

1. Forward
  - a. Goode Intelligence
  - b. Author
  - c. Report Scope
  - d. Goode Intelligence Methodology
  - e. Regional Definitions
2. Executive Summary
3. Market Analysis
  - a. Definition
    - i. Device-Based MBAS
    - ii. Server-Based MBAS
    - iii. Hybrid
  - b. Mobile & Wearable Biometric Ecosystem
    - i. Mobile & Wearable Device OEMs
    - ii. Chip Manufacturers
    - iii. Biometric Suppliers
      1. Hardware
      2. Software
    - iv. Security Vendors
      1. Authentication Vendors
      2. Enterprise Mobility Management
    - v. Mobile Network Operators
    - vi. Device Integrators
    - vii. Systems Integrators
    - viii. Service Providers
  - c. Market Drivers & Barriers
    - i. Market Drivers
    - ii. Market Barriers
  - d. Regulation & Technology Standards
    - i. Regulation
    - ii. Technology Standards
      1. The FIDO Alliance
      2. IEEE 4210-2014 Biometrics Open Protocol Standard (BOPS)
  - e. Technology & Market Adoption
    - i. Biometric Authentication
      1. Biometric Vendors in demand as M&A activity increases
    - ii. Hardware Biometric Sensor Technology
      1. Summary
      2. Fingerprint Sensor
        - a. Trends
        - b. Advantages and Disadvantages of Fingerprint Sensors
      3. Iris Hardware
        - a. Advantages and Disadvantages of Iris
      4. Heart (ECG)
        - a. Nymi Band
        - b. Other Activity
        - c. Advantages and Disadvantages of Heart (ECG)

- iii. Software Biometric Technology
  - 1. Behavioral Biometrics
    - a. Advantages and Disadvantages of Behavioral Biometrics
  - 2. Eye Vein
    - a. Advantages and Disadvantages of Eye Vein Biometrics
  - 3. Face
    - a. User Authentication – Daon IdentityX
    - b. Identity Verification – Applied Recognition
    - c. Advantages and Disadvantages of Face Biometrics
  - 4. Fingerprint (sensorless)
    - a. Advantages and Disadvantages of Sensorless Fingerprint Biometrics
  - 5. Voice
    - a. Advantages and Disadvantages of Voice Biometrics
- iv. Vendor Profiles
  - 1. Authentication Technology Vendors
    - a. Daon
    - b. Encap Security
    - c. HYPR
    - d. Nok Nok Labs
    - e. RSA
    - f. VASCO
    - g. Veridium
  - 2. Biometric Vendors and Service Providers
    - a. Behavioral
      - i. BehavioSec
      - ii. Biometric Signature ID
      - iii. BioCatch
    - b. Eye
      - i. Iris – EyeLock
      - ii. Iris – Delta ID
      - iii. Iris – FotoNation
      - iv. Iris - SRI International / Princeton Identity
      - v. Eye Vein – EyeVerify
    - c. Face
      - i. Applied Recognition
      - ii. Key Lemon
    - d. Fingerprint Sensor
      - i. Fingerprint Cards
      - ii. Goodix
      - iii. IDEX
      - iv. Precise Biometrics
      - v. Qualcomm
      - vi. Silead
      - vii. Sonavation
      - viii. Synaptics
      - ix. Vkansee

- e. Fingerprint Sensorless
        - i. Diamond Fortress
        - ii. IDair
        - iii. Veridium
      - f. Heart (ECG)
        - i. Nymi
        - ii. B-Secur
      - g. Voice
        - i. Nuance Communications
        - ii. VoiceVault
        - iii. VoiceTrust
- 4. Forecasts
  - a. Methodology & Assumptions
  - b. Device Forecasts
    - i. Smartphone Shipments
    - ii. Tablet Shipments
    - iii. Wearable Device Shipments
    - iv. Combined (total smart mobile and wearable device shipments)
  - c. Mobile Biometric Hardware
    - i. Fingerprint
    - ii. Iris
    - iii. Combined (Fingerprint + Iris)
  - d. Mobile Biometric Software (license)
    - i. Voice
    - ii. Face
    - iii. Eye Vein
    - iv. Behavioral
    - v. Sensorless Fingerprint
    - vi. Combined (Total software)
  - e. Mobile Users by Sector
    - i. Financial
    - ii. Healthcare
    - iii. Enterprise
    - iv. Consumer
  - f. Revenue
    - i. Biometric Hardware
      - 1. Fingerprint
      - 2. Iris
      - 3. Combined (Fingerprint + Iris)
    - ii. Biometric Software (licenses)
      - 1. Voice
      - 2. Face
      - 3. Eye Vein
      - 4. Behavioral
      - 5. Sensorless Fingerprint
      - 6. Combined (Total software)
    - iii. Wearable Biometric Authentication
      - 1. Total Users

- 2. Wearable ECG Devices
- 5. Appendices
  - a. Appendix I – Companies Referenced in this Report