



NILSON REPORT

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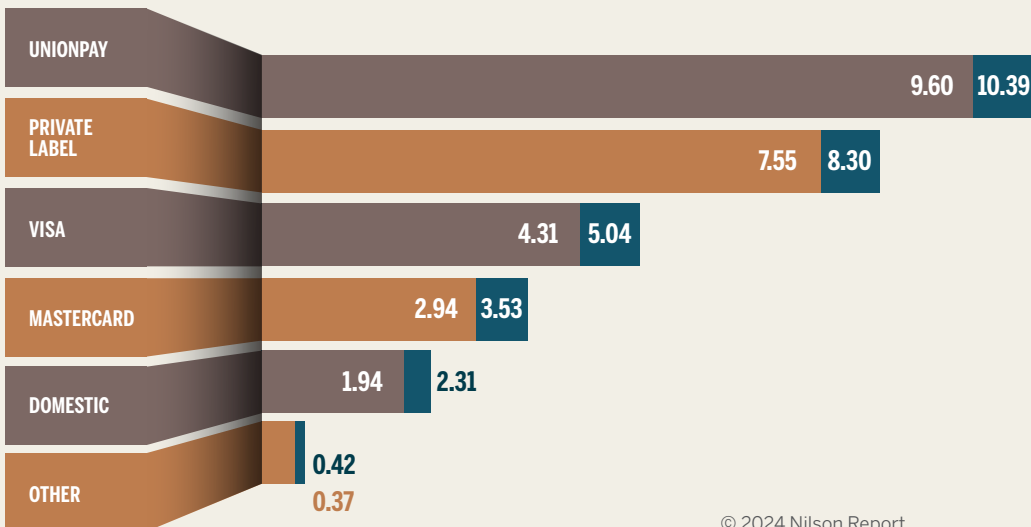
PROJECTED THROUGH 2028 IN BILLIONS

Payment Cards in Circulation

General purpose and private label credit, debit and prepaid cards in circulation worldwide are projected to reach 29.99 billion by December 31, 2028.

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2023 2028



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COVER STORY

Payment Cards Projected Worldwide through 2028

Credit, debit and prepaid cards in circulation worldwide reached 26.71 billion on December 31, 2023. Another 3.29 billion cards will be added over the next 5 years.

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Fiserv Seeks State Bank Charter

The company could handle financial settlement with merchants for card payments they receive without using a bank partner.

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Visa and Mastercard Worldwide through 3Q 2023

Purchase volume generated by Visa and Mastercard brand cards worldwide reached \$14.746 trillion after the first nine months of 2023, up 10.9% versus the first nine months of 2022.

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Worldline Chooses Google Cloud

A reciprocal contract makes Worldline a key online processor for payments made to Google in Europe.

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OpenWallet Foundation and EMVCo Alliance

The partners aim to bring security developed for the payment card industry to developers of digital wallets.

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Global brand cards are projected to hold a 64.6% market share of payment cards in circulation at year-end 2028

B2B Document Exchange

DBNAlliance is a nonprofit created to build an e-invoicing exchange framework in the US using open standards.

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Web3 Customer Loyalty and Engagement Platform from Visa

There are eight million registered wallet users worldwide linked to the SmartMedia Technologies platform.

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Discover Financial Services Results

Outstandings on cards carrying the Discover brand reached \$102.26 billion on December 31, 2023, up 13.5%.

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Investments in Merchant Acquiring, Processing—2023

The value of all investment transactions for which the monetary value was announced amounted to \$8.90 billion in 2023.

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FEATURED IN OUR UPCOMING ISSUE

Global Network Card Brands in the US—2023

Statistics for Visa, Mastercard, American Express and Discover include credit card outstandings, purchase volume for credit cards and debit cards, purchase transactions for all cards and the number of cards in circulation.

First Look

News in brief on payment industry trends around the world.

AMERICAN EXPRESS will provide Pay with Bank transfer, an online debit product, to energy company OVO in the UK. OVO is Amex's first partner in the utilities sector. Customers will not need a debit or credit card to pay for services. They are redirected to their bank's webpage or app to authenticate the payment, which provides visibility into their bank account before a payment is processed.

Holly Coventry is VP, International Open Banking Payments at American Express, holly.coventry@aexp.com, www.americanexpress.com. Mark Robson is VP Commercial Development at OVO, mark.robson@ovoenergy.com, www.ovoenergy.com.

i2C, a provider of core banking and payment services, has formed a five-year partnership with The Bank of Missouri, a community bank with a focus on digital banking. The bank wants to help fintechs speed up the process of offering digital financial products to consumers and businesses. i2c's platform offers a customizable suite of financial services including checking and savings accounts, consumer and small business loans, credit cards, reward programs and virtual cards.

Serena Smith is Chief Client Officer at i2c, ssmith@i2cinc.com, www.i2cinc.com. Mark Barker is EVP, Chief Contract Services Officer at TBOM, mbarker@bankofmissouri.com, www.bankofmissouri.com.

LQPAY, a payment service provider to the healthcare industry, has begun offering Zero-Click Payments for medical and dental practices. It integrates the LQpay POS app with both stored payment information and the appointments calendar from a practice management system. When using later model POS terminals, card-on-file capabilities can be combined with LQpay's proprietary robotic process automation technology.

Shashi Kapur is CEO, shashi@liquid-payments.com, www.lqpay.ai.

SYNCHRONY FINANCIAL, which ranks 10th largest among all general purpose credit card issuers in the US, is testing a browser extension that automatically prompts cardholders during the checkout process to use a Synchrony credit card and then provides a virtual card for that purchase. The initial launch is designed for Synchrony's general purpose credit cards on Chrome desktop browsers, with the intention to scale to more Synchrony credit cards if successful.

Florin Arghirescu is SVP, Chief Product Officer, florin.arghirescu@syf.com, www.syf.com.

MAGTEK, a global provider of technology for retail electronic payments, has incorporated AES-256 encryption with CMAC authentication and DUKPT key management into its newest hardware devices—the Magensa Gateway.

Andy Deignan is CEO, andy.deignan@magtek.com, www.magtek.com.

MASTERCARD has partnered with Create Labs to develop Small Business AI, an artificial intelligence tool that provides customized assistance to small business owners. Citing research that says 8 out of 10 small businesses operate without employees and that 88% of them would value mentorship along with additional resources, the program will offer both on a 24/7 basis via a conversational interface that uses generative AI. The AI tool will deliver data based on Mastercard's repository of content drawn from the Small Business Community, Digital Doors, Mastercard Trust Center and Strive USA as well as from a newly formed global media coalition, which can license a company's content such as articles, podcasts and interviews.

Raja Rajamannar is CMO, raja.rajamannar@mastercard.com, www.mastercard.com.

US FASTER PAYMENTS COUNCIL (FPC), a membership organization formed to advance safe, easy-to-use faster payments in the United States, has published a new research report titled The Practicalities of Cross-Border Payments in a Faster Payments World. The report builds on the FPC's previous white paper, Cross-Border Faster Payments, released in June 2021, which focused on use cases and user expectations. The new report was developed by the FPC Cross-Border Payments Work Group, which is sponsored by Mastercard.

Reed Luhtanen is Executive Director at the FPC, rluhtanen@fasterpaymentscouncil.org, www.fasterpaymentscouncil.org.

BLUEFIN, a payment service provider specializing in PCI-validated point-to-point (P2PE) encryption and tokenization, has made its ShieldConex processing services end-point agnostic. This means ShieldConex will detokenize data in real time and forward it to any processor for authorization, adding proxy capabilities for card-present and card-not-present transactions.

Tim Barnett is CIO, tbarnett@bluefin.com, www.bluefin.com.

ZILLOW, an operator of an online rental marketplace, says it has begun reporting rent payments made by its customers to one of the national credit bureaus. There is no cost to the renter. Data from the Consumer Financial Protection Bureau indicates that approximately 26 million Americans lack a credit history, in part because rent payments go unreported. Minorities are particularly affected because they tend to spend a far higher percentage of their income on rent than what homeowners typically pay for a mortgage.

Michael Sherman is VP, Rentals at Zillow, michaelsh@zillow.com, www.zillow.com.

TREVIPAY, a B2B payments and invoicing network, has partnered with Mastercard to launch its Universal Acceptance product to expand supplier access to TreviPay's services. Suppliers that accept Mastercard will be able to extend net terms and SKU-level invoicing to business buyers. They can also provide approved buyers with a net-terms card for purchasing, offering checkout convenience as well as the auditability and purchase controls of trade credit.

Brandon Spear is CEO at TreviPay, bcspear@trevipay.com, www.trevipay.com. Rebecca Meeker is SVP, Global Partnerships and Segments at Mastercard, rebecca.meeker@mastercard.com, www.mastercard.com.

LINK FINANCIAL TECHNOLOGIES, a US-based open banking payment platform, will provide pay by bank services to US merchant clients and partners of Optty, a payment platform. Optty integrates with 9 payment architectures worldwide, 115+ buy now, pay later and alternative payment services. It can make payouts in more than 120 currencies and in more than 140 countries.

Zac Zurnamer is VP of Global Payments Partnerships at Optty, zac@optty.com, www.optty.com. Shaun Vanderkaap is VP of Strategy at Link Money, shaun.vanderkaap@link.money, www.link.money.

NAYAX, a global commerce platform for payments and loyalty, has opened a new tier 1 technical support center for US merchant clients.

Carly Furman is CEO, carly@nayax.com, www.nayax.com.

TULIP, a provider of retail customer engagement products, has launched Tulip Pay for in-person retail transactions. Tulip Pay payment integration is powered by Stripe. Clients can use Tulip Pay to close out in-store and curbside transactions on Tulip POS. It uses Stripe Terminal—a set of developer interfaces, precertified card readers and logistics management tools. Businesses on Tulip can use the Stripe Reader S700 to accept in-person payments.

Roberto Grandillo is EVP of Product Management and R&D, roberto.grandillo@tulip.com, www.tulip.com.

SWIPESUM, a payment processing and merchant services consultancy, has developed customized payment services for NP Digital, a global digital marketing agency. Called Staitment, the technology uses AI to uncover hidden processing fees within merchant statements. Through the help of Swipesum, NP Digital was also able to reduce the need for manual intervention while processing ACH and credit card payments and integrate the company's ERP and payment processing.

Michael Seaman is CEO at Swipesum, michael@swipesum.com, www.swipesum.com. Denise Easter is Director of Accounting at NP Digital, deaster@npdigital.com, www.npdigital.com.

FORTER, which refers to itself as a trust platform for digital commerce, has launched an Abuse Prevention program that allows merchants to identify and block abuse through custom, self-service policies and simulations. Protection is provided against wardrobing—purchasing an item with the intent of returning it after use. Forter aims to help merchants block serial abusers without negatively impacting trustworthy customers. It has added Policy Builder to identify forms of abuse, then simulate the impact of any one policy using live or historical data.

Michael Reitblat is CEO, michael@forter.com, www.forter.com.

VIRGIN ATLANTIC AIRLINES and its affiliated tour operator, Virgin Atlantic Holidays, will implement CellPoint Digital's payment orchestration platform. CellPoint's specialty is the airline industry. Virgin Atlantic expects lowered transaction fees due to CellPoint's intelligent routing capabilities. Other CellPoint customers include UATP, Emirates Airlines and Ava Airways.

Kristian Gjerding is CEO at CellPoint Digital, kristian@cellpointdigital.com, www.cellpointdigital.com. Yasin Demir is Head of Distribution & Payments at Virgin Atlantic, yasin.demir@fly.virgin.com, www.virginatlantic.com.

17TH NEXTGEN PAYMENTS AND REGTECH FORUM will be held March 7-8, 2024, in Zurich, Switzerland. This event is a gathering of global key influencers, innovators, strategists and thought leaders in payments and regtech. Discussions include the latest market trends, digitalization, regulations, innovation and technology. Participants can take advantage of networking opportunities. For more information [click here](#).

BRIGHTWELL, a provider of cross-border payment products, has implemented Visa Direct to enable payouts to eligible bank accounts and wallets around the world. This makes Brightwell the first Visa enablement platform provider in North America to offer all cross-border payment modalities enabled by Visa Direct. The service reaches over 8.5 billion endpoints including 3+ billion cards, 3+ billion accounts and 2.5 billion digital wallets.

Larry Hipp is CEO at Brightwell, lhipp@brightwell.com, www.brightwell.com. Yanilsa Gonzalez-Ore is North America Head of Visa Direct and Global Ecosystem Readiness at Visa, yagonzal@visa.com, www.visa.com.

AFFIRM has expanded its services with Walmart to bring BNPL options to self-checkout kiosks at over 4,500 Walmart stores in the US.

Pat Suh is SVP of Revenue at Affirm, pat.suh@affirm.com, www.affirm.com.

ACI WORLDWIDE has migrated longtime customer UK retailer Co-op from physical data centers to its multitenant cloud platform hosted on Microsoft Azure. The migration follows ACI's announcement of an expanded multi-year strategic alliance with Microsoft to deliver payment software in the cloud. Microsoft also supports ACI's AI-powered anti-fraud processing model.

Paul Fletcher is Principal Solution Architect at the Co-op Group, paul.fletcher@coop.co.uk, www.coop.co.uk. Scotty Perkins is Head of Product Management Innovation and Modernization at ACI Worldwide, scotty.perkins@aciworldwide.com, www.aciworldwide.com.

CORPAY, the largest B2B corporate Mastercard issuer in North America, has launched Corpay Complete, a mobile spend management platform for corporate payments and spending. It integrates corporate cards and expense reimbursements with accounts payable automation and supplier payments. Corpay is a part of Fleetcor, which processes nearly two billion payment transactions annually including checks, automated clearing house, virtual cards and physical cards.

Rick Fletcher is Group President at Corpay, rick.fletcher@corpay.com, www.corpay.com.

OFFCHEX, a Chicago-based payment consultancy, has launched a check migration and consulting service with a focus on reducing or eliminating paper checks. The company provides a turnkey service and manpower to replace checks with digital payment methods, such as electronic ACH.

Michael McGreal is President, mmcgreal@offchex.com, www.offchex.com.

CLEARENT by Xplor has launched Xplor Pay Mobile, designed for small businesses and sole traders such as in-home contractors, food trucks, farmers market vendors, therapists and freelancers. Users can handle voids and process refunds. An offline mode stores transactions then processes them once internet access is available.

Nick Campbell is CPO, Payments, nick.campbell@xplortechnologies.com, www.xplortechnologies.com.

NAPIER, a London-based platform for anti-money laundering and financial crime compliance, has been chosen by Noqodi, a digital wallet and payment provider based in the United Arab Emirates. Noqodi will use Napier's transaction monitoring, client screening, client risk assessment and client activity review services.

Greg Watson is CEO at Napier, greg.watson@napier.ai, www.napier.ai. Syed Zain Khalid is Risk and Compliance Manager at Noqodi, syedzain.khalid@noqodi.com, www.noqodi.com.

17TH MERCHANT PAYMENTS ECOSYSTEMS (MPE), March 12-14, 2024, InterContinental Hotel, Berlin, Germany, puts together 1,400+ global merchants & senior-level merchant payment professionals to explore the latest trends and technologies and to get new business done. For more information and to register [click here](#).

BILLINGPLATFORM, an enterprise revenue lifecycle management platform, has received a five-year contract from Juniper Square. Juniper provides partnership enablement for the private funds industry. It's used by 1,800+ general partners to manage more than 32,000 investment entities that cover 500,000 limited partnerships and \$700 billion in investor equity.

Dennis Wall is CEO at BillingPlatform, dennis.wall@billingplatform.com, www.billingplatform.com. Leigh Ann Lindsey is Controller at Juniper Square, leighann@junipersquare.com, www.junipersquare.com.

Management Changes

- ▶ **Stuart Neal** has been appointed Chief Executive Officer at Boku, stuart.neal@boku.com.
- ▶ **Thomas DeLuca**, formerly Global POS Lending Tribe Lead at ING Bank, has been appointed Vice President, Multicurrency and Payments Products at American Express, thomas.deluca@aexp.com.
- ▶ **Prabhu Prakash Ganesh**, formerly at MiQ, has been appointed Chief Technology Officer at Zally, prabhu@zally.com.
- ▶ **Philip Plambeck** has been appointed Managing Director UK & Senior Vice President International at Computop, philip.plambeck@computop.com.
- ▶ **Carlos Quintero**, formerly at Procter & Gamble, has been appointed Executive Vice President of Integrated Marketing and Communications, Latin America and the Caribbean (LAC) Region at Mastercard, carlos.quintero@mastercard.com.
- ▶ **Samee Zafar** has been appointed Chief Executive Officer at Edgar, Dunn & Company, samee.zafar@edgardunn.com.
- ▶ **Pierre Habis**, formerly at Santander Bank, has been appointed GM & Head of Synchrony Consumer Bank at Synchrony Financial, pierre.habis@syf.com.
- ▶ **Sharon Chew** has been appointed Vice President and General Manager, Head of Global Merchant Services Asia at American Express, sharon.chew@aexp.com.
- ▶ **Paul Wilshaw**, formerly at Barclays, has been appointed Chief Design and Product Officer at Zally, paul@zally.com.
- ▶ **Björn Heckel**, formerly at Uber, has been appointed Chief Technology Officer at Seon, bjoern.heckel@seon.io.
- ▶ **Marcelo Bernal**, formerly at Merchant e-Solutions, has been appointed President and Chief Operating Officer at MassPay, marcelo@masspay.io.

Payment Cards Projected Worldwide

General purpose and private label credit, debit and prepaid cards in circulation worldwide are projected to reach 29.99 billion by December 31, 2028. At year-end 2023 that figure was 26.71 billion.

The global card brand general purpose cards are UnionPay, Visa, Mastercard, JCB, American Express and Discover/ Diners Club. Combined, they are projected to reach 19.38 billion cards by the end of 2028, up from 17.22 billion at year-end 2023.

Of all payment cards in circulation worldwide including private label, global brand general purpose cards accounted for 64.47% at year-end 2023. Global brand general purpose cards are projected to hold a 64.62% market share at year-end 2028.

General purpose cards can also be domestic-market-only brands, of which there are more than 90 worldwide. They comprise the fifth largest segment of the global payment card base. Among the largest are Mir (Russia), RuPay (India), Elo (Brazil), BC Card (South Korea) and Verve (Nigeria). The domestic-market-only brands counted here are those that are not co-branded with a global brand. Domestic-only cards are projected to reach 2.31 billion worldwide by the end of 2028, up from 1.94 at year-end 2023. Their market share at the end of 2023 was 7.26%. That figure is projected to reach 7.71% by 2028.

Private label credit, debit and prepaid products, which are usable only at

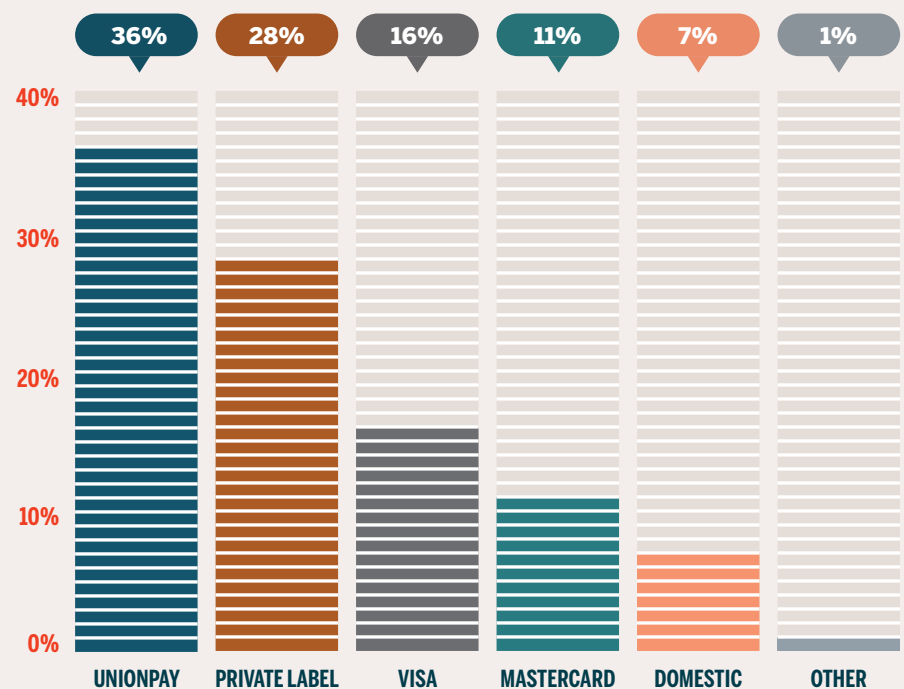
specified retail stores, fueling stations, airlines and other outlets, had a 28.27% market share of all payment cards worldwide at the end of 2023. These cards are projected to reach 8.30 billion worldwide at year-end 2028 and hold a 27.67% market share. The majority of private label cards are prepaid.

Among global general purpose cards, UnionPay cards are expected to hold a 34.63% share in 2028, followed by Visa (16.81%), Mastercard (11.77%), Amex (0.57%), JCB (0.56%) and Discover/ Diners Club (0.27%).

Prior issues: 1234, 1206, 1184, 1162, 1140, 1117, 1094

Market Shares of Payment Cards in Circulation at Year-End 2023

(26.71 billion cards)



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Fiserv Seeks Bank Charter

Fiserv, the largest publicly traded processor in card payments at year-end 2023 with a market capitalization of \$81.15 billion, applied to the state of Georgia for a merchant acquirer limited purpose bank (MALPB) charter on January 12, 2024. If the charter is granted, and Visa and Mastercard allow Fiserv direct access to their networks, the company will be able to handle financial settlement with merchants for card payments they receive without using a bank partner.

The Georgia Department of Banking and Finance has made MALPB charters available to nonbanks since 2012. However, no MALPB has opened yet because neither Visa nor Mastercard allow direct participation by nonbanks in clearing and settling card payments. However, nonbanks have been able to make financial settlement directly with merchants in Europe through e-money licenses for several years. Fiserv must believe that the largest card networks are ready to change their prohibition to nonbank acquirers with limited-purpose charters.

Adyen, which ranks 13th among acquirers in the US, settles transactions directly with some of its merchants. It has operated under a Federal Foreign Branch bank license since 2021. Adyen also owns licenses in Europe, where it has made direct financial settlement with merchants for several years.

In the US, Fiserv owns card-processing contracts with merchants sufficient to rank it as the country's second largest acquirer based on purchase volume. In 2022, that figure was \$1.735 trillion. Only J.P. Morgan Payments was larger.

When Fiserv owns 100% of a contract to provide acquiring services, it makes financial settlement with merchants through banks with which it has revenue-sharing partnerships, including Citi and Santander.



Holding a MALPB charter opens the door for Fiserv to provide merchants with business debit cards and other financial services products

Fiserv also maintains joint-venture (JV) partnerships in the US with Wells Fargo and PNC. The parties share ownership of merchant acquiring contracts. The banks handle financial settlement.

Additionally, Fiserv works as a third-party processor, providing POS terminal and related processing services to the merchant customers signed by acquirers with which Fiserv does not have JV or revenue-sharing agreements. Fiserv does not hold any ownership position in the acquiring contract.

In addition to cutting costs by avoiding the fees it would have had to pay banks to perform services, holding a MALPB charter also opens the door for Fiserv to provide merchants with business debit cards and other financial services that will increase revenue per merchant.

Multiple relationships are an important customer retention tool. Fiserv could also develop partnerships with fintechs that want to get into the merchant acquiring business.

IN THIS ARTICLE

fiserv.

Prior issues: 1255, 1238

Visa and Mastercard Worldwide thru 3Q 2023

Purchase volume generated by credit, debit and prepaid cards in circulation worldwide with Visa and Mastercard brands reached \$14.746 trillion for the first nine months of 2023, up 10.9% versus the first nine months of 2022. Of the Visa and Mastercard worldwide total, purchase volume initiated by cards issued outside the US accounted for 55.68%, up from 54.05% for the first nine months of 2022.

Credit card purchase volume worldwide from Mastercard and Visa cards through the first nine months of 2023 increased by 11.0% to \$7.711 trillion. Cards issued outside the US accounted for 57.22% of that amount. This was up from 55.91% for the same period in 2022. Debit card purchase volume, including spending from prepaid cards, was up 10.8%, reaching \$7.035 trillion. Cards issued outside the US accounted for 53.99% of that amount. This was up nearly 2 percentage points from 52.02% in 2022.

Purchase volume generated by Visa cards issued outside the US accounted for 50.52% of Visa's global total, up from 49.56%. Purchase transactions tied to cards issued outside the US reached 62.40% of Visa's worldwide total. This was an increase from 62.01%.

Cards issued outside the US accounted for 64.53% of Mastercard's global purchase volume, up from 62.11%. Purchase transactions tied to cards issued outside the US reached 76.56% of Mastercard's worldwide total. This was up from 74.88%.

Visa's global credit card purchase volume increased to \$4.677 trillion, up 9.9%. The \$2.439 trillion from cards issued outside the US grew 12.9%. Purchase volume on Visa credit cards issued outside the US accounted for 52.15% of the company's global total for credit cards. This was up from 50.79% the prior year. Purchase volume from Visa credit cards issued in the US of \$2.238 trillion grew 6.9%.

Purchase volume on Visa debit cards worldwide reached \$4.642 trillion, up 8.4%. The \$2.269 trillion from cards issued outside the US grew 9.7%. Outside the US purchase volume accounted for 48.88% of Visa's debit card purchase volume, an increase from 48.33%. Debit card purchase volume for Visa cards issued in the US was \$2.373 trillion, up 7.3%.

Purchase transactions generated by Visa credit cards worldwide totaled 70.80 billion, up 10.1%. The 46.05 billion transactions from cards issued outside the US grew 11.5%.

Visa & Mastercard Worldwide thru 3Q23

Jan. 1-Sept. 30, 2023, and change versus Jan. 1-Sept. 30, 2022

Brand	DOLLAR VOLUME (BIL.)						PURCHASE TRANS.	
	TOTAL	CHANGE	PURCHASES	CHANGE	CASH	CHANGE	(BIL.)	CHANGE
Visa US	\$5,068.47	6.5%	\$4,611.20	7.1%	\$457.27	0.4%	73.55	8.3%
Mastercard US	\$2,109.01	6.4%	\$1,924.49	6.8%	\$184.52	3.1%	29.36	6.5%
US TOTALS	\$7,177.48	6.5%	\$6,535.69	7.0%	\$641.79	1.2%	102.92	7.8%
Visa Outside US	\$6,109.06	9.6%	\$4,708.39	11.3%	\$1,400.67	4.3%	122.05	10.1%
Mastercard Outside US	\$4,570.21	15.7%	\$3,501.74	18.5%	\$1,068.47	7.5%	95.93	16.7%
OUTSIDE US TOTALS	\$10,679.27	12.2%	\$8,210.13	14.3%	\$2,469.14	5.6%	217.98	12.9%
Visa Worldwide	\$11,177.53	8.2%	\$9,319.59	9.2%	\$1,857.94	3.3%	195.60	9.4%
Mastercard Worldwide	\$6,679.22	12.6%	\$5,426.23	14.1%	\$1,252.99	6.8%	125.29	14.1%
WORLDWIDE TOTALS	\$17,856.75	9.8%	\$14,745.82	10.9%	\$3,110.93	4.7%	320.90	11.2%

Includes all consumer, business and commercial credit, debit and prepaid cards.

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Credit card purchase transactions from Visa cards issued in the US of 24.75 billion were up 7.7%.

Purchase transactions for Visa debit cards globally reached 124.80 billion, up 9.0%. The 76.00 billion transactions on cards issued outside the US grew 9.2%. Visa US debit card purchase transactions totaled 48.80 billion, up 8.6%.

Mastercard's purchase volume worldwide on credit cards was \$3.033 trillion, up 12.8%. Cards issued outside the US generated \$1.973 trillion (up 14.6%) of that amount.

Purchase volume on Mastercard credit cards issued outside the US accounted for 65.04% of the company's global total for credit cards. This was an increase from 63.99%. On Mastercard credit cards issued in the US, purchase volume reached \$1.060 trillion, which was up 9.5%.

Debit card purchase volume worldwide for Mastercard reached \$2.393 trillion, up 15.7%. The \$1.529 trillion generated by cards issued outside the US increased 23.9%.

Purchase volume from cards issued outside the US accounted for 63.89% of Mastercard's global debit card purchase volume. This was a significant increase from 59.67%. On Mastercard debit cards issued in the US, purchase volume reached \$864.02 billion, up 3.6%.

Purchase transactions on Mastercard credit cards worldwide totaled 53.39 billion, up 11.1%. There were 42.04 billion transactions tied to credit cards issued outside the US, up 11.2%. Credit card purchase transactions on Mastercard cards issued in the US totaled 11.35 billion, up 10.7%.

Debit Mastercard purchase transactions totaled 71.90 billion, up 16.5%. The 53.88 billion transactions tied to debit cards issued outside the US grew by 21.3%. Mastercard US debit card purchase transactions reached 18.02 billion, up 3.9%.

Prior issues: 1234, 1233, 1211, 1189, 1188, 1167, 1144, 1121, 1099

Worldline Chooses Google

The seventh-largest merchant acquirer worldwide, France-based Worldline, has selected Google Cloud as its primary provider of cloud-based technology infrastructure.

Worldline, also a top third-party provider of cardholder account processing services in Europe, has used Google and other cloud providers for several years.

Google has been given a seven-year contract to handle a large part of Worldline's public cloud business.

A reciprocal deal calls for Worldline to act as acquirer for a larger share of payments made to Google in Europe than it currently handles.

The companies will develop new processing opportunities that combine their assets, including for business-to-business payments.

Expected improvements in Worldline's capabilities include enhanced data analytics that can help with fraud fighting, loyalty programs and digital wallets.

Compared to other providers of cloud services, Worldline cites Google's easier API management and data access rules, control over encryption keys and sovereignty over data storage. Those factors are important to Worldline bank customers in Europe.

Banks in Europe are also concerned with the carbon footprint of their technology providers because they must demonstrate to European Union regulators and the general public that they are addressing climate change initiatives. Google Cloud helps Worldline support banks on their sustainability commitments.

Merchants can expect to see Worldline deliver products more quickly once migration to Google Cloud is completed. Currently, the delivery of new products is encumbered by Worldline operations being hosted from multiple remote cloud and on-premises platforms in different countries.

Worldline financial institution card-issuing customers will be given the option of moving their processing support to the public cloud.

IN THIS ARTICLE



INTERVIEWED FOR THIS ARTICLE
Marc-Henri Desportes is Deputy CEO at Worldline in Paris—La Defense, France, marc-henri.desportes@worldline.com, www.worldline.com.

Prior issues: 1255, 1254, 1253, 1251, 1250, 1249, 1248, 1246, 1245, 1244, 1243, 1242, 1235, 1234, 1229, 1228, 1075

OpenWallet Foundation and EMVCo Alliance

The OpenWallet Foundation (OWF), a project of Linux Foundation Europe, was formed in 2023. Its mission is to use existing open standards to create open source software code that can deliver global interoperability for digital wallets that store passports, car keys, healthcare credentials, tokenized payment cards and more.

OWF participants are for-profit and nonprofit companies as well as governments. Among its 60 sponsors are Accenture, Visa, American Express, Google and Microsoft.

Those companies are also among the 92 members of EMVCo, a global forum created by Visa and Mastercard in 1999. The forum has facilitated acceptance of technical specifications for global interoperability of payment card transactions including

contactless, EMV 3-D Secure, EMV QR Code and EMV Secure Remote Commerce.

EMVCo and OWF have signed a memorandum of understanding to form an alliance that aims to bring security specifications developed for the payment card industry to developers interested in writing open source software for digital wallets.

Among the applications the companies might pursue for OWF digital wallets include secure remote commerce, payment tokens to protect primary account numbers and 3-D Secure.

OWF wallets are also expected to incorporate technology specifications developed by the US Department of Commerce's National Institute of Standards and Technology and the European Union's Architecture and Reference Framework (ARF) for digital identity wallets.

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INTERVIEWED FOR THIS ARTICLE

Arman Aygen is Director of Technology at EMVCo in Cote d'Azur, France, arman.aygen@emvco.com, www.emvco.com.

Daniel Goldscheider is Managing Director at the OpenWallet Foundation in Brussels, Belgium, daniel@goldscheider.com, www.openwallet.foundation.

Prior issues: 1253, 1237, 1227

B2B Document Exchange

The Digital Business Networks Alliance (DBNAlliance) is a newly formed nonprofit organization created to build an e-invoicing exchange framework in the United States using open standards. There are an estimated 25 billion invoices exchanged annually between sellers and buyers in the US. However, only 25% are completely digital, which allows for straight-through processing.

The goal of the DBNAlliance, which is now open for business, is to move that figure to 50% within three years.

The DBNAlliance will define standards, policies, rules and guidelines. It will also help connect members to the exchange. Currently, more than 30 US companies are members, including Microsoft, SAP and Chevron.

Documents, including invoices and supply chain messages, will be sent and received through an access point or a DBNAlliance

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member service provider able to connect companies to the network. The four corners of an exchange involve the supplier, two access points (the service providers) and the buyer.

A pilot test in April 2023 involved 92 companies. Payment rails connected to the new exchange include the ACH, wire transfer, card networks and real-time networks.

Discussions are underway with the Global Interoperability Forum in Europe to ensure cross-border e-invoicing exchanges.

INTERVIEWED FOR THIS ARTICLE

Chris Welsh is Chair of the DBNAlliance in Houston, Texas, cwelsh@dbn-alliance.org, www.dbn-alliance.org.

Web3 Customer Loyalty Platform from Visa

Visa has licensed SmartMedia Technologies' (SMT) enterprise engagement and loyalty platform, which provides consumers with a mobile wallet that can store rewards points and benefits as well as serve as a custodial wallet for tokens and cryptocurrencies.

SmartMedia's SaaS platform bridges Web2 and Web3 mobile applications. Web2 applications, which include the biggest loyalty and rewards programs in the card industry today, do not operate on any blockchain. Web3 apps, which are just starting in the card industry (see issue 1252), are blockchain-based and typically involve tokenized digital experiences.

Visa has joined Accenture, Deloitte, PepsiCo, Verizon, Vodafone and Unilever as a customer of SMT. Those companies offer Web3 loyalty and engagement experiences both directly to consumers and through commercial customers. For Accenture and Visa, those customers can include card issuers. Visa has named its service Visa Web3 Loyalty Engagement Solution.

There are eight million registered wallet users worldwide linked to SMT's platform. Brands connected to the platform, including card issuers and acquirers of card payments, can also receive consulting services from SMT for go-to-market strategies, program design and development.

Customers of Visa will have access to the SMT platform, as well as value-added services available only from Visa, such as personalized card-linked offers and linked loyalty programs.

Issuers can expect the Web3 wallet to appeal particularly to younger consumers who are comfortable playing games on a mobile device and are less interested in the scroll-based cash-back offers and advertising associated with most Web2-based mobile loyalty programs available from card issuers.

Cardholders can earn loyalty points for engagement and can be offered participation in a gamified giveaway. Offers are based on their behavior, such as following a brand on social media or collecting augmented reality (AR) 3D coupons, either in the metaverse or in a physical store.

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American Express used SmartMedia's platform in the UK to deepen engagement with cardholders by gamifying and tokenizing cardholder benefits through an AR treasure hunt. Cardholders collected augmented reality American Express boxes filled with prizes. The platform can also be used for new account acquisition and improving the lifecycle value of a cardholder.

SmartMedia provides its customers with a progressive web app (PWA) built using the HTML 5 encoding system, which looks to the consumer like an app but does not need to be downloaded. Consumers gaming on their mobile device don't know that they are engaging with a Web3 wallet.

The SmartMedia platform stores digital tokens like the custodial wallets available from specialists at Coinbase, Metamask and others. SMT's custodial wallet is PCI-compliant and can also be used for cross-border remittances of tokens and stablecoins. The platform is flexible. It is blockchain-agnostic and can operate on-chain or off-chain.

Visa wanted SmartMedia's enterprise-grade wallet-as-a-service technology to give card issuers and other customers always-on engagement and loyalty opportunities with their customers. The platform adheres to privacy compliance requirements that impact financial institutions in the US and Europe when operating in either Web2 or Web3 applications.

INTERVIEWED FOR THIS ARTICLE

Tyler Moebius is Chief Executive Officer at SmartMedia Technologies in Aspen, Colorado, tyler.moebius@smartmediatech.io, www.smartmediatech.io.

Prior issue: 1252

Discover Financial Services Results—2023

Goods and services purchased on credit cards plus credit card cash advances reached \$232.79 billion for Discover Financial Services (DFS) in 2023, up 3.7%. Cash accounted for 6.39% of total volume, compared to 6.16% in 2022. Credit card outstandings at year-end 2023 were up 13.5% to \$102.26 billion.

Discover Financial Services had net income after taxes of \$2.94 billion, down 32.8% from \$4.37 billion in 2022. Revenue net of interest expense of \$15.86 billion was up 19.3%.

Credit card purchase volume generated by all Discover brand cards was \$217.91 billion, up 3.5%. Credit card cash advances increased 7.5% to \$14.87 billion.

Net principal credit card charge-offs in 2023 were \$3.67 billion, up 126.4% from 2022. The net principal charge-off rate in 2023 was 3.90%, up 185 basis points (bps) from 2022.

Discover Card 2023 vs. 2022

Category	2023	2022	Change
Cards (million)	66.3	64.5	2.7%
Accounts (million)	65.3	63.71	2.5%
Active Accounts (million)	31.3	30.2	3.6%
Transactions (billion)	3.75	3.64	3.1%
Purchases (billion)	3.73	3.62	3.1%
Cash (billion)	0.02	0.02	4.0%
Volume (billion)	\$232.79	\$224.48	3.7%
Purchases (billion)	\$217.91	\$210.65	3.5%
Cash (billion)	\$14.87	\$13.83	7.5%
Outstandings (billion)	\$102.26	\$90.11	13.5%

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Credit card debt more than 30 days past the payment due date was 3.87% on December 31, 2023, up 134 bps from 2.53% on December 31, 2022. Debt delinquent more than 90 days was 1.87%, an increase of 73 bps from 1.14%.

The Payment Services segment of DFS, which includes AribaPay business-to-business transactions, Diners Club International, the US-based Pulse PIN network and POS and ATM transactions handled for global alliance partners, contributed \$256.0 million to net income before taxes, up from \$9.0 million.

Pulse network volume, including ATM cash withdrawals, cash back at the point of sale and purchases at the point of sale, grew 12.9% to \$285.62 billion in 2023. Transactions processed on the Pulse network increased 24.3% in 2023 to 7.71 billion.

Diners Club International cards issued outside of North America generated total volume of \$39.30 billion, up 17.3% from 2022.

Discover Global Network alliance partners include UnionPay (China), JCB (Japan), NPCI/RuPay (India), Elo (Brazil), BC Card (South Korea), BKM/Troy (Turkey), Interac (Canada), Evertec/ATH (Puerto Rico), Prosa (Mexico), National Bank of Serbia/DinaCard (Serbia), Borica/Bcard (Bulgaria), Bancomat (Italy), Interswitch/Verve (Nigeria), Arab Financial Services (Bahrain), Areeba (Lebanon), Eazy (Bahrain), Network International/Jonet (Jordan), Mercury (United Arab Emirates), Napas (Vietnam), NCCC (Taiwan), Cabal (Argentina), PayNet (Malaysia), Sama/Mada (Saudi Arabia), Dutch-Bangla Bank (Bangladesh), Sibs (Portugal), EthSwitch (Ethiopia), CRPC/UzCard (Uzbekistan), Rintis (Indonesia) and Bluecode (Austria, Germany).

Total loan receivables (outstandings) for Discover Financial Services were \$128.41 billion on December 31, 2023, up 14.5%.

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DISCOVER

Prior issues: 1234, 1212, 1190, 1168, 1146, 1124, 1102, 1079, 1056, 1033

\$102
billion in
outstandings
at year-end 2023,
up 13.5%

Investments in Merchant Acquiring, Processing—2023

The tables shown here list 102 investments (seed, venture, strategic, private equity and debt funding) in 31 countries in the merchant acquiring and processing sector of the payment card industry in 2023.

Those transactions were previously identified monthly over the last year in prior issues of the Nilson Report.

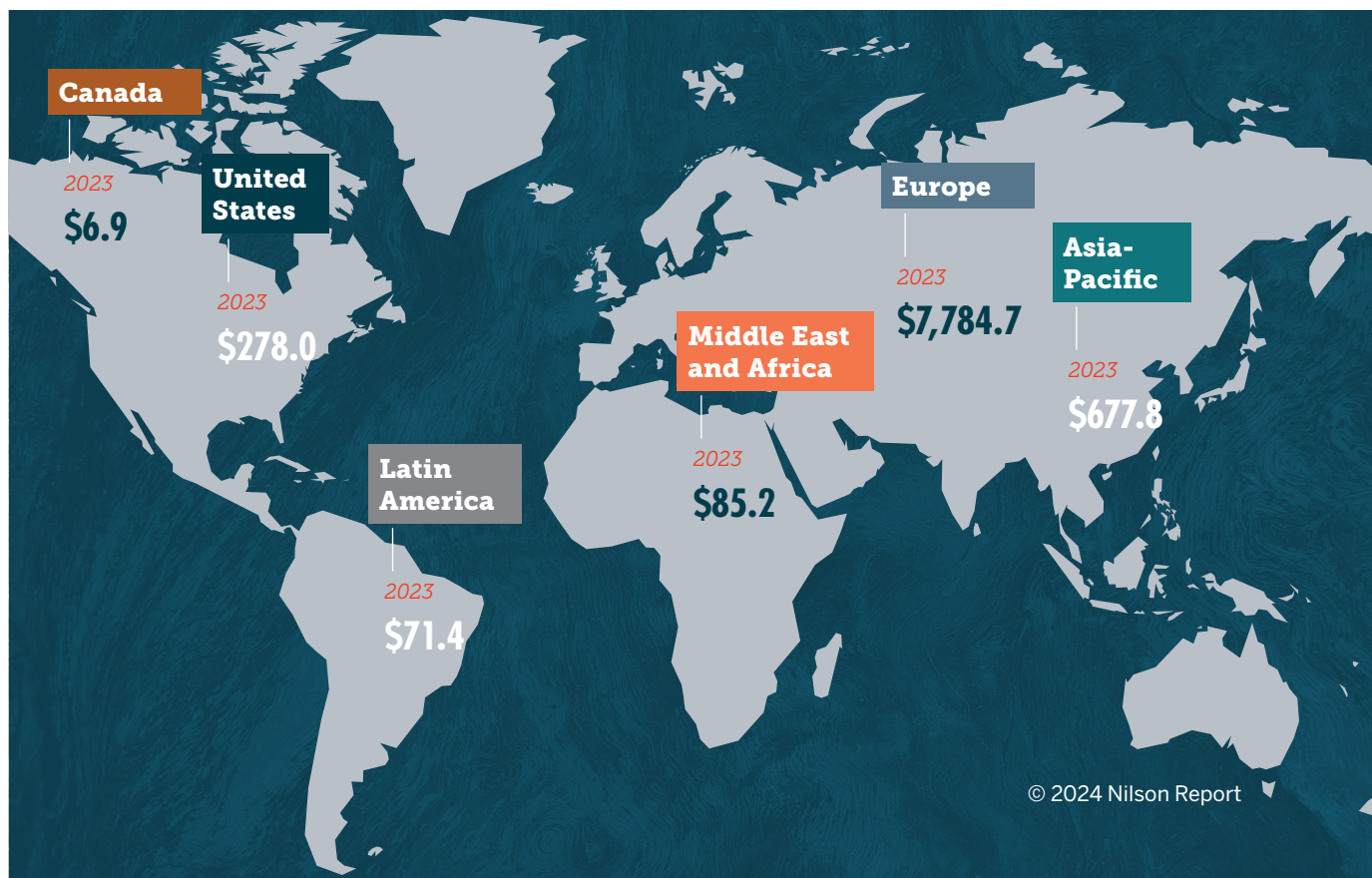
The value of all investment transactions for which the monetary value was announced amounted to \$8.90 billion in 2023.

Europe had the most transactions with 33. The value of those deals was a combined \$7.78 billion. Stripe was the largest deal. It received \$6.50 billion in new funding from an undisclosed equity round.

Asia-Pacific was the second largest region based on the number of transactions with 28. It also ranked second largest based on the monetary value of all deals with \$677.8 million. Airwallex's \$165.0-million strategic investment was Asia-Pacific's largest deal.

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Investments by Region 2022 vs. 2023 (mil.)



North America ranked third largest among all regions based on the number of transactions with 25. Those deals had a combined monetary value of \$284.9 million. The largest transaction was a \$43.0-million Series B round for US-based Otto (formerly TeleVet).

Latin America had a total of 10 transactions valued at \$71.4 million. Liquido's \$26.0-million undisclosed venture round was the region's biggest deal.

Europe

COMPANY	COUNTRY	INVESTMENT TYPE	AMOUNT (MIL.)
Apexx Global	UK	Series B	\$25.0
Atoa Payments	UK	seed round	\$6.5
Brite Payments	Sweden	Series A	\$60.0
CAB Payments	UK	IPO	\$426.0
Craftgate	Turkey	unknown venture round	\$1.0
Elyn	France	pre-seed round	\$2.7
Flatpay	Denmark	Series A	\$16.3
Focalpay	Sweden	seed round	\$1.4
Form3	UK	strategic round	*
Fumopay	UK	seed round	*
Global Blue	Switzerland	strategic equity	\$100.0
Hands In	UK	seed round	\$0.7
Igor	Turkey	seed round	*
Ivy	Germany	Series A	\$20.0
Ivy	Germany	seed round	\$7.7
Lopay	UK	seed round	\$7.5
Mypinpad	UK	strategic round	\$13.0
NomuPay	Ireland	Series A	\$53.6
PayDock	UK	Series A	\$31.4
Payrexx	Switzerland	Series A	\$2.9
Phoenix Payments UAB	Lithuania	undisclosed equity round	\$18.5
Primer	UK	corporate round	*
Silverflow	Netherlands	Series B	\$16.2
Splink	Ireland	seed round	\$1.1
Statement	UK	pre-seed round	\$1.6
Stripe	Ireland	undisclosed equity round	\$6,500.0
SumUp	UK	growth round	\$310.7
SumUp	UK	credit facility	\$100.0
Tilia	Belgium	undisclosed venture round	*
Tiun	Switzerland	pre-seed round	*
Ueiz	Spain	seed round	\$0.9
Unzer	Germany	debt for equity	*
Volt.io	UK	Series B	\$60.0

*Amount not disclosed.

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Middle East and Africa had 6 deals valued at \$85.2 million. The largest transaction was the \$31.0-million Series A round for South Africa-based Peach Payments.

In addition to the investment deals shown here, there were 75 merger and acquisition (M&A) transactions in the merchant acquiring and processing sector last year.

The monetary value was known for only 17 of the 75 M&A deals. Those deals amounted to \$19.65 billion.

All M&A deals in merchant processing and acquiring in 2023 were published in issue 1255.

Prior issues: 1255, 1254, 1252, 1250, 1248, 1247, 1245, 1243, 1241, 1239, 1237, 1235, 1234

North America

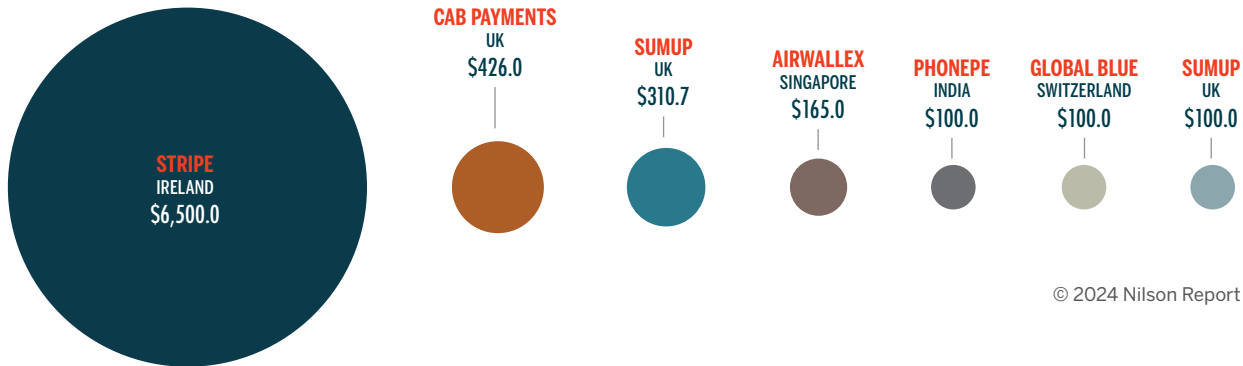
COMPANY	COUNTRY	INVESTMENT TYPE	AMOUNT (MIL.)
Ansa	US	undisclosed venture round	\$5.4
AppBrilliance	US	corporate round	*
Butter Payments	US	Series A	\$21.5
Car IQ	US	Series B	\$15.0
e.pop	US	seed round	\$1.6
EVO Payments	US	equity investment	\$3.5
GoTab	US	Series A	\$18.0
Homepro Pay	US	undisclosed venture round	\$4.7
IPSIPay	US	equity round	\$0.5
Link Financial	US	Series A	\$20.0
MoneyHash	US	seed round	*
Mosea Technologies	Canada	seed round	\$1.9
Nuvei	Canada	undisclosed equity round	*
Otto (formerly TeleVet)	US	Series B	\$43.0
P97 Networks	US	Series C	\$40.0
Pagos	US	Series A	\$34.0
Payabli	US	seed round (ext.)	\$8.0
Payble	US	private placement	\$3.5
PayGround	US	Series A	\$19.7
Payrails	US	seed round	\$14.4
Rainforest	US	seed round	\$8.5
Rally	US	Series A	\$12.0
Skipify	US	strategic round	*
Vernost (VePay)	Canada	private placement	\$5.0
Waave (pay by bank)	US	seed round	\$4.7

*Amount not disclosed.

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Largest Investments in Merchant Acquiring and Processing in 2023

(mil.)



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Middle East and Africa

COMPANY	COUNTRY	INVESTMENT TYPE	AMOUNT (MIL.)
Flash	Egypt	seed round	\$6.0
Nearpay	Saudi Arabia	Series A	\$14.0
Peach Payments	South Africa	Series A	\$31.0
Stitch	South Africa	Series A (ext.)	\$25.0
Traction	Nigeria	seed round	\$6.0
Wosul Payments	Saudi Arabia	seed round	\$3.2

*Amount not disclosed.

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Latin America

COMPANY	COUNTRY	INVESTMENT TYPE	AMOUNT (MIL.)
Axify	Mexico	Series A	\$1.3
Cometa	Mexico	seed round	\$5.0
GoPass	Costa Rica	Series A	\$15.0
INI	Argentina	undisclosed venture round	*
Liquido	Brazil	undisclosed venture round	\$26.0
Neat Payments	Chile	undisclosed venture round	*
Nocnoc	Uruguay	Series A	\$14.0
Pacto	Mexico	seed round	\$4.0
Payface	Brazil	Series A	\$3.1
Shinkansen	Chile	seed round	\$3.0

*Amount not disclosed.

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Asia-Pacific

COMPANY	COUNTRY	INVESTMENT TYPE	AMOUNT (MIL.)
Abound	India	undisclosed venture round	\$10.0
Airwallex	Singapore	strategic investment	\$165.0
DataMesh	Australia	Series A	\$30.0
Finmo	Singapore	undisclosed equity round	\$3.5
Flik	Indonesia	pre-seed round	\$1.1
Giverly	India	pre-seed round	*
Gr4vy	Singapore	undisclosed venture round	*
iSeller	Indonesia	Series B	\$12.0
LeRemitt	India	seed round	\$1.3
Luna	Indonesia	seed round	*
Mintoak	India	Series A	\$20.0
Netstars	Japan	IPO	\$31.5
Nimbbi	India	pre-Series A	\$3.5
Payex	Malaysia	strategic round	*
Payhere	South Korea	Series B	\$15.3
Paypa Plane	Australia	Series A	\$6.7
PhiCommerce	India	Series A	\$10.0
PhonePe	India	undisclosed venture round	\$100.0
Pi-xcels	Singapore	seed round	\$1.7
Qashier	Singapore	Series A	\$10.0
Soft Space	Malaysia	Series B1	\$31.5
Tazapay	Singapore	Series A	\$16.9
Thunes	Singapore	Series C (extension)	\$72.0
Till Payments	Australia	Series D	\$47.6
Touch2Pay	Australia	pre-series A2	\$2.1
Transaction Media Networks	Japan	IPO	\$78.1
Trustmore Technologies	India	Series A (ext.)	\$4.0
U Fintech Hub (Utransfer)	South Korea	seed round	\$4.0

*Amount not disclosed.

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Publicly Traded Companies in Payments

Market Data as of January 23, 2024

Company	Market Cap.	Stock Exch.	Stock Price	52 Week Low/High
HEADQUARTERS	USD (MIL.)		USD	USD
PAYMENT PROCESSORS				
Fiserv, US	84,410	NYSE	140.78	101.72–141.00
PayPal, US	69,843	Nasdaq	64.53	50.25–88.62
Block, US	40,721	NYSE	67.25	38.85–89.97
Adyen, Netherlands	39,041	Euronext	1,245.29	652.75–1,839.99
FIS, US	35,937	NYSE	62.15	46.91–79.32
Global Payments, US	34,274	NYSE	133.00	94.05–138.07
Jack Henry, US	12,249	Nasdaq	168.61	136.57–184.19
Nexi, Italy	10,345	Euronext	8.00	5.43–9.44
Shift4 Payments, US	6,153	NYSE	75.50	42.91–78.97
PayTM, India	5,776	NSE	9.54	6.11–12.01
Stone, Brazil	5,374	Nasdaq	17.43	8.09–18.87
Kakao Pay, South Korea	5,276	KRX	37.40	25.34–51.50
dLocal, Uruguay	4,980	Nasdaq	17.34	9.04–24.22
GMO Pymt. Gateway, Japan	4,637	Tokyo	61.58	39.11–83.20
Euronet, US	4,626	Nasdaq	102.23	73.84–121.55
Worldline, France	4,151	Euronext	14.41	9.76–48.48
PagSeguro, Brazil	4,049	NYSE	13.00	6.93–13.40
Nuvei, Canada	3,436	Nasdaq	23.03	13.32–43.81
Marqeta, US	3,324	Nasdaq	6.30	3.46–7.51
Evertec, Puerto Rico	2,660	NYSE	40.54	31.55–42.03
Network Intl., UK	2,639	LSE	494.94	293.92–508.61
Cielo, Brazil	2,587	São Paulo	0.93	0.65–1.17
Payoneer, US	1,757	Nasdaq	4.90	4.02–7.05
Global Blue, Switzerland	938	NYSE	4.72	4.01–7.60
Deluxe, US	875	NYSE	20.37	13.61–21.97
Paysafe, Isle of Man	871	NYSE	14.45	9.25–24.25
Repay, US	747	Nasdaq	7.88	5.61–10.43
i3 Verticals, US	670	Nasdaq	20.00	17.87–30.84
Boku, US	638	LSE	206.33	151.90–213.92
Tyro Payments, Australia	357	ASX	0.69	0.56–1.18
NewtekOne, US	319	Nasdaq	12.91	10.75–20.83
Jumia, Nigeria	301	NYSE	3.07	2.23–5.09
Priority Technology, US	280	Nasdaq	3.78	2.62–5.32
Lesaka Tech., So. Africa	200	Nasdaq	3.30	3.00–4.89
Transaction Media, Japan	172	Tokyo	4.58	4.12–13.31
GHL Systems, Malaysia	168	BM	0.14	0.14–0.20
Bango, UK	106	LSE	142.53	129.81–341.52
CoreCard, US	101	NYSE	12.05	11.56–35.48
Qusitive Tech., Canada	84	TSXV	0.22	0.18–0.53
Netstars, Japan	74	Tokyo	4.52	4.08–9.05
Ryvyl, US	21	Nasdaq	4.34	1.57–17.50
OLB, US	13	Nasdaq	0.91	0.53–1.30
Novatti, Australia	12	ASX	0.03	0.03–0.15

Company	Market Cap.	Stock Exch.	Stock Price	52 Week Low/High
HEADQUARTERS	USD (MIL.)		USD	USD
PAYMENT CARD NETWORKS				
Visa, US	557,506	NYSE	271.55	208.76–272.35
Mastercard, US	411,280	NYSE	440.27	340.21–440.94
American Express, US	135,168	NYSE	185.68	140.91–189.51
Discover, US	25,046	NYSE	99.77	79.04–122.50
CREDIT, DEBIT AND PREPAID CARD ISSUERS				
Fleetcor, US	20,760	NYSE	288.30	185.04–288.68
Synchrony Financial, US	15,476	NYSE	37.75	26.59–39.34
Edenred, France	15,242	Euronext	63.50	51.81–67.57
Wex, US	8,688	NYSE	204.69	161.95–205.87
SBI Cards & Pay Serv., India	8,348	NSE	8.97	8.37–11.22
SoFi Technologies, US	7,454	Nasdaq	8.10	4.45–11.70
Krungthai, Thailand	3,066	SET	1.21	1.13–1.66
The Bancorp, US	2,210	Nasdaq	41.00	25.13–42.46
Bread Financial, US	1,527	NYSE	31.40	23.19–44.52
Pathward Financial, US	1,370	Nasdaq	53.23	39.75–60.49
Eurowag, Czech Republic	768	LSE	110.13	93.47–137.34
Green Dot, US	485	NYSE	9.43	7.30–21.37
Zaggle, India	317	NSE	2.69	1.87–3.20
EML Payments, Australia	229	ASX	0.63	0.26–0.84
Blue Label Tele., So. Africa	172	JSE	19.04	12.33–30.42
PaySign, US	146	Nasdaq	2.72	1.67–3.99
Change Financial, Australia	22	ASX	0.03	0.03–0.05
BUY NOW, PAY LATER COMPANIES				
Affirm, US	12,700	Nasdaq	45.33	8.80–52.48
Zip, Australia	469	ASX	0.47	0.17–0.61
Humm, Australia	213	ASX	0.40	0.24–0.43
Sezzle, US	187	Nasdaq	36.50	7.15–81.08
CARD MANUFACTURERS				
Thales, France	30,022	Euronext	145.54	126.37–157.77
Toppan, Japan	8,986	Tokyo	28.56	13.05–28.99
Chutian Dragon, China	1,011	Shenzhen	2.17	2.14–3.24
Eastcompeace, China	693	Shenzhen	1.18	1.17–2.30
Wuhan Tianyu, China	557	Shenzhen	1.29	1.26–2.18
CompoSecure, US	424	Nasdaq	5.25	4.64–7.90
Valid, Brazil	341	São Paulo	4.19	1.58–4.32
CPI Card, US	205	Nasdaq	18.20	12.65–45.95
Kona I, South Korea	165	Kosdaq	12.38	10.93–17.13
Goldpac, Hong Kong	152	HKSE	0.19	0.17–0.23
ECOMMERCE/MARKETPLACES WITH PAYMENTS				
Shopify, Canada	103,325	NYSE	80.70	39.02–83.19
Mercado Libre, Argentina	88,692	Nasdaq	1,767.65	1,063.02–1,769.77
Ebay, US	21,435	NYSE	41.45	37.17–52.23
BigCommerce, US	642	Nasdaq	8.58	6.81–13.39

Market Data as of January 23, 2024

Company	Market Cap.	Stock Exch.	Stock Price	52 Week Low/High
HEADQUARTERS	USD (MIL.)		USD	USD
BILL PAYMENT COMPANIES				
Bill, US	11,510	NYSE	74.80	51.94–139.50
EngageSmart, US	3,886	NYSE	23.06	15.45–23.15
AvidXchange, US	2,267	Nasdaq	11.12	6.88–12.75
Paymentus, US	2,051	NYSE	16.78	7.07–18.79
Fawry, Egypt	628	EGX	0.19	0.13–0.22
PayPoint, UK	490	LSE	677.21	471.52–741.44
Payfare, Canada	252	Toronto	5.34	3.03–5.52
FRAUD FIGHTING/IDENTITY/SECURITY				
Relx, UK	77,958	NYSE	41.17	28.79–41.76
Verisk Analytics, US	35,183	Nasdaq	243.01	169.74–249.26
FICO, US	31,579	NYSE	1,280.00	610.67–1,297.45
Equifax, US	30,533	NYSE	250.57	159.95–252.60
Okta, US	14,074	Nasdaq	85.40	64.67–92.38
TransUnion, US	13,540	NYSE	70.72	42.09–82.75
Dun & Bradstreet, US	5,164	NYSE	11.96	8.68–15.45
Crisil, India	3,468	NSE	48.59	35.49–53.58
GB, UK	847	LSE	336.71	256.71–481.77
Riskified, Israel	809	NYSE	4.48	3.48–6.73
Mitek Systems, US	588	Nasdaq	12.61	8.60–13.98
OneSpan, US	419	Nasdaq	10.67	7.64–19.25
De La Rue, UK	215	LSE	106.33	36.84–113.92
ClearSale, Brazil	119	São Paulo	0.63	0.59–1.54
Fingerprint Cards, Sweden	77	OMX	0.11	0.07–0.35
Idex Biometrics, Norway	53	Oslo	0.19	0.17–0.61
Intellicheck, US	36	Nasdaq	1.85	1.56–3.00
HARDWARE/SOFTWARE COMPANIES				
Toast, US	9,138	NYSE	17.54	13.77–27.00
GRG Banking, China	3,405	Shenzhen	1.34	1.32–1.88
ACI Worldwide, US	3,323	Nasdaq	30.93	19.56–31.12
Lightspeed, Canada	2,803	NYSE	18.75	12.23–21.71
NCR Voyix, US	2,179	NYSE	15.73	11.99–19.01
XGD, China	1,434	Shenzhen	2.57	1.85–4.38
Zuora, US	1,321	NYSE	9.43	7.00–12.12
Par Technology, US	1,299	NYSE	46.61	24.76–46.74
Everi, US	920	NYSE	10.77	9.94–19.85
Olo, US	834	NYSE	5.12	4.25–9.12
Pax Global, China	801	HKSE	0.73	0.67–0.99
Nayax, Israel	731	Nasdaq	22.16	16.38–25.38
Feitian Technologies, China	509	Shenzhen	1.22	1.19–2.07
Cantaloupe, US	500	Nasdaq	6.86	4.79–8.29
HPS, Morocco	460	CSE	62.06	53.97–67.08
Castles Technology, Taiwan	409	TWSE	3.99	2.09–4.88
RS2 Software, Malta	327	MSE	1.47	1.08–1.71
AGS Transact, India	166	NSE	1.44	0.53–1.50

Company	Market Cap.	Stock Exch.	Stock Price	52 Week Low/High
HEADQUARTERS	USD (MIL.)		USD	USD
HARDWARE/SOFTWARE COMPANIES (CONTINUED)				
Eckoh, UK	151	LSE	50.52	37.97–58.23
AppTech, US	33	Nasdaq	1.57	1.14–5.37
Presto Automation, US	18	Nasdaq	0.29	0.25–5.74
MONEY TRANSFER COMPANIES				
Wise, UK	10,935	LSE	1,055.44	617.72–1,146.58
Global-e, Israel	6,175	Nasdaq	38.55	24.14–45.72
Western Union, US	4,520	NYSE	12.21	10.07–14.66
Remitly, US	2,989	Nasdaq	16.75	11.25–27.95
Flywire, US	2,584	Nasdaq	20.94	18.65–35.80
Intl. Money Express, US	729	Nasdaq	21.18	15.76–28.24
Cab Payments, UK	270	LSE	108.99	58.35–426.58
LOYALTY/REWARDS				
Groupon, US	456	Nasdaq	11.47	2.89–16.25
Cardlytics, US	249	Nasdaq	6.77	2.57–19.57
Aimia, Canada	225	Toronto	2.34	2.03–3.16

All figures are shown in US dollars with exchange rates as of January 23, 2024. **ASX** is the Australia Securities Exchange based in Sydney. **BM** is Bursa Malaysia based in Kuala Lumpur. **CSE** is the Casablanca Stock Exchange in Morocco. **EGX** is the Egyptian Exchange based in Cairo. **Euronext** is a pan-European stock exchange connecting seven European economies based in Amsterdam. **HKSE** is the Hong Kong Stock Exchange. **JSE** is the Johannesburg Stock Exchange in South Africa. **Kosdaq** is the Korean Securities Dealers Automated Quotations Exchange based in Seoul. **KRX** is the Korea Exchange based in Busan. **LSE** is the London Stock Exchange based in the UK. **MSE** is the Malta Stock Exchange based in Valletta. **Nasdaq** and **NYSE** (New York Stock Exchange) are based in New York. **NSE** is the National Stock Exchange of India based in Mumbai. **OMX** is the Nasdaq Nordic exchange in Stockholm, Sweden. **São Paulo** is the B3 Exchange based in São Paulo. **SET** is the Stock Exchange of Thailand based in Bangkok. **TSXV** is the TSX Venture Exchange based in Calgary. **TWSE** is the Taiwan Stock Exchange. © 2024 Nilson Report

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David Robertson, Publisher
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