

# Expanding card rails:

Transforming payment cards for the digital future



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# More than physical:

## transforming cards for the digital future

Twenty years ago, payments experts predicted the advent of something called “omnichannel payments” – the ability to pay anywhere, at any time, using multiple payment methods in any channel. More than two decades later, we are firmly in the omnichannel era, as online and offline payments channels are used regularly by most consumers who jump between physical cards, digital wallets, and account-to-account transfers according to their situation. A consumer might pay by mobile for their parking, then use a card to pay for coffee, or make a charitable donation using cash – all in the space of five minutes.

If the age of omnichannel payments has set consumers free and given them unparalleled levels of choice and convenience, then it has also created a challenge for

banks: how can they keep their payment offerings relevant in this new world? In what follows, we explore how banks can reinvent their payment offering for the digital era, whether that’s enhanced fraud protections, boosting profitability, or combining physical and digital channels to transform consumer payment behavior, offering personalized and omnichannel payment options.

Furthermore, revitalizing a bank’s payment offering can help banks navigate the range of significant challenges they face today, from spending 70% of their IT budgets on maintaining legacy systems<sup>1</sup>, through to a decade of weak profit growth, new digital-first competitors and slow product innovation processes.

### Far from dying – cards are thriving

There’s a common belief that the physical payment card is a 20th-century form whose time has gone. This argument points to rapid growth in wallet-based payments, which media outlet Payments Dive says will make up 52% of all payments by 2030<sup>2</sup>, and instant account-to-account payments, projected to account for one in three of all payments world-wide by 2029<sup>3</sup>, as signs that the card era is over.

However, given that 56% of wallets globally are funded by either debit cards<sup>4</sup> or credit cards, rising to 71% in Europe and North America, it’s safe to say that most digital wallet transactions are essentially card-based. Furthermore, although most European markets are now compliant with the EU’s Instant Payment Regulation (IPR), instant payments adoption appears patchy, with markets such as the UK, Nordics, and Poland making overall adoption appear faster than is really the case – especially in Southern and Central Europe.

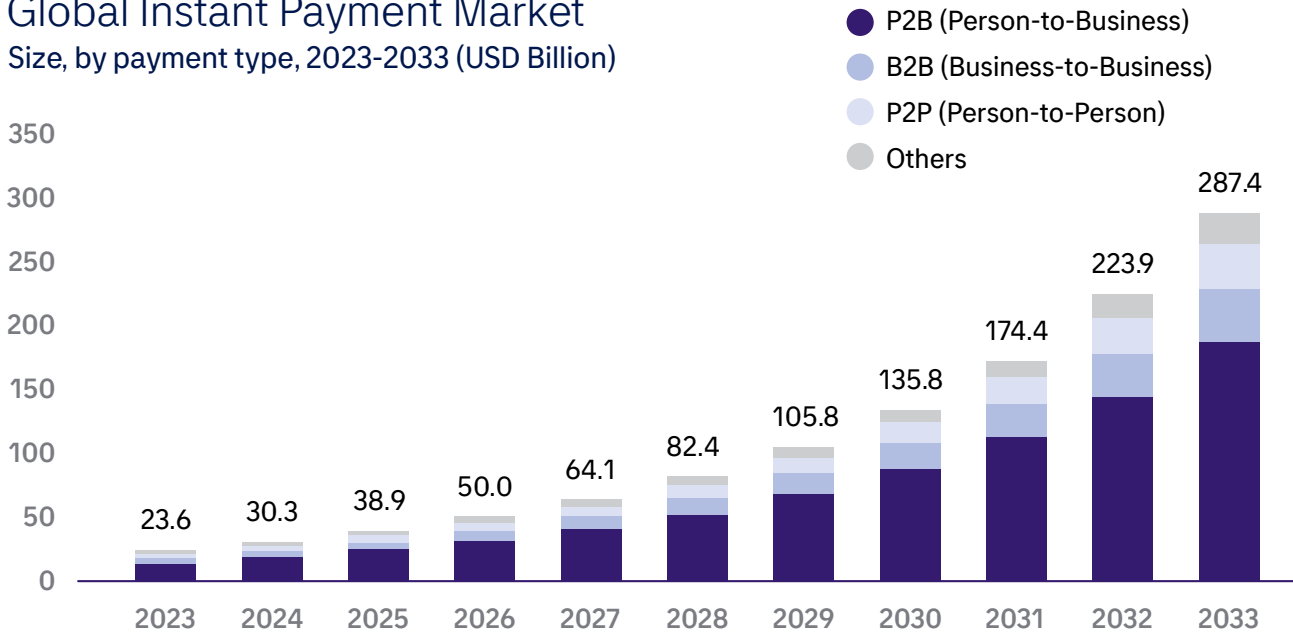
<sup>1</sup>McKinsey & Company, 2 December 2024: “AI Agents for Change”

<sup>2</sup>Payments Dive, 13 March 2025: “Digital Payments to exceed \$33 trillion by 2030”

<sup>3</sup>Data Bridge Research, “Global Faster Payments Market – Industry Trends to 2029”

<sup>4</sup>PCMI, 1 April 2025: “Top global payment methods”

## Global Instant Payment Market Size, by payment type, 2023-2033 (USD Billion)



**One in three payments will be instant by 2029**  
(Data Bridge Research)

Claims of the death of the card also ignore the fact that cards remain the most popular way to pay outside Asia and Latin America<sup>5</sup> – and that card payments continue to grow strongly in both volume and value across Europe from an already high base. As the digital revolution continues, a new wave of card products has emerged built for use both online and in-person. Meanwhile, wide-ranging innovation in everything from processing to card ledger systems and management apps has reinvented cards as a product.

### Cards: focused on customer choice

In what is becoming a digital-first world, cards continue to grow alongside other payment options. What matters is that all options are secure and convenient to use. Statistics from the European Central Bank show that the number of cards in circulation grew by 6.5% last year, and have grown by 4.65% on average over the last five years<sup>6</sup>. The number of card payments, meanwhile, was up almost 11% last year (10.91%), while values increased to more than €5,225 billion, up 8.67% and more than double the total value of digital wallet payments last year (€2,003 billion). While there’s been much focus on the growth of digital wallet spend, this comes from a much lower base than existing card usage, which continues to rise at pace – as the above statistics demonstrate.



Whether consumers choose to pay by card or wallet, convenience and security are paramount

<sup>5</sup> PCMI, 2024, “Payments Megatrends 2024 – North America”

<sup>6</sup> The Digital and Card Payment Yearbooks 2024-2025

There are a number of reasons for the continued popularity of cards. The first is that, as Visa Europe pointed out in a recent study, two-thirds of European consumers continue to prefer cards as a payment form, especially for contactless transactions<sup>7</sup> and to fund digital wallet payments. According to Visa, that's because consumers know, understand and trust cards and how they operate, whether that's at point-of-sale, where ECB statistics tell us (see footnote 3 below) 85% of POS transactions are now contactless, or online.

Secondly, both cards themselves – and the way they are used and managed – have evolved for the digital era. In terms of functionality, cards have added additional functions beyond Near-Field Communication (NFC) contactless transactions. These new capabilities include biometric security, multi-function payments on one card (BNPL, debit and credit, loyalty and more), and tokenization – to name but a few.

For many banks and fintechs, physical cards are also their key brand identifier with consumers and strongly influence the way they think about their bank. Having more differentiated card products is a great branding tool and a strong means of building loyalty between a bank and its customers. This is particularly the case in a time when consumers have more choice in card design than ever before. As most payment forms become faceless or homogenized, consumers are looking to stand out with cards that look and feel different – as well as having more control over how they manage their cards.

Accordingly, new personalized, AI-enabled card design options are starting to appear – while premium cards made from precious metals or wood encourage spending by the wealthiest customers. These cards carry a financial premium for issuance, making them a profit centre in themselves. Furthermore, as a bank's card design is carried into the digital environment when it is put in a wallet (e.g. an Apple wallet), a bank's brand is extended into the digital world via their card products.



At a time when online fraud losses grew by 19% last year in the UK, new security features for cards enhance their safety for online shopping

The new range of card functions extends to their use as a second factor under the physical possession rule for Strong Customer Authentication (SCA) in the EU's second payment services directive (PSD2). All of these factors help banks to combat the rising tide of online fraud at a time when it's estimated that online fraud losses grew by 19% in the UK alone last year<sup>8</sup>.

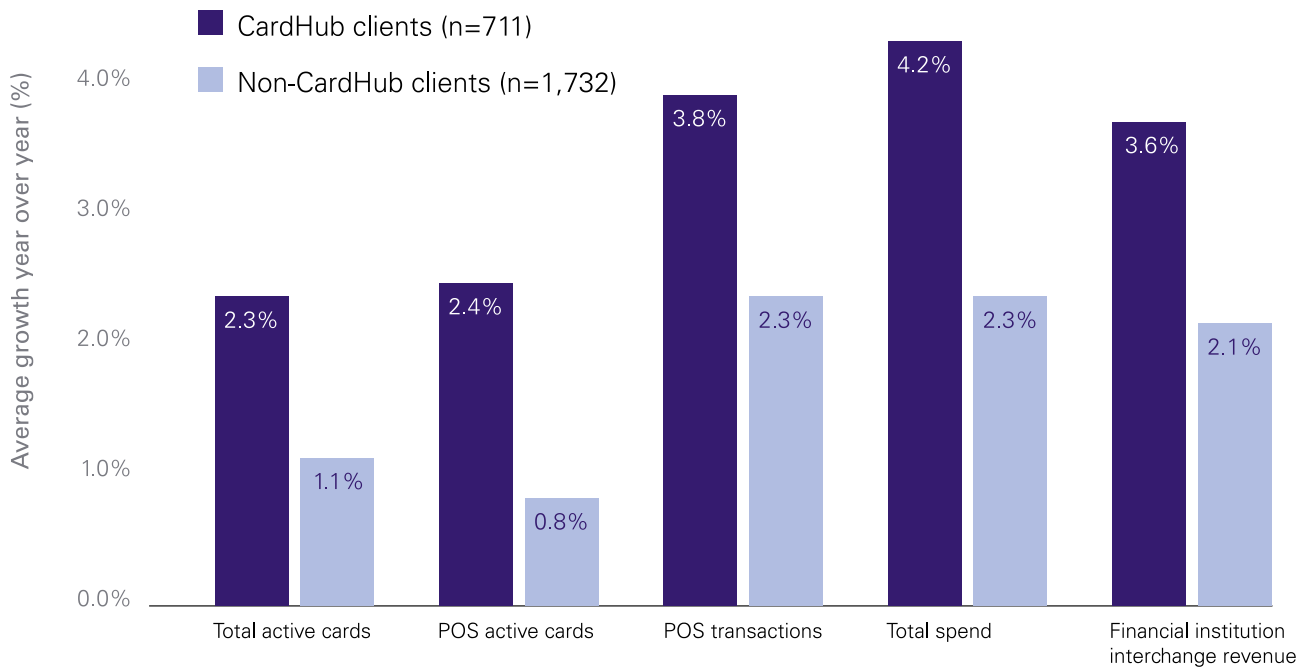
More than any other technical factor, the capacity to manage cards using tailored, white-label apps has breathed new life into physical cards as a product. Mobile card management apps are empowering the digital natives of Generation Z to set spending limits, change PIN, order cards and a wide range of other functions. Research shows that dedicated card management apps drive more card activations, higher usage at POS, higher total spend and more interchange revenue for banks compared to traditional management through website, email and paper communication. To cite one example, banks using app management systems saw total cardholder spend grow by 4.2% in 2023 compared to 2.3% for those banks using traditional management approaches.



<sup>7</sup> Visa Europe, "How Confidence in Contactless is Accelerating Digital Commerce"

<sup>8</sup> TransUnion, "Fraud increases by 19% in the year ending September 2024."

<sup>9</sup> FiServ, 23 May 2024: "The Quantitative Impact of Digital Card Management on Financial Institution Revenue": The Quantitative Impact of Digital Card Management on Financial Institution Revenue



**Management Apps enhance spending, card activation and more.**  
(CardExpert)

In summary, the modern card industry enables banks to give consumers the card they like with the features and payment methods they need – a sure recipe for remaining top of wallet. On top of these developments, cards themselves have become more powerful and flexible – even as they’ve also evolved to meet societal demands for greater sustainability and wider accessibility for disadvantaged groups.



## Cards 3.0: Greater power and flexibility

If magnetic stripe and signature cards with imprinting machines represented the first card technology wave, and chip + PIN saw cards enter their second iteration, then cards are now evolving into their third iteration, which might be called “Cards 3.0”: a more powerful and secure payment form that operates as well online as it does in the physical world.

In the digital environment, virtual cards have driven greater card use, especially among consumer groups concerned about online safety. Functioning like a physical card for online use, virtual cards feature unique 16-digit numbers, CVV codes and expiry dates linked to a physical card. Virtual cards can be generated instantaneously, and just as quickly paused or cancelled. They can include strict spending limits and be limited to specific geographies or merchants – all factors that protect the user from online fraud.



More sustainable – and more accessible for disadvantaged groups

By design, virtual cards are easy to use, secure and convenient for online shopping. They’ve also proven so successful that transactions using virtual cards have trebled over the last five years and are projected to hit \$6.8 trillion next year.<sup>10</sup>

<sup>10</sup> [FinTech Futures, 29 March 2024: “Virtual Cards Market 2023-2028”](#)

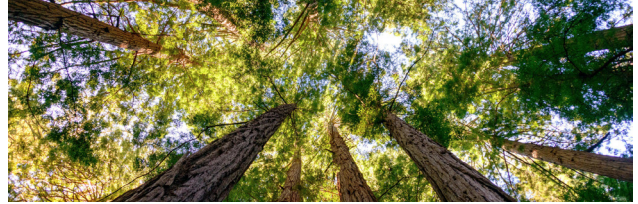
## More sustainable – and more accessible for disadvantaged groups

Apart from being more powerful and flexible, cards are also at the forefront of a massive socio-economic trend – the drive towards more accessible, sustainable financial services. Governments around the world have passed legislation to enable greater access to financial services for previously disadvantaged populations such as the visually impaired, hearing impaired and disabled.

For many of these groups, engaging in digital commerce through screens is especially challenging, so physical cards and bank accounts provide them with massive financial freedom they could not experience before. Legislative acts such as the European Accessibility Act (2025) and the Americans with Disabilities Act (2024) are mandating the use of “notched” cards to help the visually impaired distinguish credit cards from debit cards and others.



Cards are at the forefront of a huge socio-economic trend towards more accessible, sustainable financial services



Tietoevry Banking is proud to be a leader in sustainable card production, with 90% of our 2024 output made from sustainable materials

When it comes to sustainability, there's clear demand from consumers for banks to be more sustainable in their business practices – one recent survey reported that almost two-thirds (65%) of consumers want their bank to be more sustainable<sup>11</sup>. By offering cards made from ocean-recovered plastics, recycled materials, renewables such as corn or sustainable materials like wood, banks give their users the sustainable financial solutions they want at a price they can afford. At Tietoevry Banking, we're proud to be the world leader in sustainable card production, with 90% of our 2024 output made from sustainable materials.



<sup>11</sup> Mambu, “Over two-thirds of global consumers want their bank to be more sustainable.”



## Powered up for the digital age

As the payments landscape becomes more diverse and new payment forms appear at pace, cards remain the most widely used and trusted payment form available. They should remain at the heart of any bank/fintech payments strategy for at least the next decade as one of a range of options which enable customers to pay any time, anywhere, and using any device – fulfilling the omnichannel promise of 20 years ago with secure, convenient payment methods.

Cards can also form the bedrock of a relationship with consumers that extends into the digital world, using the card to fund digital wallets for use in mobile payments, virtual cards to secure e-commerce transactions, and a cardholder app on a mobile device to give consumers more control over everything from security features to transaction history and spending limits.

Alongside the legal protections offered to cardholders online that do not always exist for other payment methods, card issuers, acquirers, and processors are developing increasingly sophisticated fraud identification and protection mechanisms to prevent online transaction fraud – even as fraudsters themselves continue to be relentlessly inventive. New fraud types such as Account Takeover, synthetic ID (in which various cardholder IDs are combined to create a fake identity for online use) and others are being combatted by advanced technologies that take advantage of rich transaction data to challenge suspicious transactions and prevent cardholders from being defrauded. This level of investment is one of the reasons cards continue to be valued and trusted by consumers in the digital era.

By partnering with an industry leader to deliver both fraud prevention and innovative, personalized card products and services, banks can shore up their position as the top-of-wallet choice for consumers and give them the card and features they want. Meanwhile, banks will also enhance their reputation in sustainability and social responsibility and stay compliant with new legislation by delivering accessible card options alongside cards made from sustainable materials.

At present, banks have retained their leadership position in the face of stiff competition from neobanks, fintechs, and big tech players. Reinventing card products for the digital era is a low-cost, highly-effective means to keep their payment products top of wallet and ensure their customers remain loyal.

## A partner for today and in the future

In Tietoevry Banking we have more than 30 years' experience working with over 200 client banks throughout Europe. Through our Card Issuing, Personalization and Financial Crime Prevention offerings we deliver at every point in the card value chain. As a partner that delivers expert advice on everything from your product strategy through to individual program implementations, we help you get card products to market rapidly and at low cost.

Our flexible card and mobile solutions can be tailored to meet your needs, from integrated service offerings featuring all components through to single modules that meet specific challenges. Our card issuing offering extends across the entire value chain, from program and card design through to processing, fraud protections, and end-of-life card recycling. All services are offered on a Software as a Service (SaaS) basis.

We also offer a market-leading range of premium cards designed to ensure your most valued customers have access to the cards their status deserves – from gold and platinum cards through to ceramic cards and OLED cards that light up when used.

Our fraud prevention unit helps improve the performance of fraud defense and AML functions. We have delivered a better than 95% detection rate for fraudulent transactions, plus end-to-end Fraud and AML services that reduce cost and complexity. Powered by innovative artificial intelligence, our solutions are highly specialized and continuously upgraded to ensure maximum effectiveness. This includes flexible, wide-ranging services and tools tailored for the needs of banks and financial institutions. We help reduce the amount of time and money clients invest in their Fraud and AML functions – including the number of full-time employees required in your internal function.





To find out more about TietoEVRY Banking's full suite of card, payment and fraud protection services, **contact Hans Sjölund, Head of Sales & Business Development, Cards & Transaction Banking:**

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## About TietoEVRY Banking

TietoEVRY Banking is the market-leading provider of financial SaaS solutions for the Nordics and beyond. With 3,400 dedicated experts and customers in 60 countries, we deliver solutions for payments and card value chains, financial fraud prevention, lending, and wealth management, as well as a banking-as-a-platform. By combining decades of experience with our modular, scalable, and secure solutions, we empower financial institutions to unlock significant value, and rapidly adapt to market changes, meet regulatory demands, and deliver exceptional customer experiences. TietoEVRY Banking is a specialized business unit of TietoEVRY; the group's annual turnover is approximately EUR 3 billion. TietoEVRY's shares are listed on the NASDAQ exchange in Helsinki and Stockholm, as well as on Oslo Børs.

[www.tietoEVRY.com](http://www.tietoEVRY.com)