

1ST QUARTER 2019 PRESENTATION

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STRONG DRIVERS FOR BIOMETRIC PAYMENT CARD ADOPTION

Security

- Fingerprint offer mitigation against card present fraud
- 19% of the value of card fraud are from transactions at POS terminals¹

Convenience

- Merchants want to deliver a better in-store experience
- 98% of UK consumers prefer contactless cards because they are faster²

Commercial

- Banks want to differentiate; gain new customers and share of wallet
- Improved consumer confident in security leads to greater spending

1. "Fifth report on card fraud, September 2018" ECB

2. British Small Business, "Half of customers would walk away if cash is the only payment option," August 2017

Consumers are eager to pay with biometrics



86% interested in using biometrics to verify identity or to make payments.



4 out of 5 are interested in being offered biometric payment authentication by their bank.



70% perceive biometric authentication as easier than password authentication.

SOURCE: Research conducted by AYTM Market Research, September 12-19, 2017, among 1,000 U.S. adult consumers who use at least one credit card, debit card, and/or mobile pay.

VISA

Biometric Card Test Results



9 out of 10
People thought the Biometric Card was easy to use²



86%
Of respondents felt confident using their Biometric Card³

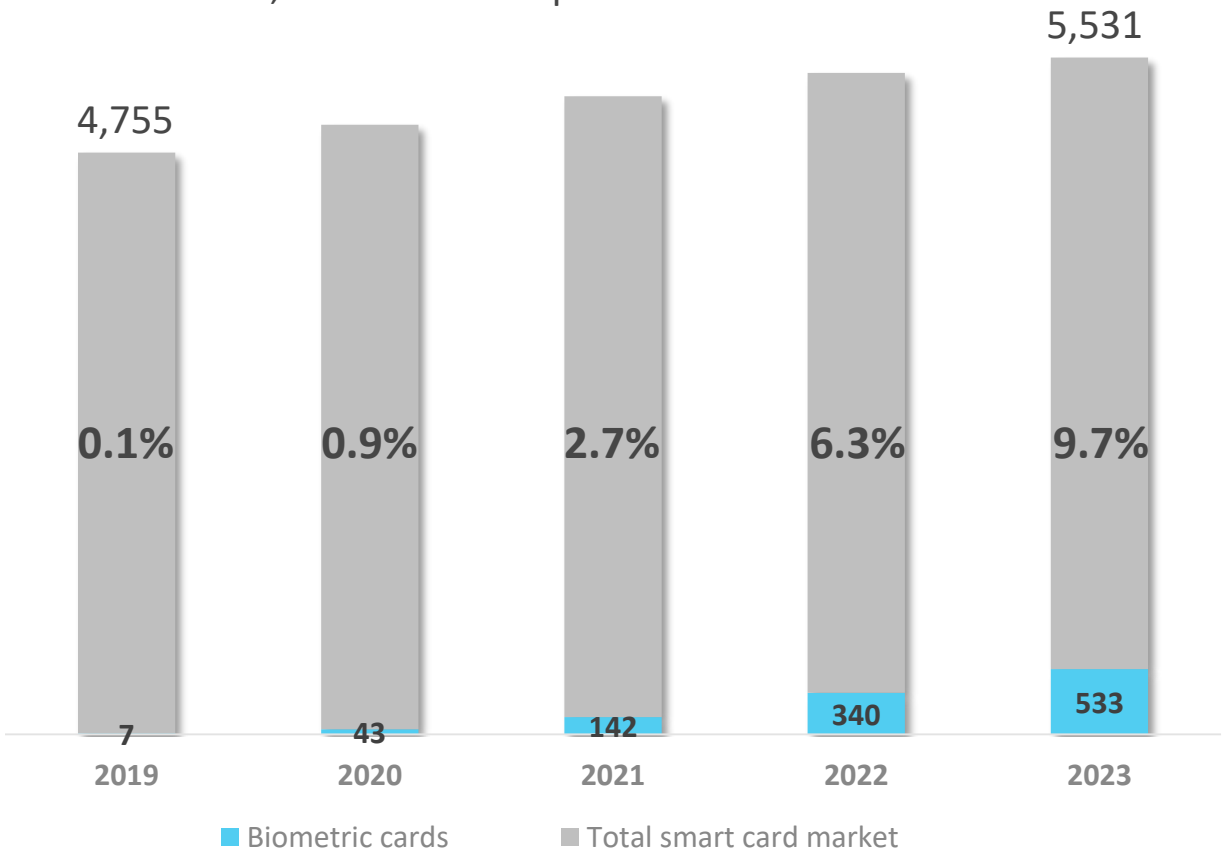
“....I like things simple and easy to use & absolutely hate remembering PIN #s!”¹



HUGE MARKET POTENTIAL

Total number of cards shipped

Units million; Biometric card penetration rate

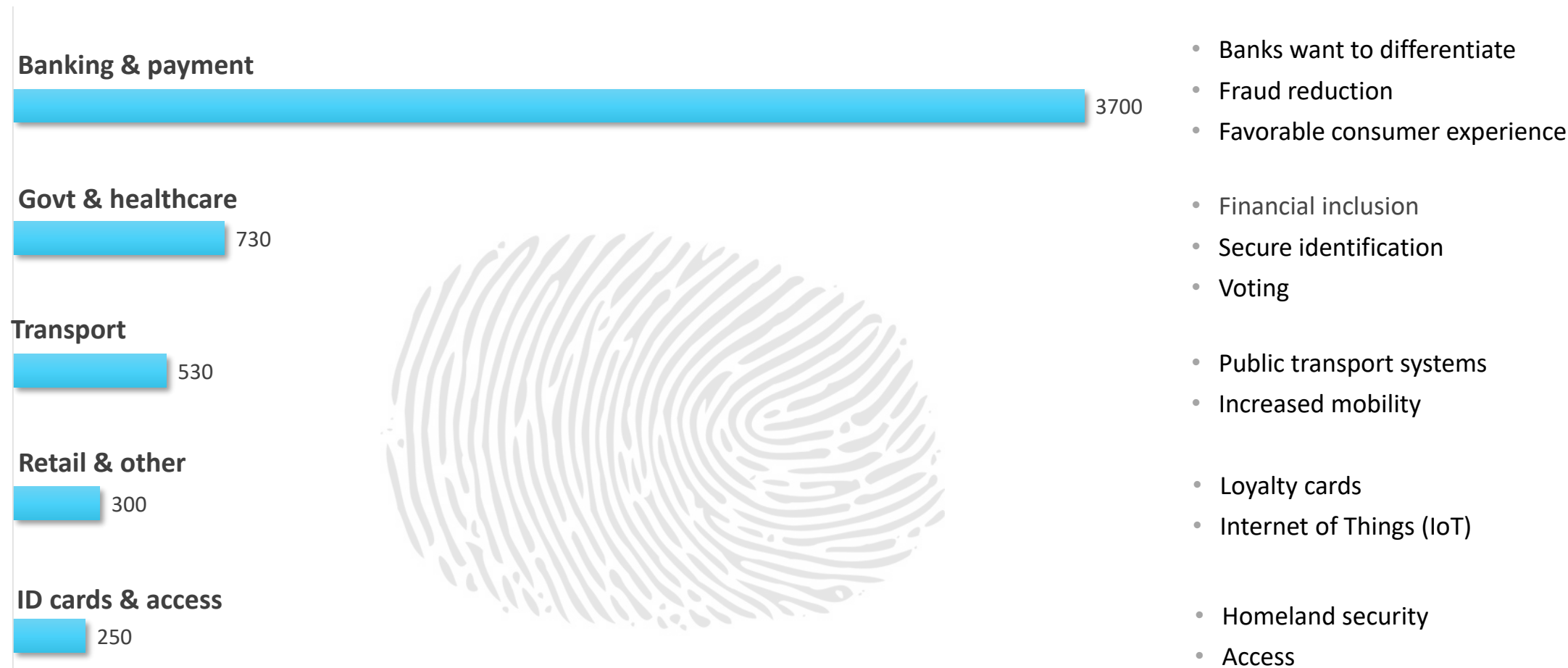


- Underlying growth in multiple card verticals is healthy
- Drivers of growth:
 - Well-used and understood technology
 - Convenient for end-user
 - Infrastructure already in place
 - Fast authentication speeds

Source: ABI Research Smart Card Technologies; Goode Intelligence; IDEX estimates

MULTIPLE CARD VERTICALS WITH STRONG VALUE PROPOSITION FOR BIOMETRICS

Expected # of smart cards shipped in 2023 by vertical (millions)



Source: ABI Research Smart Card Technologies

BIOMETRIC TECHNOLOGY ENABLING FINANCIAL INCLUSION

Government & healthcare

- Financial inclusion
- Homeland security
- Patient records



“By simplifying a typical purchase transaction, we can demonstrate that this technology works for the benefit of the people who need it the most and ensure that their disbursements are received securely”

Jorge Noguera, president, Mexico and Central America, Mastercard

IDEX sensors enabling greater financial inclusion in Mexico

- Mastercard and Edenred announce the first test of biometric card technology for state benefits programs in Mexico
- Edenred payment cards, featuring an IDEX sensor, provides an additional layer of security to conveniently verify the cardholder’s identity for in-store purchases
- Allows issuers to leverage the biometric match data in order to increase their approval rates and help reduce the potential of card-present fraud
- Benefits program providers by getting greater insight into user spending



IDEX RECEIVES LANDMARK HIGH-VOLUME ORDER IN LOGIC ACCESS CONTROL VERTICAL

ID cards & access

- Secure identification
- Fraud prevention
- Physical & logical access



“People ranked security as the highest priority, over convenience and privacy, for logging in to the majority of applications, particularly when it comes to money-related apps.”

IBM Security; “Future of Identity Study” 2017

Largest customer commitment for IDEX

- Major contract win with a leading global provider of IT hardware to the financial services industry
- Multi-million dollar, multi-year commitment for IDEX sensors
- Joint collaboration with a security thought-leader to drive next generation solutions

IDEX is working in partnership with card integrators to develop other secure access solutions

- Pilots are underway using IDEX sensors

PUBLICLY SHOWCASED DUAL-INTERFACE BIOMETRIC CARDS WITH IDEX SENSORS



Feitian card showcased at the Secure Technology Alliance Payments Summit



Feitian card showcased at RSA Conference



XH Smart Tech demoing IDEX dual-interface card at The Mobile World Congress in Barcelona



Exelsecu biometric card



Hengbao dual-interface card demonstrated at the 2nd Digital China Summit

GROWING OPPORTUNITIES IN THE ECOSYSTEM

Smart card manufacturers



Secure Element (SE)



- IDEX is engaged with the major smart card manufacturers
- Leading payment schemes demonstrating dual-interface cards
- Actively developing additional partnerships across the ecosystem
- Smart card manufacturers rely on trusted SE suppliers; the SE must be compatible with the biometric sensor

Payment schemes



STRONG PULL FROM BANKS TO INTRODUCE BIOMETRIC CARDS

Banking & Payment

- Credit cards
- Debit cards
- Pre-paid cards



Pay with your FINGERPRINT: NatWest launches its biometric bank card to allow people to buy things over £30 without their PIN

- Customers will use their fingerprint to confirm payments over £30
- Is Britain's first fingerprint debit card and is designed to thwart fraudsters
- It is hoped the new system will provide more security and greater convenience

By JOE PINKSTONE FOR MAILONLINE 

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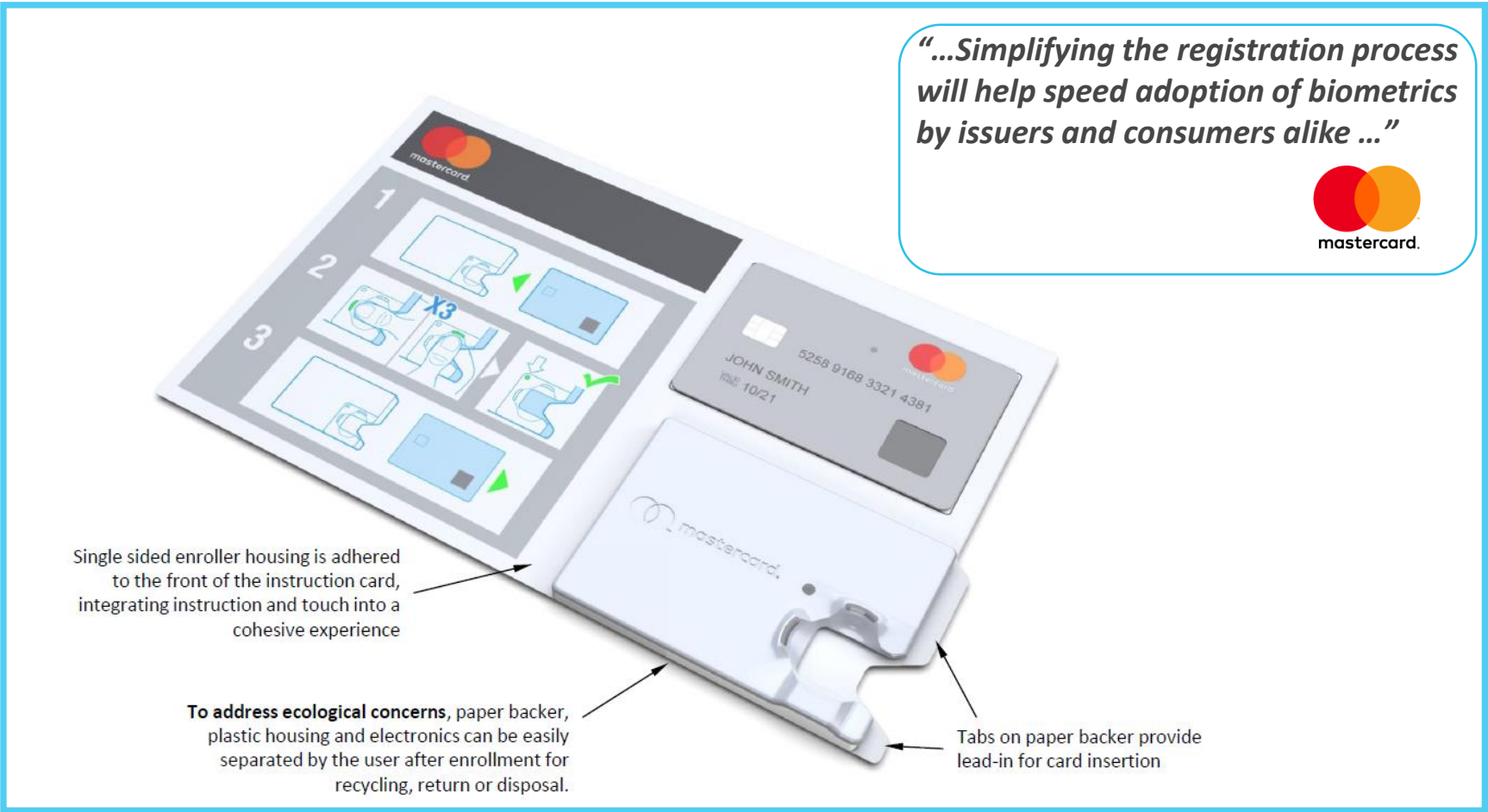
Recent UK example of pilot deployment



ENABLING THE MARKET WITH PATENTED ENROLLMENT SOLUTION

Traditional card enrollment is a complex process...

...IDEX has foundational patents on this revolutionary concept



MANUFACTURING BIOMETRIC CARDS IS A NEW CHALLENGE FOR THE TRADITIONAL SMART CARD INDUSTRY...

Mass manufacturing

- Current smart cards have no imbedded circuits; card integrators use high temperature/high pressure mass manufacturing techniques
- Biometric smart cards require embedded circuitry

The challenge:

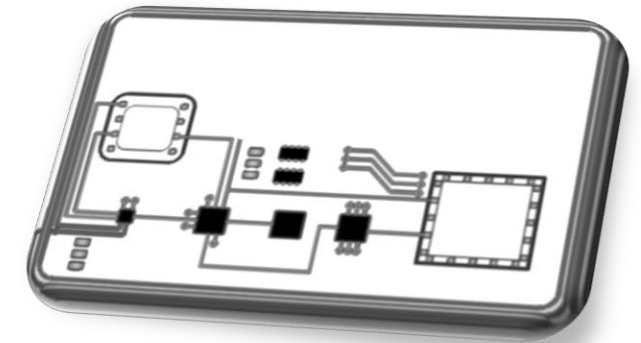
- Biometric smart cards are complex; require specialist expertise
- Current high temperature/high pressure mass manufacturing techniques can negatively impact the biometric circuitry

Certification

- Process for certifying current smart cards is well established
- Process for certifying biometric smart cards is not well established

The challenge:

- Payment schemes need to define the certification process for Biometric smart cards
- Testing houses need to be established



"It is the most complex product we have done for a banking card. You have lots of components inside, lots of connections, and all of it must fit in the ISO format of the banking card, which is very challenging."

Fred Martinez, Director of Biometrics, Gemalto

...AND IDEX IS HELPING TO OVERCOME THESE COMPLEXITIES

Mass manufacturing

IDEX is uniquely positioned to accelerate card integrators' ramp to high volume

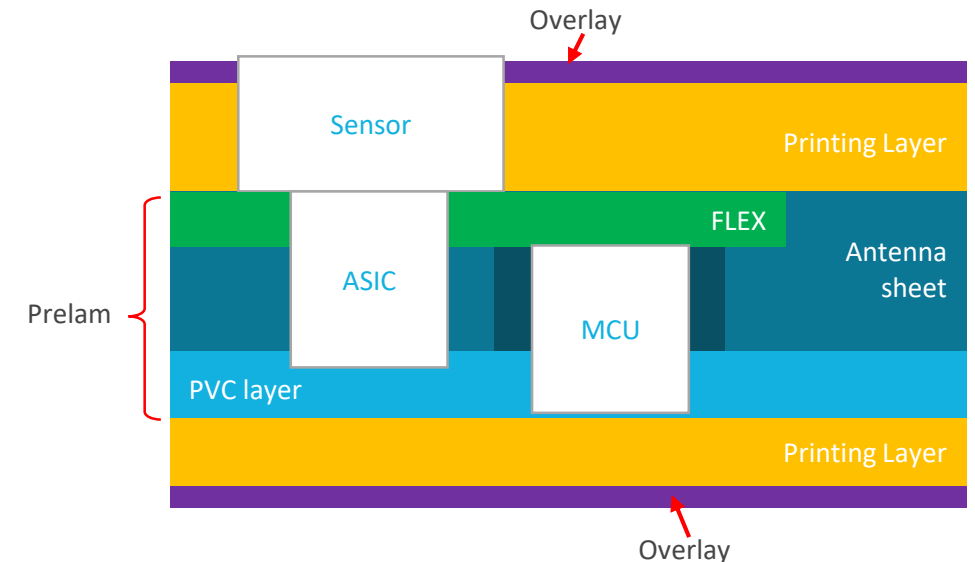
- Off-the-shelf reference design
- Full solution know-how to ensure compatibility between components
- Manufacturing and advanced materials expertise

Certification

IDEX has a long standing and close relationship with Mastercard

- Payment schemes (Mastercard/VISA/CUP) are defining specifications
- IDEX's contact-based card has been certified
- IDEX's dual-interface technology is ready for certification
- Collaboration with Mastercard has given IDEX unique insights into the certification process

A typical biometric card stack



A PRODUCT ROADMAP TO MARKET LEADERSHIP

Objectives

1. **Significantly reduced cost:** architecture and leverage display technology
2. **Increased value in sensor:** consolidate smart card elements into biometric ASIC
3. **Enhanced security:** encryption, match on secure element

2019

Current biometric solution

- *ASIC with improved performance*
- *Incremental product cost reduction*

2020

Next generation solution

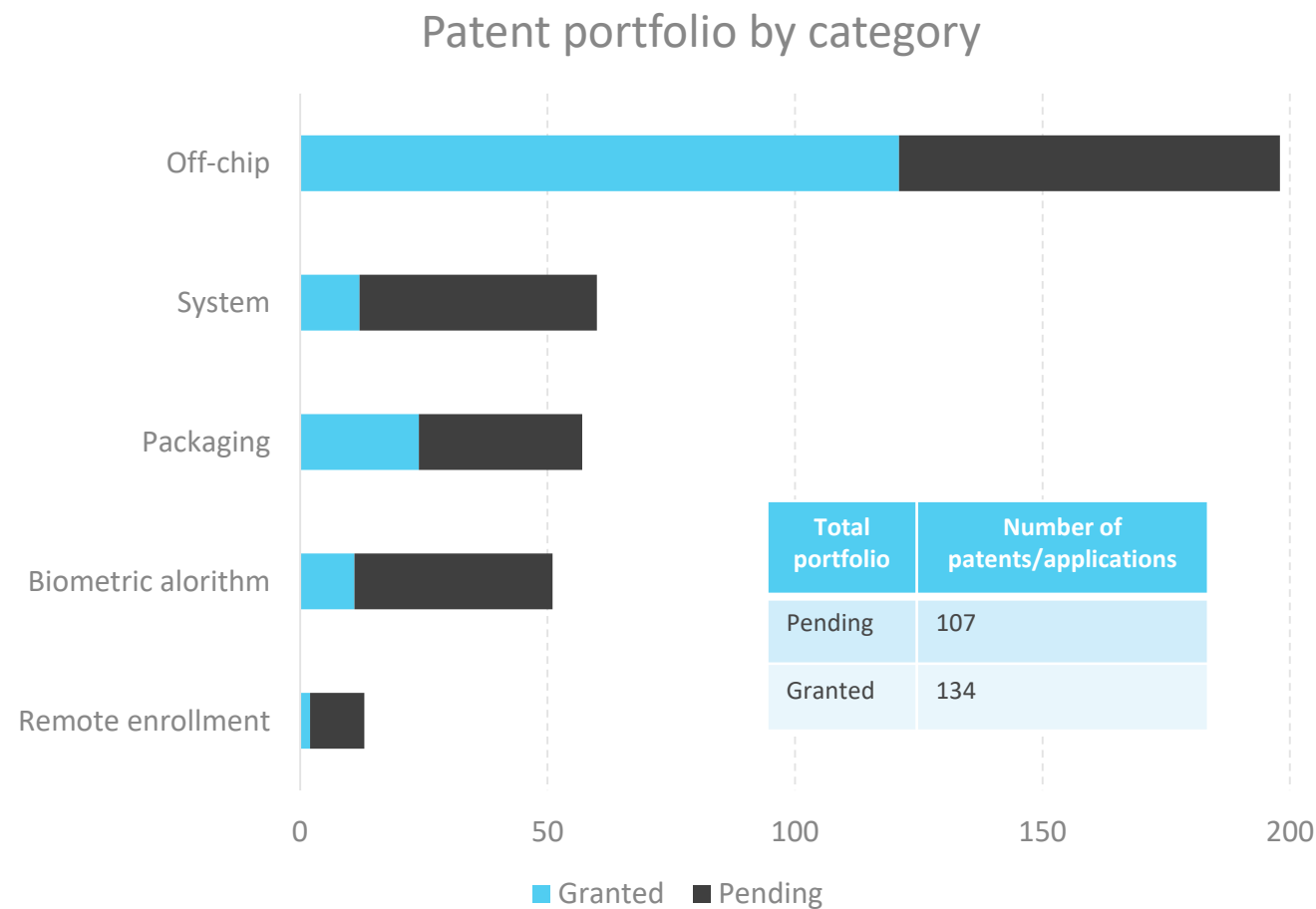
- *Two-chip biometric cards*
- *Power management and biometric MCU integrated into the sensor*
- *Improved security and performance*
- *Removing card components and complexity*

2021+

Enhanced secure element solution

- *One-chip biometric cards*
- *Step change physical security enhancement for cards*
- *Sensor with display substrates*

GROWING BREADTH OF INNOVATION



- Growing patent portfolio reflects increasing innovation capability at IDEX
- Quality of patents over quantity
- Patents beyond simple biometric sensors
- Working in collaboration with multiple customers allows IDEX to refine and innovate
- Increasing systems and packaging expertise to help overcome complex problems
- **Patents that will help the evolution of the biometric smart card market**

SUMMARY AND OUTLOOK

Q1 score card

- ✓ • Further evolution of the biometric smart card ecosystem; ongoing investments by major players in biometric solutions
 - (✓) • Pilots by several issuers using IDEX's dual-interface sensors
 - ✓ • New customers in multiple verticals
 - ✓ • Develop strategic partners in the smart card ecosystem
- On track** • Confident in dual-interface 'certification' and volume delivery by mid-2019

Outlook

- Continued strong interest in biometric solutions across multiple verticals
- Increased number of dual-interface pilots using IDEX's sensors
- New customers in multiple verticals
- License agreements for remote enroll



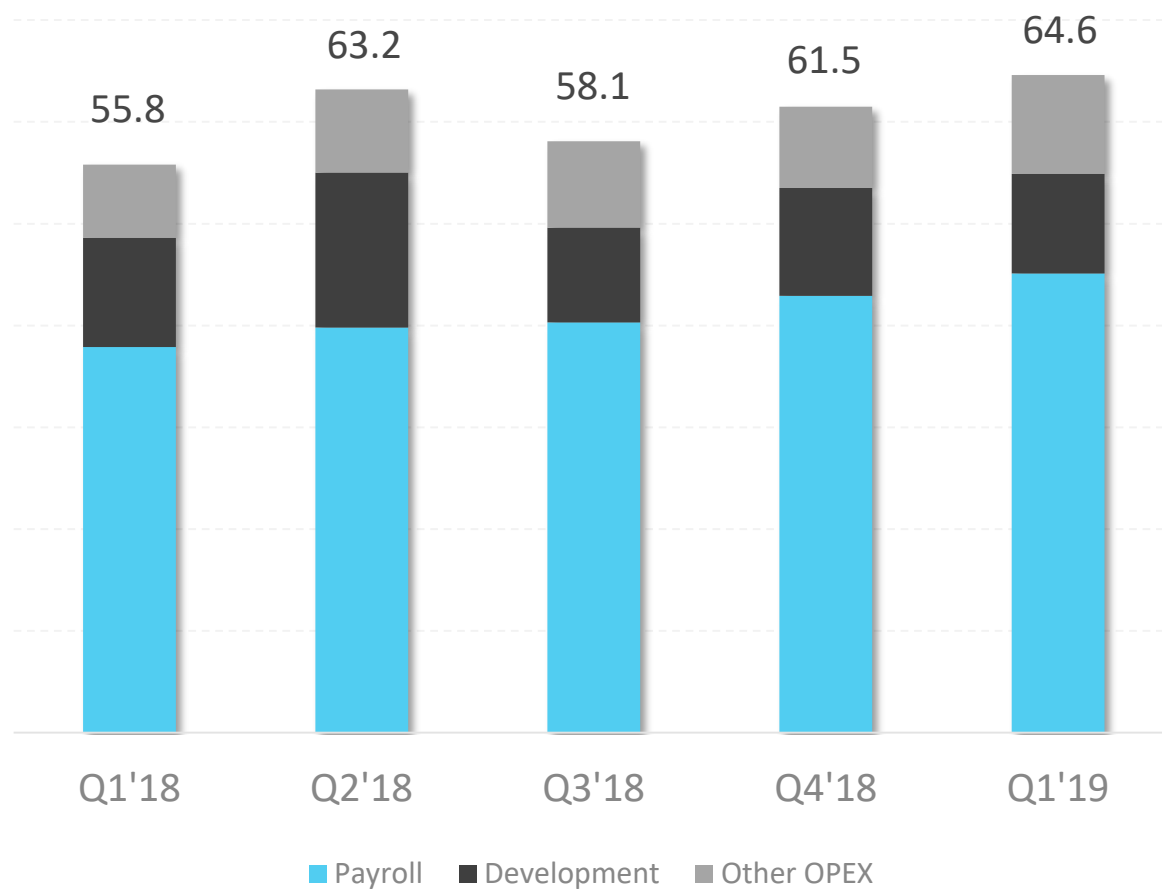
KEY FINANCIALS

Henrik Knudtzon, CFO



STABLE OPEX

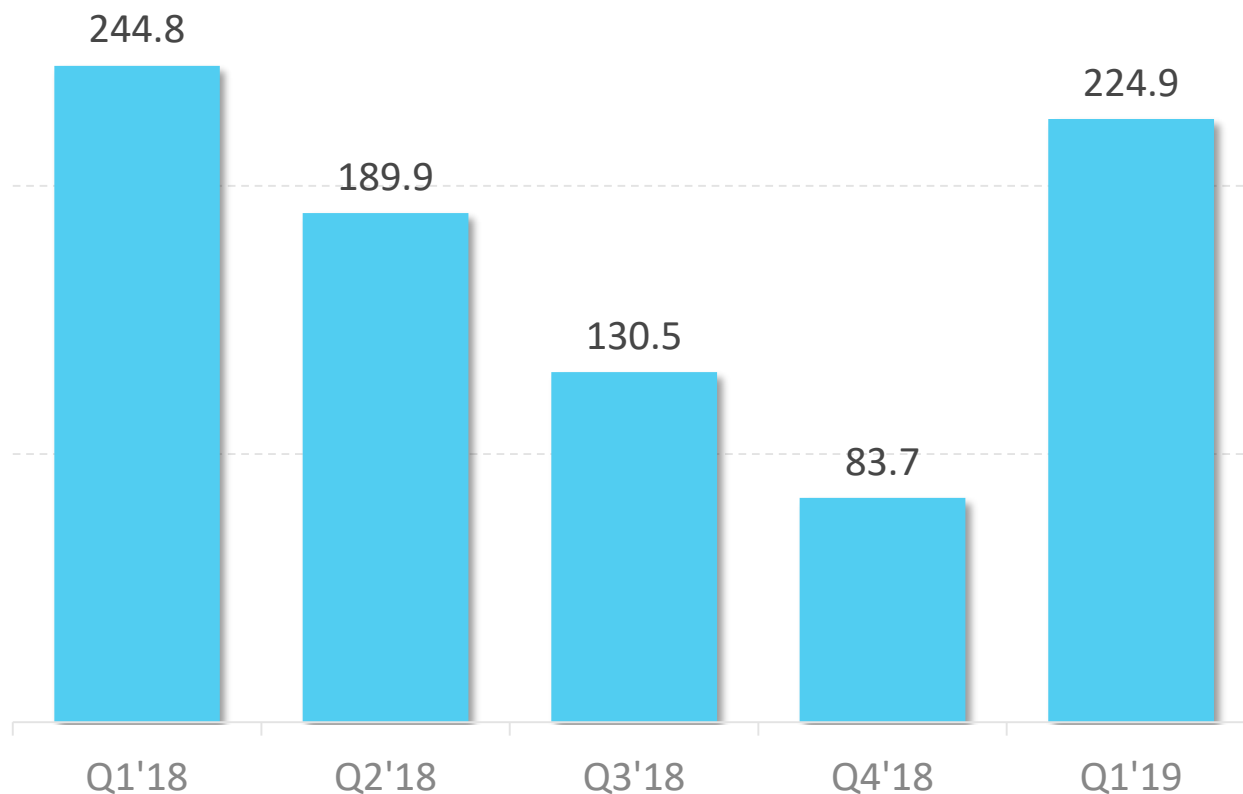
OPEX
NOK million



- Revenues from new recently announced customer with high gross margin Q1'19
- Q1'19 OPEX excl. share based remuneration of NOKm 57.8; similar to previous quarter
- OPEX levels expected to be slightly reduced going forward in 2019
 - Stable organization size expected
 - Development spend and other OPEX expected to be reduced

ROBUST CASH BALANCE

Cash balance
NOK million



- Cash position expected to take IDEX to profitability
- Estimated break even at low-double-digit million units shipped
- Stable quarterly cost level expected for 2019
- No financial debt

QUESTIONS

