


FINGERPRINT CARDS AB

INTRODUCTION TO THE COMPANY



FINGERPRINTS


- 
1. Fingerprints in brief
 2. Mobile
 3. Payments
 4. Access
 5. Links to further information

A large, faint, stylized fingerprint graphic is centered in the background of the slide. It consists of concentric, wavy lines that form a circular shape, with a central core.

FINGERPRINTS IN BRIEF

Fingerprints – leading biometrics since 1997

- ⑦ Founded in 1997
- ⑦ Develops biometric systems consisting of sensors, software, algorithms and tools
- ⑦ Pioneer and market leader in fingerprint sensors for mobile phones
- ⑦ Expanding to new application areas, e.g. biometric smart cards



WE BELIEVE IN A SECURE AND
SEAMLESS UNIVERSE, WHERE YOU
ARE THE KEY TO EVERYTHING

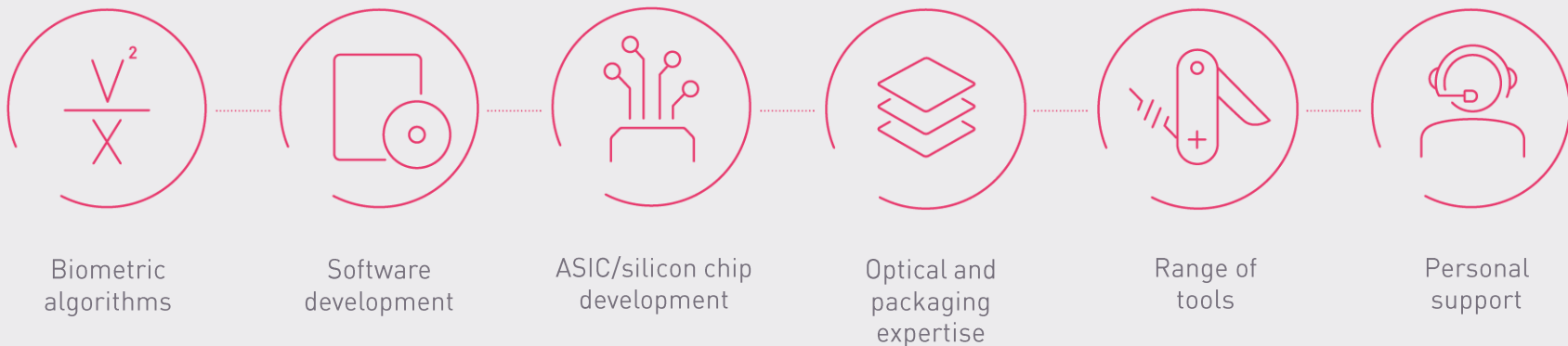
Fingerprints in numbers

- ④ SEK **1.5 billion** in revenue 2019
- ④ **>10 billion** touches daily
- ④ **7** sensors sold every second throughout the year
- ④ **420+** mobile devices launched with our solutions
- ④ **8** out of the top **10** mobile OEMs as customers
- ④ **21** out of the **21** announced dual interface biometric payment card market trials use Biometrics by Fingerprints, in addition to the first commercial launch by Cornèrbank.
- ④ **1 billion** sensors delivered (May 2019)



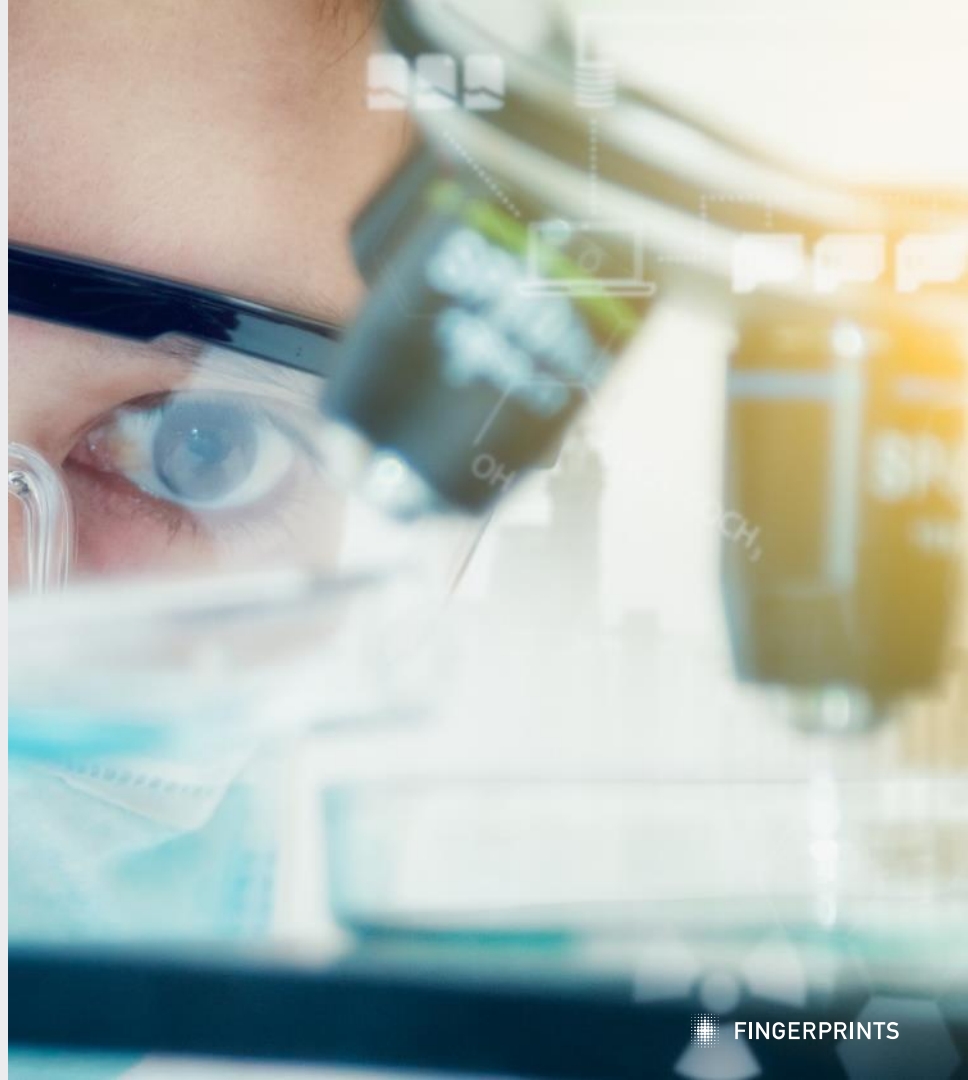
Fingerprints offers a complete solution

Software + hardware



Differentiators

- Trusted brand
- Market leader with recognized high level of quality, performance and security
- Strong sales channels and deep access to our target customers and their eco-systems
- Proven high-volume partner
- Full system competence
- Strong IP portfolio
- Independent security provider, proud of our Scandinavian heritage



Annual market potential

1.5bn units



MOBILE

1.7bn units



ACCESS²

6-8bn units



PAYMENT¹

¹ Payment devices = Payment cards, wearables, USB dongles/tokens. Potential addressable market in a few years.

² Personal access devices for physical and logical access = smart doorlocks, tap locks, access cards/fobs, remote controls, game controls, USB dongles/tokens/crypto wallets for logical access, smart suitcases, connected cars, printers, routers, smart homes /alarm panels

Fingerprints as an investment

① **Biometrics is an expanding global industry**

- ① Digitalization drives need for secure and user-friendly authentication
- ① Biometrics for smartphones is a growth industry again
- ① Increasing interest in adopting biometric solutions in other industries

② **Fingerprints has a leading market position**

- ① Market leader in capacitive fingerprint sensors for smartphones
- ① Very well positioned to capture a significant share of new, emerging global markets for biometric solutions

③ **Strong innovation capabilities**

- ① Recognized as an innovative, high-tech and entrepreneurial company that delivers solutions with a very high level of security

④ **Cost-effective and cash-generative business model**

- ① Hardware production takes place with the help of a network of external suppliers
- ① Working capital as a proportion of revenue improved significantly during the year, with a positive impact on cash flow



MOBILE

Biometrics has achieved huge success in mobile



>80% of smartphones shipped have biometrics



Fingerprint has replaced PINs and passwords as the most popular way to authenticate on mobile

82%

of consumers that have access to biometrics on their smartphone use it

USED FOR



Unlock phone



Mobile payments



Access & protect apps



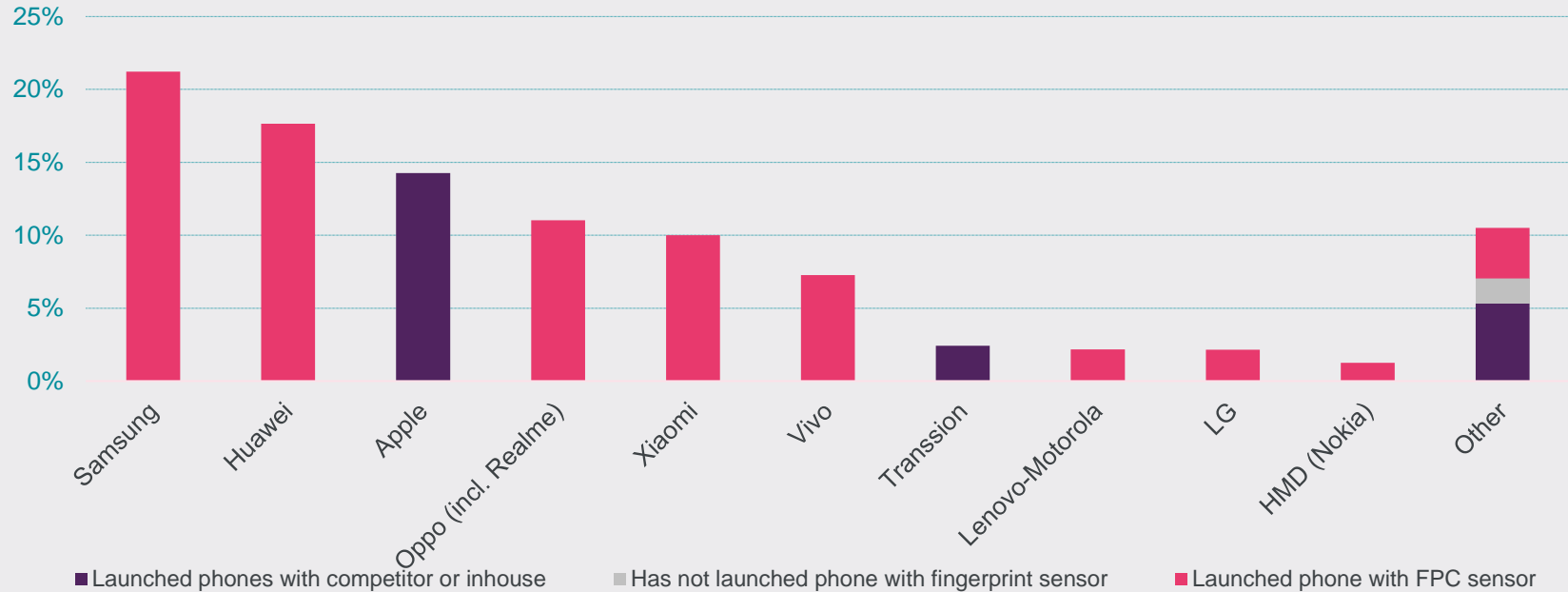
Fingerprints' technology is in

430+

smartphone & tablet models

OEM Customer Overview

Global Smartphone Vendor Market Share %, Q1 2020



Source: Strategy Analytics data, FPC estimates

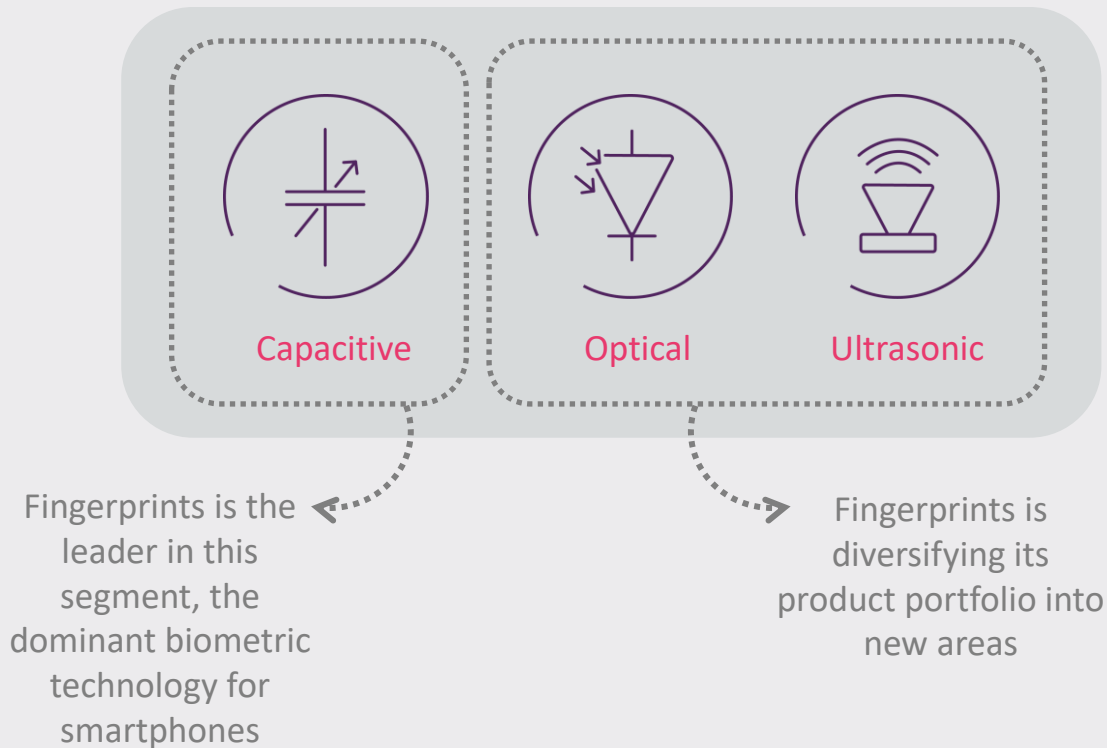
Mobile: capitalize on our strong position

Activities and progress

- Market leader in capacitive fingerprint sensors
- FPC1511 in Samsung Galaxy A10s and A20s. Our technology is now used by 8 out of the top 10 smartphone manufacturers
- Product cost out programs continue as planned – FPC1520 sensor launched in Q3 2019
- FPC1540, an ultra-slim capacitive sensor for side-mounting, enables latest borderless and foldable smartphone designs
- Ambition to enter the growing in-display market
- Touchless 2.0 platform launched



Expanding fingerprint sensing portfolio



Fingerprints Touchless 2.0

➡ [Demo video](#)

- The world's first solution that combines iris and face recognition technology designed for mass-market consumer devices
- It strikes an optimal balance between security, convenience and cost
- Beneficial for multiple use cases including mobile devices, payments, automotive and access control

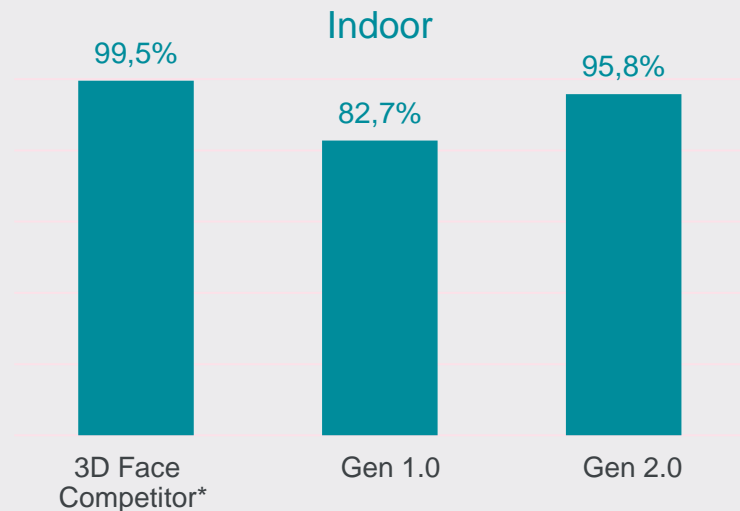


Touchless 2.0 performance comparison

30% better FRR than Touchless 1.0 and 3 x better FRR when wearing glasses!

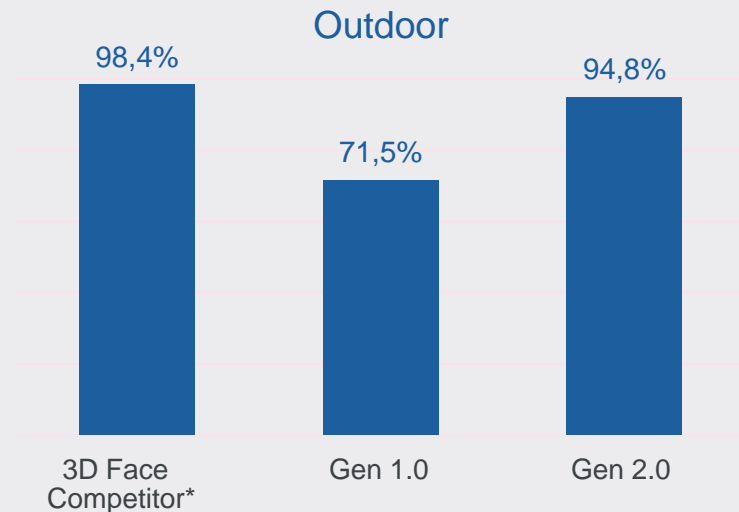
➤ Average unlock rate at indoor testing (%)

- 25cm to 50cm distance
- Sitting, standing and walking
- With and without glasses



➤ Average unlock rate at outdoor testing (%)

- 25cm to 50cm distance
- Sitting, standing and walking
- With and without glasses



* Leading competitor, three times higher cost than Fingerprints' solution

A large, stylized fingerprint graphic in a lighter shade of purple, centered on the slide. The ridges of the fingerprint are clearly visible, forming a circular pattern.

PAYMENTS

Market potential for personal payment devices



SMARTPHONES



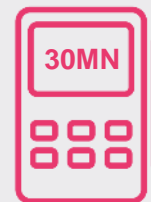
PAYMENT CARDS



PAYMENT WEARABLES & FOBs



USB TOKENS*

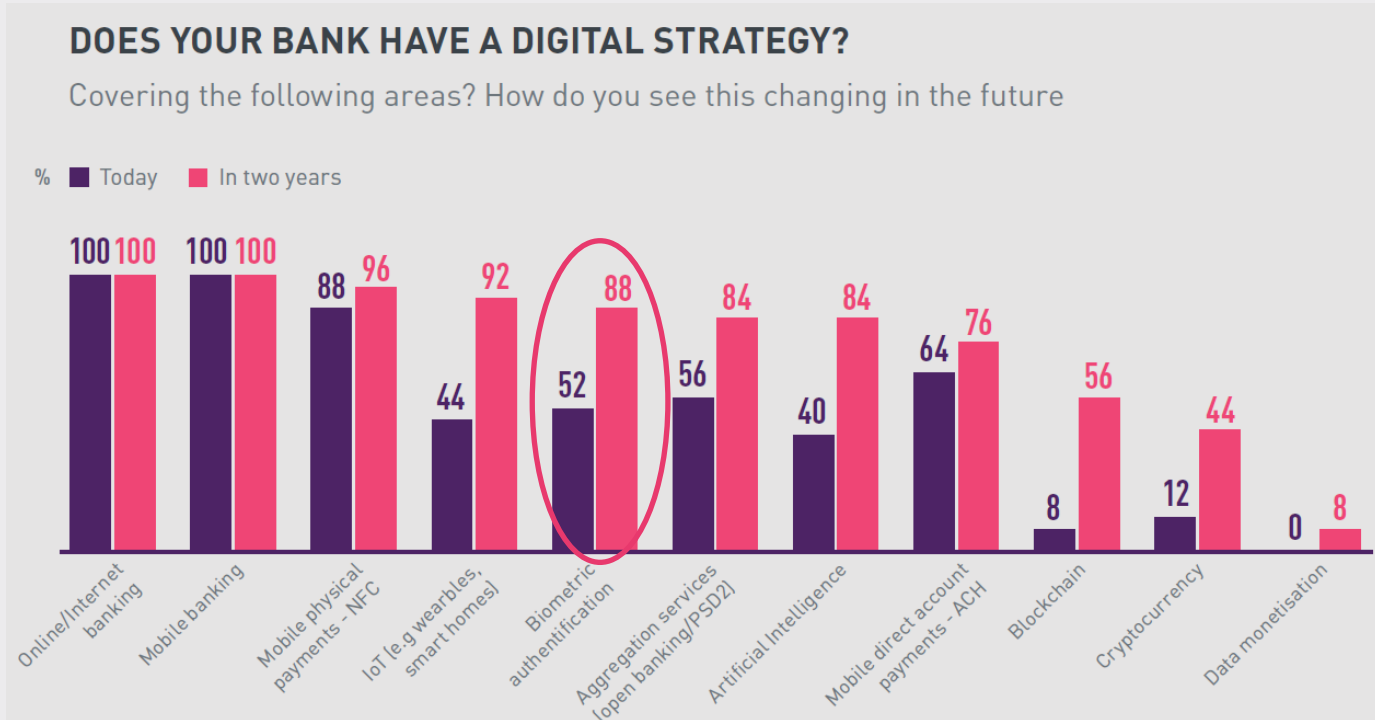


POS

Fingerprints™ estimates on shipments based on various industry sources

* Some of these tokens can be used for cryptocurrency, as well as authentication of online payment but more logical access

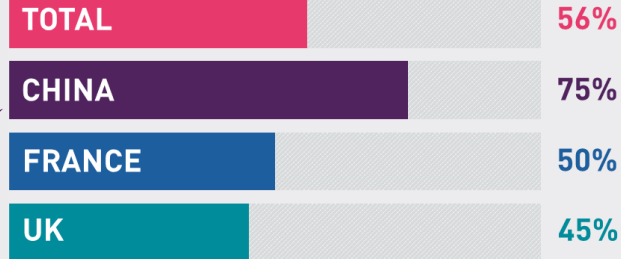
Biometric authentication is an area of increasing focus for banks



High consumer preference for biometric payment cards



PREFER HAVING A **PAYMENT CARD WITH A BIOMETRIC SENSOR** AND USING MY FINGERPRINT TO IDENTIFY MYSELF, RATHER THAN USING A PIN CODE



Consumers in China want biometric cards!
Despite 56% using mobile payments

BENEFITS FOR ALL



BANKS

- Increased card usage
- Less card present fraud
- Increase consumer trust
- Innovation to address new customers and retain old
- ISO compliant solution
- Reduced false chargebacks



RETAILERS

- Increased revenues
- More customer throughput
- No payment cap with contactless
- Less waiting in line = happier customers & less dropouts



CONSUMERS

- Secure contactless payments, no more skimming
- Speed
- Contactless for all purchases, no more cap
- No need to remember PIN code
- Cool new technology

Payments: Secure position as leading supplier of biometric solutions for smartcards

Activities and progress

- ⌋ Our technology used in all contactless market pilots to date
- ⌋ First commercial card launched with Corner Bank in Switzerland November 2019
- ⌋ Unique T-Shape sensor module
- ⌋ Biometric software platform launched 2019
- ⌋ Cooperating with all top 3 card manufacturers
- ⌋ Secured world's first volume order in 2019
- ⌋ Supports partner MeReal in their latest order of biometric cards
- ⌋ In contactless payment device being piloted by JCB, set to launch 2020



Biometric Smartcards – Fingerprints' strengths


- ① Strong experience in high-volume production
- ① Robust hardware and stable software
- ① Offering biometric performance in a low computing power environment
- ① Ultra-low power consumption
- ① Strong collaboration with smartcard industry leaders

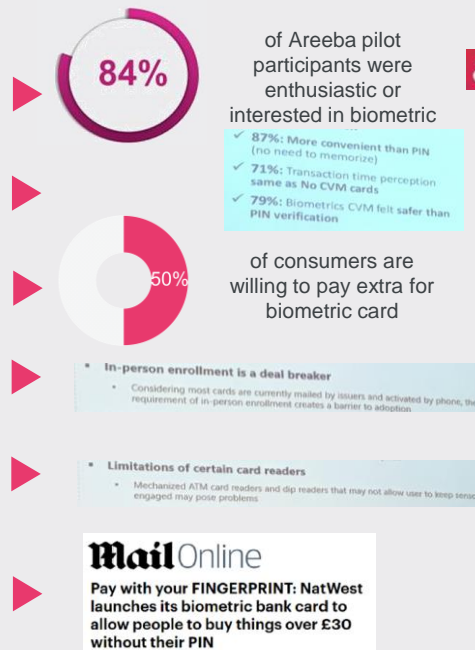


21 of 21
CONTACTLESS
BIOMETRIC
PAYMENT CARD
PILOTS
+
1 out of 1
COMMERCIAL
LAUNCHES



Positive feedback from market trials

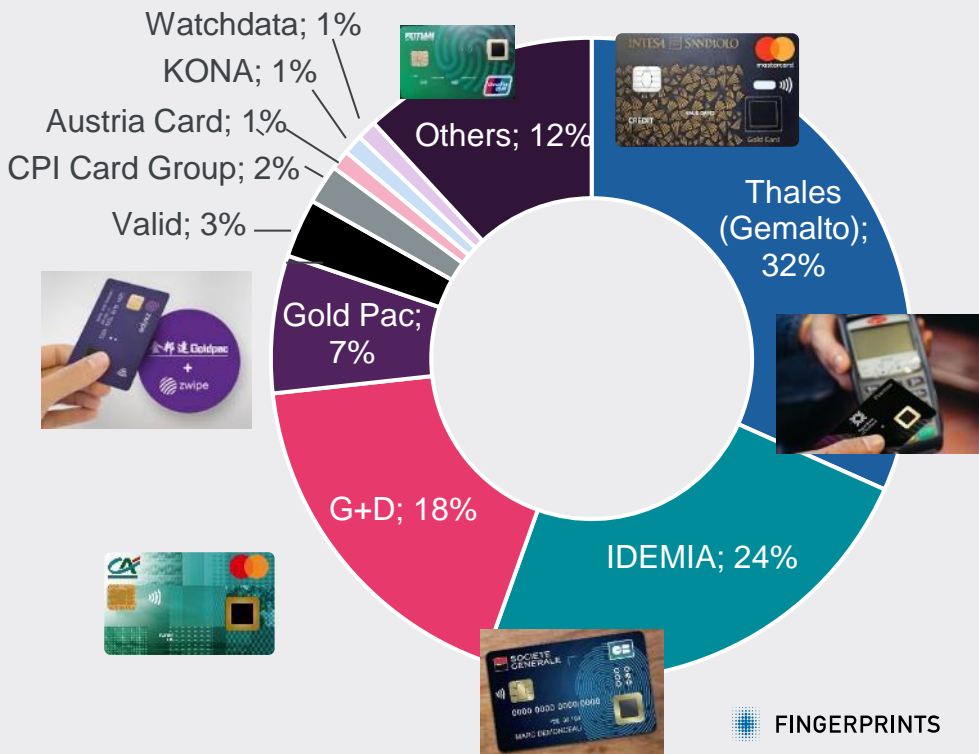
- ① High customer engagement and interest
- ① High user satisfaction: Easy to use, fast, secure, look & feel, “wow”
- ① Willingness to pay
- ① Home enrollment preferred - various ways to enroll exist, e.g. Thales sleeve) 
- ① Limited number of POS terminals have old software releases, requiring upgrade that will be fixed by schemes.
- ① Payment cap can be removed



Fingerprints engagement model

- ① Direct engagement with Tier 1 and Manufacturers with full capabilities
- ② Addressed through card enablers (SE and/or Inlay/Prelam partners) for Tier 2 or those lacking full capabilities
- ③ Engaging with most top players, who are performing/planning pilots with top banks
- ④ Also engaging with new, innovative FinTech payment companies

PAYMENT SMART CARD MARKET SHARES BY VENDOR 2018



The biometrics payment card eco-system



Biometric Payment Card Ecosystem

(Entities Fingerprints engage)

SECURE ELEMENTS

- ✓ HED
- ✓ Infineon
- ✓ NXP
- ✓ STMicroelectronics

INLAY MANUFACTURERS

- ✓ AdvanId
- ✓ CardLab
- ✓ InterActive Cards
- ✓ Jinco
- ✓ Linxens
- ✓ TOPPAN
- ✓ YesItIs
- ✓ YMJ / CET
- ✓ Xcore

PAYMENT NETWORKS

- ✓ American Express
- ✓ Carte Bancaire
- ✓ China Unionpay
- ✓ Discover
- ✓ JCB
- ✓ Mastercard
- ✓ PayPal
- ✓ RuPay
- ✓ VISA

STANDARDIZATION & CERTIFICATION

- ✓ CUP (BTC)
- ✓ Mastercard, Visa & EMVCo (incl 3rd party labs)
- ✓ Eurosmart

CARD MANUFACTURERS

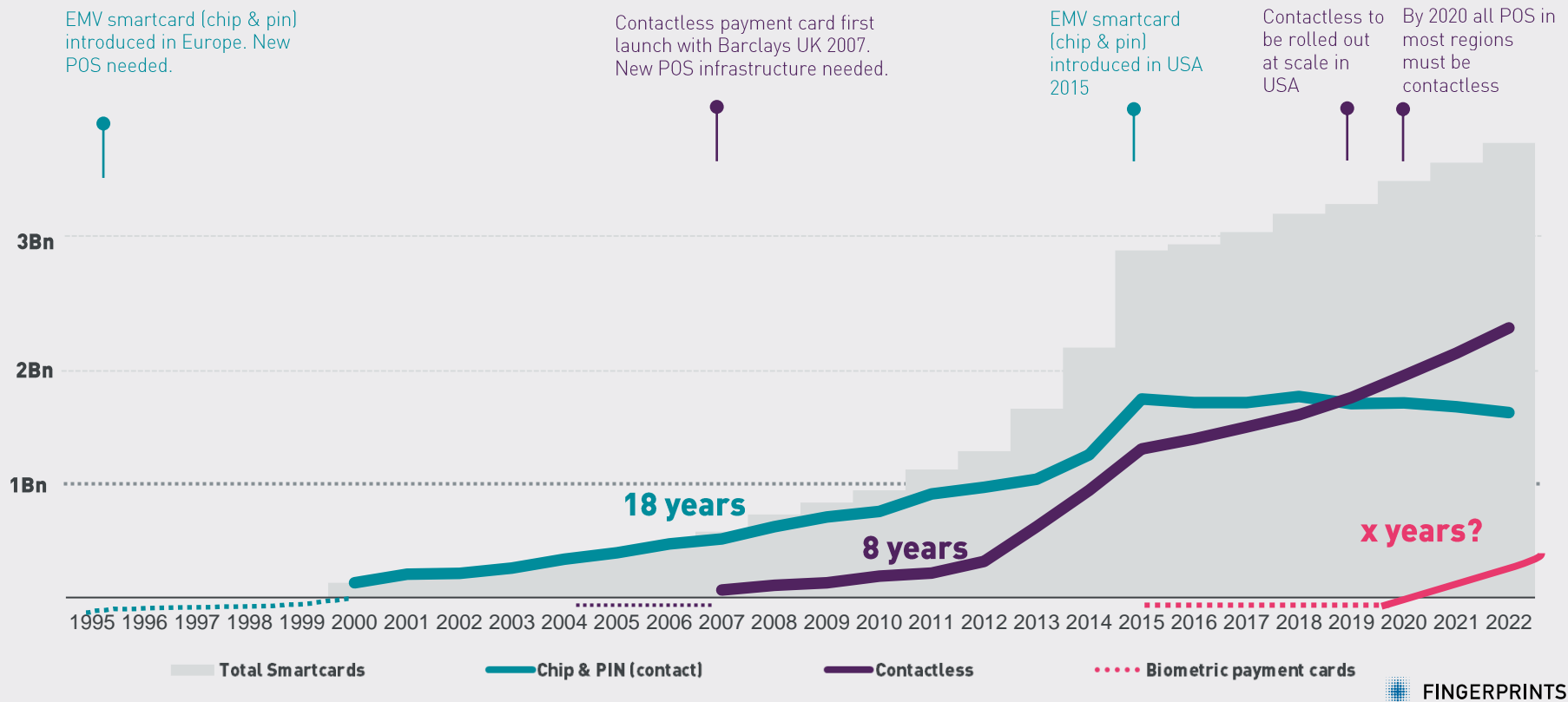
- | | |
|---------------|-----------|
| ✓ ABCorp | ✓ Idemia |
| ✓ AustriaCard | ✓ ISRA |
| ✓ BioSmart | ✓ Kona-I |
| ✓ CompuSecure | ✓ MCT |
| ✓ CPI | ✓ M-Tech |
| ✓ DNP | ✓ SELP |
| ✓ Feitian | ✓ TOPPAN |
| ✓ Futurecard | ✓ Thales |
| ✓ G+D | ✓ Tianyu |
| ✓ GoldPac | ✓ Toshiba |
| ✓ Hengbao | ✓ Valid |

BANKS / CARD ISSUERS

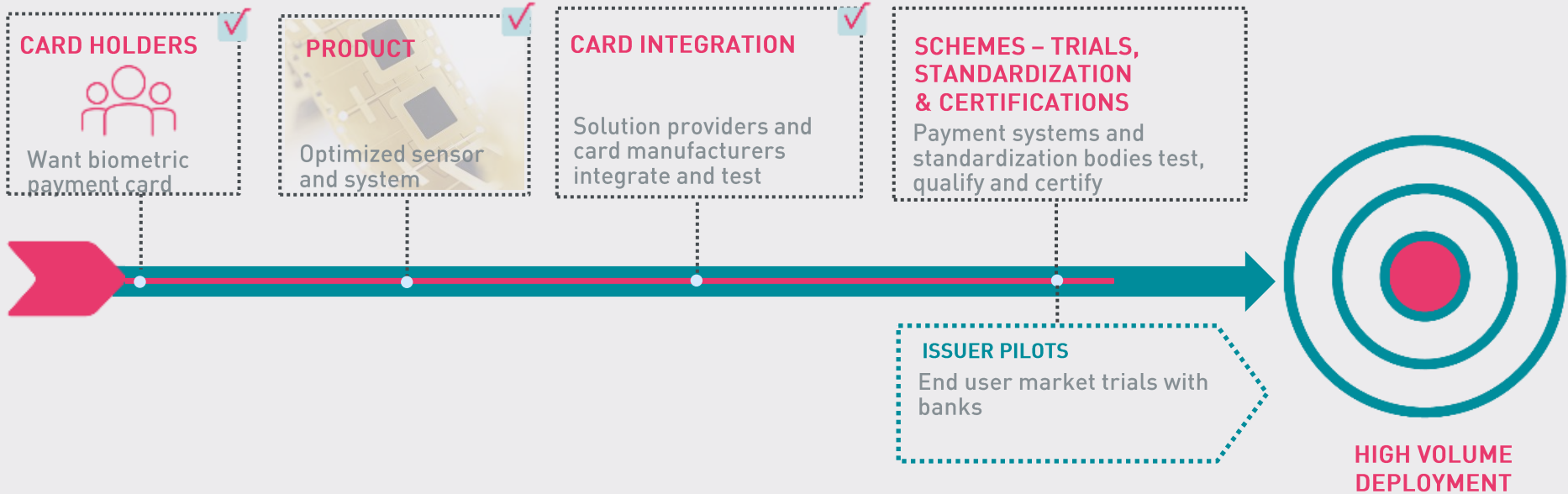
- | | |
|---------------------------|--------------------------|
| ✓ Airplus | ✓ Intesa |
| ✓ AMEX | Sanpaolo |
| ✓ Areeba | ✓ JCB |
| ✓ Bank of Cyprus | ✓ Mountain |
| ✓ Barclays | America Credit |
| ✓ BNP | Union |
| ✓ China Construction Bank | ✓ Natwest |
| ✓ Cornér bank | ✓ Royal Bank of Scotland |
| ✓ Crédit Agricole | ✓ Société Générale |
| ✓ Credit Mutuel | ✓ FINGERPRINTS |
| ✓ ICBC | |



Smart payment card technology adoption



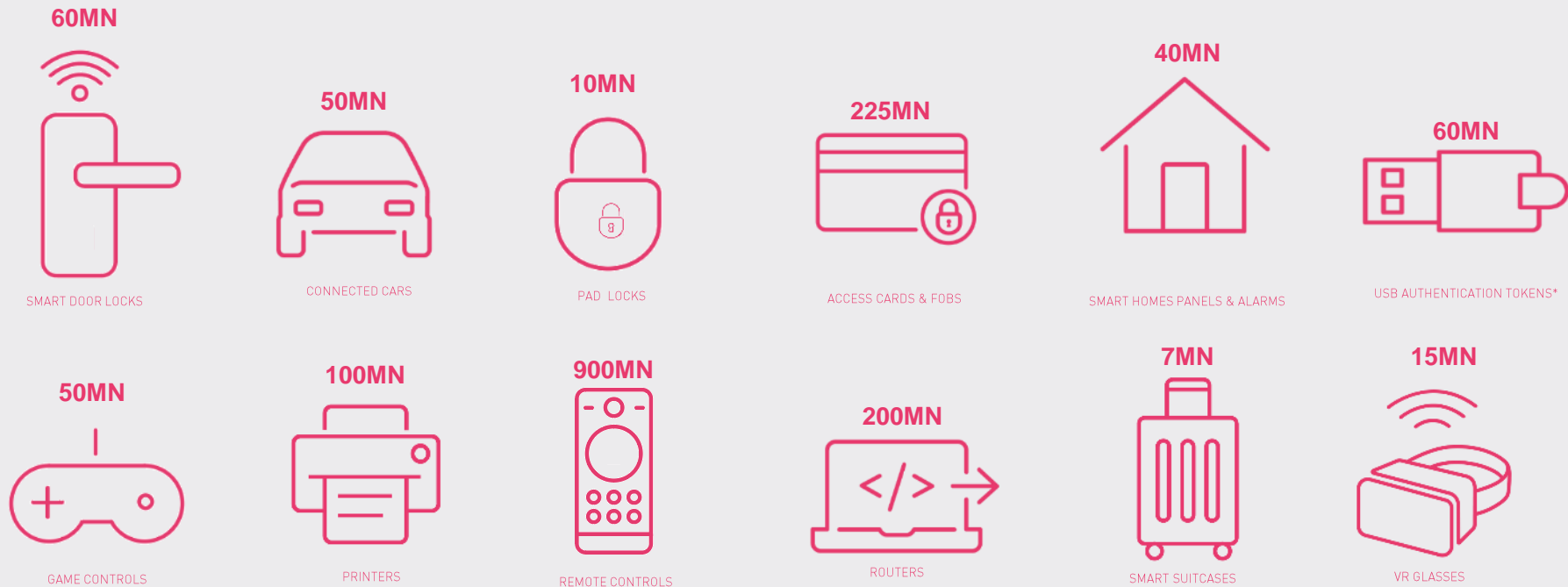
WHERE ARE WE NOW?





ACCESS

Market potential for personal Access devices



Fingerprints™ estimates on shipments based on various industry sources

* Used for logical access and access to e.g. cryptocurrency



**IN 100+ DIFFERENT ACCESS
APPLICATIONS AND DEVICES**

Access: Grow in prioritized segments in fragmented market

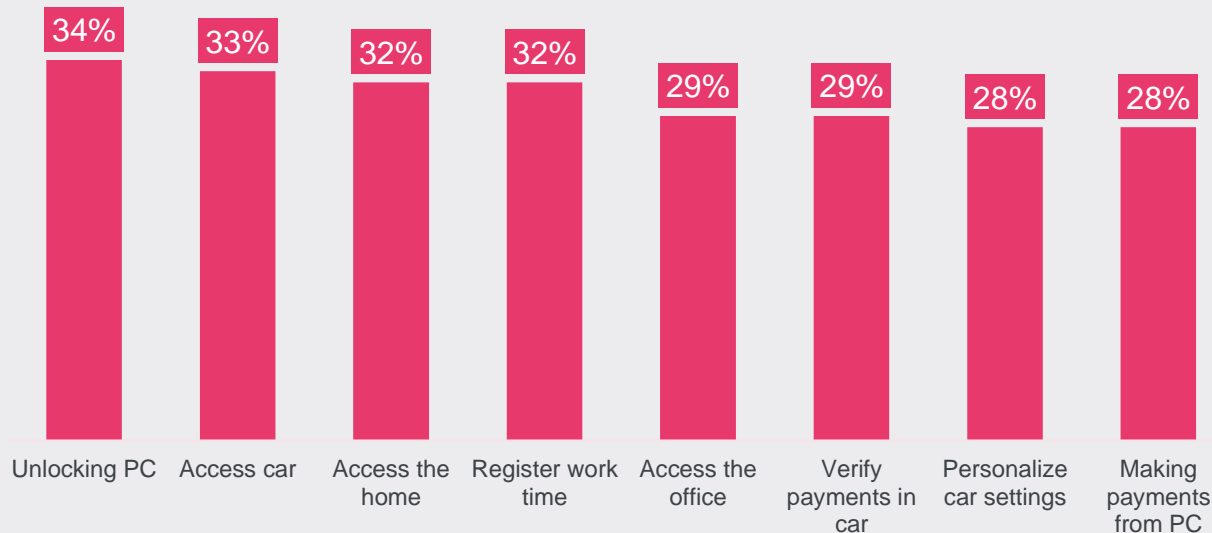
Activities and progress

- ① Agreement with Gentex for Touchless authentication in rearview mirrors
- ① Launched fingerprint sensor for automotive sector
- ① Fingerprints' Touchless platform used in Indian Aadhaar payment terminals
- ① Strategic cooperation in biometric door locks with China Synodata and Jianfeng
- ① Order for 100,000 T-Shape sensors, to be integrated in a product used for safe online access and secure offline data storage
- ① Launched FPC BM-Lite, plug & play module for access control market



CONSUMERS WANT BIOMETRICS *TO ACCESS THEIR THINGS!*

CONVENIENT - NO NEED TO BRING KEY
OR REMEMBER PIN OR PASSWORD
HIGHER SECURITY
MODERN



From what you know today, for what type of bank cardholders would you provide fingerprint recognition cards

SOURCE Fingerprints™ in collaboration with Kantar TNS. Base: 4,000 online consumers in China, India, UK, USA.

#1 BIOMETRICS

Links to further information

- ⑤ Financial reports and presentations: <https://www.fingerprints.com/investors/reports-presentations/>
- ⑤ Press releases: <https://www.fingerprints.com/newsroom/press-releases/>
- ⑤ News items: <https://www.fingerprints.com/newsroom/news-stories/>
- ⑤ Blog: <https://www.fingerprints.com/blog/>
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