

## Go Active™: Biometric for Payment Cards

A secure component solution to ease  
biometric sensor integration into payment cards

### Position Product Paper

A new generation of contactless payment card



Biometric payment card with Fingerprints™ and STMicroelectronics



Moving towards a unified payment user experience

## IN A NUTSHELL

- Consumer is facing fragmented in-store payment User eXperience.
- Security and Fraud are still a concern for a lot of consumers.
- Cards issuers and banks need constantly to attract and retain their customers by bringing differentiated cards.

Cards will continue to anchor the market representing nearly half of the global In-store transaction volume in 2027<sup>(1)</sup>.

With the advent of digital payments, the physical payment card has turned out to be the last tangible link between a bank and its customers.

They are becoming the most visible parts of a bank's brand and are used to convey the bank's message "Your bank is the epitome of innovation, customer care, sustainability and customization". With biometric payment cards, innovation focuses on making consumers' life easier and more secure.

With contactless migration now over 85% worldwide<sup>(2)</sup>, the biometric payment card is positioned as the next step up of contactless payments with a superior value proposition.



## CLIENT NEEDS & CHALLENGES

Because contactless payment capability is now standard of modern payment devices, be it card, physical, mobile phone or wearable, the biometric payment card becomes a differentiator that banks can use to retain and attract new customers with a stronger value proposition that includes more security and a seamless payment user experience.

Indeed, by solving the inconvenience of the fragmented in-store contactless payment experience while eliminating the need for a PIN or card insertion regardless of the transaction amount, it also increases the security by using the consumer's fingerprint securely store in the secure element of his/her card. That in sum makes consumers value and be willing to pay extra for a biometric payment card<sup>(3)</sup>.

However, the biometric payment card imposes different challenges to card manufacturers and banks among them: more complex manufacturing process, costs linked to a bigger bill of materials and consumer fingerprint enrollment.

[IN Groupe](#), through SPS, its global leader brand in contactless and dual interface card manufacturing technologies, has decided to support its customers and all the ecosystem in addressing such challenges for payment market and other applications such as physical access.

(1) Worldpay The global payment report 2024

(2) Payment and Banking Card Technologies Analysis ABI Research 2024

(3) Fingerprints™ consumer research, Kantar, 2020 Base: 2,000 consumers in Australia, Canada, France, Germany, UK 'Base = those that said they want a biometric card

## SOLUTION OFFERED

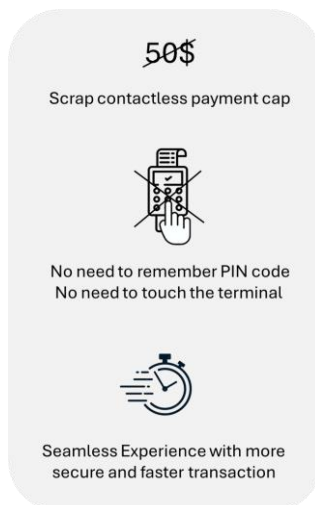
In that perspective, [Fingerprint Cards AB](#) (Fingerprints™) and [IN Groupe](#) through SPS decided to collaborate in order to develop a platform module-antenna-sensor to facilitate the manufacturing of biometric payment cards.

The solution incorporates the certified STMicroelectronics chip and the certified Fingerprints' biometric sensors, software and algorithm, offering ultra-low-power consumption and leading biometric performance;

The STPay-Topaz-Bio operating system is specially developed for biometric payment applications.

The small and thin sensors comply with standard packaging and production requirements.

The biometric sensor scans as the consumer taps his/her contactless card on the terminal and, in less than a second, the biometric data is captured, matched and payment is authenticated.



Biometrics are the only way to increase both the UX and enhanced trust in contactless payment cards.

Also integrated into our offer, technical support around card construction, milling and embedding and certification are additional key assets for the product deployment.

## KEY SUCCESS FACTORS & ROADMAP

The advantages and strengths of the solution:

- **Turnkey platform** for biometric card manufacturing with proven technologies - DUAL8 BIO SE MODULE integrating EMV STMicroelectronics chip and its STPay-Topaz-Bio operating system.
- **Sustainable** - A rPVC Inlays Antenna with a thickness 220µm to manage the contactless communication and the connection between the module and the Sensor.
- **A cost-effective solution** with one supplier for modules and antennas through SPS and one supplier for Sensors through Fingerprints™.
- **Compliance** - Conform to Card Quality Management (CQM) requirements.
- **Compatible with enrolment solutions** at home or in the branch (Card reader/ Sleeve device / Mobile phone).
- **3 experts in partnership- Fingerprints™, STMicroelectronics, IN Groupe** - Thanks to close relationships and collaborations. Full support is provided at all levels for the complete solution.
- **Support services Included** - for certification, technical support for card production with a dedicated service to make support on site & training.

Moving into the future, our next generation solution is already in development and will be integrating our inductive coupling technology into last generation STMicroelectronics chips and Fingerprints™ Biometric sensor. This product aims for a simpler embedding process for card manufacturing and will ease the production yield control. In addition, the solution will take advantage of the inductive coupling technology to offer a strong robustness in terms of reliability. The program will run in 2025 to achieve the first batch and to allow commercialization in volume in 2026.

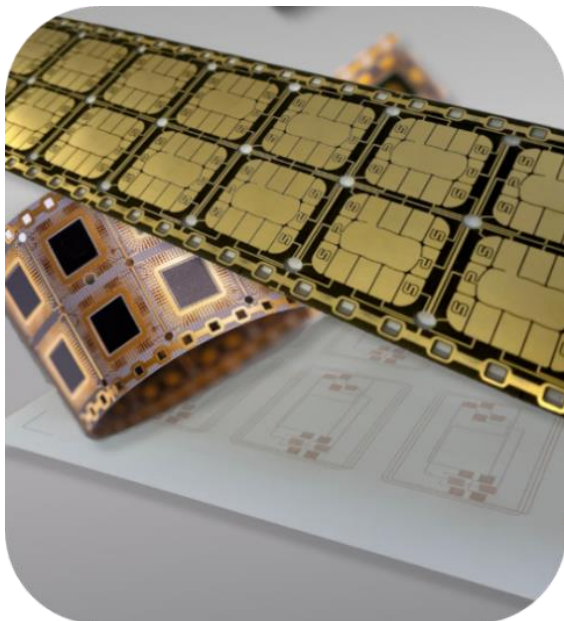
## KEY FIGURES

- ✓ 74% of global consumers have a positive attitude towards biometric technology <sup>(4)</sup>
- ✓ 84% of global consumers have used biometric authentication methods <sup>(4)</sup>
- ✓ 81% of global consumers are ready to use their fingerprint instead of PIN code <sup>(4)</sup>
- ✓ 51% would consider changing bank to get a biometric payment card <sup>(5)</sup>
- ✓ 43% are even willing to pay extra for a biometric payment card <sup>(5)</sup>

Sources :

<sup>(4)</sup> Dentsu Data Lab, encompassing 3422 people in 14 countries, 2021 & Idemia

<sup>(5)</sup> Biometrics – Fingerprints, Making Contactless Worryless, 2021



## PARTNERS' VOICE

The partnership between IN Groupe and Fingerprints will facilitate the manufacturing of biometric payment cards that incorporate Fingerprints' biometric sensors, software and algorithm, offering ultra-low-power consumption and leading biometric performance. Our collaboration with SPS brand and STMicroelectronics is supporting the global adoption of secure, convenient and high-quality biometric payment cards.

### - Fingerprints™

We are pioneering new biometric solutions to drive innovation in the banking sector. As banks evolve to meet the dynamic needs of their customers, ST is committed to enhancing security and convenience. Our partners, SPS and FPC, successfully meet this demand with new biometric cards, integrating our state-of-the-art STPay Topaz-Bio solution. This ST biometric system-on-card, certified by VISA and Mastercard, combats fraud and ensures swift, secure transactions.

### - STMicroelectronics