



# ***Webinar: Is now the time to deliver effortless authentication with biometric payment cards?***

25 June 2025

# Welcome to our biometric payment webinar



# Webinar agenda, July 25, 2025

What	Who	Time
6. Welcome & introduction	Ursula Schilling	2 min
7. What's changed to make biometric cards appealing for issuers?	Arne Rehm	5 min
8. Where do biometric cards fit into the future of payments?	Guest speakers: <ul style="list-style-type: none"> <li>– Arman Aygen, Director of Technology, EMVCo</li> <li>– Mike McCamon, Executive Director, NFC Forum</li> <li>– Manuel Thoma, Head of Marketing, PayCenter</li> <li>– Amanda Estiverne-Colas, Founder of AGE Advisors, Payment Strategist</li> <li>– Andrew Shikiar, CEO, FIDO Alliance</li> </ul>	30 min
9. What benefits can biometric cards now bring to issuers, merchants and customers?	Fang Lu-Ruhbach	5 min
10. Audience Q&A	All	5 min

# Guest speakers for our webinar on June 25:

*Is now the time to deliver effortless authentication with biometric payment cards?*



**Arman Aygen**

Director of Technology  
EMVCo



**Mike McCamon**

Executive Director  
NFC Forum



**Manuel Thoma**

Head of Marketing  
PayCenter



**Andrew Shikiar**

CEO  
FIDO Alliance



**Amanda Estiverne-Colas**

Founder of AGE Advisors,  
Fintech & Payment Leader

# Infineon speakers



**Ursula Schilling**  
Director  
Payment Partnerships  
& Eco System



**Arne Rehm**  
Senior Product Manager  
for biometric payment



**Fang Lu-Ruhbach**  
Senior Product  
Marketing Manager



# What's changed to make biometric cards appealing for issuers today?

Arne Rehm

Senior Product Manager SECORA™ Pay Bio  
Infineon Technologies AG



# Previously... three challenges restricted the potential of biometric payment cards



## Enrollment

- Required enrolling at a bank branch
- Or using an expensive sleeve enrollment device
- **This created an unattractive, inconvenient user experience**



## Cost

- Very high manufacturing costs, combined with implementation complexity, were prohibitive to investment
- **This deterred banks from launching scalable pilots and limited demand**



## Consumer unease

- Cardholders worried how their biometric data might be shared and used
- **This dampened enthusiasm, despite the attractive package of convenience and security**

**These challenges  
have now been  
overcome**



# Easy enrollment at home or in store

Enrollment can now be done at home via a smartphone, or in-field, by using the card whenever visiting your favorite stores.

## Smartphone enrollment (CL)



Easily enroll fingerprints at home with a smartphone.

Infineon can also provide its innovative Enrollment Sheet to guide users through the hassle-free process.

Visit [www.infineon.com/bio-video](https://www.infineon.com/bio-video) to see it in action.



## In-field enrollment



Cardholders enroll just by using their card in store, placing a finger on the card sensor during contactless payment transactions (available for Mastercard).

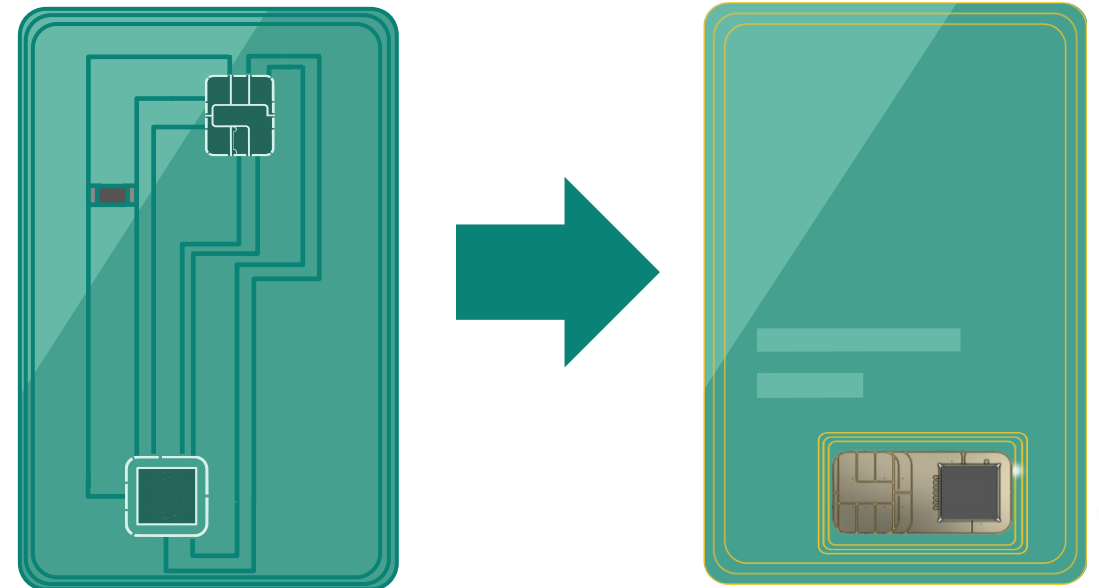
# Innovation has lowered manufacturing costs

**Faster, scalable production of robust high-quality** cards.

**Short time to market**, due to simple ramp-up, personalization support and available certification from the card schemes.

Offer biometric payment cards that deliver **value for money** for years to come.

## Simplification of biometric card design



# Consumer familiarity and use of biometrics is now widespread

Consumers can use biometric technology they **now know and trust** for **frictionless, authenticated payments**.

Biometric **templates** are stored and **processed directly on the card** – not any cloud or external application.

Cardholders can **verify their identity** by **simply placing a finger** on the card's sensor and tapping the card at the terminal.





# Biometrics on Card Initiative

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25 June 2025

**EMVCo enables card-based payments to work seamlessly and securely worldwide**

## Mission

To facilitate the worldwide interoperability of secure payment transactions by developing and publishing the EMV<sup>®</sup> Specifications and their related testing processes



# Why Now?



## *Use case*



**Achieve the right balance between security and convenience of using biometric card in face-to-face payment, taking the unique constraints on performance and power consumption into account**

## *Efficiency*



**Establish a 'platform' approval for biometric sensor, combined with EMVCo's well established L1 Testing and chip security evaluation process**

## *Optimisation*



**Optimise and automate the fingerprint testing process to reduce testing complexity and cost**




EMVCo biometric card security guidelines will be aligned with the recent work done in the **JHAS**, to which EMVCo contributed:

- 🕒 **JHAS**: JIL Hardware-related Attacks Subgroup
- 🕒 **JIL**: Joint Interpretation Library Group
  - 🕒 Common Criteria threat list and rating method refined for smart cards and similar devices

The objective of the **JIL Biometric Card Security Guidelines** was two-fold:

- 🕒 Build a common understanding of what a biometric card would require in terms of security assessment
- 🕒 Provide specific guidelines regarding attacks that would be specific to such biometric cards



Joint Interpretation Library      Biometric Card - Guidelines

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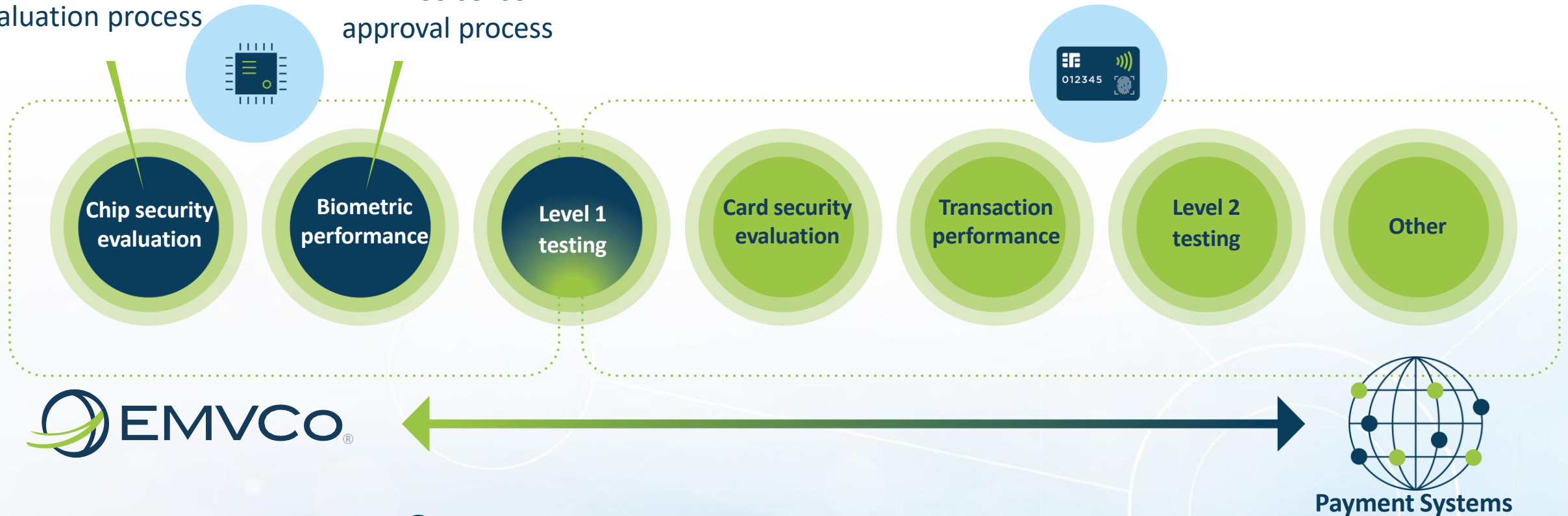
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# Role of EMVCo on Biometric Card Testing & Approval



Extended with sensor  
evaluation process

EMVCo sensor  
approval process



- Operated by EMVCo; single test report can be used for multiple payment systems
- Test plan, tool qualification and lab accreditation by EMVCo, admin process by payment systems
- Payment system specific



# MIKE MCCAMON

Executive Director

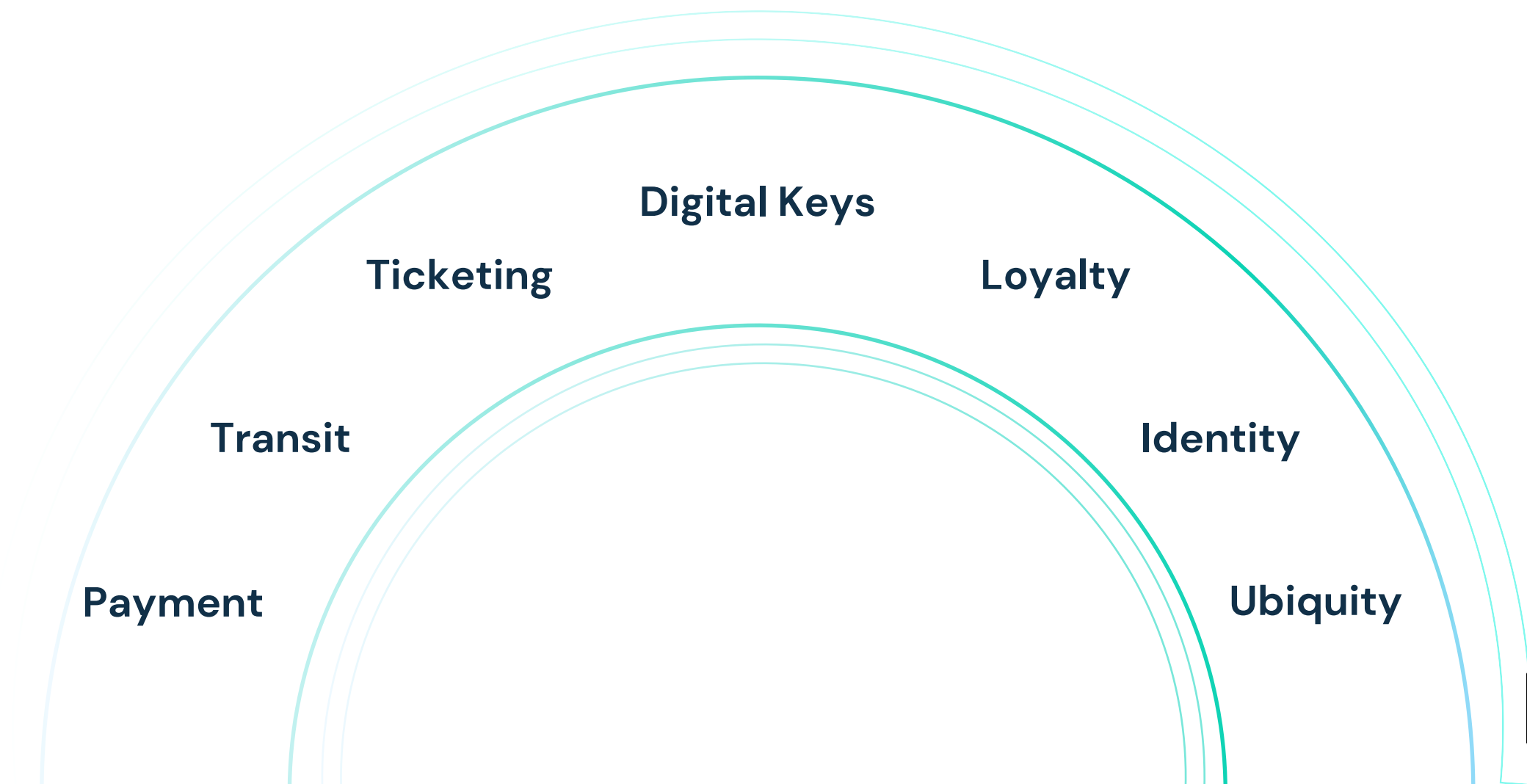
# CONTACTLESS ADVOCATES

NFC Forum is comprised of 750+ member organizations including some of the most familiar global technology and consumer companies who actively collaborate with dozens of adjacent technical bodies to deliver technology, transport, digital key, packaging, sustainability, and automotive solutions.



# LONG ARC OF CONTACTLESS

DIGITAL WALLET ADOPTION IS ACCELERATING AND INEVITABLE



# NFC RELEASE 15: FAST, SECURE, AND MORE USEFUL



- Announced 17-June
- Publicly available in Fall

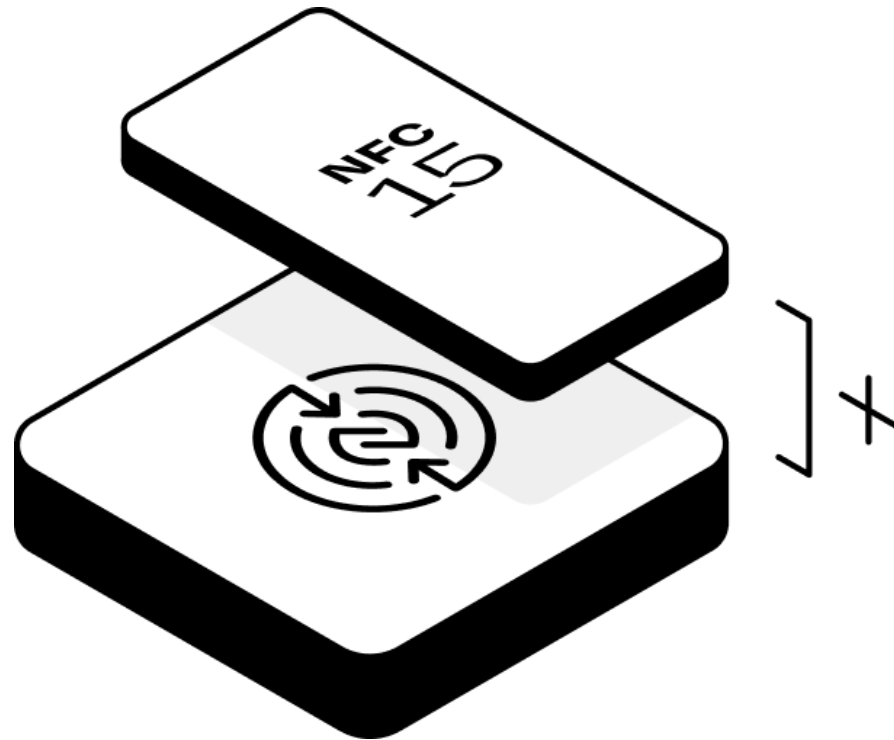
## Key Features

- Extended Range
- Sustainability: DPP
- Secure
- More Use Cases



# SECURE CONNECTIONS

- Proximity
- Specific Action
- Authentication
  - Protecting both access and use
- Encryption



Connections no further than 2cm





# Biometric Cards in Action: Insights from VIMpay pilot

Insights from our biometric card pilot:  
User behavior and feedback, adoption  
challenges, and what it takes to make it.

June 2025

Biometric payment card webinar with Infineon Technologies AG



# Biometric cards are working in the wild

Solid performance, great promise – and insights to boost market adoption even further.



**Promising early adoption across target users**

*147 cards issued and used in real conditions.*



**Strong complement to mobile wallets**

*50% of users use both biometric card & wallet*



**Fast biometric learning curve**

*57% had successful biometric auth within just 3 txns*



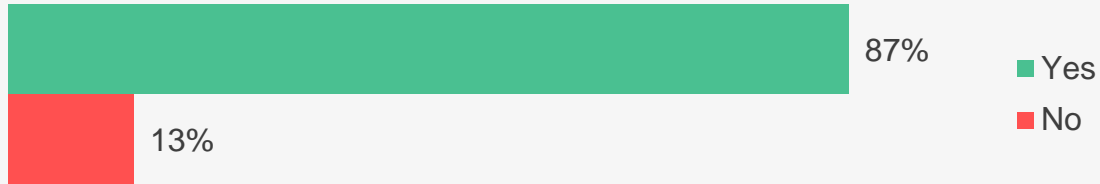
**Clear optimization path for onboarding**

*36 users of target group completed full enrollment*



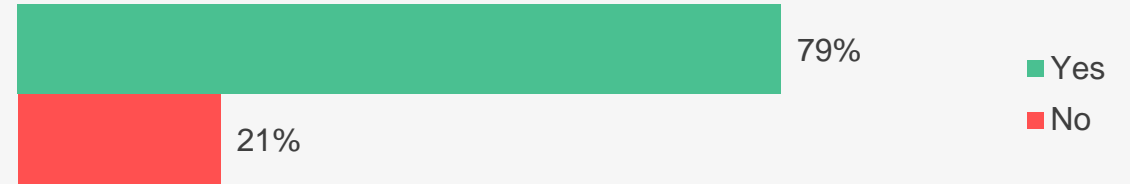
# Biometric cards well received – with room to grow

Q1: „Was the card usage explained well?“



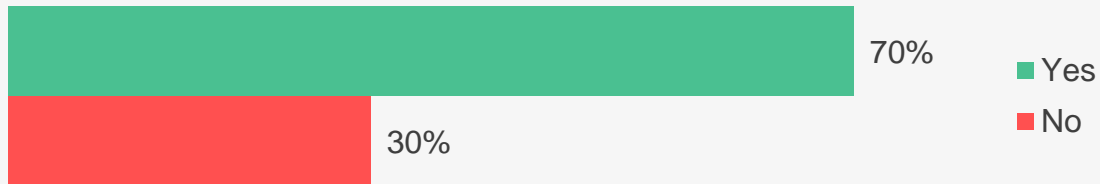
Communication mostly clear – only small FAQ needed.

Q2: „Do you plan to continue using the biometric card?“



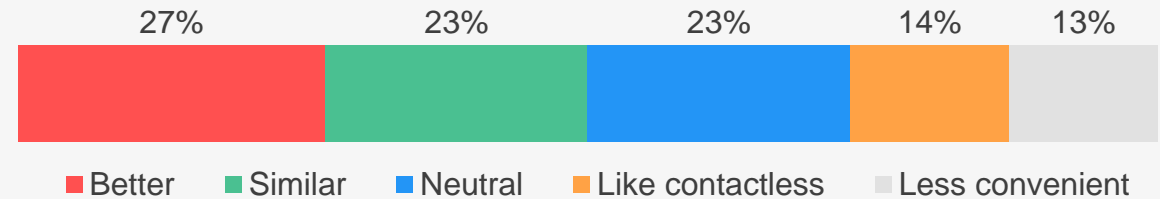
Strong acceptance – but wallets are still a competitor.

Q3: „Is biometric authentication on card a key factor?“



Security and convenience rated highly – no need for PIN entry.

Q4: „How does it compare to normal cards & wallets?“



Biometric cards cannot compete with mobile payment – but co-exist.

# What we've learned



**Users prefer mobile wallets over physical biometric cards**



**Enrollment process too long – needs fewer contactless transactions**



**Unclear when and how to use fingerprint during payment**



**Biometric card use depends on added value beyond payments**

# Making Biometric cards stick: What's needed next

## Optimized Tech for a Seamless Experience

- ✓ Shorten biometric enrollment - reduce number of required contactless transaction
- ✓ UX challenge as it's often unclear when fingerprint is checked – haptic or light cues can help
- ✓ Technical complexity- not all processors support this, most issuers lack expertises

## Right Use Cases, Right Audiences

- ✓ Mobile payment users may not adopt as phones already offer convenience, speed, and security
- ✓ Premium product due to cost – scalable if value is proven or production becomes cheaper
- ✓ Strong potential for business or social cards with use cases like assisted living, and more

## Co-Existence & Values beyond Payments

- ✓ Biometric cards will only coexist with wallets – but many users still like an additional physical card
- ✓ Security, trust and independence from smartphones can enable new potential for biometric cards
- ✓ Added value can drive adoption – e.g., access control, ID check, or age verification

# It starts with a touch and can lead to something big

We always love to hear from you! Let's talk ideas, challenges, and what's next in payments.

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**petaFuel**

### Processing Partner

petaFuel is an innovative payment service provider and certified card processor, developing modern payment systems, software solutions, and mobile applications.

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**PAY  
CENTER**

### Issuing Partner

PayCenter is a German e-money institution offering modern payment solutions and innovative Mastercard products for individuals, businesses, and the public sector.

# State of the Biometric Card Market / Powering the Future of Payments & Identity



**Amanda Estiverne-Colas**

Founder of AGE Advisors,  
Fintech & Payment Leader

# State of the Biometric Card Market

Biometric cards are scaling fast  
driven by demand for secure, contactless payments and global market readiness



## Explosive Growth Trajectory

Source: [https://www.globenewswire.com/news-release/2025/04/29/3070581/28124/en/Biometric-Payment-Cards-Represent-a-5-8-Billion-Market-by-2030-Rising-at-a-64-7-CAGR-Biometric-Credit-Cards-Expected-to-Generate-4-Billion-in-Revenue-in-2030.html?utm\\_source=chatgpt.com](https://www.globenewswire.com/news-release/2025/04/29/3070581/28124/en/Biometric-Payment-Cards-Represent-a-5-8-Billion-Market-by-2030-Rising-at-a-64-7-CAGR-Biometric-Credit-Cards-Expected-to-Generate-4-Billion-in-Revenue-in-2030.html?utm_source=chatgpt.com)

- Market size: US \$289.6 M in 2024 → US \$5.8 B by 2030 (CAGR ~65%)
- Alternative forecasts: US \$1.03 B in 2025 growing to US \$63 B by 2032 (CAGR ~80%)
- Drivers: rising fraud, contactless demand, regulatory pressure, digital banking expansion

## Regional Adoption Patterns

- North America leads in share (~40% in 2025)
- Asia-Pacific fastest-growing due to emerging economies' digital ID & fintech adoption



## Use-case Expansion & Market Segmentation

- Card types: biometric credit & debit cards; multi-factor authentication
- Verticals: retail, transportation, government, healthcare—especially BFSI holds >50% market share



*“Empowering the Future of  
Fintech to Be Inclusive”*

# Infineon's Position & Verified Trends

## A look into Infineon's position that is moving in the right direction

### Infineon unveils Secora ID V2 and eID-OS solutions for eID documents

- In January 2025, it received Visa and Mastercard full certification, marking readiness for global issuance and simplifying integration for banks



### Emerging Crypto Wallet Integration

- These solutions illustrate how biometric cards can serve as secure hardware wallets, pairing on-card authentication with mobile and backend systems for enhanced Web3 identity use

Feature	Status	Impact
Card Integration	Certified with Visa/Mastercard	Ready for large-scale issuance
Crypto Capability	Proven in Sentinel cold-wallet	Hardware key protection
eID Functionality	Supported via Secora ID V2 / eID-OS	Broader digital identity use

### Digital Identity

- The combination of these platforms highlights convergence: payment, identity, and access control unified in a single secure credential



“Powering the Future of Payments and Identity—Securely, Seamlessly, Biometrically.”

“Empowering the Future of Fintech to Be Inclusive”



## Introducing FIDO & a short discussion on FIDO passkeys in combination with biometrics



**Andrew Shikiar**

CEO

FIDO Alliance

# Why FIDO?



## Why FIDO?

The Password Problem

FIDO is the Solution

The Benefits are Clear

77%

Hacking-related breaches involve stolen credentials – Source: Verizon

4,151%

Rise in malicious phishing emails since ChatGPT launched in 2022 – Source: SlashNext

856%

Rise in malicious emails in the last six months – Source: SlashNext

53%

Consumers have detected more suspicious messages and online scams in 2024 – Source: FIDO Alliance

\*100% passwordless environments

## Some webinar questions for Andrew...

- **How is card security changing? Is the time of PIN over?**
- **What role do FIDO passkeys play in enhancing security and convenience?**
- **Storing a FIDO passkey in a SE of a biometric sensor card, would such a multi-factor authentication device be able to reach additional social groups in terms of social inclusion?**
- **What are the benefits of combining passkeys with biometric authentication?**



# What benefits can biometric cards now bring to issuers, merchants and customers?

Fang Lu-Ruhbach

Senior Product Marketing Manager

Infineon Technologies AG



# How do biometric payment cards benefit issuers?



- 1 Meet customer demand for innovative, personalized payments using biometric technology that they already know and trust
- 2 Show customers that you take care of both in-store and online payment security and privacy
- 3 Build a physical connection to your customer with a premium and truly customizable card to earn front of wallet status – and stay there
- 4 Enable both online and offline SCA (Strong Customer Authentication) without compromising customer convenience
- 5 Eliminate password phishing risk, reducing your cost on processing and sending OTPs (one-time passwords)

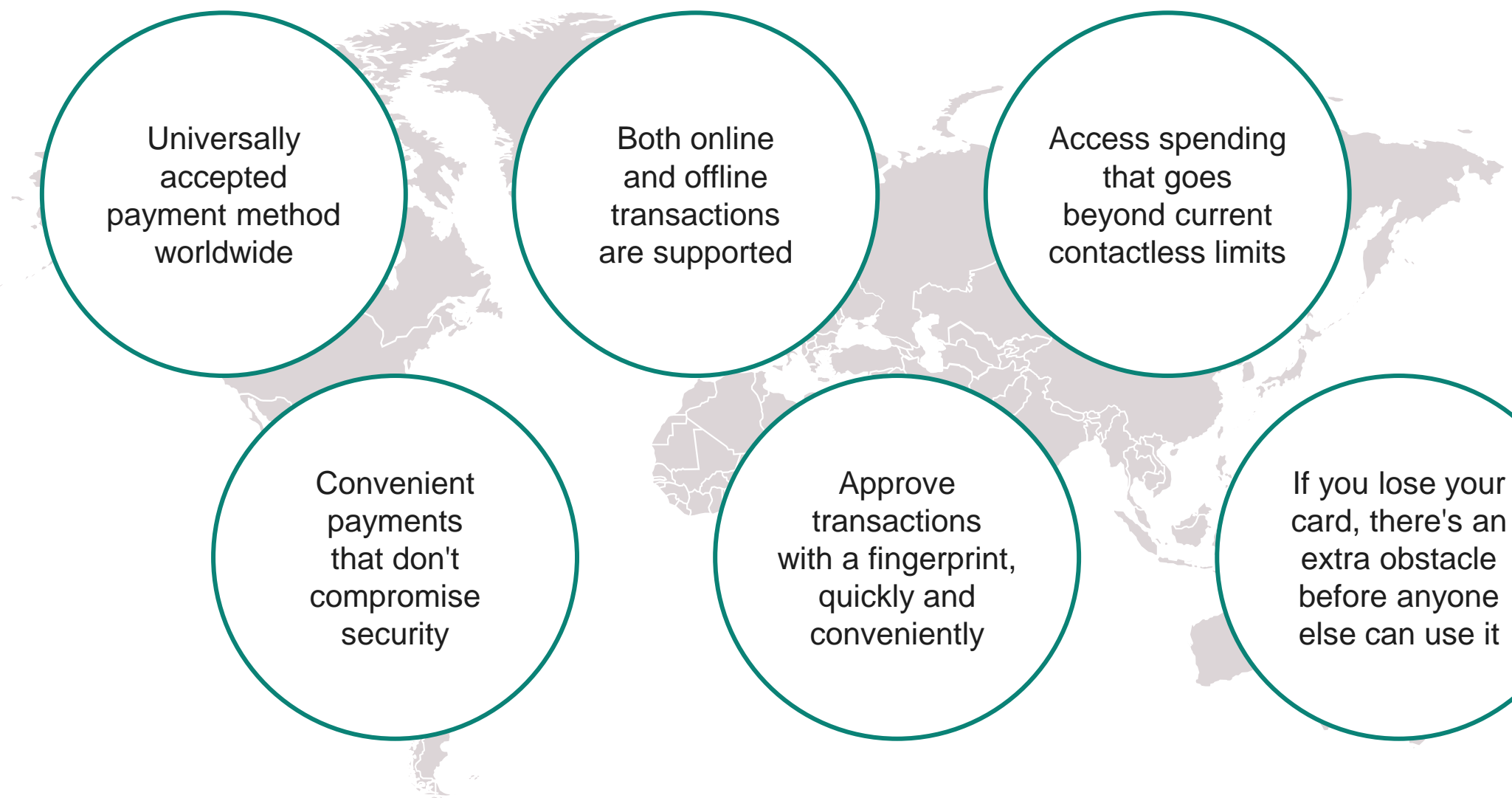


# How do biometric payment cards benefit merchants?



- 1 Use KYC (Know Your Customer) to protect your customers both in-store and online, by seamlessly merging "something you have" and "something you are"
- 2 Transform complex two-factor authentication into a single effortless action and reduce checkout abandonment
- 3 Change the game with biometric technology AND a custom designed card that creates a unique bond between you and customers

# How do biometric payment cards benefit cardholders?

A light gray world map serves as the background for the central diagram.

Universally  
accepted  
payment method  
worldwide

Both online  
and offline  
transactions  
are supported

Access spending  
that goes  
beyond current  
contactless limits

Convenient  
payments  
that don't  
compromise  
security

Approve  
transactions  
with a fingerprint,  
quickly and  
conveniently

If you lose your  
card, there's an  
extra obstacle  
before anyone  
else can use it

# Q&A Time!



