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Mobile & Wearable Biometrics

Market Intelligence

**Forty Second Edition
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RBR ATM & Cyber Security 2017 featuring a presentation from Alan Goode on Biometrics for ATMs ●●

Market Analysis & Forecasts:

Goode Intelligence has published its 4th edition of **Mobile & Wearable Biometric Authentication** analyst report ●●

Industry Adoption

Sport

CLEAR biometrics scanning system to be used at Tigers games in Detroit



A biometrics scanning system from **CLEAR** has been implemented at Tigers games at Comerica Park in Detroit to allow fans to get into the ballpark by using fingerprints to verify their identity and provide an additional security layer at the stadium.

Visitors will still be required to go through security and display their tickets however by enrolling in the new programme using a state-issued driver's licence and having their fingers scanned for fingerprints means that they will have access to shorter lines.

The ballpark can use the scanned information to track who is entering the park and at what times. Potentially, fingerprints could be linked to game tickets in the future as several other sports venues around the US already offer the fingerprint scanning system, as do 30 major airports. CLEAR CEO Caryn Seidman-Becker said that the company is working to extend its biometric technology "beyond security to other uses inside the venue that will continue to transform the game day experience."

Banking and Finance

Mastercard to replace PINS with fingerprint biometric solution



Mastercard is set to phase out the use of PINS or passcodes for security and to bring biometric solutions to Australia in 2018. Mastercard Australasia president Richard Wormald said "We're working with a number of the major banks at the moment to pilot the contactless biometric card."

A small fingerprint reader is included on the biometric cards and is used to authorise transactions while payment machines still read the account in the same way as traditional cards – by chip insertion or a contactless wave.



The move builds on Mastercard's Identity Check Mobile app already running in 14 countries, which allows customers to use fingerprints or "selfie" facial recognition for authentication before online purchases.

TSB to introduce iris recognition to its mobile banking app



From September 2017, **TSB** customers with a Samsung Galaxy S8 or S8+ smartphone will be able to unlock their TSB mobile banking app using the Samsung Pass iris scanner. Customers will be able to access their banking using either their fingerprint (an existing feature) or the iris scanner.

Carlos Abarca, TSB's Chief Information Officer, said: "Iris recognition allows you to unlock your TSB mobile app with a simple glance, meaning all of those IDs, passwords and memorable information become a thing of the past.

"As well as a more customer-friendly approach to identification, iris recognition is also the most secure method of authentication available today. We want our mobile app customers to continue to have a fast, easy-to-use experience; iris recognition delivers that and, when combined with our other security measures, an unparalleled level of cyber security."

The move by TSB comes just months after it launched its new mobile banking app, which was built on its new Proteo4UK IT banking platform.

The bank expects Proteo4UK to liberate it from its current legacy systems and allow it to become more agile. The speed with which Samsung Pass has been integrated into TSB's mobile banking app signals the benefits the new platform will deliver to TSB customers.

Behavioral biometric solution from SecuredTouch to prevent mobile fraud



SecuredTouch has released a behavioral biometrics-based solution – HUMANOBOT – to detect non-human behaviour created by bots, malware, and automated scripts as well as preventing fraud-focused emulators within mobile applications.

The company's behavioral biometrics technology was developed to analyse human interaction with their mobile devices. Leveraging this technology, HUMANOBOT detects suspicious mobile traffic and sends alerts regarding attacks from emulators and virtual machines.

Removing the need to address each type of threat individually within the application or within the business' security infrastructure, HUMANOBOT improves customer experience by eliminating the need for repeatedly entering passwords, security questions, and captchas. It also reduces development time, infrastructure resource requirements, and transaction abandonment. The solution is implemented at full capacity, immediately upon activation, all without requiring a baseline profile.

Yair Finzi, SecuredTouch CEO said "Emulators and bots are being used to defraud companies of millions of dollars. Stopping them delivers immediate ROI because of its direct impact on fraud prevention without adding friction for legitimate users."

Fujitsu signs agreement with ImageWare to extend security portfolio with multi-modal multi-factor biometric solutions

Fujitsu America, Inc. has announced an agreement with **ImageWare Systems** as its Biometrics-as-a-Service partner to broaden its biometric security solutions portfolio. ImageWare Systems (OTCQB: IWSY) provides mobile and cloud-based, multi-modal biometric identity management solutions. The agreement enhances the Fujitsu biometric security solutions portfolio to support mobile devices and additional authentication methods including advance pattern matching, fingerprint, face & voice recognition.



As a result, Fujitsu customers can now deploy Multi-factor Multi-modal BIOMETRICS-as-a-Service leveraging ImageWare Systems GoVerifyID® and CloudID family of products to quickly and easily upgrade their security processes. Businesses can also deploy the biometric authentication as a service, with multiple public, private and hybrid cloud hosting options including Fujitsu Cloud Service K5.

Jason Bradlee, Head of Security for the America region, Fujitsu America, Inc. said "After forming a technology partnership several years ago, ImageWare and Fujitsu have seamlessly integrated key offerings so that they are now market ready. We are working with ImageWare on a number of opportunities, including a large-scale federated identity project with several major players using a number of our enterprise and cyber security solutions including our Biometrics and Identity-as-a-Service product, which is scheduled for launch later this quarter. We look forward to continuing this partnership."

New smart ring to replace credit cards, house keys and more

Token, a digital ring, is set to take the place of credit cards, house keys, website credentials, transit cards, car keys and access badges. Offered for presale in July, the development of the ring uses a combination of biometrics, EAL5+ certified secure elements, and asymmetric cryptography. User credentials are unlocked by a fingerprint sensor when token is placed on the finger and an optical sensor detects when the ring has been removed.

All user credentials are stored inside the ring and different hand gestures activate specific functions such as a double tap to activate the log in or a locking system along with long slow swipes over objects. One battery charge enables the system to run for two weeks. Token uses both Bluetooth and Near Field Communication. It is also waterproof in up to 50 meters of water.



Personal Computers

Microsoft launches a hi-tech keyboard with Fingerprint ID



Microsoft has revealed a new keyboard specifically designed for Windows 10 users with a built-in fingerprint sensor. Available now in the US, it retails at \$129.99.



Biometric Suppliers (Hardware, Software and Services)

Jumio

Product News and Strategy

Jumio introduces eyeball tracking to deliver trusted identity verification

Jumio has announced the addition of eyeball tracking to its Netverify's biometrics capabilities. Now, in addition to conducting a "liveness" check to make sure a real person is holding the device, Jumio will require users to follow an icon on the mobile device screen with their eyes as it moves in a random pattern to verify their identity. This technology will be available to all Netverify users, including banking institutions, sharing economy providers, online gaming and travel companies.



Stephen Stuu, Jumio CEO said "The addition of eyeball tracking makes Jumio's Netverify the most sophisticated ID verification solution in the market. As businesses increasingly rely on mobile interactions with their customers, it is critical that they have a way to meet Know Your Customer requirements, while keeping the user experience frictionless. Jumio seeks to both combat fraud, which can cost businesses time and money to track down and remediate, while delivering a simple, fast experience that consumers expect."

Pramati

Product News and Strategy

Pramati introduces ThumbSignIn biometric authentication platform

Pramati Technologies announced on 10th July 2017 its ThumbSignIn™ biometric authentication SaaS platform for mobile and web applications, and



certification of ThumbSignIn by the FIDO Alliance. Using public key cryptography to securely transfer authentication information over the internet, ThumbSignIn enables users to sign in to websites, web applications from desktop web browsers, and mobile apps biometrically, without a password.

FIDO certification for ThumbSignIn, extends across the company's server and client products and it also available as a cloud-based service that enables developers to integrate the capabilities of ThumbSignIn into their websites. Pramati has also created SDKs for the iOS and Android platforms, allowing developers to integrate strong biometrics-based authentication capabilities into their mobile applications or take advantage of the free ThumbSignIn app available at the Android and Apple app stores.

Vijay Pullur, co-founder and president of Pramati said "FIDO certification is rapidly becoming a linchpin to adoption of mobile products and devices. The number of FIDO Certified products grew by 200 percent in 2016 alone, and that growth rate is expected to accelerate as alliance members pursue certification for laptops, payment cards, and other devices. For customers, that's good news as they are assured of an unprecedented level of mobile security and interoperability. We believe that FIDO certification will be an overwhelming incentive for customers in their product adoption."

Fingerprint Cards

Product News and Strategy

Fingerprint Cards teams-up with Qualcomm

Fingerprint Cards (FPC) announced on 21st July 2017 that it is teaming-up with **Qualcomm** to pre-integrate capacitive fingerprint technology on low- and mid-tier Qualcomm Snapdragon mobile platforms.

Fingerprints' FPC1028 biometric fingerprint touch capacitive sensor will be pre-integrated into Qualcomm® Snapdragon(TM) 435, 430, 427 and 425 Mobile Platforms, as well as Qualcomm 210 and 212 Mobile Platforms.



FINGERPRINTS



Fingerprint Cards to work with Truly

Fingerprint Cards (FPC) announced on 31st July 2017 that it is collaborating with module house **Truly Group (Truly)**, headquartered in Hong Kong and with production facilities in Shanwei, Guangdong Province, China. Ted Hansson, Senior Vice President, Business Line Mobile, Fingerprints said "We are delighted to further strengthen our offering through this collaboration with Truly. Teaming up with the right, carefully selected partners and broadening our network is essential to keep growing our business".



Sales News

Smart Mobile Devices (smartphones and tablets)

Summary of fingerprint sensor integrations for smart mobile devices (SMD)

During July 2017, **FPC** announced the following smartphone integrations and device launches:

- 6 July 2017 **Vivo** launched X9S and X9S Plus (see image below) featuring FPC1245 supporting FPC 360Touch, FPC OneTouch, FPC TouchNroll and FPC EvoTouch



- 20 July 2017 **LG** announced its Q8 Smartphone featuring FPC1035 which supports FPC 360Touch, FPC OneTouch, FPC TouchNroll, FPC EvoTouch and FPC QuickTouch.



- 26 July 2017 **MOTO Z2 FORCE** launched with FPC1035 sensor supporting FPC 360Touch, FPC OneTouch, FPC TouchNroll, FPC EvoTouch and FPC QuickTouch.



- 26 July 2017 **Xiaomi 5X** launched with FPC1035 sensor supporting FPC 360Touch, FPC OneTouch, FPC TouchNroll, FPC EvoTouch and FPC QuickTouch.



Personal Computers (desktops, laptops and netbooks)

Fingerprint Cards continues to make inroads into the PC market as **BLASOUL** launches a new gaming mouse featuring FPC1025 to provide more convenient experiences and safer online transactions for players.



Investment news (share price, funding and M&A activity)

Fingerprint Cards AB: Interim report April-June 2017

FPC announced its Half Year results on 21st July 2017.

Second quarter of 2017:

- Revenues amounted to SEK 823.4 M (1,666.1), down 51% compared with the second quarter of 2016
- The gross margin was 36% (49)
- Operating profit amounted to SEK 72.0 M (675.1) and the operating margin to 9% (41)
- Earnings per share before dilution amounted to SEK 0.10 (1.72)
- Cash flow from operating activities was SEK 528.0 M (530.4)

First half of 2017:

- Revenues totalled SEK 1,509.3 M (3,157.3), down 52% compared with the year-earlier period
- The gross margin was 39% (49)
- Operating profit amounted to SEK 142.8 M (1,293.7) and the operating margin declined to 9% (41)
- Earnings per share before dilution amounted to SEK 0.28 (3.16)
- Cash flow from operating activities was SEK 203.9 M (809.8)

Christian Fredrikson, CEO commented:

“Towards the end of the quarter, inventory levels in the value chain normalized as anticipated, which was also confirmed by most of our customers and business partners. As a result, our own inventories declined

and all of our major customers ordered sensors from us. We have continued to secure important orders which will result in increasing market shares with some major customers.

“The second quarter of the year was impacted by the previous inventory build-up in the value chain and lower market shares among a number of major customers. The combined result of this was significantly lower revenues than in the year-earlier period, although sequentially an increase of 20 percent was reported. Revenue during the quarter was SEK 823 M and operating profit totalled SEK 72 M, corresponding to an operating margin of 9 percent. The gross margin, excluding provisions for an obsolescence reserve, remained favourable at 42 percent. Our cash flow was in line with the year-earlier period and was SEK 528 M, as a result of us reducing our own inventories and current receivables. Despite financing a large part of the acquisition of Delta ID with internally generated funds, our cash and cash equivalents now amount to SEK 934 M.

“During the quarter, 19 new mobile devices featuring our sensors were launched. We announced new important partnerships with both module suppliers and distributors, which enable us to reach new customers and market segments. This also very much applies to the announced partnership with Qualcomm, which means that our FPC1028 sensor is pre-integrated into selected Snapdragon mobile platforms.

“With respect to new market segments, we have also been able to unveil projects and partnerships with Zwipe and Kona-I that show that the smartcard market is developing as we had expected. As a result, we have succeeded in securing a strong position for future growth in smartcards, although it will take a few more years before market volumes can be compared with those we see for smartphones. We have also noted successes in the PC segment, with one product launch from Huawei and one from Microsoft.

“After having completed the acquisition of Delta ID, we are now the only supplier offering biometric solutions based on both fingerprint sensors and iris recognition. The acquisition is an important step in our strategy to broaden our offering and has roused great interest among a number of our major customers.”



zwipe™



Share Price

FPC (FING:SS) share price ranged from 23.46 SEK on 4 July 2017 to 37.80 SEK on 31 July 2017



Fingerprint Cards share price was 37.80 SEK on 31 July 2017

Precise Biometrics



Product News and Strategy

Precise Biometrics fingerprint software featured in next-generation ultrasonic fingerprint solutions from Qualcomm

Following a commercial software license and distribution agreement between **Precise Biometrics** and **Qualcomm Technologies, Inc.**, a subsidiary of **Qualcomm Incorporated**, it was announced in July at the Mobile World Congress Shanghai 2017 that Precise BioMatch™ Mobile has been integrated in Qualcomm® Fingerprint Sensors, next-generation ultrasonic fingerprint solutions.



Precise Biometrics enters into agreement with O-FILM for the licensing of Precise BioMatch™ Mobile

Precise Biometrics announced on 11th July 2017 that it has entered into an agreement for commercial software licensing and distribution with module house **O-FILM** for the licensing of Precise BioMatch Mobile in mobile devices, its algorithm solution for fingerprint recognition.



According to Precise Biometrics, the agreement generates royalty revenues based on O-Film's sales of fingerprint identification modules with Precise BioMatch Mobile for one of their sensor partners.

Håkan Persson, CEO of Precise Biometrics said "We are pleased that O-FILM has chosen our fingerprint software to provide the best user experience and security for their fingerprint modules. This agreement broadens our distribution channel and strengthens our position as the leader in fingerprint software".

Investment news (share price, funding and M&A activity)

Share Price

Precise Biometrics Group (STO: PREC) share price ranged from 1.92 SEK on 31 July 2017 to 2.70 SEK on 13 July 2017.

Precise Biometrics share price was 1.92 SEK on 31 July 2017



Synaptics



Sales News

Synaptics completes acquisition of Conexant Systems

Synaptics Incorporated announced on 26th July 2017 that it has completed its acquisition of **Conexant Systems, LLC**, a technology company providing voice and audio processing solutions for the smart home. According to Synaptics, the strong technology and market positions of the two organisations will jumpstart Synaptics' presence in the smart home to extend its human interface leadership into the fast-growing consumer IoT market.



Rick Bergman, President and CEO, Synaptics said "We are very excited to have quickly closed on this important acquisition and be able to immediately leverage the added voice and audio solutions to pursue the growing opportunities in consumer IoT. With the broadened portfolio of technologies and products, we will not only diversify our customer base, but also provide our customers more value-add. We look forward to working with our global partners to deliver a full range of solutions to our core mobile, automotive, and PC markets, and now for consumer IoT".

Share Price

Synaptics (NASDAQ:SYNA) share price ranged from on \$50.69 on 6 July 2017 to \$56.31 on 27 July 2017.



Synaptics share price was US\$52.61 on 31 July 2017

Qualcomm



Product News and Strategy

Snapdragon Neural Processing Engine available on Qualcomm Developer Network

Qualcomm Technologies, Inc. a subsidiary of **Qualcomm Incorporated**, announced on 25th July 2017 that Qualcomm® Snapdragon™ Neural Processing Engine (NPE) software development kit (SDK) is now available on Qualcomm Developer Network.

The Snapdragon NPE is the first deep learning software framework designed for Snapdragon Mobile Platforms. It provides developers with software tools to accelerate deep neural network workloads on mobile and other edge devices powered by Snapdragon processors, with a choice of using Qualcomm® Kryo™ CPU, Qualcomm® Adreno™ GPU or Qualcomm® Hexagon™ DSP. In addition it offers:

- Developers in multiple industries, including mobile, automotive, healthcare, security and imaging, the tools they need to deliver on-device neural network-driven user experiences
- Deep learning user experiences including style transfers and filters (augmented reality), scene detection, facial recognition, natural language understanding, object tracking and avoidance, gesturing, and text recognition

Developers already using Snapdragon NPE include **Facebook** who is planning to integrate it into the Facebook app camera.



Gary Brotman, director, product management, Qualcomm Technologies, Inc. said “We developed the Snapdragon NPE SDK to help meet the increasing demand for running deep neural networks efficiently on mobile and other edge devices powered by Snapdragon. The Snapdragon NPE was created to give developers the tools to easily migrate intelligence from the cloud to edge devices, and affords them the flexibility to target the appropriate Snapdragon core with the power and performance profile for a given user experience.”

Compatible with Snapdragon 600 and 800 Series Mobile Platforms, the Snapdragon NPE, is designed to support common deep learning frameworks such as Caffe, Caffe2 and Tensorflow, as well as offering support for custom layers. The SDK includes runtime software, libraries, APIs, offline model conversion tools, sample code, documentation, and debugging and benchmarking tools.

Investment news (share price, funding and M&A activity)

On 13th July 2017, **Qualcomm Incorporated** announced a quarterly cash dividend of \$0.57 per common share, payable on September 20, 2017, to stockholders of record at the close of business on August 30, 2017.

On 19th July 2017, **Qualcomm Incorporated** announced its third quarter results (Non-GAAP).

- Revenues were \$5.3B which are down by 12 percent year-over-year and down by 11 percent compared to Q2
- Operating income was \$1.2B which was down by 40 percent year-over-year and down 45 percent compared to Q2
- Net income was \$1.2B which was down by 28 percent year-over-year and down 38 percent compared to Q2

According to Qualcomm, the third quarter GAAP and Non-GAAP results were negatively impacted as a result of actions taken by Apple’s contract manufacturers, who did not fully report and did not pay royalties due on sales of Apple products, as well as the dispute with another licensee, who did not report or pay royalties due in the third quarter of fiscal 2017. The company expects these licensees will continue to take such actions in the future until the respective disputes are resolved.

The third quarter of fiscal 2017 GAAP results included:

- A reduction in operating cash flow due to a \$940 million payment to BlackBerry and a \$927 million payment related to the Korea Free Trade Commission (KFTC) fine, in addition to the impact from the

actions taken by Apple's contract manufacturers and the other licensee in dispute

- The second quarter of fiscal 2017 GAAP results included: \$974 million reduction to revenues, or \$0.48 per share, related to the BlackBerry arbitration
- The third quarter of fiscal 2016 GAAP and Non-GAAP results included: \$235 million of revenues, or \$0.11 per share, due to the recognition of previously deferred royalty revenues related to the dismissal of the arbitration with LG Electronics, Inc.

Steve Mollenkopf, CEO of Qualcomm Incorporated said "We delivered better than expected results in our semiconductor business this quarter, which drove EPS above the midpoint of our expectations versus our April updated guidance.

"Our products and technologies continue to enable the global smartphone industry, and we are expanding into many exciting new product categories, including automotive, mobile computing, networking and IoT. We believe that we hold the high ground with regard to the dispute with Apple, and we have initiated new actions to protect the well-established value of our technologies."

Qualcomm extends Cash Tender Offer for all NXP outstanding shares

Qualcomm Incorporated announced on 27th July 2017 that Qualcomm River Holdings B.V., an indirect wholly owned subsidiary of Qualcomm, has extended the offering period to 24th August of its previously announced cash tender offer to purchase all of the outstanding common shares of **NXP Semiconductors N.V.**



Events to come

PayExpo Europe



Dates

4-5 October 2017

Location

ExCeL London, UK

Abstract

Now in its fifth year, PayExpo Europe is the leading payments event in the UK, attracting 2,200+ senior stakeholders from across the entire European payments community to network, learn about the ever changing payments landscape and make essential business contacts for the year ahead.

With consumers' spending habits and attitudes towards their personal finances changing faster than ever, the organisations that stay at the forefront of industry developments have a clear advantage. PayExpo Europe is the best place to share knowledge and rub shoulders with the disruptors and innovators driving change in payments.

With five key themes and more than 20 pertinent topics, this year's conference agenda covers every aspect of payments from market regulation, including PSD2 and GDPR, and payments security including session dedicated to Biometrics, to Blockchain and the IOT. Featuring over 130 industry experts, at the forefront of their fields, the conference agenda will provide you with the information and inspiration you need to make informed business decisions.

Website

<https://www.payexpo.com>

Lendit Europe



Dates

9-10 October 2017

Location

InterContinental London – The O2, UK

Abstract

Lendit Europe 2017 packs more content and networking opportunities than ever before into two full days. This year's conference features over 150 speakers, more than 120 thought-provoking sessions, and one of the largest expo halls in Europe with over 70 exhibitor booths.

Alan Goode, CEO & Chief Analyst, Goode Intelligence is moderating a panel on Biometrics on Monday 9th October 2017.

Website

<http://www.lendit.com/europe/2017>

RBR ATM & Cyber Security 2017



Dates

10-11 October 2017

Location

Park Plaza Victoria Hotel, London, UK

Abstract

ATM & Cyber Security 2017 (formerly 'ATM Security') is the world's leading conference focused on physical and logical ATM security. The event attracts over 350 delegates, representing more than 140 organisations from over 40 countries worldwide.

The event comprises a speaker programme containing important contributions from retail banks, law enforcement agencies, hardware and

software providers and a range of industry bodies. This is complemented by a vendor technology exhibition area where delegates can view the latest ATM security products and services, share ideas and experiences and network with colleagues in the industry. The event focuses both on physical ATM security and newer cyber and logical security threats.

Alan Goode, CEO & Chief Analyst, Goode Intelligence is presenting on ATMs and Biometrics on Tuesday 10th October 2017.

Website

<https://www.rbrlondon.com/events/atmsec>

Money 20/20



Dates

22-25 October 2017

Location

The Venetian, Las Vegas, USA

Abstract

Money20/20 is the world's largest marketplace for ideas, connections and deals in Payments and Financial Services. It's where leaders – representing every sector of the industry – come to seize new business opportunities, strengthen partnerships and discover the latest disruptions.

With 11,000+ attendees, including more than 1,700 CEOs and Presidents, from 4,500 companies and 85 countries, expected at our 2017 U.S. event, Money20/20 brings together the who's who of an industry that's revolutionising the future of money.

Website

<https://us.money2020.com/overview>

TRUSTECH – Pay, Identify, Connect & Secure



Dates

28 – 30 November, 2017

Location

Cannes – French Riviera

Abstract

TRUSTECH is the Largest International Event dedicated to Trust-Based Technologies with unprecedented networking opportunities and not-to-be-missed Keynote Speakers.

Join the whole industry for three days of Innovation, Business and Networking!

TRUSTECH will include amongst other things a selection of Startups and Fintechs who will showcase their latest innovations for the Payment and Identification industries.

TRUSTECH gathers in Cannes (French Riviera):

- 13,000+ Attendees from 125 countries,
- 49% Top Managers
- 350+ Exhibitors & Sponsors
- 250+ Leading International Speakers

Website

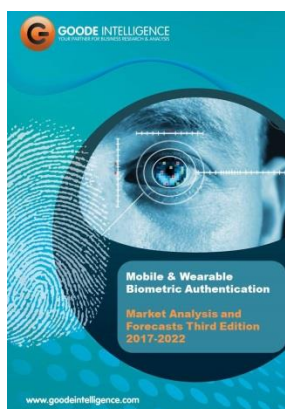
<https://www.trustech-event.com>

Market News and Forecasts

Goode Intelligence Mobile & Wearable Biometric Authentication Market Analysis and Forecasts 2017-2022

Apple Face ID to have significant impact on global mobile biometric market

With Apple's announcement that it is replacing Touch ID fingerprint authentication with a 3D facial recognition technology for its iPhone X, Goode Intelligence reports that Face ID is likely to be just as disruptive to the use of biometrics as Touch ID was.



Goode Intelligence has published the 4th edition of its ***Mobile and Wearable Biometric Authentication*** analyst report with forecasts for 2017-2022. It is available at \$5,000.00 for an Enterprise-wide license.

The report provides an investigation into the use of biometrics for authentication on smart mobile and wearable devices. It includes impact analysis on Apple Face ID as well as new sections and forecasts on facial recognition hardware. Examining the impact of Apple Face ID on the market, the report forecasts that revenues for mobile & wearable biometric authentication will exceed \$14.75 billion by 2022. Goode Intelligence also predicts that by 2022 over 1.7 billion devices will have integrated biometric hardware and over 2.1 billion biometric software licenses will be sold.

Alan Goode, author of the report and founder of Goode Intelligence said “The market continues to evolve and the announcement that Apple is replacing Touch ID fingerprint authentication with 3D facial recognition technology for its new flagship model, the iPhone X, is significant.

“3D facial recognition technology uses infrared (IR), neural networks and machine learning to support biometric authentication on a bezel-less OLED display – which so far has proved problematic using a fingerprint sensor.

“When Apple announced Touch ID in 2013 it revolutionised consumer biometric authentication and led to an explosion of fingerprint sensors being integrated in almost all new smartphones. We expect that Face ID is likely to be disruptive and to impact the market – we'll see Android Original Equipment Manufacturers' (OEMs) replicate Apple's move by integrating 3D facial recognition technology into their flagship models – however Fingerprint will continue to play an important role for OEMs both in single and multi-modal strategies.”

Full Product Description

This updated 188 page report is packed full of detail and analysis and includes an impact analysis on the launch of 3D facial recognition on the Apple iPhone X, a review of current global adoption, market analysis including key drivers and barriers for adoption, interviews with leading stakeholders, technology analysis with review of key biometric technologies and profiles of companies supplying biometric systems for mobile & wearable devices.

Report Contents/Forecasts:

- Executive Summary
- Market & Technology Analysis
- Definition

Mobile & Wearable Ecosystem

- Market Drivers & Barriers
- Regulation & Technology Standards
- Technology & Market Adoption
- Biometric Authentication
- Hardware Biometric Sensors
- Fingerprint
- Iris
- Face
- Heart (ECG)
- Software Biometric Technology
- Behavioral
- Eye Vein
- Face
- Voice
- Sensorless Fingerprint
- Vendor Review & Profiles

Six Year Forecasts 2017-2022:

- Global & Regional
- Device Shipments including Smartphone, Tablet, Wearable
- Mobile Biometric Hardware Sensor including Fingerprint, Iris, Face and Combined (Fingerprint+Iris+Face)
- Mobile Biometric Software License including Voice, Face, Eye Vein, Behavioral, Sensorless Fingerprint, Combined
- Mobile Users by Sector including Financial, Healthcare, Enterprise, Consumer
- Revenue / Hardware Biometric Sensors including Fingerprint, Iris, Face and Combined (Fingerprint+Iris+Face)
- Revenue / Software Licenses including Voice, Face, Eye Vein, Behavioral, Sensorless Fingerprint, Software Combined (Total)
- Wearable Biometric Authentication Total Users & Wearable ECG Devices

Coverage

This report covers the latest developments in this sector and covers key questions and topics that are a vital for this industry. They include key trends that are shaping the industry including:

- * Impact analysis on Apple Face ID facial recognition including its impact on fingerprint sensor integration
- * The emergence of multi-modal biometric authentication
- * The importance of liveness and anti-spoof technologies and how is this being integrated
- * How new smart mobile device design is affecting hardware biometric sensor design and integration
- * The latest M&A activity
- * Average Selling Price (ASP) for the fingerprint sensor market
- * What vertical sectors will be popular for mobile biometric authentication adoption
- * Is there a dominant model for deploying mobile-based biometrics?
- * When will we see a consumer wearable device that supports biometric authentication?
- * Will fingerprint biometrics continue to dominate the market?
- * What is the impact of emerging biometric technologies including iris, face, voice, behavioral and eye vein?

Companies Referenced in this report: 3M Cogent, Acer, Airwatch, Agnitio, Alcatel, Alibaba, Aoptix, Applied Biometrics, Apple, ARM, Asus, Atheer Labs, ATOS, BehavioSec, BioCatch, Biometrics Signature ID, BlackBerry, BLU, B-Secur, BioConnect, Brightek, bunq, Cognitec, Coolpad, CrucialTec, Daon, Delta ID, Diamond Fortress Technologies, Digital Insight, EBA, Egis Technology, EMVCo, Encap Security, Entrust, Epileds, Epistar, EyeLock, EyeVerify, Gionee, Fingerprint Cards, FingerQ, FlexEnable, FotoNation, Foxconn, Fujitsu, Fulcrum Biometrics, Gemalto, Goodix, Good Technology, Google, GSMA, Halifax Bank, Hisense, HP, HSBC, HTC, Huawei, HYPR, IDair, IDEX, iProov, IriTech, ISORG, LeEco, Lenovo, LG, KeyLemon, Kyocera, Meizu, Micromax, Microsoft, MobileIron, M2SYS, Nationwide Building Society, Nuance Communications, NeuroSky, NexID Biometrics, Nymi, Nok Nok Labs, NTT DOCOMO, OnePlus, Oppo, OSRAM, OXI Technology, Qihoo 360, Pantech, Precise Biometrics, Princeton Identity, Qualcomm, Royal Bank of Canada, RSA, Samsung, Safran Morpho, Sciometrics, Sensory Inc., Silead, Sharp, SoftKinetic, Sony, Sonavation, SRI International, STMicroelectronics, Synaptics, Tangerine, Tascent, TCL, The FIDO Alliance, USAA, VASCO, Veridium, Vivo, Vishay, Vkansee, VoiceTrust, VoiceVault, Wells Fargo, Xiaomi, ZTE, ZUK

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