

# FINGERPRINT CARDS COMPANY PRESENTATION

NORDEA, MARCH 9 2017



FINGERPRINTS

# Fingerprint Cards – the company in brief

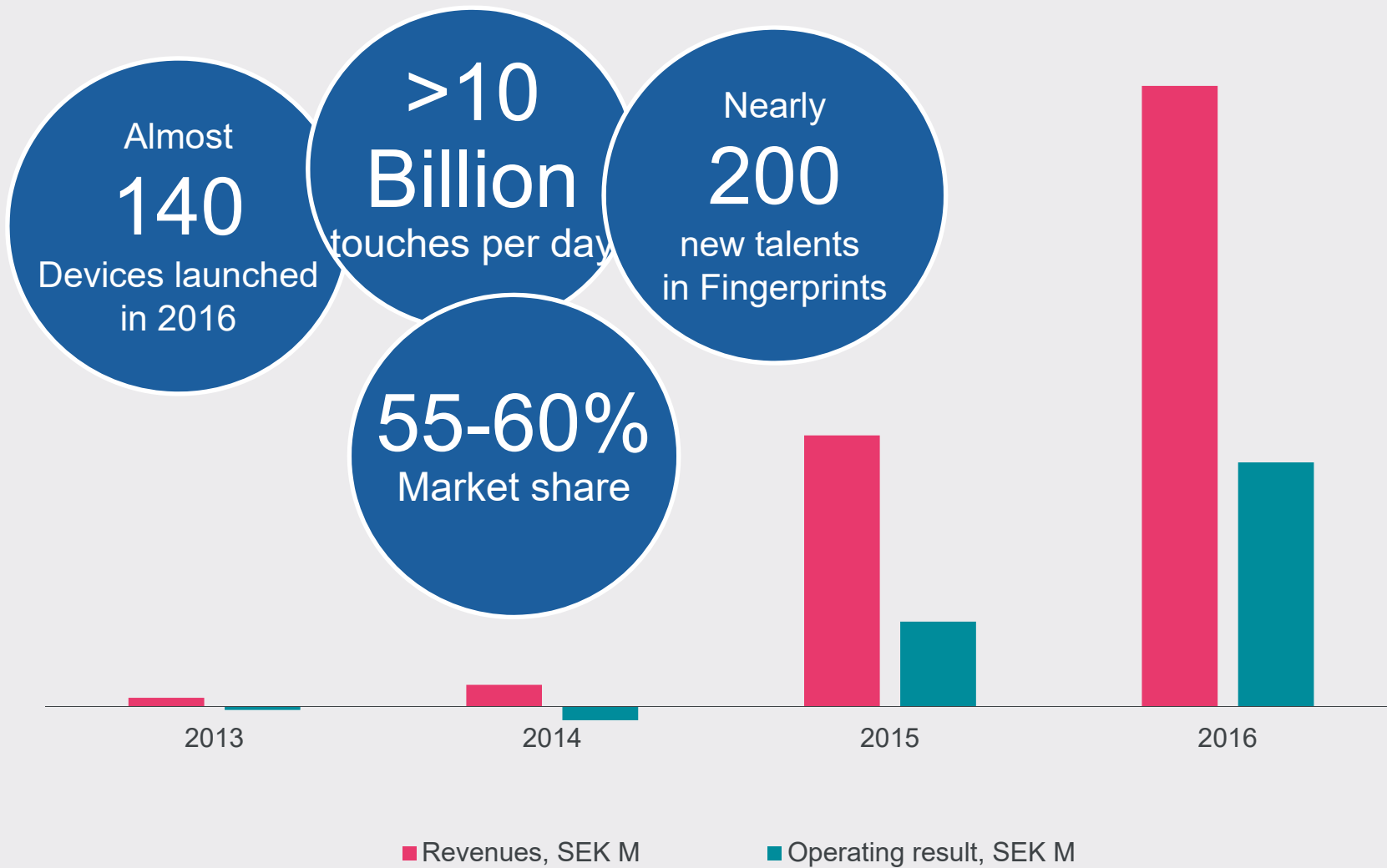
- Growing and highly profitable
- Founded 1997 in Gothenburg, Sweden
- Public company listed on NASDAQ OMX
- +400 employees
  - HQ in Gothenburg, R&D in Sweden and Denmark
  - Subsidiaries in China, South Korea, Taiwan, US
- Financial highlights 2016 – 129% revenue growth
  - Revenues : 6,638 MSEK (2,900)
  - Gross Margin : 48% (43)
  - Operating margin : 39% (31)

**Our core business** – advanced biometric system solutions, both HW and SW

**Market position** – global market leader

**Key focus areas** – smartphones, tablets, PCs, smartcards, IoT, automotive

## 2016 at a glance



# Solid Q4 2016 results

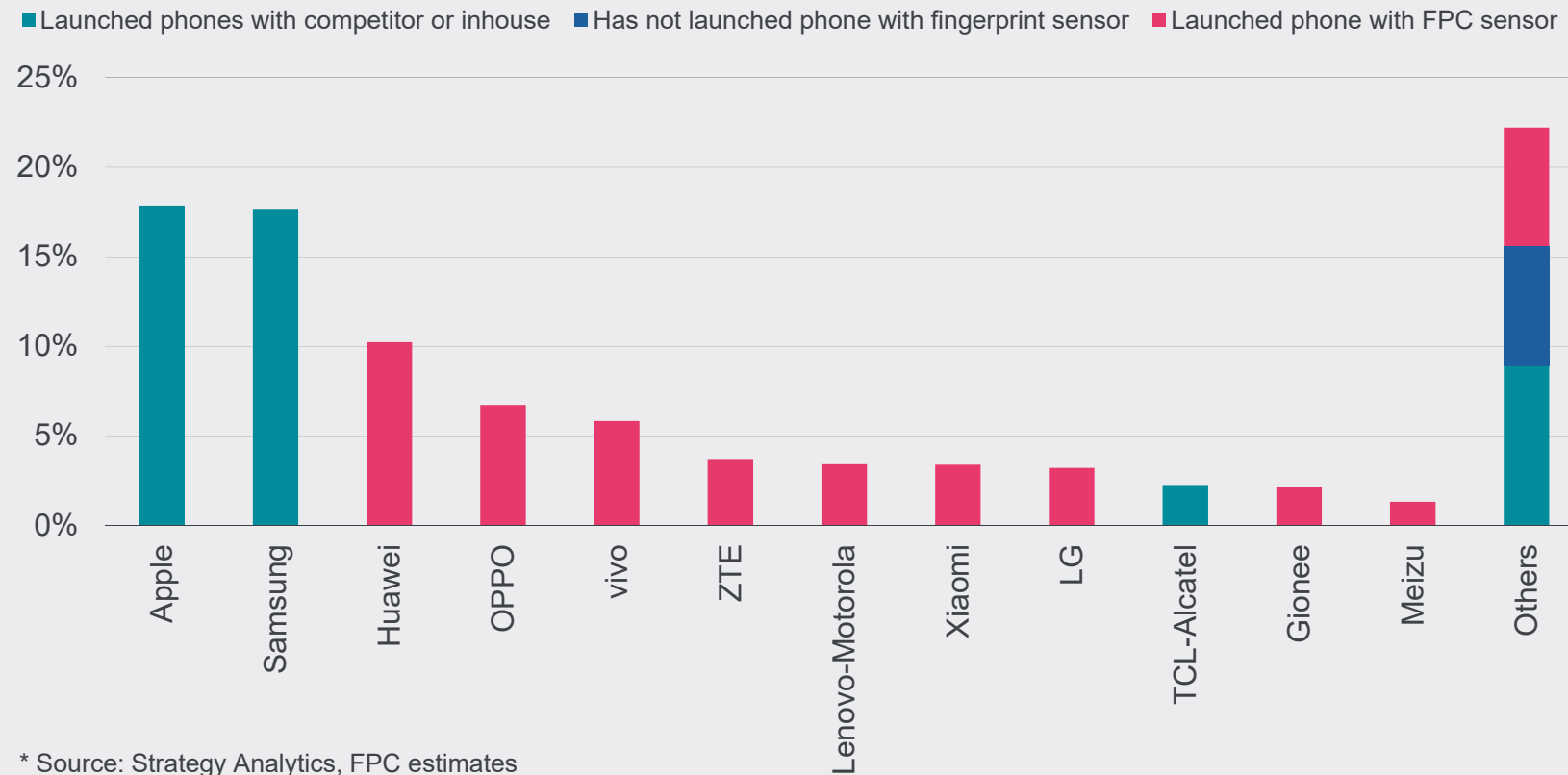


Revenues	Margins & profitability	Highlights
<ul style="list-style-type: none"><li>➤ <b>Revenues:</b> MSEK 1 619 (1 352), an increase of 20% year over year</li></ul>	<ul style="list-style-type: none"><li>➤ <b>Gross profit:</b> MSEK 715 (628)</li><li>➤ <b>Gross margin:</b> 44% (46%)</li><li>➤ <b>Operating profit:</b> MSEK 548 (518)</li><li>➤ <b>Operating margin:</b> 34% (38%)</li><li>➤ <b>EPS:</b> SEK 1,35 (1,28) before dilution</li></ul>	<ul style="list-style-type: none"><li>➤ 32 mobile devices with Fingerprints' sensors launched</li><li>➤ Huawei 9 with FPC1268 under glass</li><li>➤ Launch of Samsung PC Notebook 9 with FPC1025</li></ul>

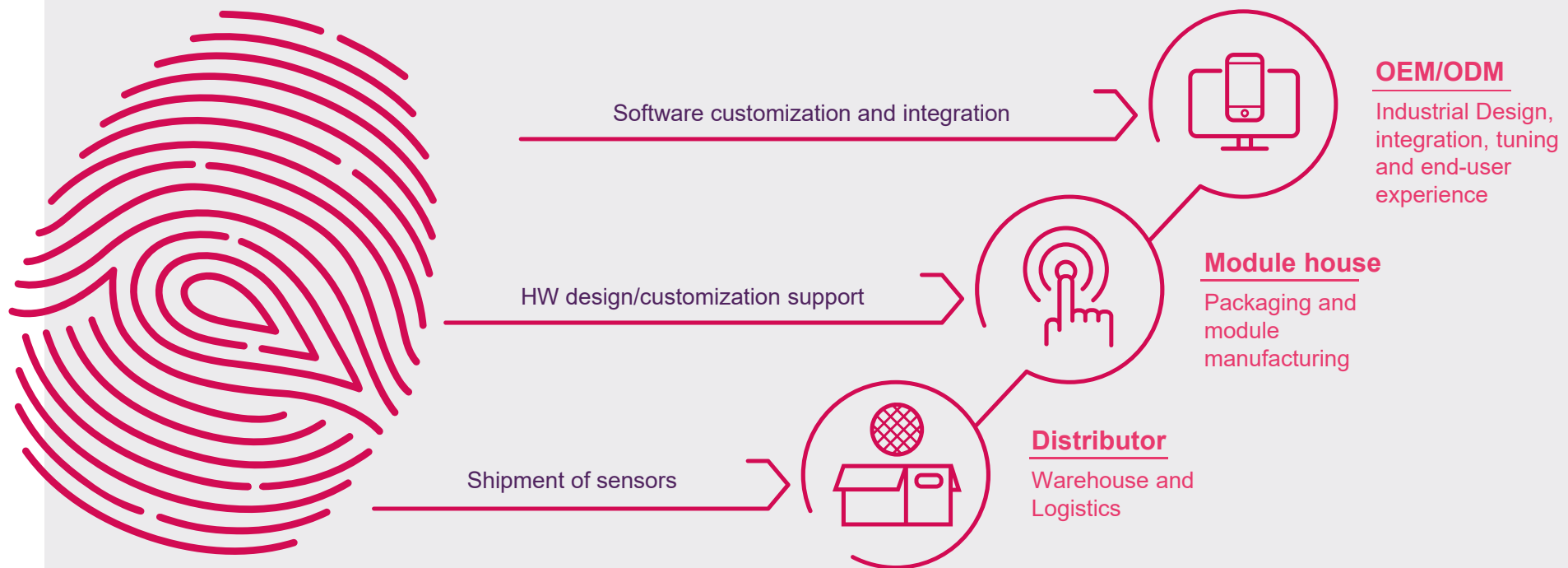
# Continued market leadership

Market share 2016 estimated to 55-60%

Global Smartphone Vendor Market Share %, Q4 2016



# Scalable and efficient business model for the mobile segment





# THE LONG TERM VIEW

# New segments expand fingerprint sensor market

- Continued strong market growth in smartphones
- The market for biometric smart cards is expected to expand rapidly in 2018
- Attractive growth opportunity in PC – low penetration rate

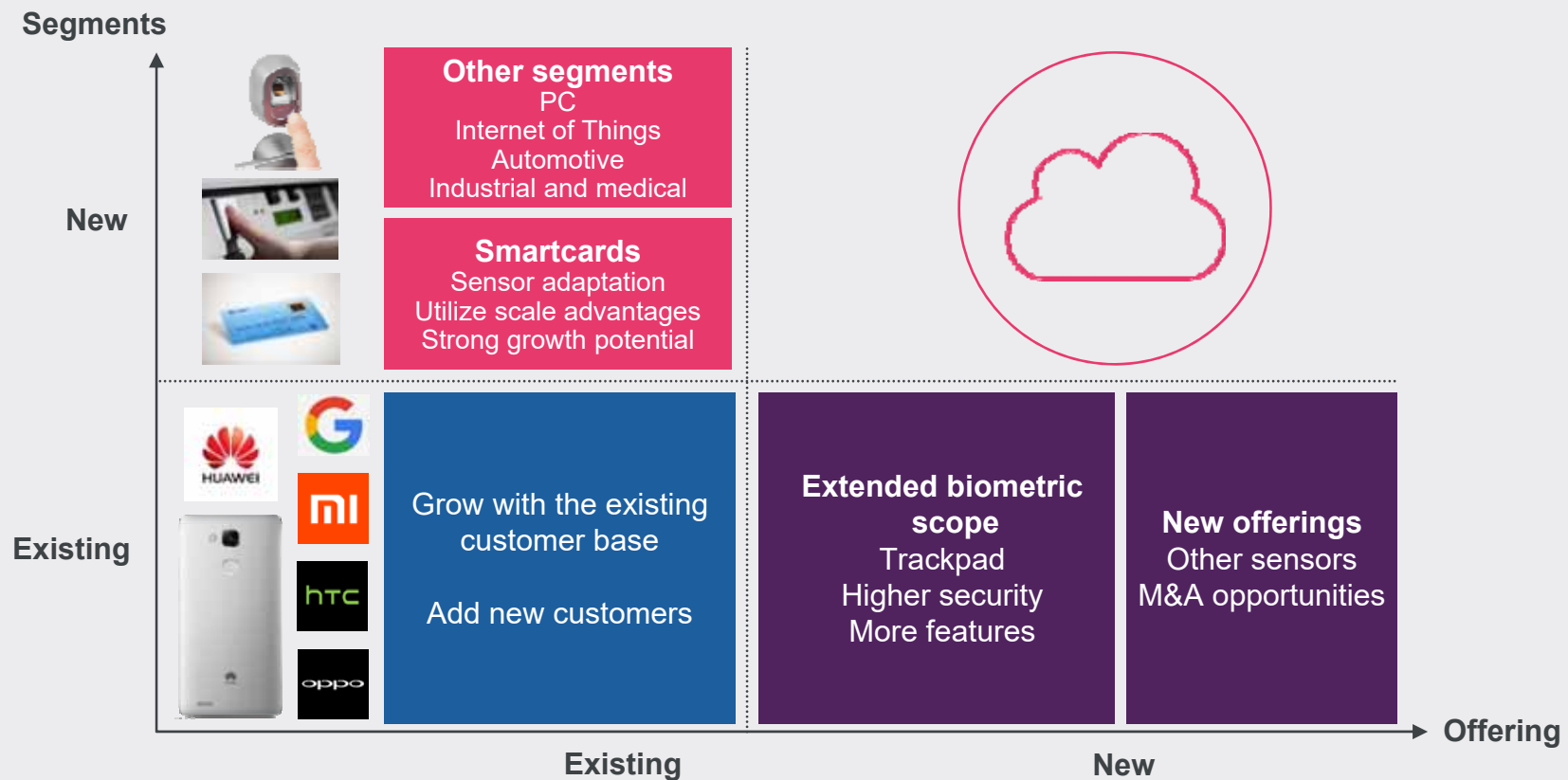


Source: Strategy Analytics, IHS, Fingerprint Cards estimates.

Total Addressable Market excludes Apple, includes all other OEMs and segments including swipe technology



# Fingerprint Cards growth strategy





# THE PERFECT MATCH

Fingerprint Cards acquires Delta ID

# Delta ID is a perfect match for Fingerprints

Delta ID is a leading iris technology provider

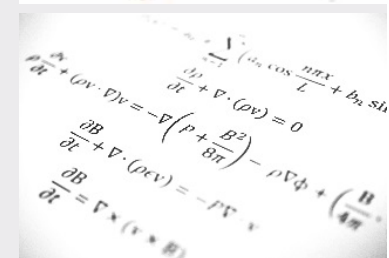
- ⊗ Focused on one thing only – iris recognition
- ⊗ Leading technology and strong IP
- ⊗ Proven technology – products are shipping

Customer and market synergies

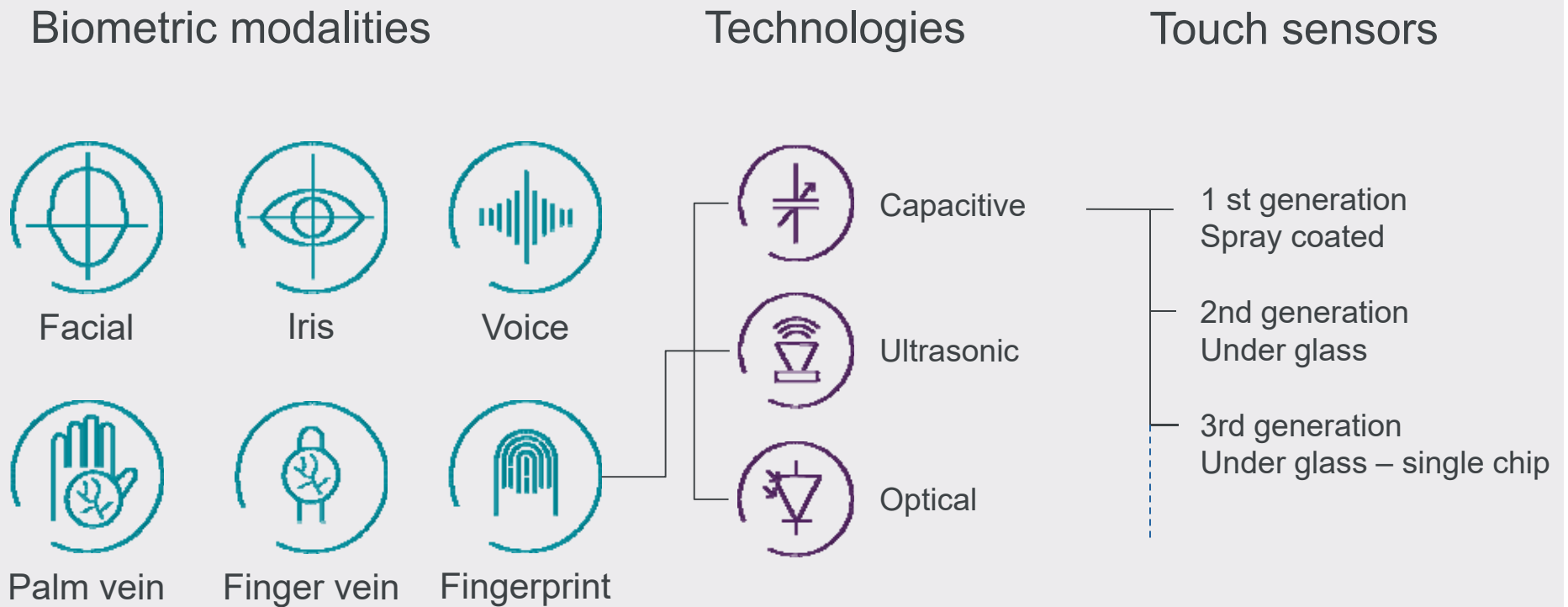
- ⊗ Focus on similar market segments such as smartphones, PC and automotive
- ⊗ We both have a presence in Silicon Valley, California
- ⊗ Delta ID has Samsung Mobile as customer
- ⊗ Many of Fingerprints' customers have not yet chosen an iris recognition solution
- ⊗ Delta ID's products are Aadhaar certified

Technical synergies

- ⊗ Iris recognition and fingerprint recognition are complementary modalities
- ⊗ Complementary skillsets that can be leveraged – e.g. Fingerprints in software and Delta ID in optical
- ⊗ Delta ID has a proven cloud based solution
- ⊗ We have similar methodology and expertise when it comes to algorithms



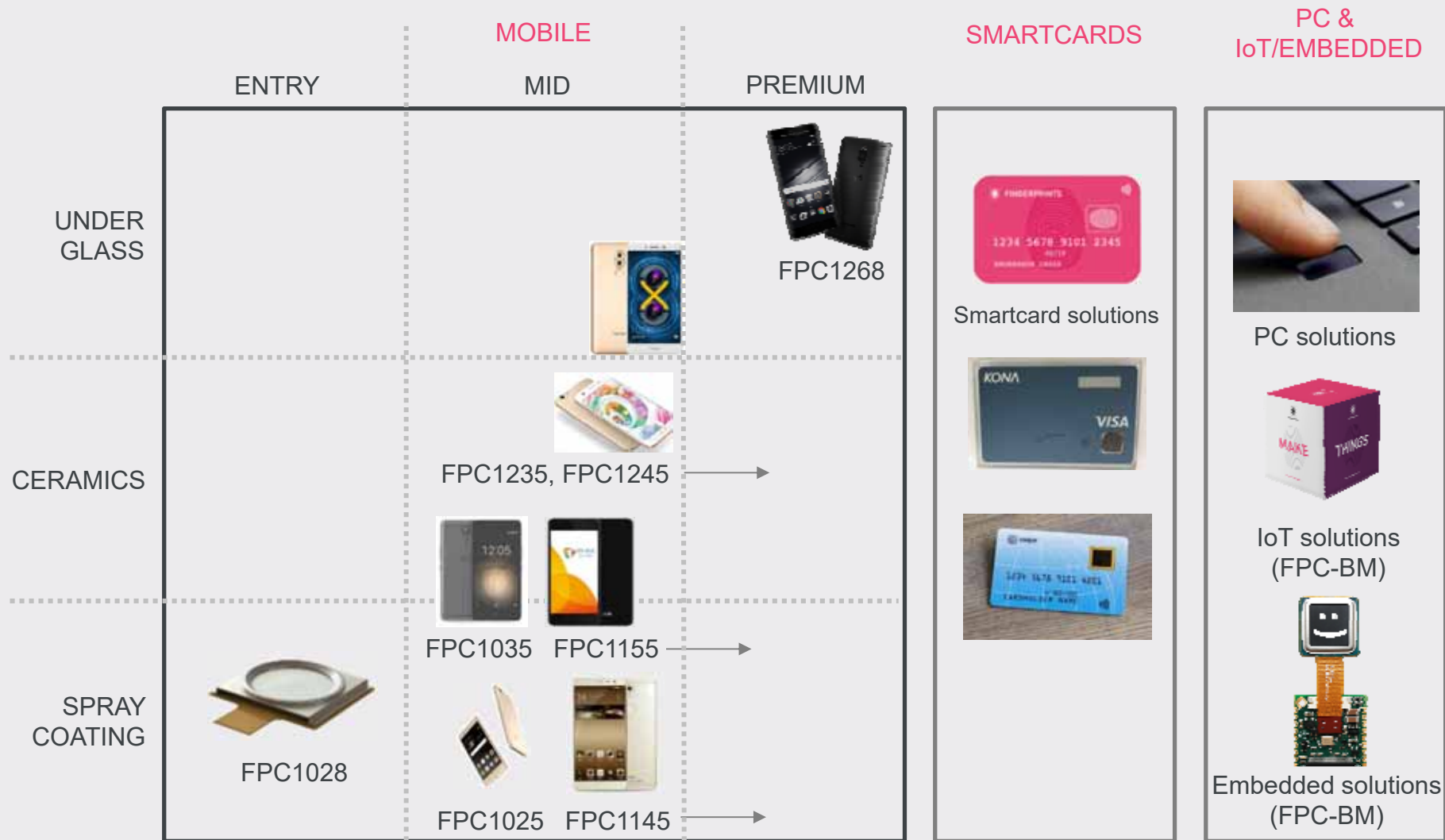
# The big picture of biometrics



A large, faint, stylized fingerprint graphic is centered in the background of the slide. It consists of concentric, wavy lines that form the ridges and valleys of a fingerprint.

# PRODUCTS AND TECHNOLOGY

# Expanding portfolio for all segments



# R&D Overview

- Strong growth in R&D over the last four years, from 20 to over 280 resources, while executing an accelerated development level.
- R&D sites now in Gothenburg x2, Malmö, Copenhagen, Linköping and Delft. R&D resources also in the Philippines, Korea, China, Taiwan.
- Educational level is continually very high, ~25% PhDs.
- Many members with long term experience in Fingerprints, and very low turn-over in staff.
- Much telecom experience.
- High dedication and collaborative spirit.



# A broad IP portfolio

- ① >120 granted patents
- ① Increased innovation capacity and innovation speed
- ① Actively monitoring new patent applications and competing technology
- ① Capacity for running multiple technology projects in parallel
- ① Constant pipeline of new solutions

## Fingerprint mest innovativa svenska företaget



Facebook  
Twitter  
LinkedIn  
YouTube

**INGET ONÖDIGT.**  
Inget onödigt.  
Inget onödigt.  
Inget onödigt.

VÄLKOMMEN →

**Mest läst**

1. Nu börjar försämringsvänta tid
2. Fingerprint mest innovativa svenska företag
3. Rönning efter nya jobb
4. Ingvar Olsson: Kanske den mest intressanta personen efter

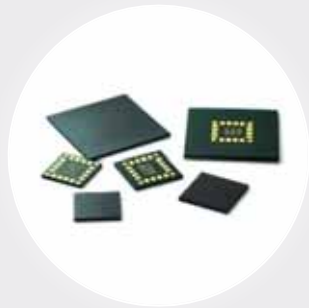
Av ADAM HILLERBRAND RUNE  
Publicerat 30 september 2016, 12:00

Antalet sökta patent per omsatt krona är högst i biometriföretaget Fingerprint Cards, visar en ny undersökning. Golvtilverkarern Välinge och transportutrustningsbolaget Thule kniper andra- respektive tredjeplatsen.

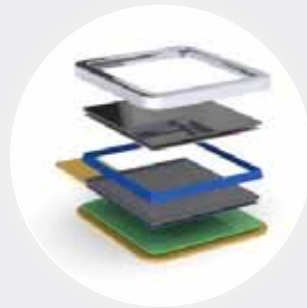
Det är Norrlands patentbyrå som har listat svenska bolag utifrån hur många upptäckter de



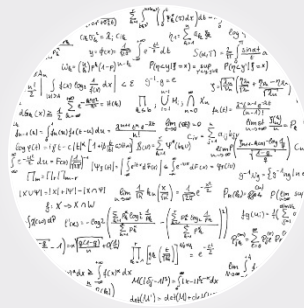
# Unique System Knowledge



ASIC/SILICON  
CHIP DEVELOPMENT



PACKAGING  
EXPERTISE



BIOMETRIC  
ALGORITHMS



SOFTWARE  
DEVELOPMENT

# Performance enabled by our system offering

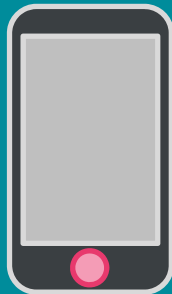
- ① FPC1268 is an example of technology enabled through our holistic system offering
  - ① New sensor and companion chip design
  - ① Novel packaging design
  - ① Significantly improved algorithm & SW solutions
  - ① Software and tuning tools for production
- ① Constantly driving improved performance and security



# Under glass and in-display overview

Sensor under spray coated / Full cover glass stand-alone  
ceramic / glass

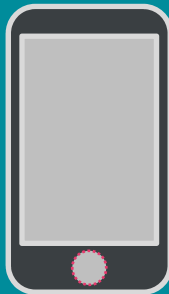
*Cover glass with cavity*



Capacitive

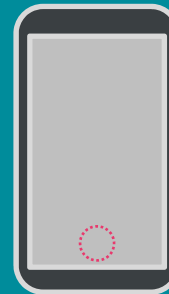
Full cover glass stand-alone  
sensor

*Full cover glass thickness*



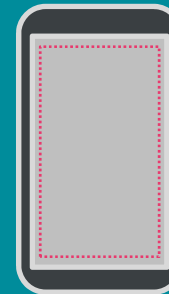
Dedicated area in-display  
sensor

*Full cover glass in display*



Full size in-display  
Sensor

*Full cover glass in display*



# The challenges

## Two fundamental challenges must be solved

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I

The sensing elements  
must be somehow  
integrated with the display

II

Displays are protected by a  
rather thick cover glass and  
the sensor must be able to  
read through it

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A

No significant impact on  
the display image quality

B

Minimum power  
consumption increase

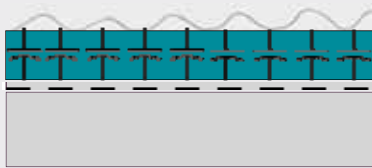
C

Ease of use with proper  
wake-up function

# The capacitive challenge

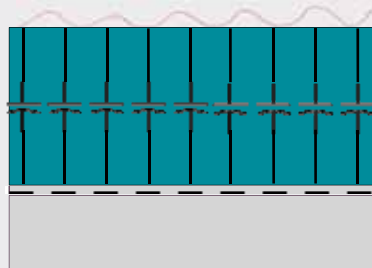
Thin cover capacitive FP sensor

- ③ The ideal capacitive imaging holds



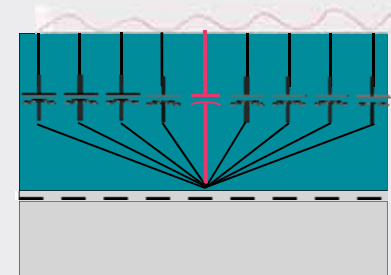
Thick cover capacitive FP sensor

- ③ The **ideal** capacitive imaging does not hold



Thick cover capacitive FP sensor

- ③ The **actual** capacitive imaging under thick glass



In an actual device, each pixel receives signals from neighboring areas. This effect gets exponentially stronger with thicker coating/glass.

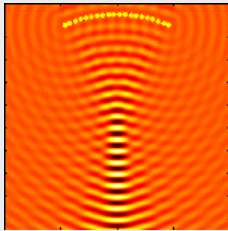
# What is the root of the challenge?

## Dynamic Field

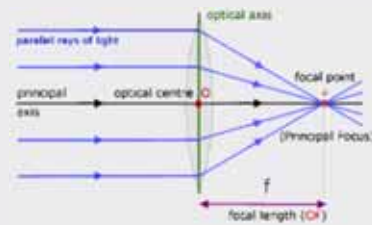
➤ propagating wave

Sound, Light

*Sound*



*Light*



## Static Field

➤ No propagating wave

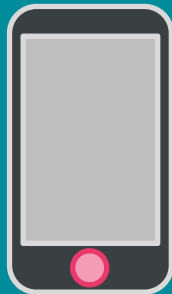
Electrostatics



# Under glass and in-display overview

Sensor under spray coated / Full cover glass stand-alone  
ceramic / glass

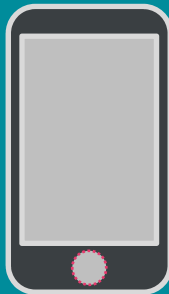
*Cover glass with cavity*



Capacitive

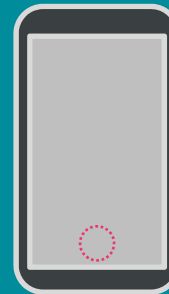
Full cover glass stand-alone  
sensor

*Full cover glass thickness*



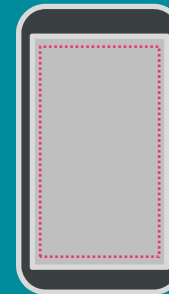
Dedicated area in-display  
sensor

*Full cover glass in display*



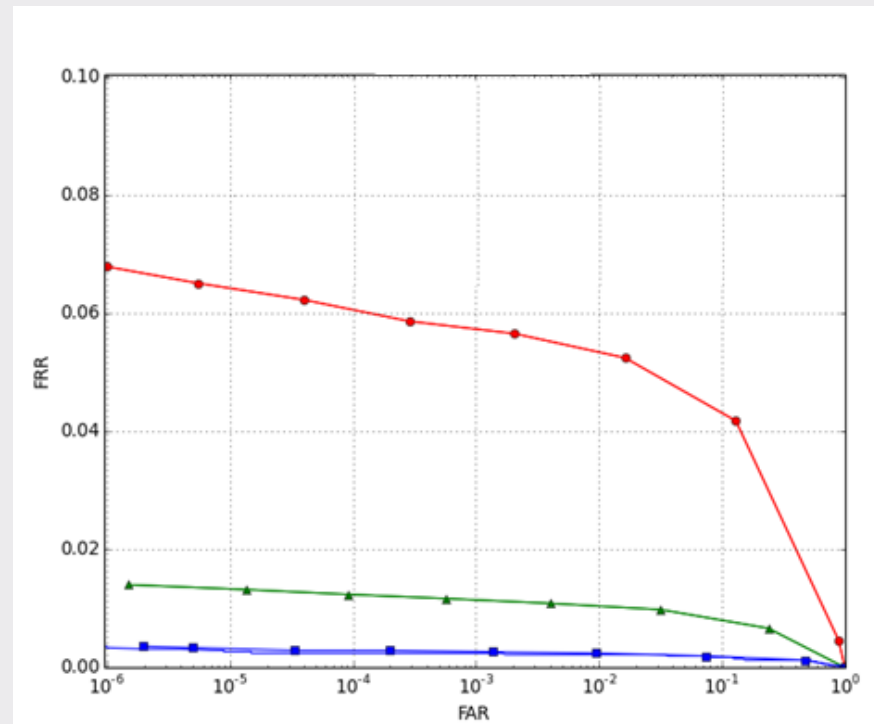
Full size in-display  
Sensor

*Full cover glass in display*



# Driving market leading biometric performance

- ③ In-house algorithm and software optimized for smartphones
  - ③ Improved security
  - ③ Convenience for all finger types
  - ③ Latency
  - ③ Memory
- ③ The FPC1028 – our smallest sensor
- ③ Finger detect functionality and power consumption



FRR = False Rejection Rate – convenience level

FAR = False Acceptance Rate – security level



# Sensor systems dedicated to cards

- ⤵ Success factors
  - ⤵ Solid biometric performance embedded in the card
  - ⤵ Low power consumption
  - ⤵ Ultra-thin package
  - ⤵ Card needs to be bendable
  - ⤵ Resistant to scratches and everyday wear-and-tear
- ⤵ Card applications
  - ⤵ Targeted into FPC1320 and FPC1321
- ⤵ High security and convenience
- ⤵ The next generation system under development
  - ⤵ Targeting an extremely low power consumption



# Features creates differentiation

## FPC OneTouch®

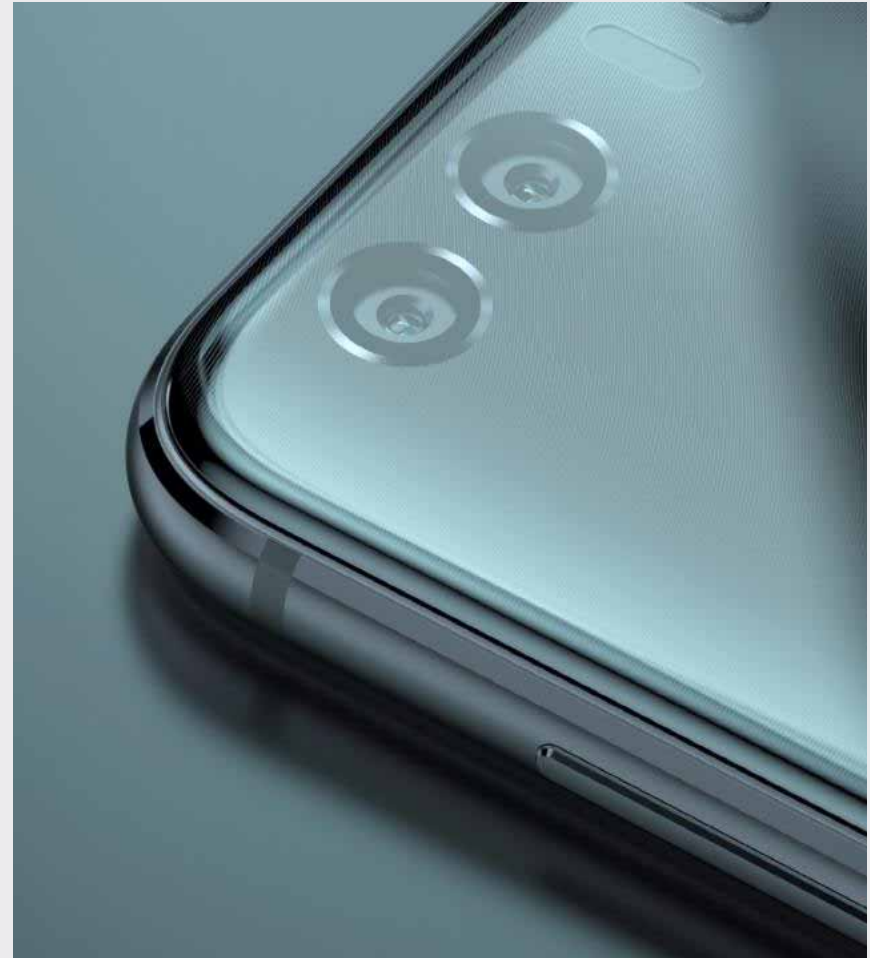
- Wake up your device with a single touch. No buttons or pins. Simply place your finger over the sensor for the fastest unlock you ever made

## FPC SafeTouch®

- State of the art anti-spoofing solution with liveness detection with FPC algorithm which includes advanced Pattern Feature Extraction (PFE)

## FPC MoveTouch®

- Navigate a rotating camera, scroll through webpages/documents, click to answer a call, or adjust the volume with the fingerprint sensor





# OUTLOOK

# 2017 Guidance

2017 Guidance*	
Revenues 2017	SEK 7,500-9,500 million
Operating margin 2017	Operating margin estimated to at least 35%
Average SEK/USD rate	8.85 (applied to Q1-Q4)

\* Guidance as of 8 Dec, 2017.

# Long term financial targets – updated\*

Moving three-year financial targets, now covering 2017-2019, with 2016 as the base. These targets are not to be considered as guidance, it's our long-term expectations for the company.

- **Growth:** Fingerprints Cards' objective is that its revenues will show an average annual growth rate of approximately 20% from 2017-2019
- **Profitability:** Fingerprints Cards' objective is to achieve an operating margin of between 30-35% in average during the period from 2017-2019
- **Capital structure:** Fingerprints Cards' objective is to have a strong balance sheet, normally with net cash assets. Surplus capital is to be returned to the shareholders through the buyback of own shares and/or dividends.

\*Updated 8 Dec 2016

# Maintaining leadership

- Market leadership
  - Almost 140 mobile devices launched in 2016 – nearly 200 in total
  - 55-60% market share in 2016
- Technology leadership
  - Increased investments in R&D
  - Continued focus on innovation and long term technical development
  - Partnerships with relevant industry leaders in prioritized segments
  - Complementary biometrics company acquired

## Fingerprint mest innovativa svenska företaget





# THANK YOU!

Stay in touch & connect

**E-mail:** [investrel@fingerprints.com](mailto:investrel@fingerprints.com)

For more information, visit us at [www.fingerprints.com](http://www.fingerprints.com)



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