Report Overview

Wearable Device Market and Forecast Report
The NPD DisplaySearch *Wearable Device Market and Forecast Report* utilizes our proprietary consumer usage research in five key markets (US, China, Japan, Germany, and UK), then models three future market development scenarios.

The report also provides in-depth analysis of wearable device value propositions, as well as detailed coverage of display, sensor, and communication technologies used in wearable devices.

**How can your company benefit from this report?**

- All industry participants can make better product planning decisions with a single point of reference:
  - A comprehensive list of devices and feature comparisons; analysis of digital health measurement technologies and their potential.
  - Insight into consumer preferences and usage
  - IC vendors can make better feature planning decisions for future devices
  - Brands can understand the wearable device market segmentation and development
  - Display vendors can identify market opportunities based on the needs of the market, enabling them to target specific products.
Report Coverage, Deliverables, Forecast Scenarios
Report Coverage Overview

- Market dynamics and segmentation
- Consumer study analysis
- Consumer study database
  - Optional upgrade that enables clients to drill down to specific data points
- Device categories
  - Activity trackers
  - Notifier bands
  - Smartwatches
  - Head-mounted displays
- Technologies
  - Accelerometer
  - Blood flow and heart rate
- Display technologies
  - AMOLED
  - PMOLED
  - AMLCD
  - STN LCD
  - LED
  - E-paper
  - Others
- Connectivity
- Software platforms
- Hardware platforms
- New areas
  - Textile technology
  - Design concepts
- Forecasting scenarios
  - Three future scenarios
  - Business models
  - Forecast data
Report Deliverables

**Analysis Report**
PowerPoint
- Detailed analysis of market segmentation, consumer preferences, applications, brands, technologies, displays, hardware, software, and scenario forecasts

**Forecast Pivot**
Excel
- Forecasts by scenario, wearable device type, eight regions, year, shipments, growth, ASP, and revenue

**Design & Features Database**
Excel
- Over 80 devices and 30 features tracked

**Consumer Study**
Excel
- **Optional upgrade** that enables clients to adjust consumer survey data, providing custom views of specific data points in each region

Contact us: [www.displaysearch.com](http://www.displaysearch.com)
Three Scenario Forecasts For Better Product Planning

All three forecast scenarios are based on the following assumptions:

- There are no breakthroughs in power consumption and energy storage (battery life issue)
- Privacy concerns and social attitudes restrict uptake of near-eye displays
- Voice control evolves but a touch screen remains the primary user interface
- Adoption correlates with smartphone ownership

Scenario 1: Forward into the past
- Wearable devices evolve in a way that is similar to Bluetooth headsets and mobile phones. Wealthy early adopters are the first owners. These high-status individuals reinforce the desirability of such devices. Market adoption trickles down to lower price points and less tech-enabled consumers. However, fashion fades and the market shrinks dramatically before becoming established. In time price erosion drives market expansion.

Scenario 2: Incidental to Essential
- What starts out as a casual purchase becomes essential due to the device’s intrinsic usefulness. Consumers become loyal to combinations of devices and services. Apple’s iTunes is a good example of this type of service.

Scenario 3: Persuasive and Pervasive
- A more positive shipment outcome than Scenario 2. The benefits to health become significant. Body sensing becomes a critical part of everyday life, triggering medical intervention, providing security and identification, and even providing assistance in daily living. Healthcare providers (private and state) adopt the technology.
### Forecast pivot table

- **Scenarios**
  - Forward to the past
  - Incidental to Essential
  - Persuasive to pervasive

- **Types**
  - Activity tracker
  - Smartwatch

- **Regions**
  - North America
  - China
  - Japan
  - Western Europe
  - Eastern Europe
  - Asia Pacific
  - Latin America
  - Middle East and Africa

- **Years**
  - 2012-2020

- **Shipments**
- **Growth**
- **ASP**
- **Revenue**

### Design and features database

- **Brand**
- **Product**
- **Format**
- **Display**
- **Sub-display**
- **Wireless 1**
- **Wireless 2**
- **Activity**
- **HR**
- **Step**
- **Sleep**
- **SMS**
- **Email**
- **Audio**
- **Microphone**
- **Telephony**
- **Camera**
- **Battery life (days)**
- **Display resolution**
- **Touch screen**
- **Vibration alert**
- **Accelerometer**
- **Magnetometer**
- **Barometer/altimeter**
- **GPS**
- **Connector**
- **Water resist**
- **iOS**
- **Android**
- **Blackberry**
- **Other**
- **Mac**
- **PC**
- **MSRP**
- **Remarks**
- **Website**
Analysis Table of Contents
Key Findings

Market Dynamics and Segmentation
- Definition
- Market Segmentation
- Comparison With Other Consumer Electronics
- Wearable Market Dynamics

Wearables Usage: Meeting Consumer Needs
- What Do Consumers Want from Wearable Electronics?
- Features Popularity
- Innovation in Devices
- Where Are Current Wearable Categories?

Activity Trackers
- Why Activity Trackers?
- Comparison of Lifestyles
- Clinical Trials for Health Applications
- Activity Tracker Description
- Fitness Trackers: Apps
- Activity Trackers from China
- Key issues for Activity Trackers
Notifier Bands
- Notifier Bands from China
- Martian Notifier Watch

Smartwatches
- Smartwatches
- How Screen Size Defines Usage Pattern
- Glanceable Displays: The Essence of a Smartwatch?
- Internet of Things and Smartwatches
- Bluetooth Beacons
- Pebble
- Samsung Galaxy Gear
- Sony
- Apple
- Watch phones
- Key Issues for Smartwatches
PowerPoint Analysis: Table of Contents (3/7)

- Head Mounted Displays
  - Google Glass (1)
  - Google Glass (2)
  - Google Glass (3)
  - Recon Optical
  - Waveguide Imaging
  - Samsung
  - Fashion
  - Productivity Applications
  - Near-Eye Forecast

- Basic Technologies
  - Motion Sensors: Accelerometers and Gyros (1)
  - Motion Sensors: Accelerometers and Gyros (2)
  - Sleep
  - Heart Rate
  - Optical Blood Flow Measurement (1)
  - Optical Blood Flow Measurement (2)
  - Heart Rate Variability
  - Heartbeat for Personal Identification
  - Temperature
  - Waterproofing (1)
  - Waterproofing (2)
  - Gesture Control
PowerPoint Analysis: Table of Contents (4/7)

- Displays for Wearable Devices
  - Displays for Wearables
  - Display Technology (1)
  - Display Technology (2)
  - Display Technology (3)
  - Display Cost By Size and Technology
  - Display Cost By Resolution and Technology
  - Passive Matrix OLED
  - Active Matrix OLED
  - Active Matrix LCD
  - Bi-Stable LCD
  - LED
  - Electrowetting
  - E-Paper
  - Touch Screens
  - Capacitive Touch
  - iPhone Projected Capacitive Structure
  - Smartwatch: Touch Screen Shipment, Revenue, and Technology
  - TPK: Apple iWatch and Silver Nanowires
  - Flexible Displays
Software Platforms
- Android Wear
- Sensor Platforms
  - InvenSense
Hardware Platforms
- MIPS
- ARM (1)
- ARM (2)
- Ineda
- Intel Quark (1)
- Intel Quark (2)
- Ingenic
- Mediatek
Connectivity
- Sensors for Wearable Devices
  - ANT+
  - Bluetooth 4.0
  - Zigbee
- Communication Chips and Solutions for Wearables
PowerPoint Analysis: Table of Contents (6/7)

- Textile Technology
  - Conductive Fibers
  - Heapsylon
  - Nike Running Shoes
  - Glowfaster
- Design Ideas
  - Design
  - Invisible Displays: Misfit Shine and Mutewatch
  - Kiroco
  - Reebok Checklight
  - MC10 Biostamp
- Consumer Research (contact us for more information on this chapter)
  - Methodology
  - Wearable Device Ownership
    - Uses and Purchase Plans for Friends and Family
  - Wearable Device Enthusiasts
    - Interest, Usage and Purchase Likelihood
  - Demographics and its impact on Wearable Device Usage
- The Challenge of Smartphones
- Scenarios and Ecosystems
  - Market Development
  - Business Models
- Forecast Scenarios
  - Forecast Scenario 1: Forward into the Past
  - Forecast Scenario 2: Incidental to Essential
  - Forecast Scenario 3: Persuasive and Pervasive
- Comparison of Scenarios: Total Shipments
- Comparison of Scenarios: Total Revenues
- Comparison of Scenarios: Average Selling Prices (1)
- Comparison of Scenarios: Average Selling Prices (2)
- Regional Demand
- Forward to the Past Scenario: Regional Splits
- Incidental to Essential Scenario: Regional Splits
- Persuasive and Pervasive Scenario: Regional Splits
Consumer Study
Optional upgrade
Consumer Study Overview

- The consumer study database is an optional upgrade for clients of the base report.
- This adjustable database provides customized views of the research results, providing more detailed insights by demographic than the base report.
Detailed Survey Methodology

- A survey of 2,500+ smartphone owners across five key global markets provides insights into their ownership and/or willingness to purchase wearable devices.
  - Panelists were selected by a double opt-in process to ensure authenticity.
  - Panelists who did not own smartphones were disregarded based on the common assumption that most owners use a smartphone to manage their wearable device.

Five Key Markets Covered

- US
- Japan
- China
- Germany
- UK
Regional Contacts

North America
TV
Richard Alires
Richard.Alires@DisplaySearch.com

Equipment, Panel & Technology
Pat Maki  
Pat.Maki@DisplaySearch.com

IT & Digital Signage
Gerry McGinley
Gerry.McGinley@DisplaySearch.com

Europe/Middle East
Shawn Feddeler
Shawn.Feddeler@DisplaySearch.com

China
Jade Hsueh
Jade.Hsueh@DisplaySearch.com

India
Indrajit Ghosh
Indrajit.Ghosh@DisplaySearch.com

Japan
Shoichi Hiramatsu
Hira@DisplaySearch.com

Taiwan
Jessica Tung
Jessica.Tung@DisplaySearch.com

Korea
Sangmi Ko
Sangmi.Ko@DisplaySearch.com

For all global office locations, please visit:
www.DisplaySearch.com/contact

Blog
Read how DisplaySearch top analysts are interpreting up-to-the minute issues that impact the display industry.

Twitter
Follow @DisplaySearch
twitter.com/DisplaySearch

Information
General information and questions about DisplaySearch
contact@DisplaySearch.com