.

In this paper we present a few of the trends and forces shaping the market's overall direction with an eye on competitive advantages that are gained through partnerships with manufacturing solutions providers like Jabil.

To begin with, one key element for envisioning the future has become increasingly clear: payments prefer Android.

Why Android is the Way to Pay — A Platform Built for Growth

Introduced in 2008, Android's familiarity, ease of use, and adaptability make it ideal for creating seamless customer interactions across various retail and service environments. It is a robust open-source POS platform with infinite customization potential. From the outset, Android gained traction in the mobile payment space with the growth of NFC (Near Field Communication) and its potential for contactless payments. Early solutions, like Square and PayPal Here, utilized Android phones and tablets paired with card readers for small businesses.

Today's APIs mean payments and banking products and services can be embedded deeper into customer journeys at the point of need. Likewise, any software company can add payments and banking products and services directly to its customers under its own brand.

Android-based platforms can complement payment with either front or back-office business applications, like loyalty programs or fraud prevention tools, enhancing functionality and value. By democratizing developer access, particularly for small and mid-sized businesses, Android facilitates a shift from *Point-of-Sale* to *Point-of-Engagement*. Merchants leveraging Android-based payment solutions can create exciting, engaging, and differentiated experiences that will delight and help retain their customers.

Android facilitates a shift from Point-of-Sale to Point-of-Engagement

Streamlining to an Android-based POS terminal platform simplifies the management of multiple SKUs requiring multiple teams managing multiple code bases, all with yearly security updates and certifications. It also simplifies remote management of the devices in the field because they are all on the same baseline code.

Android is the future, de facto platform for payments. In just the decade and a half since the launch of Square's first card reader, Android-based POS solutions have become so widespread that per research in The Nilson Report they accounted for more than 40% of the POS terminals shipped worldwide in 2023. The remaining ~ 60% include both mains powered and battery powered terminals.

Android's Emergence in Payments

2010s

Early Adoption

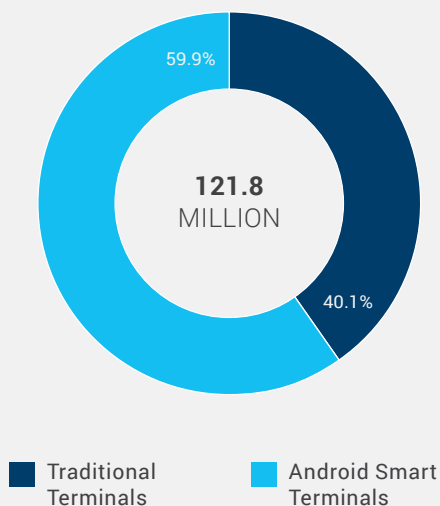
- Android gains traction as an operating system for mPOS devices
- Early solutions utilize phones and tablets paired with card readers for small businesses

2015 TO PRESENT

Momentum Builds

- Broadening ecosystem caters to businesses of all sizes globally
- Enhanced mobility drives adoption across industries such as retail, hospitality, and food services

POS Terminals Shipped 2023
(in millions)



Android's Future in POS – A Platform Built for Growth

All-in-one Solution

Value-added applications offer novel revenue streams to the payment terminal – taking a broader more business-centric role.

Developer Terra Firma

Flexible platform with potentially millions of apps; no need to create from scratch. Porting an existing Android application onto a payment terminal requires a few tweaks – they share the same OS. Value enhancements available at the lowest possible cost.

Security Standards

Can be fully PCI Compliant either by addition of specific hardware or by addition of specific software and specific certification processes. Software updating is easy and secure. Sensitive data chains are protected and safely integrated.

Generate New Income Streams

Application innovation that is designed to get the most from the feature-rich payment terminal.

Opens Towards a Wider Product Roadmap

The ability to leverage add-on device capabilities, such as biometrics authentication, cameras, scanning and NFC opens to a range of applications like QR codes and digital wallets.

Modular, Scalable Product Architectures — Get to Market Faster

The pace of innovation in digital payments means that the industry's original equipment manufacturers (OEMs) must adopt strategies that allow them to deploy solutions swiftly. Modular product design, such as Jabil's **System-on-Module (SOM)** payments architecture, supports this need by enabling flexible, interoperable, and scalable product development. Jabil has found that leveraging SOM design strategy is particularly advantageous as it offers pre-integrated, certified and tested solutions that simplify development and accelerate time-to-market.

Jabil's System-on-Module (SOM) payments architecture enable flexible, interoperable, and scalable product development to help ensure the most agile response for our customers and their requirements.

SOM-based architectures allow for designs and development that are not hampered by interdependence, instead, the systems — assembled much like a set of blocks into a greater whole — are characterized by functionally independent components or subsystems. Each component is responsible for delivering a single function, and each function is fulfilled by a single component.

Adopting a SOM-based approach allows for the reuse of components, lowering costs and simplifying procurement processes. Doing custom design every time an OEM wants a single system is not only expensive, but it also almost always slows time to market. Jabil's designers and developers leverage the advantages of modular, building block architectures, identifying which elements are reusable across different systems, and which pre-certifications can be carried forward, to help ensure the most agile response for our customers and their requirements.

80%



PAYMENT
SOLUTION COST

70%



TIME-TO-
MARKET

100%



POINTS READY
FOR PAYMENT

100%



CONTROL
ON UI

Accelerate Innovation with Parallel Product Development

One of the key advantages of a SOM-based approach is the ability to conduct parallel design and product development. By designing modular components that can be easily reconfigured, companies can simultaneously develop multiple products with distinct form factors and functionalities.

This strategy allows businesses to cater to diverse market segments without increasing time-to-market. A single SOM-based design can power both a compact mobile payment terminal for small businesses and a feature-rich countertop system for high-volume retailers. For instance, by leveraging the same SOM and the same software, Jabil supported customer development of both a 5G tablet device and a 4G LTE mobile terminal in parallel. This approach helps ensure that customers can quickly adapt to evolving end customer demands without gaps in their market offerings while optimizing costs and resources.



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Product Roadmaps that are Both Flexible and Reliable

Long-term planning and technology roadmaps are crucial for building next-gen POS systems that are user-friendly, feature-rich, and secure. Jabil advocates for design-to-cost solutions that meet current requirements without becoming obsolete as needs evolve. The ability to offer a compelling and differentiated POS solution is vital, especially as more platforms and products flood the market. For some customers, such as neobanks, the POS may be the only physical representation of their brand identity, which is why it's so important to achieve the right look-and-feel as part of the consumer's engagement with the brand.

Modularity allows for greater flexibility and innovation in the design of mobile payment systems, which in turn means a broader range of different solutions tailored for different end

users, and their use cases. Even while design flexibility is increased, product lifecycle management and manufacturing complexity are reduced.

As far as the consumer is concerned, what kind of technology or product architecture is in the payment terminal is irrelevant. What matters is their experience – was it easy to use, was it seamless, was it secure?

Jabil's strategic architecture ensures product variety *now* with the added bonus of rapid transitions between subsequent product releases, and even product generations. As a result, OEMs are better able to align closely with the voice of the consumer and deliver to market, again and again, payment technology products that hit the mark.

The Role of Biometric Security in a Frictionless Future

Security and speed are like two interdependent poles upon which the payments industry turns. Customers have grown accustomed to fast, seamless transactions and have little patience for delays, even measured in fractions of seconds. They have even less patience for incompetent or unreliable security measures.

Biometric security offers a winning combination of convenience, speed, and safety. Fingerprint scanners, facial recognition systems, and other biometric technologies provide unparalleled security and convenience, addressing consumers' growing concerns about fraud and identity theft.

Enhanced security features are becoming critical differentiators in a crowded market. Today's emerging payments players and legacy companies both recognize the urgency for strengthening risk and compliance performance against increasingly sophisticated threats.

Implementing robust biometric authentication systems into fintech applications is no less important than constructing impenetrable bank vaults — today's digital walls must safeguard people's financial lives. Biometrics technology and finance are continuing to merge, offering simpler, and more secure access to transacting business at the tip of our fingers or the blink of an eye. Moving forward, combining biometrics with AI-enhanced systems will make the experience even more seamless — and secure.

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Spotlight on Jabil's Optics Chops and Next-Gen Security

Jabil has made strategic investments in next-gen optics to be at the forefront of integrating biometric technology into payment solutions. These security innovations embedded into Android-based payment terminals enable merchants to offer frictionless, secure transactions that build customer trust and loyalty.

Biometric technology modules must be compliant with PCI certification processes. Jabil supports customers in this space by implementing PCI-compliant security standards in the form of software, which eliminates the need for using a dedicated and expensive secure-microcontroller. Further benefits include reducing hardware and peripheral requirements, and by extension, significantly reducing the cost of producing a payment terminal.

Global Scale and Agility in a Changing World

The global payments ecosystem faces significant challenges due to geopolitical tensions, particularly between China and the West. These strains have increased the need for diversified manufacturing strategies that mitigate risks without sacrificing quality or cost efficiency. Resilient supply chains and proximity to key markets are increasingly important amid geopolitical disruptions.

Jabil's global footprint includes long tenured, high performance manufacturing facilities in China as well as in alternative regions like Mexico, India, Vietnam, and Brazil. As part of our comprehensive manufacturing partnership support for our customers these additional locations offer broader proximity to key markets, shorter supply chains, and reduced geopolitical risk. Few companies can match Jabil's ability to leverage regional capabilities at this scale and proficiency. The result: uninterrupted production volumes while maintaining the high quality and compliance standards demanded by the payments industry.

Jabil offers a broad bench of engineering and design talent at key sites around the globe with expertise developing Android-based payment solutions.

1 | **Biometrics Technology Innovations**

State-of-the-art Innovation Center in Jena, Germany for the integration of biometric technologies, such as fingerprint scanners and facial recognition.

2 | **Encryption Solutions**

Robust encryption solutions to ensure secure transactions while meeting the highest security standards in the payment industry.

3 | **Streamlining PCI and EMV Certification Processes**

Expertise in navigating and simplifying certification processes. Ensuring compliance with PCI 7 and other industry standards for secure payment solutions.

4 | **Mobility Enhancing Technology**

State-of-the-art YT-SOM ultra-low-power processor reduces POS terminal power consumption, increasing battery-life and extending mobility.

Jabil Knows How Payments Work

For over 20 years, Jabil has collaborated with the most innovative technology companies to improve operations and transform customer experiences in the retail and digital commerce industries. In addition to Jabil's strategic supplier relationships, and longstanding relationships with retail-tech leaders, we offer customers a broad bench of engineering expertise with pre-certified hardware and firmware, fast prototyping, and SDKs for iOS and Android that help reduce go-to-market hurdles, slash development times, and ease integration with existing payment applications. Built-in support for EMV, PCI, and various security certifications ensures secure, compliant operations while saving time and money.

Jabil's diverse portfolio of solutions developed and delivered on behalf of retail leaders includes the monthly production of 800,000 point of sale terminals as well as 500 self-service checkouts and intelligent vending machines. Through partnership and investment, Jabil has built an industry leading team of payment security experts. We can handle both the complexity and certification burden on behalf of our customers, helping them to capture the opportunities of next-gen payment technology. We know how payments work.

**Are you prepared to fulfill a frictionless future in commerce?
Let us help simplify the complexity of next-gen digital payments.**

For additional information, visit jabil.com/payment-solutions

CONTRIBUTORS

Gregory Mardinian
Engineering Director, Payments

Toon Diels
Engineering Services Director

Mauricio Ferreira
Senior Business Unit Director, Payments

About Jabil

At Jabil (NYSE: JBL), we are proud to be a trusted partner for the world's top brands, offering comprehensive engineering, manufacturing, and supply chain solutions. With over 50 years of experience across industries and a vast network of over 100 sites worldwide, Jabil combines global reach with local expertise to deliver both scalable and customized solutions. Our commitment extends beyond business success as we strive to build sustainable processes that minimize environmental impact and foster vibrant and diverse communities around the globe. Discover more at www.jabil.com.