

# The Future of Wearable Technology: Meaningful impact or passing trend?



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Reading time 10 mins

## Key Points

- The wearable technologies market is booming and expected to reach USD 118.16 billion by 2028
- Wearables have entered into a wide range of industries from health, fitness, and education; to entertainment, travel, and fashion
- Increased internet connectivity, health concerns, rising incomes, and devices that enhance the lives of disabled or injured people support market growth
- Challenges such as growing electronic waste, poor battery technology, data security, and media device fatigue need solutions
- Devices should create a meaningful impact on lives, habits, and behaviours to ensure high customer engagement

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Wearable technologies, aka wearables, are electronic devices worn on the body that track or communicate information in real time. Common examples that most of us are familiar with include [augmented and virtual reality devices](#) (e.g. eyewear that gives users an immersive experience) and [Fitbit](#) (a smartwatch activity tracker). While some argue that wearables are simply fad gadgets that won't last or will cause workplace distractions in the same way smartphones have, the future of wearable technology seems brighter than ever.

Indeed, the outlook for wearable technologies is even stronger, considering their history. We can date the first invention to 800 years ago with the first eyeglasses, then wristwatches that refined large clocks into portable devices that people could wear. Today, wearables are revolutionising how we receive, use, and share data and improving efficiency in everything from healthcare, education, and emergency services; to fitness, entertainment and travel.

## Electronics financial forecast vs environmental impacts

Global demand for multimedia devices and smartphones, coupled with the accessibility of fitness-based trackers/apps and healthcare wearables, is increasing drastically. The technology market size worldwide is expected to reach USD 118.16 billion by 2028, with a compound annual growth rate (CAGR) of 13.8% between 2021 to 2028 <sup>[1]</sup>. [A Global Wearable Technology Market Trends & Analysis Report](#), published by Researchandmarkets.com, found that projected market growth is supported by:

- Rising incomes, changing lifestyles, improved standards of living, and increased consumer awareness encourage spending
- Increased internet connectivity
- Rising health concerns
- The increased adoption of smartwatches among millennials
- The presence of several prominent players such as [Alphabet Inc](#), [Samsung Electronics](#), [Sony Group](#), Apple Inc, and [Huawei Technologies](#) promotes accessibility and competitive markets

While the forecast for the future of wearable technology is optimistic, the outlook on global e-waste generation <sup>[2]</sup> is equally pessimistic:

- Roughly 54 million metric tons of electronic waste was generated in 2019

- Factors such as increased spending power and availability of electronics are fueling e-waste
- Electronic waste is the fastest growing waste stream worldwide
- Projections show that by 2030, annual e-waste generation will have increased by 30%

According to [Waste Electronic and Electrical Equipment](#) (WEEE), one of the main reasons for the explosion of e-waste worldwide is the high consumption rate of electronics combined with consumers who don't know what to do with the products they are replacing. For the future of this industry to be a long-lasting one, producers need to place more importance on [sustainable design](#) and consider their [climate responsibility](#). [Amazon's Trade-In Program](#), where customers can exchange used electronics for gift cards, is a way to encourage conscious consumption.

## What makes the future of wearable technology so exciting?

With a monumental rise in the world of fitness (the Global Wellness Institute values the [wellness industry at \\$4.5 trillion](#) and growing), smartwatches and fitness trackers are currently the bestselling wearables. However, this doesn't mean that the success of wearables is limited to fitness. Because these devices collect and transfer data using built-in IoT-based sensors that support Bluetooth, WiFi, and GPS technologies, their practical uses across various industries are seemingly endless.

**Wearable devices for sports and fitness:** smartwatches and fitness trackers such as [Fitbit](#) and [Garmin](#) are all the rage – helping users to optimise their workouts and even monitor blood pressure. But industry innovations don't stop there. The 10 most innovative wearables for fitness and sport <sup>[3]</sup> also include:

- [Lumo Lift](#): A device worn underneath the collarbone that monitors core, upper body, and spinal position helps to improve the user's posture
- [Catapult Playr Smart Smart Football Tracker](#): A vest worn by players that analyses and improves their performance by tracking speed, distance, sprint intensity, and positioning
- [Sensoria Smart Socks](#): Sensors stitched into the underside of these smart socks with a Bluetooth bracelet attached to the top connect to the wearer's smartphone. These collect data on foot landing, cadence, pace, distance, speed, burned calories, and more
- [Nadi X Smart Yoga Pants](#): Embedded with technology to sense body movement, these yoga pants use haptic vibrations to correct posture and improve alignment
- [NGIMU](#): An inertial measurement unit (IMU) that senses and tracks position changes through movement. Small enough to fit on the wrist, the NGIMU combines on-board

sensors that track orientation, velocity, pressure, rotation and acceleration. Movement. In all directions.



## NGIMU

Medical, wearable, and electronic gadgets allow users and healthcare providers to monitor blood sugar levels, oxygen saturation levels, body temperature, sleep quality and other vitals. But what's making the future of wearable technology for this industry exciting is how they allow people with disabilities to perform functions that were nearly impossible a few years ago:

- [Ottobock](#) is a global leader in technology for wearable human bionics to enhance or replace parts in the human body. For example, the C-Leg lower limb prosthesis is a computerised prosthetic leg with a microprocessor that turns sensor data into digital control commands. It automatically sets the gait for respective environments (stairs, trail running, cycling), but users can also connect it to their smartphone to configure more settings
- The [feelSpace navibelt](#) opens up new paths for blind and visually impaired people. Worn around the stomach, the belt gives users 360° spacial awareness of their surroundings. Bluetooth connection enables them to control the belt with their smartphone and get to their destination easier due to improved orientation and freedom of movement. When

the belt vibrates in the middle, they know to go straight, left indicates turning left etc

- ‘Hearables’ have been on the market for decades and have certainly gotten an upgrade due to enhanced capabilities with IoT. Hearing aids aside, a new type of wearable for deaf people is the [SoundShirt](#). Haptic sensors with micro-actuators are embedded into the fabric that translates sound into motorised vibrations in real-time – allowing wearers to feel the music. The shirt can even be controlled with the Hugshirt mobile app, allowing for both hugs and music to be felt on the move

All of these interesting devices, and we haven’t even touched on the future of wearable technology in education (e.g. virtual reality glasses that can take students on field trips around the world) or [wearable construction technology](#) (e.g. alert users to hazardous gases). Then there are wearables for logistics and transportation, travel, retail, fashion, and entertainment <sup>[4]</sup> that prove that these devices are more than a passing craze.

## Do the rewards of wearables outweigh the challenges?

As mentioned earlier, one of the critical challenges of wearables is finding solutions for the electronic waste it generates. An interview with a panel of [Young Entrepreneur Council](#) members highlighted additional concerns that could derail the success of the wearables market <sup>[5]</sup>:

- Companies selling knock-off wearables devalue the industry as a whole
- Poor battery technology
- Too much air traffic can make it difficult for electronics wearables to function properly
- Device fatigue: most people don’t want another device if their smartphone already has all the multifunctionality they need
- Device safety issues – especially for wearables that inject medication or provide electric stimulation
- Personal data security
- Negative user experiences and poor word-of-mouth from early adopters can lead to a product’s [failure, e.g. Google Glass](#)

While it’s clear that this market is booming and that the future of wearable technology is promising, several challenges still need to be overcome. That said, technology seldom meets a problem it can’t solve.

What are your thoughts on the future of wearables? Pop us a comment and let us know if you find the current and potential capabilities as exciting as we do – or if there are specific challenges you need

solutions for. Collaboration is one of the things we do best!

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