Tractica; Smart Clothing and Body Sensor Shipments to Total 190 Million through 2021, According to Tractica
484 words
16 May 2016
Journal of Engineering
JOENG
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English

2016 MAY 16 (VerticalNews) -- By a News Reporter-Staff News Editor at Journal of Engineering -- The market for smart clothing and body sensors is developing rapidly, with a proliferation of form factors and a high level of innovation in the use cases and application markets being served. According to a new report from Tractica, the long-term market opportunity is particularly large for body sensors given the diversity of device types being developed and the specialized applications being pursued. The market intelligence firm expects that healthcare will be one of the biggest markets for these sensors, particularly connected wearable patches, but other key application markets will include consumer, sports, enterprise, and industrial.

Tractica forecasts that cumulative worldwide shipments of smart clothing and body sensors will total 190 million units between 2015 and 2021, with annual shipments reaching 92.7 million devices by the end of that period. The firm anticipates that body sensors will represent approximately 70% of the total market, with smart clothing accounting for about 30%.

"Smart clothing and body sensors can be considered the ultimate wearables, integrating into your life as a garment, footwear, or sensor device that can track or measure a specific physiological or biometric attribute," says research director Aditya Kaul. "Unlike fitness trackers, smart watches, or smart glasses, which have fairly well-defined form factors and use cases, smart clothing and body sensors are seeing a greater degree of experimentation and innovation. The applications for these devices span a range of markets including high fashion, medical devices, professional apparel, professional sports, mental wellness, and baby monitors, to name a few."

Tractica's report, "Smart Clothing and Body Sensors", covers the global market for smart clothing and body sensors, including an in-depth examination of market drivers and challenges, technology issues, and key industry players. The study provides worldwide forecasts for unit shipments and revenue through 2021, segmented by device type, application market, world region, and connectivity technology. Strategic recommendations are also provided for current industry participants, as well as those who are looking to enter the market. An Executive Summary of the report is available for free download on the firm's website. About Tractica Tractica is a market intelligence firm that focuses on human interaction with technology. Tractica's global market research and consulting services combine qualitative and quantitative research methodologies to provide a comprehensive view of the emerging market opportunities surrounding User Interface Technologies, Biometrics, Digital Health, Wearable Devices, and Automation & Robotics. For more information, visit www.tractica.com [http://www.tractica.com] or call +1.303.248.3000. View source version on businesswire.com: http://www.businesswire.com/news/home/20160428006469/en/ [http://www.businesswire.com/news/home/20160428006469/en/]

Keywords for this news article include: Tractica, Technology, Investment and Finance.

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Smart Clothing and Body Sensors: Market Analysis and Forecasts
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11 May 2016
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PRN

English

LONDON, May 11, 2016 /PRNewswire/ -- EXECUTIVE SUMMARY
1.1 INTRODUCTION
Smart clothing and body sensors can be considered the ultimate wearables, something that integrates into your life as a garment, footwear, or a sensor device that can track or measure a specific physiological or biometric attribute. Unlike fitness trackers, smart watches, or smart glasses, which have fairly well-defined form factors and use cases, smart clothing and body sensors are seeing a greater degree of experimentation and innovation in use cases. The applications for smart clothing and body sensors span multiple domains including sports, consumer, healthcare, public safety, industrial, and enterprise. This is the second edition of Tractica's Smart Clothing and Body Sensors report, providing an update on market developments and trends during the last 12 months. Since the last edition, the market has seen a fairly significant amount of activity. In this edition, Tractica has expanded the report's scope to include new device segments like smart footwear in smart clothing; and wearable patches, movement sensors, and wrist devices within body sensors. Compared to last year, the healthcare and sports segments in particular are seeing more activity around body sensors. In North America, Major League Baseball (MLB) approved the use of specific body sensor wearables on the field during games. Big pharmaceutical companies like GlaxoSmithKline and Novartis and healthcare device companies like Philips are using body sensors for clinical trials. Google's Project Jacquard
and Jabil's acquisition of Clothing+ suggest that the smart clothing sector is developing at a fast pace both in terms of technology and in manufacturing capabilities. Within smart clothing, we are very close to seeing established sports apparel and footwear brands, or high-street clothing brands launch products that incorporate smart clothing features. Under Armour has already taken the lead, launching one of the first commercial smart shoes.
Overall, the market for smart clothing and body sensors is moving in the right direction, although the body sensors market is estimated to be larger in the long run due to a wider variety of device types and application markets. Also, healthcare is estimated to be one of the biggest drivers for body sensors, particularly connected wearable patches. This report highlights the drivers and barriers for both smart clothing and body sensors, providing a snapshot of the market over the last 12 months and how it will grow in the next 5 years. The forecasts for smart clothing and body sensors are segmented by region, application market, and connectivity technology. Strategic recommendations are also provided for the players currently participating in this market and for those looking to enter the market.
1.1.1 SMART CLOTHING
The smart clothing market is seeing the most amount of activity within the sports and fitness area, with sensor-infused shorts, bras, and footwear tracking both biometric and physiological activity. Smart clothing companies hope to compete against fitness trackers and smart watches by providing better accuracy and the ability to target specific niche features like tracking muscle activity. However, the potential of smart clothing extends beyond sports and into the general consumer sector as brands like Levi's partner with Google in exploring new clothing-based Another area where we are starting to see the adoption of smart clothing is in professional uniforms, which is also measured under industrial applications. The EasyJet partnership with CuteCircuit is a good example of smart clothing entering the professional uniform space. Uniforms for airlines, hospitals, train companies, road workers, and other professions with a safety component, either for customers or workers, should begin seeing adoption.
1.1.2 BODY SENSORS
Body sensors come in many shapes and sizes, including heart straps worn on the chest, headbands used for electroencephalograms (EEGs) to measure activity of the brain, posture monitors for detecting posture, baby and pregnancy monitors for measuring vitals and movement of a baby, and various other sensors used in both healthcare and sports settings, including movement sensors, wrist devices, and connected

wearable patches. The market for body sensors today is in the very early stages, with heart straps being the most prevalent device. Most devices like baby and pregnancy monitors, posture monitors, and headbands are targeting a niche target audience. The healthcare market is expected to provide the largest impetus to this market, with pharmaceutical companies and healthcare device companies beginning to explore the use of body sensors for clinical trials and remote patient monitoring. By 2021, Tractica expects wearable patches to become mainstream with hospitals and clinics using these on a regular basis to keep track of patients and for medication adherence. Also, body sensors are seeing mainstream adoption by sporting leagues like MLB, with the U.S. market slowly accepting the use of on-field body sensors. However, the sports market for body sensors will not represent large volumes, as the population of players is much smaller compared to the number of patients that could be treated by a body sensor.

1.2 MARKET DRIVERS

Smart clothing will benefit from users looking for something beyond fitness trackers and smart watches, including better accuracy, convenience, specific statistics like muscle oxygen levels, and a deeper understanding of their fitness levels. According to the U.S. National Institutes of Health (NIH), close to 300 trials in the country are using wearables, mostly by pharmaceutical companies for clinical trials. This will have a direct impact on the use of body sensors, especially wearable patches and wrist devices. New technologies like laser cutting, assembly by lamination, or ultrasonic welding ensure that the sensors feel like they are part of the garment itself. Google's Project Jacquard is also another example of work being done to produce conductive yarns that can be used to weave a complete smart garment, with button like modules providing connectivity. Project Jacquard is also an attempt at finding alternate user interfaces (UIs) for smartphones, with clothes becoming a natural and effective medium. All of these advances will ensure smart clothing becomes more comfortable to wear, utilitarian, and easier to manufacture. Smart clothing also has potential in the area of professional workwear uniforms, which are used in hospitals, leisure, hospitality, public safety, transportation, and education sectors, among others. Smart clothing in uniforms can be used for a variety of use cases, including helping with establishing authority, improving productivity and performance, and promoting health and wellbeing.

1.3 MARKET BARRIERS

The types of specialized and detailed metrics that smart clothing products provide, including heart rate variability or muscle oxygen saturation, do not appeal to the average consumer. Unless some of this detailed information is put into context and explained in simple language, providing customized insights into the fitness level of a general consumer, smart clothing is likely to remain niche. Also, most smart clothing companies are focused on getting their product right, having customers feel comfortable wearing the product, or having the companion app work seamlessly on the smartphone. The next stage, which is critical in building stickiness, is building analytics and machine learning capabilities that can adjust and provide customized analysis and push users to their limit, while enhancing their fitness or wellness levels.

Smart clothing brings together two diverse and separate ecosystems: textiles and electronics. Although these two industries can come together to build prototypes or limited batch garments, the main challenge is working together to create standardized processes for high-volume manufacturing. For smart clothing to grow beyond sports and high-end fashion, one needs an Apple or a GoPro type of device that can make smart clothing cool and desirable, but, at the same time, affordable and not only for the high end. This would involve popular clothing brands like Gap, Zara, or H&M introducing a smart clothing line with a smartphone or connected element. Only fashion brands with that level of brand and scale can handle the manufacturing challenges and create awareness within the general consumer base. Body sensors like wearable patches have several technological challenges that limit their longevity and the amount of time they can be used. This has an impact on body sensor readiness for clinical trials. There are also questions about data accuracy, data compliance across different systems that analyze clinical data, data security and privacy, dealing with noisy data, and the high

volumes of data that need to be analyzed and converted into meaningful outcomes.

1.4 MARKET FORECAST

Tractica forecasts that overall shipments of smart clothing will grow from 968,000 units in 2015 to 24.75 million units in 2021, representing a CAGR of 71.6%. The body sensor market includes heart rate straps, baby and pregnancy monitors, headbands, posture monitors, and 3D trackers, wrist devices, movement sensors, and wearable patches. Overall shipments will increase from 2.7 million in 2015 to 68.0 million in 2021.

interactions with smartphones. Within the industrial space, smart clothing will be used by personnel that work with heavy machinery or in hazardous conditions to measure fatigue.

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Research Advisor at Reportbuyer.com
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Global Smart Clothing and Body Sensors Market 2016-2021 - Shipments to Total 190 Million - Research and Markets

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3 May 2016
India Retail News
ATRTAL
English

May 3 -- Research and Markets has announced the addition of the "Smart Clothing and Body Sensors 2016" report to their offering.

Smart clothing and body sensors can be considered the ultimate wearables, something that integrates into your life as a garment, footwear, or a sensor device that can track or measure a specific physiological or biometric attribute. Unlike fitness trackers, smart watches, or smart glasses, which have fairly well-defined form factors and use cases, smart clothing and body sensors are seeing a greater degree of experimentation and innovation in use cases. The applications for smart clothing and body sensors span multiple domains including sports, consumer, healthcare, public safety, industrial, and enterprise.

The market for smart clothing and body sensors is developing rapidly, although the body sensors market is likely to be larger in the long run due to a wider variety of device types and application markets. Healthcare is expected to be one of the biggest drivers for body sensors, particularly connected wearable patches, but other key application markets will include consumer, sports, enterprise, and industrial. The author forecasts that total shipments of smart clothing will grow from 968,000 units in 2015 to 24.8 million units in 2021. Meanwhile, body sensor shipments are expected to increase from 2.7 million in 2015 to 68.0 million units annually by 2021.

This report covers the global market for smart clothing and body sensors, including an in-depth examination of market drivers and challenges, technology issues, and key industry players. The study provides worldwide forecasts for unit shipments and revenue through 2021, segmented by device type, application

market, world region, and connectivity technology. Strategic recommendations are also provided for current industry participants, as well as those who are looking to enter the market.

Key Questions Addressed:

* How has the smart clothing and body sensor market changed over the last 12 months?
* Will sports remain the primary application market for smart clothing and body sensors in 2021?
* What are the implications of smart clothing and body sensors for general consumer applications?
* What role do smart clothing and body sensors have in the healthcare sector?
* What are some of the key challenges that need to be overcome for smart clothing to become mainstream?
* How are body sensors different from smart watches and fitness trackers and what is their significance?
* What is the regional outlook for smart clothing and body sensors?

Device Categories

* Sports and Fitness Apparel
* Smart Footwear
* Fashion Apparel
* Baby and Pregnancy Monitors
* Headbands
* Heart Rate Monitors
* Posture Monitors
* 3D Trackers
* Wrist Device
* Movement Sensors
* Wearable Patches

Application Markets

* Consumer
* Enterprise
* Industrial
* Public Safety
* Healthcare
* Sports
* Others

Key Topics Covered:

SECTION 10 Scope of Study
For more information visit http://www.researchandmarkets.com/research/svtddd/smart_clothing [http://www.researchandmarkets.com/research/svtddd/smart_clothing]
Source: Research and Markets
Athena Information Solutions Pvt. Ltd.
Document ATRTAL0020160504ec5300093

Deutsche Telekom plans new partnerships in smart clothing business
102 words
25 April 2016
German Collection
GERCOL
English

German telecommunications company Deutsche Telekom wants to tap into the smart clothing business and therefore plans new partnerships to help it enter the business with digital clothing and accessories offerings.
This is what the telecom's board member responsible for technology Claudia Nemat told German newspaper Rheinische Post. As a telecommunications company, Deutsche Telekom wanted to cooperate significantly more with fashion and sports goods manufacturers, so it could benefit from the trend of smart clothing, Nemat explained.
Abstracted from an original article in Die Welt (Deutsche Telekom setzt auch auf Mode).
Source: (BH/BH/BH)
AII Data Processing Limited
Document GERCOL0020160425ec4p000ul

Smart Clothing and Body Sensors
490 words
1 April 2016
MarketResearch.com
MRKRE
English

Published By: Tractica
Smart Clothing and Body Sensors
Connected Sports and Fitness Apparel, Smart Footwear, Fashion Apparel, Baby and Pregnancy Monitors, Heart Rate Monitors, Headbands, Posture Monitors, 3D Trackers, Wrist Devices, Movement Sensors, and Wearable Patches: Market Analysis and Forecasts
Smart clothing and body sensors can be considered the ultimate wearables, something that integrates into your life as a garment, footwear, or a sensor device that can track or measure a specific physiological or biometric attribute. Unlike fitness trackers, smart watches, or smart glasses, which have fairly well-defined form factors and use cases, smart clothing and body sensors are seeing a greater degree of experimentation and innovation in use cases. The applications for smart clothing and body sensors span multiple domains including sports, consumer, healthcare, public safety, industrial, and enterprise.
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This Tractica report covers the global market for smart clothing and body sensors, including an in-depth examination of market drivers and challenges, technology issues, and key industry players. The study provides worldwide forecasts for unit shipments and revenue through 2021, segmented by device type, application

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Will sports remain the primary application market for smart clothing and body sensors in 2021?
What are the implications of smart clothing and body sensors for general consumer applications?
What role do smart clothing and body sensors have in the healthcare sector?
What are some of the key challenges that need to be overcome for smart clothing to become mainstream?
How are body sensors different from smart watches and fitness trackers and what is their significance?
What is the regional outlook for smart clothing and body sensors?
Who Needs This Report?
Wearable device vendors
Smart clothing companies
Body sensor vendors
Clothing and apparel companies
Smart textile manufacturers
Biometric technology companies
Electronic and sensor component vendors
Investor community
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Document MRKRE00020160504ec41008df

@HD New Head S/C;Wearable technology checks how we move and breathe and live New Screen/briefs Text - no indent;Wearable technology has taken the world by storm. We wear everything from smart watches, activity trackers, baby pacifiers that record vital signs, smart glasses that let us see and search online, smart clothing that registers vital signs and controls music. Its influence today seems boundless.
591 words
22 March 2016
The Nation
THENAT
English

@HD New Head S/C;Wearable technology checks how we move and breathe and live@BT New Screen/briefs Text - no indent;Wearable technology has taken the world by storm. We wear everything from smart watches, activity trackers, baby pacifiers that record vital signs, smart glasses that let us see and search online, smart clothing that registers vital signs and controls music. Its influence today seems boundless.
Wearable technology can provide us with more convenience and data than we were ever able to get before through more conventional methods. The list goes on
Smart watches let us read emails, messages and notifications without taking out our phones. Activity trackers help us stay healthy and report our habits of movement or the lack thereof. Smart baby pacifiers tell parents about their babies without disturbing nap time - but the largest benefit from wearables is in the health, medical and sports sectors.
With smart clothing, we can design suits or patches that keep track of signs and allow for movement when athletes train. We can also see if medications are taken at the proper time and how the body is responding to treatment.
The NFL fitted 1,696 players with RFID chips that sent back details of position, pace, distance travelled and acceleration in real time during games. Such data helps better understand how hard

are our bodies when we exercise, along with performance information.

Climbers and divers can track heart rate, blood oxygen levels and body temperature. We can have smart coaches that provide a fitness platform for us when we exercise and monitor our body movements when we practise yoga , giving feedback performance and what can be improved on.

Golfers can track and analyse their swings to improve their game. We can even collect environmental information such as UV exposure and have our clothing remind us to put on more sunscreen at the beach.

The data that wearable technology provides will help us better understand how we can make life easier and in many cases, the solution to making life easier. Feedback helps analysts gain insights into behaviour, habits and patterns which then lead into better marketing, product development, innovation and services.

Wearables have security applications too. Many places use them as tracking devices in prisons and offices providing access and location information.

Wearables don't have to be just about information. They have entered the fashion world, with clothing that lights up and changes to music or movement. Celebrities strut illuminated gowns in shows and on red carpets.

Wearables don't just focus on fashion but can add to safety. Cyclists wear jackets or backpacks that track speed to monitor if they need to slow down; indicators light up red to let road users behind know they are reducing speed or indicate they are turning. Traffic police and emergency crews have vests that light up to help identify them and make them more visible to motorists. The application of wearables provides whatever information we may want to know about our bodies and our surroundings - or just make our outfits standout in the crowd.

Badee Somboonpakron is technical director at Havas Worldwide Bangkok

Nation News Network Co., Ltd.
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VTT Technical Research Centre of Finland; Smart clothing of the future will automatically adjust itself

533 words
21 March 2016
Journal of Engineering
JOENG
1311
English

2016 MAR 21 (VerticalNews) -- By a News Reporter-Staff News Editor at Journal of Engineering -- VTT: Smart clothing of the future will automatically adjust itself according to the wearer's actual needs VTT Technical Research Centre of Finland Ltd has developed new technology that takes care of the thermal, moisture and flow-technical behaviour of smart clothing. The temperature of smart clothing, for example, is automatically adjusted according to the wearer's individual needs. The technology is also suited to demanding conditions such as hospitals and sports.

In its Smart Clothing project, VTT developed a technology that can be utilised in smart fabrics and clothing, able to calculate whether the wearer needs to be cooled or warmed based on initial data measured from the person and the environment. Furthermore, this technology is able to determine the needed warming or cooling power so that the thermal sensation of the person wearing the smart clothing remains optimal in varying conditions. The smart fabrics and clothing currently on the market faces the challenge of adjusting the individual temperature of a human body rapidly and automatically according to the wearer's actual need.

The technology is based on the Human Thermal Model calculation tool developed by VTT, enabling the calculation of a person's individual thermal sensation from the prevailing conditions. Individual thermal sensations are ultimately caused by differences in body composition. There are statistically significant differences between men and women, for example, because men have on average 5 to 15 kg more muscle mass than women. The wearable smart technology developed by VTT can be applied extensively even in demanding conditions, such as hospitals, nursing homes,

and different consumer groups such as police officers, firemen, soldiers, outdoor workers, athletes and small babies.
In hospitals, the technology enables new solutions and makes individual treatment more effective. Wearable technology helps surgeons if they get too hot during an operation. The clothing is constantly calculating and adjusting how much the surgeon's body needs to be cooled. "Hospital patients have been asked about their most unpleasant experience, and the most common answer is feeling cold -- pain comes only second", says Principal Scientist Pekka Tuomaala from VTT. For example, patients often feel cold after surgery. Body temperature can be individually adjusted, when a smart blanket identifies the person, measures the ambient temperature and adjusts the blanket's temperature to meet the patient's actual needs.
The Taiwan Textile Research Institute has already tested VTT's methods in designing clothing for long-distance runners in different temperatures. The technology can also be utilised when developing solutions for the individual recovery after a sporting event.
"VTT is now looking for companies to join in the development and productisation of this technology for the market. We also have extensive technological know-how, for example in fibre technology of the future, functional clothing solutions such as microfluidics, and detectors, sensors and the Internet of Things", Tuomaala says.
Keywords for this news article include: Hospital, Technology, VTT Technical Research Centre of Finland.

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Hans
Feeling hot? Smart clothing could help you stay cool
THE HANS INDIA
296 words
13 March 2016
The Hans India
HANIND
English

Forget air conditioners, smart clothing of the future may help you stay cool on a hot summer day. Scientists in Finland have developed a new technology that can lead to clothes with the ability to automatically adjust temperature according to the wearer's actual needs.
Developed by scientists at VTT Technical Research Centre of Finland Ltd, a leading research and technology company in the Nordic countries, the new technology takes care of the thermal, moisture and flow-technical behaviour of smart clothing.
The technology is based on the Human Thermal Model calculation tool developed by VTT, enabling the calculation of a person's individual thermal sensation from the prevailing conditions, an official statement said.
Individual thermal sensations are ultimately caused by differences in body composition. There are statistically significant differences between men and women, for example, because men have on average five to 15 kg more muscle mass than women.
The wearable smart technology can be applied extensively even in demanding conditions, such as hospitals, nursing homes, and different consumer groups such as police officers, firemen, soldiers, outdoor workers, athletes and small babies, the researchers said.
"VTT is now looking for companies to join in the development and productisation of this technology for the market," said principal scientist Pekka Tuomaala from VTT.
"We also have extensive technological know-how, for example in fibre technology of the future, functional clothing solutions such as microfluidics, and detectors, sensors and the Internet of Things", Tuomaala noted.
The Taiwan Textile Research Institute has already tested VTT's methods in designing clothing for long-distance runners in different temperatures. The technology can also be utilised when

developing solutions for individual recovery after a sporting event, the statement added.
Hyderabad Media House Limited
Document HANIND0020160313ec3d000e7

INTERNATIONAL
New smart clothing can adjust itself to your needs
365 words
10 March 2016
Press Trust of India
PRTRIN
English

London, Mar 10 (PTI) Scientists in Finland have developed a new technology for smart clothing that automatically adjusts its temperature depending on the wearer's actual needs.
The technology can be utilised in smart fabrics and clothing that are able to calculate whether the wearer needs to be cooled or warmed based on initial data measured from the person and the environment.
Furthermore, this technology is able to determine the needed warming or cooling power so that the thermal sensation of the person wearing the smart clothing remains optimal in varying conditions, according to researchers VTT Technical Research Centre of Finland.
The smart fabrics and clothing currently on the market faces the challenge of adjusting the individual temperature of a human body rapidly and automatically according to the wearer's actual need.
The technology is based on the Human Thermal Model calculation tool, enabling the calculation of a person's individual thermal sensation from the prevailing conditions.
Individual thermal sensations are ultimately caused by differences in body composition. There are significant differences between men and women, for example, because men have on average 5 to 15 kg more muscle mass than women.
The wearable smart technology sustainablycan be applied extensively even in demanding conditions, such as hospitals, nursing homes, and different consumer groups such as police officers, firemen, soldiers, outdoor workers, athletes and small babies.
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The clothing is constantly calculating and adjusting how much the surgeon's body needs to be cooled.
"Hospital patients have been asked about their most unpleasant experience, and the most common answer is feeling cold - pain comes only second", said Principal Scientist Pekka Tuomaala from VTT.
For example, patients often feel cold after surgery. Body temperature can be individually adjusted, when a smart blanket identifies the person, measures the ambient temperature and adjusts the blanket's temperature to meet the patient's actual needs.
The technology can also be utilised when developing solutions for the individual recovery after a sporting event. PTI MHN AKJ AMS
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International
Feeling hot? Smart clothing could help you stay cool
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10 March 2016
Indo-Asian News Service
HNIANS
English

London, March 10 (IANS) Forget air conditioners, smart clothing of the future may help you stay cool on a hot summer day. Scientists in Finland have developed a new technology that can lead to

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The Taiwan Textile Research Institute has already tested VTT's methods in designing clothing for long-distance runners in different temperatures. The technology can also be utilised when developing solutions for individual recovery after a sporting event, the statement added.
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Wearable Device Market Forecasts: Smart Watches, Fitness Trackers, Smart Glasses, Smart Clothing, Body Sensors, Wearable Cameras, and Other Wearable Devices for Consumer, Enterprise, Healthcare, Industrial, Public Safety, Sports, and Other Markets
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3 March 2016
18:12
PR Newswire (U.S.)
PRN
English

LONDON, March 3, 2016 /PRNewswire/ -- The wearables market in 2015 experienced ups and downs, but, overall, the market continues to be promising, with fitness trackers and smart watches being the main drivers of volume and growth. The wearables market experienced higher than expected growth in 2015, especially in fitness trackers, for which unit sales have doubled since 2014. Tractica's 1Q 2016 update has forecasts based on actual 2015 shipment data,
vendor activity, innovation over the past 12 months, and, notably, the consumer response to wearables during 2015. 2015 was the biggest year for wearables so far, with fitness trackers outperforming industry expectations, and smart watches coming out strong. While the Apple Watch performed lower than expectations in unit sales, in terms of dollars it is the largest revenue generator in the wearables market with an estimated $5.5 billion in revenue, outperforming even some smartphone device vendors. Meanwhile, whereas fitness is the overwhelming driver for wearables today, there are a number of micro-segments emerging from kids watches, to smart footwear, to elderly fall detectors, that will drive this market forward. Overall, wearables are part of a macro trend where computing is diverging from the smartphone and moving onto the body, driven by sensors, machine learning, big data analytics, and the need for more efficient user interfaces that can allow technology to fade into the background.

This Tractica report examines the market trends for wearable devices and presents 6-year market data and forecasts for wearable device shipments and revenue during the period from 2015 through 2021. The extensive and granular market data model covers a number of wearable device types including smart watches, fitness trackers, smart glasses, smart clothing, body sensors, wearable cameras, and other wearables like location trackers, smart jewelry, and gesture control devices. New categories of devices have also been added to this edition including smart footwear, smart headphones, and elderly fall detectors. The forecasts for each device type are segmented by world region, application market, and connectivity technology.

Key Market Forecasts

- Wearable Device Shipments and Revenue by Region, World Markets: 2015-2021
- Wearable Device Shipments and Revenue by Device Category, World Markets: 2015-2021
- Wearable Device Shipments and Revenue by Application Market, World Markets: 2015-2021
- Wearable Device Shipments and Revenue by Connectivity Type, World Markets: 2015-2021
- Smart Watch Shipments and Revenue by Region, World Markets: 2015-2021
- Smart Glasses Shipments and Revenue by Region, World Markets: 2015-2021
- Fitness Tracker Shipments and Revenue by Region, World Markets: 2015-2021
- Smart Clothing Shipments and Revenue by Region, World Markets: 2015-2021
- Body Sensor Shipments and Revenue by Region, World Markets: 2015-2021
- Wearable Camera Shipments and Revenue by Region, World Markets: 2015-2021 Device Categories
- Smart Watches
- Smart Glasses
- Smart Clothing
- Fitness Trackers
- Body Sensors
- Wearable Cameras
- Baby/Pregnancy Monitors
- Headbands
- Heart Rate Monitors
- Posture Monitors
- 3D Trackers
- Wrist Devices
- Movement Sensors
- Wearable Patches
- Location Trackers
- Smart Jewelry
- Gesture Control
- Smart Headphones
- Pain Management Devices
- Delivery Pods

Application Markets

- Consumer
- Enterprise
- Industrial
- Public Safety
- Healthcare
- Sports
- Others

Geographies

- North America
- Europe
- Asia Pacific
- Latin America
- Middle East and Africa

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For more information:

Sarah Smith
Research Advisor at Reportbuyer.com

Email: query@reportbuyer.com
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News News09
Apparel brands see smart clothing as the next big trend
Park Eun-jin
501 words
21 January 2016
Maeil Business Newspaper
MAEIL
English

Information technology (IT) is not all about high-tech devices and the Internet of Things platform, but also fashion. Smart clothing - which integrates fashion and IT - is poised to become another big thing in South Korea as demand for smart garments and accessories are rapidly growing

According to Samsung C&T's fashion division on Wednesday, sales of its Rogatis Smart Suit from September to December last year jumped 40 percent compared to the same period in the previous year. The suit, which hit stores in September 2014, provides consumers access to various features via a smartphone with a near field communication (NFC) tag embedded in the upper pocket and a sleeve button of the suit. The tag connected to a smartphone allows the wearer to set the phone to an office mode, meeting mode, or driving mode with a simple touch of the gadget on the suit button. Another touch to the tag would allow the smartphone to run a navigation app automatically during driving.

Samsung C&T's fashion division has also introduced Welt, a smart belt that tracks the size of waistline and checks steps taken at the Consumer Electronics Show in Las Vegas this year. It also unveiled the Sol Bag, a women's clutch bag that can charge smartphone batteries using solar panels.

Samsung C&T isn't alone in rushing to grab the share of the country's growing smart clothing industry. Black Yak, South Korea's leading outerwear brand, has also introduced its smart down jacket Yak On H in November last year. The jacket allows consumers to adjust the temperature and humidity using a smartphone. Its exothermic textile that covers the back produces heat raises the temperature of the jacket and enables consumers to remain warm even in the cold weather.

According to the company, the popularity of its smart down jacket has been rising that production of this particular outerwear is 10 percent higher than the average production of other goose-down products. The latest nationwide cold spell has also led sales of Yak On H to surge by more than 20 percent in the first two weeks of January compared to the last two weeks of December.

The growing popularity of smart clothing isn't only limited to South Korea - it is a worldwide trend on the back of technology development. According to Transparency Market Research, a global market research agency, the size of the global smart textile market reached $700 million last year. The market is projected to grow 1,005 percent in 2023 to reach $7.73 billion.

Among foreign apparel brands, Ralph Lauren has introduced a tennis shirt that can measure the heart rate while Tory Burch has introduced its Fitbit accessory, which can measure the amount of

daily workouts. Jeans brand Levi’s is also expected to unveil a new set of jeans that can be connected to smartphones.
MAEKYUNG.COM Inc.
Document MAEIL00020160121ec1l000jh

Finance
Wearable tech’s time has come; Smart clothing that does everything from track your vitals to protect your skin is a step closer to your retailer
Ciara O'Brien
1189 words
21 January 2016
The Irish Times
IRTI
5
English

Clothes that track your every move, shoes that tighten themselves, and a smart TV that keeps a watchful eye over your connected home. A mirror that analyses your body shape and allows you to virtually try on clothes. A TV so thin that you could roll it up and put it in your bag as you await the arrival of your drone to transport you to work at the touch of a button.
These are just some of the things demonstrated at the Consumer Electronics Show (CES) in Las Vegas earlier this month as the tech world provided a glimpse into the future.
For CES, 2016 is the year that wearable tech truly became wearable. And there is one thing that was clear: the future is rapidly approaching. The technology that had once been part of fiction - self-tightening shoes, anyone? - was now visible on the show floor. And while some of it was a bit rough around the edges, the direction that it was heading for was clear.
A wearable translator that translated English, Japanese and Chinese in real time jostled for headlines alongside high-tech sports goggles. Smart clothing that did everything from track your vitals to silence your phone is one step closer to your local retailer.
The new generation of wearables are a far cry from the smartwatches that dominated much of the talk around the category up until now. Despite the rise in the number of smartwatches and fitness bands hitting the market, it seems that consumers have yet to be convinced that the devices are worth the investment.
According to Juniper Research, Apple Watch accounted for 52 per cent of smartwatch shipments in 2015, while Android Wear made up only 10 per cent.
"The smartwatch is now a category waiting for a market," said Juniper's James Moar. "Newer devices have offered more polished looks and subtly different functions, but no large changes in device capabilities or usage. With smartwatch functions established, it is now up to consumers to decide if they want them, rather than technology companies providing more reasons."
Convincing consumers
But that hasn't stopped manufacturers from coming up with new products to try to convince users that they need to buy the devices. Take Fitbit, for example. Since Apple launched its smartwatch, the company has been subjected to speculation that Apple is coming for its wearable crown. So to counter the competition, it came up with the Blaze. A more approachable design than the Surge, the Blaze is designed to be a smart fitness watch, complete with metal and leather bands, and stainless steel frames. Aside from the usual fitness tracking and telling the time, it can be charged in two hours and has a battery that lasts about five days - one of the chief problems with smart watches.
Withings, meanwhile, has gone another route: simple, easy to use. The company that brought the Activite to the market has now come up with the simple to use Withings Go. The band measure steps, sleep, swimming and running, has an always-on e-ink display, comes in a range of colours and never has to be charged - its battery will last for several months and you swap it for a new one, just like the watches of old.
Sports is the obvious application when it comes to wearable technology. Not only can the use of technology make sports safer

for players, but it can also offer up insights that would be a lot harder to gain without it.
Although elite athletes have long been using technology to track performance, in the near future, that technology could be available to more than just the elite.
While Under Armour's tech aspirations have been long flagged - the company has gone on a spree that saw it buy fitness apps such as Map My Fitness, Endomondo and My Fitness Pal - New Balance recently announced plans to create a tech division.
As wearable technology becomes increasingly mainstream, more companies are making the leap into the sector. The one that stood out most in recent weeks was L'Oreal, which has developed a wearable sensor patch that monitors UV exposure. The heart-shaped patch is designed to be worn for up to five days, and gradually changes colour according to its UV exposure. Using a smartphone camera and an app, the information can be decoded, giving the wearer some information on their level of exposure to UV rays.
The patch was developed by L'Oreal and Irish design engineering firm PCH, with technology from Massachusetts-based MC10.
PCH's Liam Casey said he viewed the beauty industry as one that could help put wearables on the body, and indicated the patch was just the first in a range of products that will emerge from the partnership.
My UV Patch is part of L'Oreal's plan to help raise awareness of skin health and the risks that come with overexposure to UV rays.
And there is a pay-off for L'Oreal too; although the patch will be made available free of charge to customers, some anonymised data gathered via the accompanying app could be used to develop L'Oreal products in the future.
Clothing transformed
It has also caused a crossover in the other direction. Samsung was just one company that showed off high-tech clothing at CES, with a smart suit that had a programmable button that used NFC to communicate with phones. That meant it could do anything from transfer contact information to change your phone's mode.
Although the clothing itself wasn't smart, the addition of the button was an interesting take on how the future could look.
At the more high end was the Body Compass, which puts sensors into sports clothing that can give you information on your heart rate, body fat and breathing, plus provide you with real-time feedback through an app on how you're performing. It can keep track of your workout progress and even correct your form if it needs to.
It echoes Google's Project Jacquard, which weaves technology into fabric to create smart clothes. At this year's CES, there was plenty of that going around. Hexoskin's smart shirt, available for pre-order, measures a range of body metrics, from ECG and respiration rate to sleep. Unlike the Body Compass, it's machine washable, a bonus for sportswear. All the data is fed into an app, and it works on Open API, which allows you access the raw data and feed it into your own analytics.
Expect to see more of this. At this year's CES in Las Vegas, Intel revealed a computer the size of a button that could cost as little as $10, that could be used in wearables. The ambition is smaller, more powerful wearables that are more accurate than anything we've seen to date.
Suddenly, the future doesn't really seem so far away.
Itronics Limited
Document IRTI000020160121ec1l00041

Samsung smart clothing from wellness belts to solar-charging bags (pictures)
Shara Tibken
46 words
7 January 2016
CNET News.com
CNEWSN
English

Samsung's sister company, Samsung C&T, showed off its WELT smart belt; the Sol Bag, which charges a phone in four hours using solar power; and smart clothing, like a suit.

CNET Networks Inc.
Document CNEWSN0020160107ec1700005

Wearable Device Market Forecasts: Smart Watches, Fitness Trackers, Smart Glasses, Smart Clothing, Body Sensors, Wearable Cameras, and Other Wearable Devices for Consumer, Enterprise, Healthcare, Industrial, Public Safety, Sports, and Other Markets

481 words
31 December 2015
10:08
PR Newswire (U.S.)
PRN
English

LONDON, Dec. 31, 2015 /PRNewswire/ -- Human interaction with computing devices has quickly moved beyond the personal computer to include smartphones and tablets, and now stands on the brink of further diversification as the user interface moves closer to the body. Wearable computing is moving past the early adopter stage and the industry is beginning to see the first glimpses of how it will have a profound influence on the future of human interaction with technology. The wearables market is a mix of several different device categories, all of which are worn or attached to the body to serve a specific purpose. These wearables range from devices worn on the wrist, back, chest, head, foot, or clothing, and can serve a range of purposes from tracking health and wellbeing, to recording events, to simply providing informational notifications.

In 2015, one of the first mass-market consumer wearables, the Apple Watch, will hit the market. The wearables market has lacked a true "hero" device until now, and Tractica believes that Apple will provide the momentum and scale to drive significant awareness and growth in the sector, just as it did previously for smartphones and tablets. However, the wearables market is bigger than just the smart watch category and Apple, with a long tail of applications and use cases emerging around enterprise, sports, industrial, healthcare, and public safety. Tractica forecasts that the overall wearables market will grow from 17.0 million device shipments in 2013 to 187.2 million units by 2015, representing a compound annual growth rate of 34%.

This Tractica report examines global market trends for wearable devices and presents 7-year market sizing and forecasts for device shipments and revenues during the period from 2013 through 2020. The comprehensive market model is segmented by device category including smart watches, fitness trackers, smart glasses, smart clothing, body sensors, wearable cameras, and other wearables such as location trackers, smart jewelry, and gesture control devices. The forecasts for each device type are also segmented by world region, application market, and connectivity technology.

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For more information:
Sarah Smith
Research Advisor at Reportbuyer.com
Email: query@reportbuyer.com
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enterprise-healthcare-industrial-public-safety-sports--300198196.html]
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Smart Clothing and Body Sensors: Connected Sports and Fitness Apparel, Fashion Apparel, Baby and Pregnancy Monitors, Heart Rate Monitors, Headbands, Posture Monitors, and 3D Trackers
512 words
21 December 2015
18:47
PR Newswire (U.S.)
PRN
English

LONDON, Dec. 21, 2015 /PRNewswire/ -- As the age of wearable computing dawns, everyday body-worn objects such as watches and glasses are getting smarter and connected. Smart clothing is no different, serving in part as a fashion accessory, but mostly driven by the "quantified self" trend that includes measurement, tracking, and analysis of the body, in the process providing tools to help people live healthier lives. The ultimate wearable computer is a piece of smart clothing that one can wear as a garment or a body sensor that can track and measure specific vital signs. Both of these device categories are designed to seamlessly integrate with users' daily lives.
The market for smart clothing and body sensors is just beginning to take shape, both from an end-user perspective and a value chain perspective. Today, professional athletes and sports enthusiasts are leading the adoption of smart clothing with sensor-infused shirts, shorts, sports bras, and socks that provide biometric data on muscle activity, breathing rate, and heart activity zones, all data that is not currently tracked by fitness bands or smart watches. Smart fashion apparel is still limited to the high end of the market and will require the support of mainstream fashion brands to gain momentum in the mass consumer market. Meanwhile, the body sensor sector is experiencing a transition as heart rate monitors decline in unit volume and newer devices like baby and pregnancy monitors, headbands, posture monitors, and 3D trackers begin to build momentum. Tractica forecasts that smart clothing shipments will grow from 140,000 units in 2013 to 10.2 million units by 2020, while body sensor shipments will decrease from 3.0 million units in 2013 to 1.2 million by 2017, before rising again to 3.1 million units in 2020.
This Tractica report examines the market opportunities for smart clothing and body sensors including a detailed analysis of market drivers and challenges, technology issues, and the industry ecosystem. The study provides global shipment and revenue forecasts through 2020, segmented by device category, application market, connectivity technology, and world region. Key smart clothing and body sensor companies are profiled in depth and the report also includes strategic recommendations for current industry participants, as well as those who are looking to enter the market.
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posture-monitors-and-3d-trackers-300196135.html [http://www.prnewswire.com/news-releases/smart-clothing-and-body-sensors-connected-sports-and-fitness-apparel-fashion-apparel-baby-and-pregnancy-monitors-heart-rate-monitors-headbands-posture-monitors-and-3d-trackers-300196135.html]
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PR Newswire Association, Inc.
Document PRN0000020151221ebcl000j6

Life
Smart clothing to amp up your workout
Toronto Sun
269 words
1 December 2015
The Toronto Sun
TORSUN
Final
A39
English

Now you can have your very own fitness trainer with X-ray vision. Athos active wear tells you if you're doing your squats properly. Or if you can take that bicep curl up a few notches. It's the first technology of its kind to measure muscle activity and effort, along with heart rate in real time, then interprete it and send the data out to your mobile device.
Liveathos.com goes beyond smartwatches and activity trackers - slip into some smarty pants embedded with emG sensors to find out if you're moving your muscles for maximum efficiency and results.
"athos doesn't just measure what you did, but helps you change what you're doing in the moment to get the most out of every rep, set, and workout," says athos creator dJ Jayalath, a university of Waterloo grad now living in california,. "That's what will help get anyone who uses it results faster."
The high-tech biometric clothing measures every breath, heartbeat, and muscle that is exerted. It corrects form, makes sure your body is balanced, and that you are pushing just the perfect amount while breathing in a controlled, correct manner.
Whether you hire a personal trainer or engage athos, it'll cost you: Women's capris and men's shorts are $184.99, men's shirts $229.99, and the core devices are $229.99. The device works with the sensors to transmit data via bluetooth to your smartphone. available at select sportchek locations in Toronto, and sportchek.ca.
/ (See hardcopy for photo);
Postmedia Network Inc.
Document TORSUN0020160111ebc1001sl

UK- Smart Clothing Boosted by Pro Sports Sector, Igniting $10 Billion Fitness Wearables Market by 2020
192 words
18 November 2015
Middle East North Africa Financial Network (MENAFN)
MENAFI
English

(MENAFN - Investors Ideas) A new study from Juniper Research has found that the fitness wearables sector will generate over $10bn in hardware revenues by 2020, up from an estimated $3.3bn this year. This tripling effect will be largely driven by the sales of wrist-based trackers, while hundreds of thousands of connected garments used by professional sports teams showcase wearable technology's most advanced capabilities.
Already used in training to monitor performance, smart clothing will also become an important part of watching sports in the future, with leagues like the NFL partnering with Microsoft and Zebra Technologies to produce live visualisations of data and new ways for fans to understand each game.
The new research, Smart Wearable Devices: Worldwide Consumer Enterprise Markets 2015-2020, also found that that

devices offering more advanced fitness tracking capabilities, such as heart-rate tracking and blood-oxygen saturation levels, are becoming more popular. However, Juniper's market analysis shows that they also need capable apps to make sense of these advanced metrics, otherwise vendors risk drowning consumers in data.
Middle East North Africa Financial Network Inc
Document MENAFI0020151118ebbi000b5

Science; New Science Findings Reported from Chinese Academy of Sciences [Wearable Electronics of Silver-Nanowire/ Poly(dimethylsiloxane) Nanocomposite for Smart Clothing]
368 words
16 October 2015
Science Letter
SCLT
348
English

2015 OCT 23 (NewsRx) -- By a News Reporter-Staff News Editor at Science Letter -- Research findings on Science are discussed in a new report. According to news reporting originating from Beijing, People's Republic of China, by NewsRx correspondents, research stated, "Wearable electronics used in smart clothing for healthcare monitoring or personalized identification is a new and fast-growing research topic. The challenge is that the electronics has to be simultaneously highly stretchable, mechanically robust and water-washable, which is unreachable for traditional electronics or previously reported stretchable electronics."
Our news editors obtained a quote from the research from the Chinese Academy of Sciences, "Herein we report the wearable electronics of sliver nanowire (Ag-NW)/poly(dimethylsiloxane) (PDMS) nanocomposite which can meet the above multiple requirements. The electronics of Ag-NW/PDMS nanocomposite films is successfully fabricated by an original pre-straining and post-embedding (PSPE) process. The composite film shows a very high conductivity of 1.52 x 10(4) S cm(-1) and an excellent electrical stability with a small resistance fluctuation under a large stretching strain. Meanwhile, it shows a robust adhesion between the Ag-NWs and the PDMS substrate and can be directly machine-washed."
According to the news editors, the research concluded: "These advantages make it a competitive candidate as wearable electronics for smart clothing applications."
For more information on this research see: Wearable Electronics of Silver-Nanowire/Poly(dimethylsiloxane) Nanocomposite for Smart Clothing. Scientific Reports, 2015;5():1-9. Scientific Reports can be contacted at: Nature Publishing Group, Macmillan Building, 4 Crinan St, London N1 9XW, England. (Nature Publishing Group - www.nature.com/ [http://www.nature.com/]; Scientific Reports - www.nature.com/srep/ [http://www.nature.com/srep/])
The news editors report that additional information may be obtained by contacting G.W. Huang, Univ Chinese Academy Sci, Beijing 100039, People's Republic of China. Additional authors for this research include H.M. Xiao and S.Y. Fu.
Keywords for this news article include: Asia, Beijing, Science, Electronics, People's Republic of China

NewsRX, LLC
Document SCLT000020151016ebag000c7

Accessorize your intelligence with smart clothing choices
806 words
31 August 2015
U-Wire
UWIR
English

Indiana State University; Terre Haute, IN - opinion
By

Picture the clothes in your closet. Most items will fall on one side of the spectrum or the other: those that strike fear into your father's heart and those that are appropriate for work and school. In every environment there are unspoken and sometimes clearly documented "codes" of what should and should not be worn. I'm sure memories of dollar-bill length, above-the-knee shorts throughout grade school are racing through your mind.

It goes without question that you would not wear your finest pair of booty shorts to a job interview, just the same as you would not wear a pantsuit for a night out with your friends.

If you've ever been getting dressed and thought to yourself "I'm not sure if this is appropriate," then it probably isn't. Furthermore if you have ever described yourself as a hot mess, then maybe re-think what you're wearing and why it makes you feel that way.

I am not a psychiatrist and by no means am I a fashion expert as the majority of my wardrobe is workout clothes thanks to Old Navy's continuous sales, but I do believe that the way we present ourselves in situations, especially those in professional settings speaks to more than our style preferences.

As all women can attest, we are judged based on the clothing we wear. Whether we wear too little or too much, it suggests our mindset and agenda. While it's unfair and judgmental, it's the world we live in.

Shocking, I know, as I'm sure most of us have never commented on someone else's clothing as we go to Walmart solely for entertainment after dark.

As job interviews and internship opportunities are nearing, there are many things we should be cautious of. When the resume is finalized and the prep questions are reviewed, plan what you are going to wear.

Therefore you can avoid the early mornings when your closet has vomited onto your bed, desk and chair. Push the dress that is borderline a shirt to the back of your closet and put on something that accessorizes your intelligence and determination.

Here are a few simple tips that are a compilation from my "What Not to Wear" binge-sessions when it comes to professional attire and some simple, easy-to-follow advice.

Get cozy with the color black. A little black dress is the best weapon to have in your arsenal. Don't fall under the assumption that black is boring and depressing. It's simply versatile. Black goes with everything and makes you look fiercely stylish even if you've never once had an interest in fashion.

Most stores carry work-appropriate black dresses, skirts and pants. Pair those with one solid color or a bright accessory and even the most opinionated of fashion gurus will commend you.

Accessorize with caution. It goes without question that statement necklaces are the new "it" thing. While they scream personality and a fun night out, most vibrant pieces aren't appropriate for interviews. Be careful to pick simple pieces that aren't overwhelming to the eye.

Express your personality with a classy watch or set of simple bracelets, but leave the chokers and tiara at home for this one.

Reference those once-hated dress codes. We all thought our teachers were crazy and that our schools were screwed-up systems of imprisonment meant to compromise what we thought was style.

Looking back now, everything they encouraged us to wear applies to professional attire. Pant length, cleavage and wild hair colors all necessitate attention before you walk through the doors of your potential employer. The fact of the matter is you don't want your clothing and accessories to overshadow you, but instead to accessorize your wit and smarts.

Know your audience. With all that said, what you wear to work is dependent on what you do. For example, if you are in a corporate setting you should aspire to be clean-cut and professionally dressed.

On the other hand, if you work in a more laid-back setting, then jeans may be appropriate. Thankfully, most companies express what is and isn't acceptable upon your hiring.

Some of you look at fashion like I look at geography — with the utmost confusion. Clothing is not meant to suppress your personality, but to encourage you to express it.

However, like everything else that should be done in good taste, your outfits should follow suit.

Dress with class and in clothing that makes you feel great about yourself because when you do, the confidence you exude will carry over into every aspect of your life.
((Distributed for UWIRE via M2 Communications www.m2.com [http://www.m2.com]))
Normans Media Ltd
Document UWIR000020150831eb8v0016d

Mct
Smart Clothing? Hoverboards?
JOHN CALLEGARI; NEWSDAY
898 words
9 August 2015
The Ledger
LKLNDL
English

When "Back to the Future Part II" debuted in November 1989, audiences were floored by the technology depicted in the movie's vision of 2015. The movie opens with Marty McFly (Michael J. Fox) and Emmett "Doc" Brown (Christopher Lloyd) landing their DeLorean time machine in the unfamiliar future of Oct. 21, 2015, surrounded by strange devices and social norms.
Now that Oct. 21, 2015 is actually upon us, it's a good time to take a step back and analyze the technology that the movie's writers thought we'd have by now.
So dig out your flux capacitor and rev up your DeLorean, because we're going back to the present to check out "future" technology.
SELF-TYING SHOES
When Marty McFly first arrives in the year 2015, he is given a pair of Nike MAGs (Magnetic Anti Gravity) to wear. Despite the shoes' name, their most memorable feature was power laces, allowing for self tying with a simple push of the button. Nike released a few hundred replica pairs of the Nike MAGs in 2011, sans power laces.
SMART CLOTHING
In addition to self-tying shoes, Marty McFly's jacket from 2015 includes two futuristic features: self drying and auto-adjusting sleeve lengths. While we're not quite there yet, today's "smart clothing" has a slew of unique features of its own. Companies, like OMsignal, whose namesake shirt, incorporates built-in biometrics, health and fitness monitoring, in addition to odor and moisture control.
VIDEO CONFERENCING
Video chatting was seen as a staple of everyday life in the 2015 of "Back to the Future Part II." Video phones were everywhere, with video pay phones even being installed in public places. Today, services like Skype and FaceTime give anyone with a computer, tablet or smartphone the ability to video chat with anyone else anywhere in the world. However, the rise of the smartphone has effectively killed off the pay phone, making a video pay phone extremely unlikely going forward.
VIDEO GLASSES
Marty McFly's future children can both be seen wearing a pair of JVC video glasses in the 2015 of "Back to the Future Part II." These devices allowed the wearer to watch TV or participate in video calls without needing a separate screen. While JVC hasn't developed a version of video glasses yet, Google's Glass effort has produced a similar product with several other features available, including the ability to record video, read text messages and search the Web.
DEHYDRATED FOOD
While at his future home, Marty McFly witnesses a small, cookie-sized, dehydrated Pizza Hut pizza instantly grow to portions large enough to feed a family of four via a Black & Decker hydrator. While Pizza Hut has yet to adopt dehydrated food, the process has been in practice for years, especially among astronauts who bring dehydrated food with them to space.
AUTOMATED RESTAURANT SERVERS
Marty McFly was shocked when he walked into Cafe 80s in 2015 to find a video representation of Michael Jackson taking his order. While the late king of pop won't be bringing you your salad anytime soon, the move toward automation in restaurants is already underway. Chili's Bar & Grill, for example, has installed

touch screen Ziosk tablets, at more than 45,000 tables nationwide, allowing patrons to order food, place drink orders and even pay their bill without ever interacting with their server.

FLYING CAMERAS

The 2015 depicted in "Back to the Future Part II" was home to devices called hovercams — robotic cameras that were able to fly to locations where news was happening. While TV news stations today don't generally use flying cameras for live shots, camera-mounted drones have become increasingly popular among consumers in the last few years.

GAMES THAT DON'T USE YOUR HANDS

Children in "Back to the Future Part II's" version of 2015 were less than impressed with Marty McFly's shooting skills in the classic arcade game "Wild Gunman," referring to the game as "a baby's toy" because players needed to use their hands to play the game. While most video games today still use handheld controllers, more immersive technology has been incorporated. Microsoft's Xbox One, for example, allows users to control various aspects of their games with both motion and voice controls, through its Kinect sensor bar.

HOVERBOARD

Hoverboards were probably the most iconic and tantalizing pieces of technology "Back to the Future Part II" promised us we'd have by 2015. While they're still not available, several companies have announced working on prototypes of this next evolution of skateboards. Lexus, in particular, pulled the tarp off its own offering, the Lexus SLIDE, in June 2015, saying it's currently testing the sleek-looking board.

FLYING CARS

Doc Brown's time-traveling DeLorean was given the gift of flight in the "Back to the Future" films via a hover conversion — a seemingly common practice in 2015 that cost $39,999.95. Today, flying cars still aren't a reality, although some companies, like Terrafugia, are working on airplanes that can become as compact as a car, with mass production slated to occur within the next decade. Terrafugia's Transition, which includes fold-up wings, could be in your future.

WE MAY NOT ALL be riding hoverboards yet, but we're getting closer. PRNNEWSFOTO

Halifax Media Holdings, LLC
Document LKLNDL0020150810eb890000w

Quarter of amateur athletes interested in smart clothing

164 words
13 July 2015
Telecompaper Europe
TELEUR
English

A quarter of amateur sportsmen (14 million) in Germany are interested in smart sports attire, according to a survey conducted on behalf of German IT association Bitkom. This includes T-shirts equipped with sensors measuring breathing and heart rate and sending the data to a smartphone, or socks that record pressure when rolling the foot while running. Twelve percent of those surveyed said they would definitely want to use these products, and 13 percent would consider it. Especially young athletes showed interested in the smart gear; 30 percent of respondents aged 14-29 compared to 23 percent aged 65 or older. Men are slightly more open to the high-tech clothing, at 27 percent versus 23 percent of women. However, 72 percent of the respondents stated that they are not or not yet interested. According to the survey, 81 percent of Germans aged 14 or older are occasionally active, which is equivalent to 57 million people.

Telecompaper BV
Document TELEUR0020150713eb7d000ji

Business

A leader in 'smart clothing'

DAMON VAN DER LINDE FINANCIAL POST

935 words

8 July 2015
Sault Star
SAULTS
Final
B7
English

MONTREAL -- When Pierre- Alexandre Fournier takes a breath of air, the image of a pair of lungs lights up on his smart phone showing how often and how much he inhales. A graph shows his pulse jump with every heartbeat. He's also monitoring how much he moves, how many calories he's burning, and when he goes to bed he'll be able to collect information about his sleep patterns.

The co-founder of Montrealbased Hexoskin, Fournier said not too long ago getting all this information would have meant being hooked up to a tangle of wires and sensors. Today, he's wearing a T-shirt with biometric sensors sewn right into the fabric.

"After studying different possibilities we found out that if we wanted to put sensors on people, the best way to do it is to make it part of what they wear every day," said Fournier.

Hexoskin looks a lot like a regular Spandex sports shirt and is plugged into a recording module about the size of a pack of gum that's carried around in a pocket. The module sends information to a computer or smart phone via Bluetooth so it can be monitored in real time.

Fournier and business partner Jean-Francois Roy started Hexoskin in 2006, financing the company through grants, private investments and sales.

Less than two weeks ago, the company's shirt became the first piece of "smart clothing" to be sold by Best Buy Canada.

"It's an important milestone, said Fournier. "We feel that we've completed a cycle from product design to manufacturing to selling it online and directly by reaching a very large retailer."

The shirt is entirely designed and made in Canada. In fact, Hexoskin is the first Quebec-made product to be sold by Best Buy.

"We wanted to be the first to market around smart clothing and Hexoskin is definitely a leader within the space," said Zayn Jaff er, director, emerging businesses at Best Buy Canada.

"It's something new to people so I think what you're going to see is continued traffic around it, hits to the website, and that's going to continue to translate into sales."

Jaffer said selling Hexoskin is part of a bigger goal to become a leader in the wearable technology industry, especially since the Apple Watch has helped to start bringing biometric devices into the mainstream.

Although this may seem like a technology reserved for elite athletic training, Fournier said the largest target market is ordinary people wanting to learn more about their health. In fact, he says some users don't even exercise.

"What makes me come to work in the morning is the idea we're developing products that will change the way people perceive their health," said Fournier. "A lot of health problems are preventable if we act soon enough. But in many cases, when we do things about our health we don't have any feedback about it."

Fournier said that when he mysteriously developed a pain in his shoulder, wearing a Hexoskin shirt to bed led him to discovered he had been sleeping in a position that strained his arm. "I changed how I slept with pillows and I fixed it," he said.

"I think sleep is very interesting because we never see it happen. You're never conscious of it. When you sleep with Hexoskin you can measure how many sleep cycles you complete, how many times you turn, how much time you spend in each position."

At about $450 a shirt, the price tag could still be a little steep for all but the most health-conscious consumer. Fournier said that like with most technology, he expects the price will come down the longer wearable technology is on market.

"When I got my first Apple computer in 1987, my parents paid over $4,000 and it wasn't even connected to a network or the Internet. Now people think $1,000 for a laptop is expensive," said Fournier. "We're at the beginning of a cycle. There's nothing fundamentally expensive in making these shirts if you produce enough."

Although Fournier would not share exact sales figures, he said the company sold "thousands" of shirts over the past year and hopes to sell hundreds of thousands of units in the coming year.
The company has 25 employees in Montreal, with sales representatives in France, the U.K., Australia and the Middle East.
A report by Research and Markets projects smart clothing shipments will grow to 10.2 million units in 2020 from 140,000 units in 2013.
"We have a fast growth rate. We're still a small company, but what's interesting in that the market in front of us is so huge," said Fournier.
In the future, he says the goal is to develop more specialized programs that focus on specific activities such as running, playing hockey or practicing martial arts.
Fournier said the applications also extend into industrial work, military and aerospace. Hexoskin is currently working with the Canadian Space Agency, and hopes to see the technology on the International Space Station by 2017.
"At this point there are many companies who have announced a smart clothing product, but they are not widely available yet, basically not available at all," he said.
"We consider ourselves the world leader in smart clothing technology today."
photo by CHRISTINNE MUSCHI/NATIONAL POST \ Hexoskin founders Pierre-Alexandre Fournier, left, and Jean-Francois Roy pose in their office with some of their "smart clothing." \
Sun Media Corporation
Document SAULTS0020150708eb7800014

Business
A leader in 'smart clothing'
DAMON VAN DER LINDE FINANCIAL POST
935 words
8 July 2015
Niagara Falls Review
NIAGFR
Final

D2
English

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photo by CHRISTINNE MUSCHI/NATIONAL POST \ Hexoskin founders Pierre-Alexandre Fournier, left, and Jean-Francois Roy pose in their office with some of their "smart clothing." \

Sun Media Corporation
Document NIAGFR0020150708eb7800013

Business

Montreal-based business aims to be leader in 'smart clothing'

DAMON VAN DER LINDE, FINANCIAL POST

913 words
8 July 2015
Simcoe Reformer
SIMCOE
Final
B6
English

MONTREAL -- When Pierre-Alexandre Fournier takes a breath of air, the image of a pair of lungs lights up on his smart phone showing how often and how much he inhales. A graph shows his pulse jump with every heartbeat. He's also monitoring how much

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Sun Media Corporation
Document SIMCOE0020150708eb780000r

Business
Hexoskin sees 'smart clothing' line geared to consumers, astronauts; Health at heart of wearable technology
Damon Van Der Linde
Financial Post
854 words
8 July 2015
Windsor Star
WINSTR
Early
C8
English

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Christinne Muschi For The National Post / Hexoskin founders Pierre-Alexandre Fournier, left, and Jean-François Roy, display some of their smart clothing. The wearable technology can communicate with your smartphone or computer.; / [WIST_20150708_Early_C8_02_I001.jpg]; Christinne Muschi For The National Post / Hexoskin founders Pierre-Alexandre Fournier, left, and Jean-François Roy, display some of their smart clothing. The wearable technology can communicate with your smartphone or computer. [WIST_20150708_Early_C8_02_I002.jpg];
Windsor Star
Document WINSTR0020150708eb7800020

News & Analysis

Google Eyes Smart Clothing; What Does That Mean?
530 words
1 June 2015
CXOtoday.com
TDCXOT
English

Tech giant Google will collaborate with jeans-maker Levi Strauss to create "smart clothes" for consumers - an announcement the Internet major had made at the Google I/O 2015. The "Project Jacquar" as the name suggests would come with touchpad capabilities, which means that garments will become interactive, featuring gestures like swiping and tapping that will forward signals to smartphones and devices to perform various functions. It also suggests that the gestures can be used to control the device, send text messages and make phone calls.
"In our hyper-digital world, people constantly struggle to be physically present in their environment while maintaining a digital connection. Project Jacquard delivers an entirely new value to consumers with apparel that is emotional, aspirational and functional," said Paul Dillinger, Levi Straus's head of global product innovation.
This means that Google is now entering a market thats beyond search or online advertising - its a market that is currently hot, happening and far more connected. While Android's focus will continue to strengthen, Google clearly understood that wearable technology is already underway, and is moving beyond the eyes or the wrist and will show up in different parts of our clothing in the coming days.
Smart clothes as analysts see it could change the way we connect and communicate with our environment and devices. A new report [http://www.businesswire.com/news/home/20150504005330/en/Wearable-Devices-Market-Poised-Expansion-Smart-Clothing#.VUfIdtNVikq] from Tractica predicts consumers will be buying more than 10 million pieces of smart clothing yearly by 2020.

At present some of these clothes have an athletic appeal. Sports enthusiasts are using sensor-infused shirts, shorts, sports bras, and socks that provide biometric data on muscle activity, breathing rate, and heart activity zones. These data set of cannot be tracked by fitness bands or smart watches. For instance, the report states just 140,000 of the garments moved in 2013, almost all of them athletic gear.

Over the next 5 years, smart clothing will begin to look less like athletic pieces and more like casual and corporate wear. “The ultimate wearable computer is a piece of smart clothing that one can wear as a garment or a body sensor that can track and measure specific vital signs,” said Aditya Kaul, Research Director, Tractica.

Gartner has made an even more ambitious forecast that shipments of smart garment will touch 26 million, 7 million more than smart wristbands that same year. "Wearable electronic devices for fitness shipments will reach 68.1 million units in 2015, down from 70 million units in 2014. The reason for the dip is the rise of smartgarment market," it said.

“Because smartshirts and other smartgarments can hold more sensors closer to the skin, they can collect more information and produce better data, like the full wave of the heart beat rather than just the pulse,” said Gartner research director Angela McIntyre in an interview.

Since Google is striving to move way beyond search, getting deeply involved in emerging technology like self-driving cars, robotics and high-flying balloons that can offer Internet access in remote regions, if its smart clothing project becomes successful, it would be another step up for the global giant.

Trivone Digital Services Pvt. Ltd.
Document TDCXOT0020150601eb610005m

Levi's Partners With Google On Project Jacquard To Make Smart Clothing
258 words
29 May 2015
16:02
MediaPost.com
MPC
English

Levi's, one of the first clothing manufacturers to experiment with radio frequency identification technology, has partnered with Google to create smart clothing. Through Project Jacquard, the two aim to create conductive textile material that can be woven into any fabric.

The announcement was made at Google I/O, but a video [https://www.youtube.com/watch?t=164&v=qObSFfdfe7I] on YouTube shows how Google's Advanced Technology and Purchase (ATAP) research team created the material and worked with several textile makers to weave it into materials in a variety of colors and fabrics. Conductive materials -- the same type used in semiconductors -- are woven throughout the fabric, allowing people to search, find, and receive information through a variety of technology. By decoupling the technology, Google can turn search and discovery into a function that doesn't require a screen.

Google also spoke about Project Soli, a tiny radar-based sensor that lets people control devices with their fingers in without the real presence of the physical object being there.

Soli comes from a radar signal [https://www.youtube.com/watch?t=82&v=0QNiZfSsPc0]. The person's hands and fingertips become the interface. The chip picks up movements in real time, alerting the signals as the person moves. Google said people can use it to interact with wearable devices.

The radar signals senses and interprets human intent, explains Patrick Amihood. In fact it can sense the tiniest motions. An action by the hand can complete the task without the physical object being present such as turning up or down volume on a smartphone.

MediaPost Communications
Document MPC0000020150529eb5t000e3

Research and Markets: Global Smart Clothing and Body Sensors Market 2015 - Connected Sports and Fitness Apparel, Fashion Apparel, Baby and Pregnancy Monitors, Heart Rate Monitors, Headbands, Posture Monitors, and 3D Trackers
598 words
19 May 2015
09:14
Business Wire
BWR
English

DUBLIN--(BUSINESS WIRE)--May 19, 2015--

Research and Markets (http://www.researchandmarkets.com/research/bh2b8x/smart_clothing [http://www.researchandmarkets.com/research/bh2b8x/smart_clothing]) has announced the addition of the "Smart Clothing and Body Sensors" report to their offering.
The Wearable Devices Market is Poised for Expansion into Smart Clothing and Body Sensors
Smart clothing shipments will grow from 140,000 units in 2013 to 10.2 million units by 2020, while body sensor shipments will decrease from 3.0 million units in 2013 to 1.2 million by 2017, before rising again to 3.1 million units in 2020.
As the age of wearable computing dawns, everyday body-worn objects such as watches and glasses are getting smarter and connected. Smart clothing is no different, serving in part as a fashion accessory, but mostly driven by the quantified self trend that includes measurement, tracking, and analysis of the body, in the process providing tools to help people live healthier lives. The ultimate wearable computer is a piece of smart clothing that one can wear as a garment or a body sensor that can track and measure specific vital signs. Both of these device categories are designed to seamlessly integrate with users' daily lives.
The market for smart clothing and body sensors is just beginning to take shape, both from an end-user perspective and a value chain perspective. Today, professional athletes and sports enthusiasts are leading the adoption of smart clothing with sensor-infused shirts, shorts, sports bras, and socks that provide biometric data on muscle activity, breathing rate, and heart activity zones, all data that is not currently tracked by fitness bands or smart watches. Smart fashion apparel is still limited to the high end of the market and will require the support of mainstream fashion brands to gain momentum in the mass consumer market. Meanwhile, the body sensor sector is experiencing a transition as heart rate monitors decline in unit volume and newer devices like baby and pregnancy monitors, headbands, posture monitors, and 3D trackers begin to build momentum.
This report examines the market opportunities for smart clothing and body sensors including a detailed analysis of market drivers and challenges, technology issues, and the industry ecosystem. The study provides global shipment and revenue forecasts through 2020, segmented by device category, application market, connectivity technology, and world region. Key smart clothing and body sensor companies are profiled in depth and the report also includes strategic recommendations for current industry participants, as well as those who are looking to enter the market.
Key Topics Covered:
1. Executive Summary
2. Market Issues
3. Technology Issues
4. Key Industry Players
5. Market Forecasts
6. Company Directory
7. Acronym and Abbreviation List
8. Table of Contents
9. Table of Charts and Figures
10. Scope of Study, Sources and Methodology, Notes
Companies Mentioned
- BeBop Sensors
- Clothing+
- CuteCircuit

- Hexoskin
- Lumo
- InteraXon
- NeuroSky
- OMsignal
- Sensoria
- Sproutling

For more information visit http://www.researchandmarkets.com/research/bh2b8x/smart_clothing [http://www.researchandmarkets.com/research/bh2b8x/smart_clothing]

View source version on businesswire.com: http://www.businesswire.com/news/home/20150519006302/en/ [http://www.businesswire.com/news/home/20150519006302/en/]

Research and Markets l Laura Wood, Senior Manager l press@researchandmarkets.com l For E.S.T Office Hours Call 1-917-300-0470 l For U.S./CAN Toll Free Call 1-800-526-8630 l For GMT Office Hours Call +353-1-416-8900 l U.S. Fax: 646-607-1907 l Fax (outside U.S.): +353-1-481-1716 l Sector: Computing and Technology l SOURCE: Research and Markets

Business Wire, Inc.

Document BWR0000020150519eb5j000av

Search Summary

Text

hl="smart clothing"

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Industry

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Region

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Language

English

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87

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19 May 2016 9:29

