

HOW TO LAUNCH BIOMETRIC PAYMENT CARDS

"Adoption of contactless cards has boomed, reaching new markets and consumer segments as a convenient, hygienic way to pay. Biometrics on-card offers the final piece of the puzzle to make contactless truly limitless with added trust and security. Consumers are used to biometric authentication from their smartphones – it's a natural evolution to have it on their payment cards."

Michel Roig, SVP Business Line Payment & Access at Fingerprints

THIS EBOOK OFFERS:

- An introductory guide to biometric payment cards
- → The benefits they offer
- The opportunities for banks
- How to plot a path to launch

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THE CASE FOR **BIOMETRIC CARDS**

(CONTACTLESS) CARD IS KING...

Cards, namely contactless cards, are the most popular in-store payment method. Adoption is growing year on year, reaching new markets and verticals. The card remains 'top of mind' for consumers as a trusted, reliable, and easy to use payment method that works hand-in-hand with mobile payment in a future where cash usage is going down. Following the pandemic, the convenience and hygiene of contactless has even meant the technology has also penetrated traditionally cash-heavy markets.

- 73% use debit/credit card in-store, with 50% using contacless cards
- Usage has risen sharply post-pandemic as consumers want to use contacless more
- **63% expect to use contactless cards** more than today or whenever possible in the future

BUT CONTACTLESS CARDS ARE NOT PERFECT...

Some serious pain points remain in the minds of consumers and, as the popularity of contactless grows, these challenges have become more prominent.

- 51% of consumers worry about lack of security if their contactless card were to be lost or stolen. This is a figure that has increased from 38% in 2018, a clear sign that growing global usage and the raising or total absence of contactless payment caps following the pandemic has also accelerated this worry and will continue to do so.
- Limitations on contactless transactions remain a point of frustration for many, however. 23% still think the payment limit is too low to cover their usual in-store payments, forcing PIN-entry.
- 1 in 4 are also confused about the maximum amount they can spend without entering their PIN at POS terminals, and that you sometimes need to enter a PIN despite being under the cap.

CONSUMERS WANT WORRYLESS PAYMENTS. **BIOMETRICS CAN HELP!**

New research has found consumers have a strong appetite for biometric payment cards. 80% of smartphones now have biometrics – with a fingerprint most often replacing PINs and passwords for activities such as unlocking the phone, accessing protected apps, and 1 in 5 are using it to authenticate mobile payments even from the first amount spent. Consumers are familiar and favour the convenience and security offered by biometrics on mobile and, after smartphones, fingerprint sensors on-card are the application top of mind.

The technology is now available to bring biometrics to payment cards. Which means consumers can have all the speed and convenience of contactless payments, with the added confidence and security of biometric authentication.

- 66% feel there are too many PINs and passwords
- 32% feel payments in-store and online are getting less secure
- 43% feel there are too many options for making payements in-store, it can be a hassle

CONTACTLESS 2.0...

Biometric payment cards are the natural evolution of the contactless card. By adding biometric authentication to the card, consumers can continue to benefit from the same hygienic "tap to pay" experience without fear of fraud. Plus, with the addition of strong authentication, banks can feel empowered to scrap annoying and confusing payment caps and bring an end to PIN management.

- 50% of consumers want a biomteric payment card, an additional 24% are open to it
- 51%* would consider changing bank to get a biometric payment card
- 43%* are even willing to pay extra for a biometric payment card



Scrap contactless payment cap and unify experience across card and mobile



Convenience - no need to remember/ or enter PIN, save time at check outs



Reduce fraud and security concerns and costs. FAR*1:20,000 twice as secure than a PIN code



Hygienic - no need to touch the terminal



Privacy - personal and safe, data never leaves the card



Coolness factor

^{*}Based on the consumers that stated they want a biometric payment card

^{*}False acceptance rate - the rate at which the card will accept incorrect biometrics presented

The value proposition of biometric payment cards has a truly global reach.

EUROPE

In Europe, biometric payment cards are already reaching the hands of consumers. France has seen major commercial launches by tier one banks, creating a 'domino' effect that is pushing other banks to follow suit. Outside of France, other countries with high contactless adoption like the UK are seeing similar momentum, with banks like NatWest and RBS involved in pilots. Europe has a long history of smartcard innovation, having led global adoption of EMV® Chip + PIN and contactless cards, so it is unsurprising it is the first market to adopt this technology. And, the business case has never been stronger.

Since the pandemic, desire to use contactless has increased sharply as a touch-free in-store payment method, with around 1 in 3 European consumers sharing hygiene concerns around touching a PIN-pad – equal to the concern level of using cash. Our research found a huge 216% and 90% increase in contactless usage as a primary payment method instore stated by French and UK consumers respectively, from 2019 to 2020, and even the famously cash-heavy Germany has reported a growth of contactless adoption from 35% to 50%. In parallel, contactless transaction limits have risen to allow for greater usage, with the UK most recently increasing to £100, and most of Europe rising to 50€.



CONTACTLESS CARD HAS SEEN A STEEP INCREASE IN UK & FRANCE AS A FAVOURITE WAY TO PAY INSTORE





But rising usage and transaction caps have limitations. A higher transaction limit also increases the risk – and crucially, consumer concerns - of fraud. Meanwhile, the pain of PINs remains: most transaction limits are still not sufficient to cover, say, a family's grocery shopping; and Strong Customer Authentication (SCA) requirements across Europe mean the higher transaction cap of contactless reduces the number of transactions needed before a PIN is required - 150€ or £135. For banks, adding biometric payment cards to your portfolio offers a means to empower customers to use the contactless cards they love, without limits.

Eastern Europe has been quick to adopt biometric payments. Around 70% of Poles find biometric payment methods faster and easier, with 60% preferring biometrics authentication to a password when shopping online. As far back as 2014, Poland became the site of the first facial recognition ATM. More recently, Russia has also been turning to facial recognition in financial services, in-store retail, and even for transport. However, roll outs of facial recognition payments from Russia's largest bank, for example, have been met with data and privacy related questions from consumers.

There is clearly a strong appetite for biometrics in the region, and many consumers are already benefitting from the convenience and hygiene offered by biometric authentication versus more traditional methods such as PINs and passwords. Biometric payment cards (where the user's data is secured on their own card and not shared with the bank) are a compelling opportunity for banks in the region to capitalize on consumers' desire to authenticate quickly, without the complexities and challenges of data privacy. Meanwhile, from a bank perspective, it also removes the significant technical burden of managing and protecting customer biometric databases.



MIDDLE EAST & AFRICA

Traditionally cash-heavy markets, the Middle East is one region that has seen a significant change in recent years. Many merchants and consumers have now taken the leap to digital payments, spurred by increasingly younger populations and, undoubtedly, the pandemic. Recent research found 68% in the region had tried a new digital payment method since the pandemic and in Saudi Arabia, 94% of respondents were now open to trying new and emerging payment methods, including biometrics. Meanwhile, 71% of UAE consumers had cited moving to digital payments when in-store, with the majority now using contactless cards (54%).

Financial services in the Middle East are seeing rapid innovation too, with the adoption of real-time payments and an emerging fintech scene. With several markets now increasingly comprised of younger and more affluent consumers, biometric payment cards offer banks an opportunity to add an exclusive, premium product to their portfolio. The infrastructure is now ready with the adoption of contactless cards, meaning biometric payment cards are ready to roll out seamlessly.

In Africa, although regions are fragmented there is a broad trend toward innovation. Biometric and digital identity projects are taking off in several nations, with the continent's market estimated to be worth €1.4bn. The technology is also seen as an enabler of financial inclusion and to cut the massive fraud of cash transactions. Several banks in Nigeria and South Africa are now using facial recognition and are rolling out complementary authentication technologies such as fingerprint and QR codes to authorize retail transactions without PINs and passwords. Biometric payment cards can complement these biometric-led initiatives in other verticals to bring the convenience and accessibility of biometrics to payments while safeguarding security.



Across Asia-Pacific, there are several unique and diverse payments markets, but the opportunity for biometric cards is widespread.

Australian consumers have a strong appetite for biometric payment cards, with 62% willing to switch banks to acquire one and 43% willing to pay an average of 9.5 USD/Year for a biometric payment card. Consumers are familiar with and favor the convenience of a 'tap to pay' experience in-store, with high contactless card and mobile payments adoption. With biometric payment cards, users would be able to benefit from the same seamless user-experience for any amount, at any time, and without the risk of fraud or the limitation usages of mobile, such as losing battery. With most mobile wallets already secured by fingerprint authentication, biometric payment cards also offer a complementary userexperience. In fact, 59% of Australia's frequent mobile payment users said they would be interested in, and willing to pay for, a biometric payment card.

China has championed mobile payments and innovative ways to pay. The 'cool' factor of having the latest technology undoubtedly creates a big consumer pull for biometrics in this market, but the value of biometric cards extends far beyond. With such rapid adoption of new payment methods, from QR codes to NFC, retailers have had to implement multiple payment terminal types to enable broad acceptance. The result is 19% of consumers find in-store payments a hassle, with a further 66% citing there are too many options to pay. Credit and debit card adoption is high and has risen significantly in recent years, and while contactless card adoption has been slower to take off, 89% of consumers with contactless want to use it more. By adding strong authentication to contactless, there is a real opportunity to bring harmony, convenience, and security to the in-store payment experience.

In India contactless payment limit has been increased to Rs. 5,000. The increased contactless limit along with the pandemic has propelled the adoption of contactless payments. Even before the pandemic India is experiencing a huge financial services transformation, with a thriving Fintech market and rising EMV migration and bank penetration spurred by government financial inclusion initiatives. While making such a significant jump to EMV, Indian banks have the opportunity to 'skip past' the challenges and limitations of contactless and PINs with biometric card rollout while maximizing on the desire for new innovative services.

NORTH AMERICA

Canada is championing several innovative financial services modernization initiatives that have put it ahead in global efforts to enable real time payments and ISO20022 migration, for example. It also boasts high contactless payment adoption – both card and mobile. As card comprises 86% of in-store payments, biometric payment cards offer an opportunity to bring the same spirit of innovation to consumers' preferred payment method.

The U.S. is a distinctive payments market. Despite a far slower migration to EMV, contactless cards have been gathering pace. Since the pandemic however, touch-free payments have seen an even sharper rise, with over half of Americans now using some form of contactless payment. The same survey from Mastercard also found that as well as cash, the cleanliness of signature touchpads became a concern for 72%, suggesting the final 'nail in the coffin' for sign + swipe in the U.S.

Despite rising demand, not all Americans have the option of a contactless-enabled card. For those that do, a third say it has become their top-of-wallet for its hygiene and convenience. For issuers yet to rollout contactless, this poses a real threat to customer retention. Meanwhile, for those issuers looking to get ahead, being able to offer the 'next generation' of contactless card serves both as a pull for new customers and a means to retain existing ones.

The U.S. can avoid the challenges and limitations of traditional contactless that can be seen in more mature card markets, such as Europe. It has yet to define a national payment limit for its contactless cards and as usage rises, this poses not just a huge potential fraud risk for banks but creates consumer confusion at the POS. Biometric payment cards can eradicate both consumer concerns and the fraud risk for banks, without the need to impose strict limits.



LATIN AMERICA

Latin America has been catching headlines in recent years as a leading hub of global fintech innovation, bringing financial services to the unbanked and underserved populations that traditional banks have failed to reach. With a rising highly educated middle class, and a huge untapped unbanked market, there's significant opportunity for the banking and fintech world. In Mexico and Brazil for example, regulators have actively simplified the process for new players entering the market, easing access to bank charters and lending licenses.

The pandemic has also had an impact across the region. Digital payments adoption has soared, with several governments promoting digital payments migration by raising transaction limits for contactless payments and reducing fees on debit and credit card payments as well as mobile transactions.

Biometric authentication has been used for decades in many Latam countries to authenticate users; for social security, ID, driving license, accessing workspace and registering work time.

For emerging banks and fintech, adding biometric payment cards to your portfolio is a strong way to complement new digital services with an equally innovative and exciting in-store payment method. For legacy banks, competition has never been fiercer. As consumers walk towards the arms of new fintech and challenger banks, biometric payment cards can offer a way to retain market share.



WHAT IS A BIOMETRIC **PAYMENT CARD?**

BIOMETRICS IN A CARD - HOW DOES IT WORK?

SECURE ELEMENT

Fingerprint data is securely stored in the card's secure element.

PRIVACY

Consumers control their own data. No fingerprint data will ever leave the card. 100% GDPR compliant.

WORKS WITH EXISTING EMV® TERMINALS

The card is powered with energy from the POS terminal. No battery needed or charging.

SELF-LEARNING TECHNOLOGY

With every touch, smart algorithms keep learning more about your fingerprint, so it works every time you need it.



PAYMENT NETWORKS

Payment networks certify the card and ensure that the technology is secure and interoperable with EMV and ISO standards.

First card by Thales is certified by Visa and Mastercard.

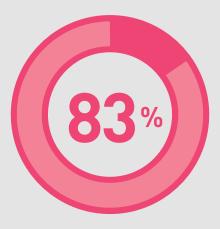
Fingerprints latest sensor approved against Mastercard's biometric requirements.

SENSOR

Small, robust and low-power fingerprint sensor that can be touched from any angle, leaving plenty of room for bank branding.

READY TO ROCK & ENROLL!

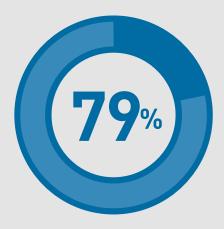
Enrollment is a key concern for both banks and consumers. An intuitive, seamless first user-experience is essential to ensure consumer adoption and continued usage.



of banks cite enrollment as a primary concern



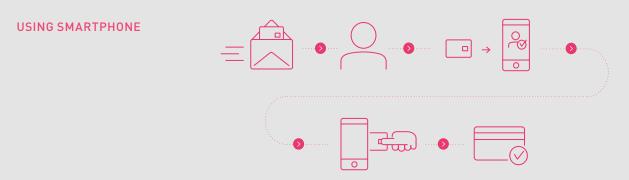
of consumers cite enrollment as a primary concern



prefer to do self enrollment at home

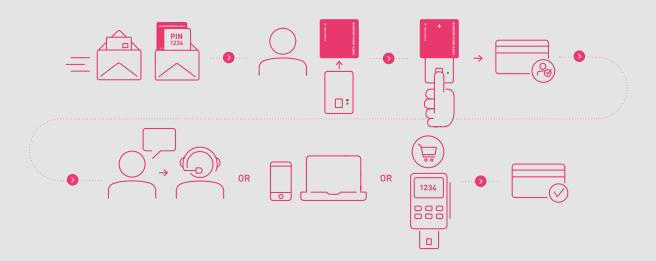
BANKS HAVE SEVERAL OPTIONS, DEPENDING ON THEIR CUSTOMER PREFERENCE

Mobile enrollment solutions, whereby consumers register their fingerprint on the card using a partner mobile app and their smartphone's NFC, offer a secure, convenient, and sustainable enrollment solution. These offer the option to enroll at home, on-the-go, or at a bank's branch.



Powered sleeves have also enabled DIY enrollment solutions at home or in-branch.

USING A POWER SLEEVE

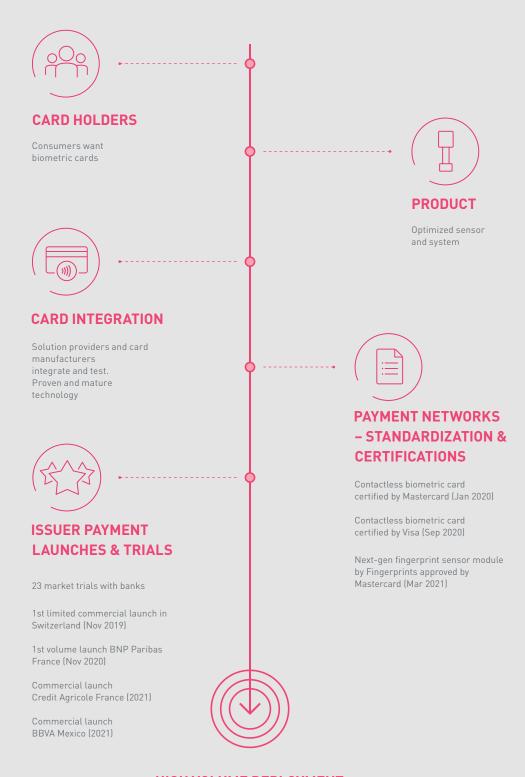


In-branch enrollment offers banks an additional touch point with consumers and more control over the user-experience.



WHERE ARE WE NOW?

Biometric payment cards are far from a proof-of-concept. Following extensive trials, feedback, testing and innovation, the technology is now ready for high volume deployments.



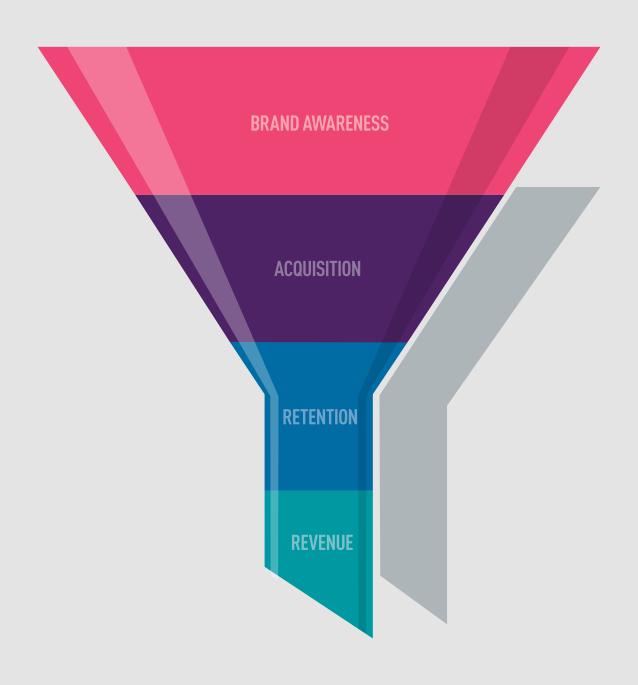
HIGH VOLUME DEPLOYMENT



LAUNCHING BIOMETRIC PAYMENTS CARDS

WHAT ARE THE OPPORTUNITIES FOR BANKS?

Traditionally, consumers have been loyalists when it comes to banking. But the era of 'one bank for life' is coming to a close, with consumers increasingly wanting more from their bank than just a place to store their money. Customer retention and acquisition have never been more critical, so finding opportunities to offer consumers value-added products and services is key.



BOOST BRAND IMAGE AND VALUE

- Bring innovation and "cool" to consumers' favorite form factor
- Gain early adopter status in the market, getting ahead of competition

RAISE CONSUMER DEMAND - LOWER ACQUISITION COST

- 51% would switch banks to get at biometric payment card
- Affluent, executive, and millennial segments show highest interest
- Over 60% of active and higher income groups would switch bank to get this card

IMPROVE CUSTOMER EXPERIENCE

- Offer customers a secure, convenient, hygenic and consistent contactless card
- Harmonize with the UX of mobile payments and banking apps

INCREASE NET INCOME

- 43% willing to pay extra for a biometric card
- 56% of banks would offer this card bundled with another service
- Achieve 'top of wallet' status, with 82% of consumers saying it would become their preferred payment card
- Increase transaction value without payment limits
- Reduce lost sales and cost of fraud from forgotten PINs, abandoned carts and stolen cards

GETTING STARTED - ROADMAP TO LAUNCH



FROM SMARTPHONE TO PAYMENT CARD

Over 500 smartphone models from nine of the top 10 OEMs use our biometric fingerprint technology, and we have shipped over 1 billion sensors verifying more than 10 billion human touches every day. Our R&D team have adapted and refined this hugely successful technology and tailor made it for payment cards.

Fingerprints has been leading the market adoption of this technology. So far, we have powered the majority of contactless biometric payment card pilots and all commercial bank launches across the globe.

We know that for this technology to reach its full potential, working together is key. That is why we champion close collaboration with the payment ecosystem including leading card manufacturers, secure element vendors, major payment networks and standardization bodies.





TO LEARN MORE
ABOUT HOW TO START
YOUR PATH TO LAUNCHING
BIOMETRIC PAYMENT CARDS,
GET IN TOUCH.

