



# THE FUTURE OF WEARABLE TECH

As consumer demand grows and designs become more advanced, the wearable tech market is becoming deeper and more defined. The next few years will see big new product opportunities as well as a maturing design language. Here, we outline the key upcoming developments and what they mean for fashion, lifestyle and beyond.



Jabil Peak+



Project Jacquard

# OVERVIEW



Apple

- The wearables market is growing quickly. US sales of activity trackers almost doubled between 2014 and 2015, growing from 7.2 million to 13.4 million and generating \$1.46 billion. Worldwide, **21 million** units of wearable technology were shipped last year, a threefold increase on 2014, and that number is **set to rise** to 274.6 million this year. By 2020, the global wearable tech market is **expected** to be worth \$80 billion
- Activity trackers currently dominate wearables, and Fitbit leads activity trackers with 79% of sales. In smartwatches, Apple Watch is **most successful**, having taken 52% of last year's shipments, despite some lukewarm **reviews**
- Beyond wristbands and jewellery-inspired accessories such as rings, smart clothing is the key area to watch. **Gartner** forecasts that the 100,000 smart garments shipped in 2014 will increase to 26 million units in 2016
- Active is currently the biggest area of innovation for wearable tech. Other areas to watch include inclusive wearables that cater to users with disabilities or health issues, and wellness wearables that focus on mood and mindfulness
- Form factor, style and personalisation are clear priorities for wearables, but don't forget UI. How data is interpreted and communicated defines how useful the product is going to be to its owner in the long term

“ LOOK DOWN AT WHATEVER  
YOU'RE WEARING NOW.  
THAT'S THE FUTURE  
OF WEARABLES.

”

- DAVID PIERCE, WIRED

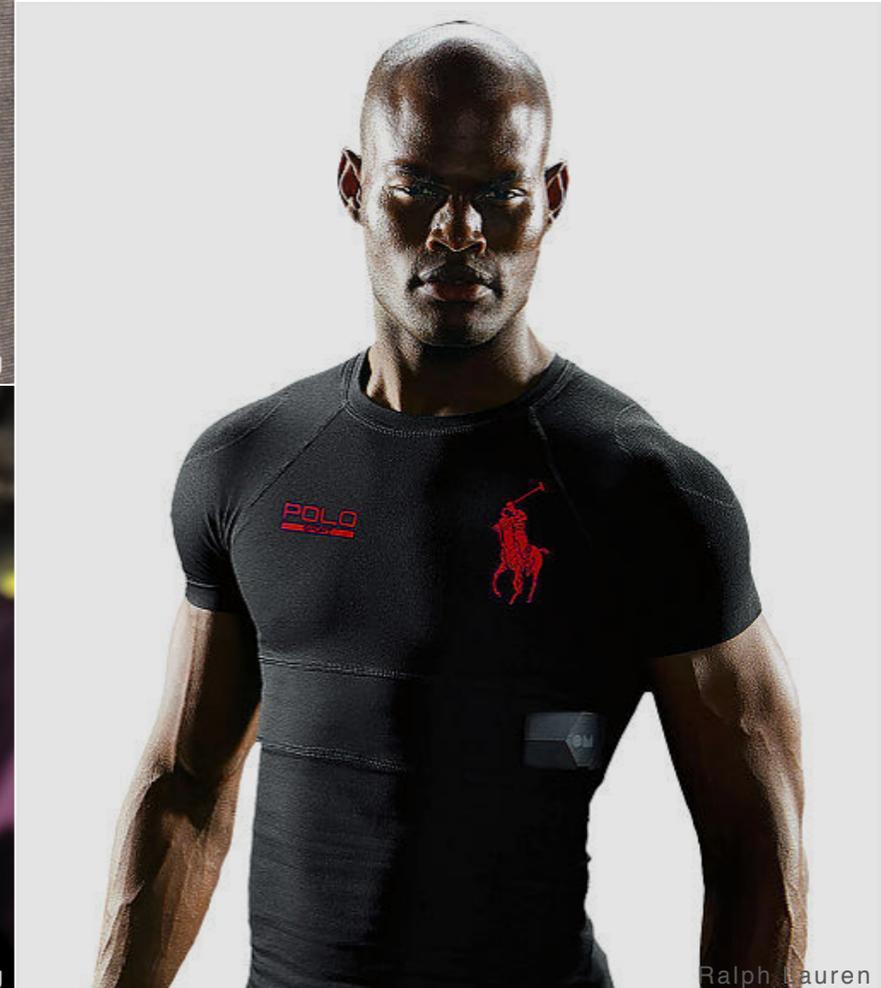
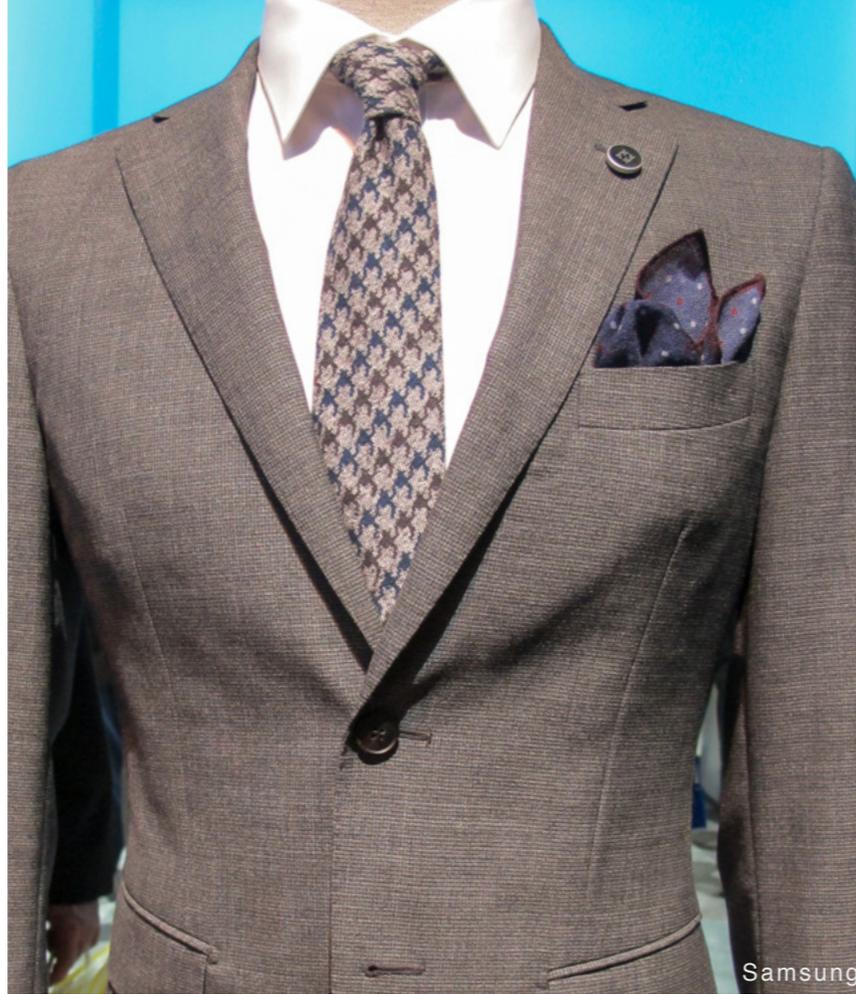


Lumo

# INVISIBLY SMART

With the first applications of Google's Project Jacquard due to reach consumers this year, 2016 will see **smart clothes** quickly becoming within reach of the consumer. While Project Jacquard is by no means the first connected clothing product – Ralph Lauren first demoed its \$295 **Polotech** shirt, which reads biometrics using woven silver fibres, in 2014 – Jacquard is expected to grab consumer attention and spur brands at every market level to experiment more openly with the idea. Samsung's fashion-focused offshoot brand, **Humanfit**, is already trying out a range of approaches. At CES 2016, it showed a smart suit with NFC tags attached, enabling phone functions to be controlled by swipe, as well as a smart belt that can track your activity and loosen itself after a heavy meal. Its next project, a smart shoe called **IOFIT**, is set to debut this month.

Smart clothing at the moment – like so many wearable tech products – is a solution looking for a problem. But as the technology becomes more accessible, consumers will work out what they want smart clothes to do – **temperature control** is one viable option – and tech that fits invisibly into our clothing will become more prevalent and more desirable.



# ACCESSORISING: TECH AS FASHION

Wearable tech that remains visible on our bodies is now expected to look good – really good. As fashion brands collaborate with tech companies or develop their own wearables in-house, a more refined aesthetic is emerging for wristbands, tech jewellery and smartwatches. This includes luxurious materials – textiles, crystal, metals, swappable straps and slimmer geometries.

Misfit's new band, [Ray](#), resembles a rose-gold bracelet, while Samsung's Charm concept features a gemlike sensor that slots into a bracelet, ring or cufflink, offering multiple options for styling. [Iris Apfel](#)'s new collection for high-end wearables brand [Wisewear](#) brings together warm golds, dark silver and sculptural silhouettes, while Swarovski [launches](#) a smart crystal that uses dots of light to track steps and show alerts. [Fossil](#) is another key brand to watch for fashionable tech. It plans to launch 100 wearables in 2016, and is blending the tech inside with its signature aesthetic.

As the wearables market grows, it will segment into a wide range of different levels and styles. With more choice available, the type of tech you choose will be as much a lifestyle statement as the clothes you wear.



Misfit



WiseWear



Swarovski



Fossil



Samsung

# ACTIVE OPPORTUNITIES

Wearable tech finds its most ardent early adopters in the active market, which is currently driving a huge amount of [product innovation](#). USPs in active tech come down to fit, style, accuracy and scope. Under Armour, which has reportedly invested \$1 billion in digital health, hopes to tick all four boxes with the new [UA Healthbox](#), which comprises a wristband, chest strap, smart scale and app. [Athos's](#) smart fitness line is equally ambitious, measuring heart rate and muscle activity in real time to provide a 360-degree view of the body's performance. As brands begin to tap into the huge market opportunity female-focused wearables represent, smart bras are emerging as a key product to watch. [OMsignal's](#) [OMbra](#) features unique metrics including breathing rhythm and effort, as well as a sleek, comfortable design that required more than 1,600 prototypes to get right. It will be crucial for the next wave of active tech to get communication right, too, so that analysis avoids feeling judgmental or irritating.

As PC Magazine's [Jill Duffy](#) writes: "Think about that existing and complicated relationship between a woman and her clothes, and now add sensors that literally judge her body all day long."



# WELLNESS COMPUTERS

With mindfulness now influencing many consumer lifestyles, mood- and wellness-based metrics could prove to be a compelling third use case for wearables. Products either take on one key element of wellness (sun exposure, temperature) or aim to provide a perceptive, all-around view of emotion and behaviour. New wristband **Feel** promises it can 'hack happiness'. By tracking skin temperature, galvanic skin response and blood volume pulse, the band analyses stress levels and can offer up calming activities by app. Described as a 'wellness computer', the **Ōura** smart ring tracks sleep quality and levels of activity, suggesting small, continuous improvements that it believes will add up to a more balanced lifestyle.

**Caeden**'s Sona bracelet sets out to increase focus and manage stress, tracking heart rate and its own Resonance metric, and providing meditation exercises. L'Oréal's stretchable, **stick-on UV monitor** uses photosensitive dye that changes colour as skin is exposed to the sun, providing a simple visual cue. Made by **MC10** and **PCH**, the sticker is thinner than a strand of hair and points to a future where mood, health and wearables go hand in hand.



L'Oréal



Feel



Ōura



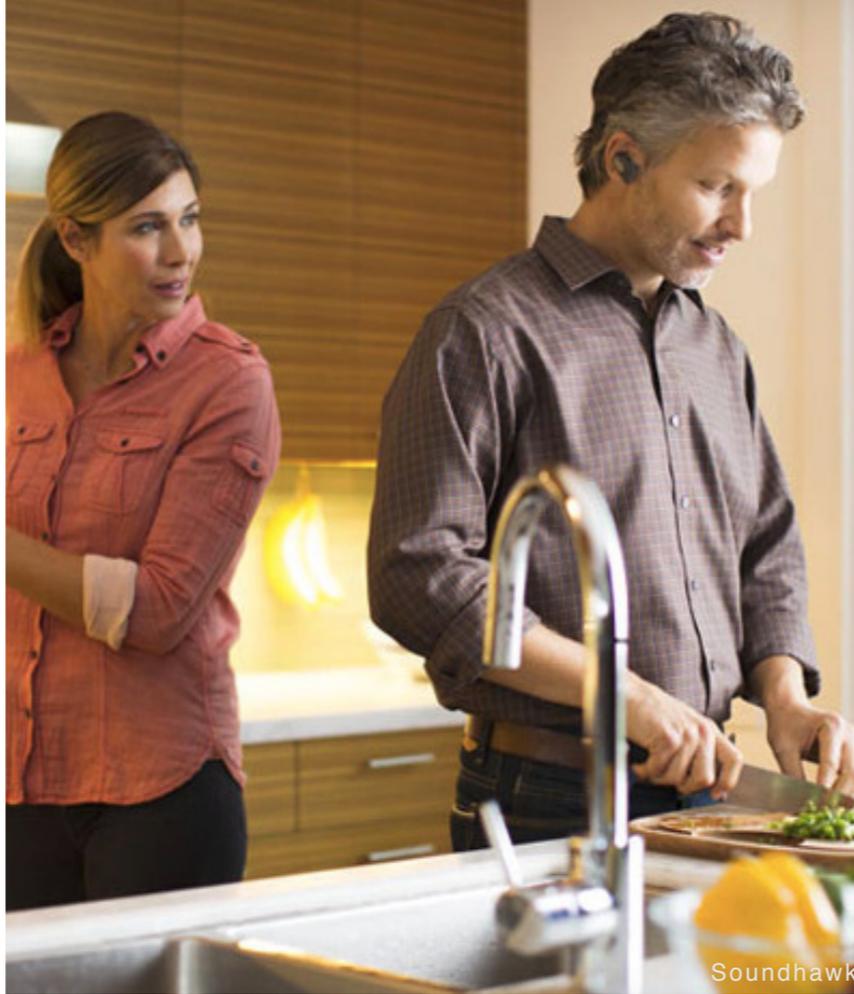
Caeden

# INCLUSIVE DESIGN

As the wearables market develops, new solutions for specific usability and functionality needs are emerging. **Dot**, the first Braille smartwatch, uses raised dots on the watch face to communicate texts or tweets, connecting to a phone via Bluetooth. Created for the 285 million visually impaired people around the world, the product will cost around \$300 when it launches.

**Soundhawk's** similarly priced hearing amplifier is one of a number of new audio aids that aim to boost everyday hearing. Designed for the millions of people who have some degree of hearing difficulty but don't use a hearing aid, these **hearables** are like the audio equivalent of reading glasses.

Iris Apfel's Wisewear bands feature a senior-friendly safety function within their design: a distress signal that can be activated in case of a fall. Other products are more overtly targeted at seniors and caregivers: **Care Predict's** Tempo band sends alerts of irregular activity, while **Unali Wear's** independence watch is voice-activated, so users can avoid having to press buttons.



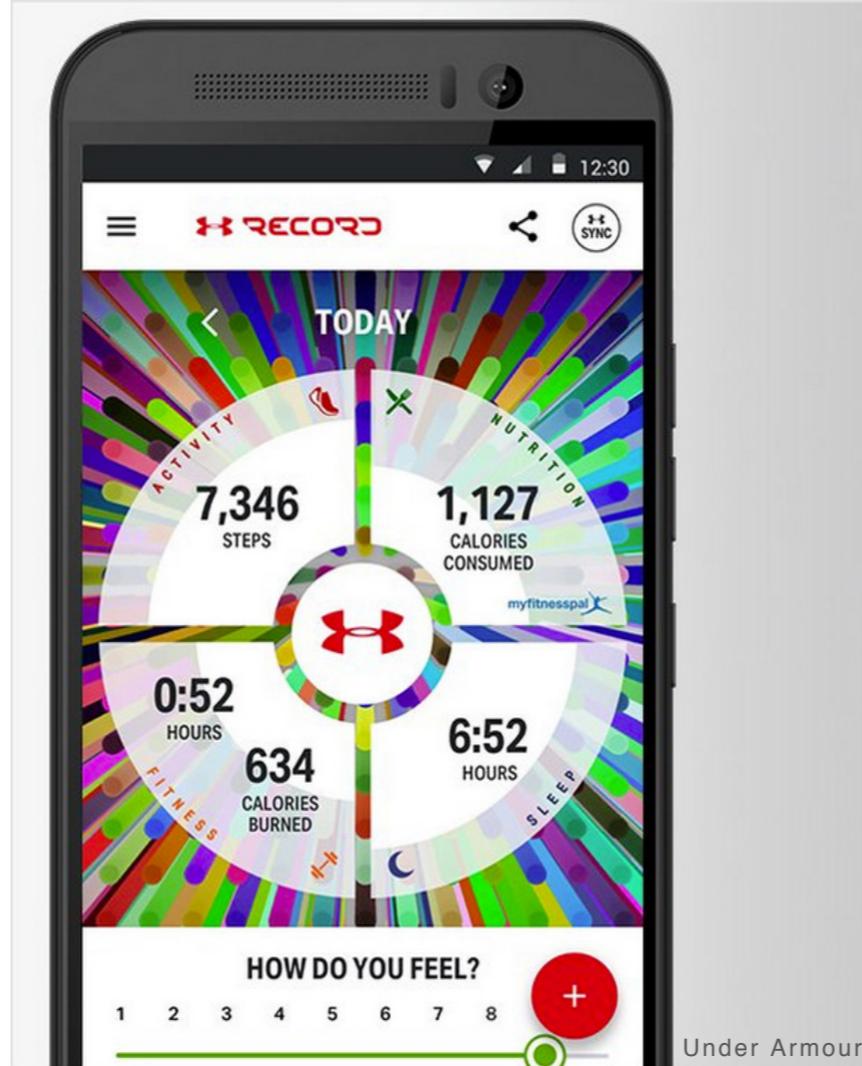
# THE POWER OF UI

The design opportunity around apps and interfaces is huge: it's here that users of wearables assess data, make decisions and ultimately get the most value out of the product. The current trend in interfaces is towards brightly coloured, simplified graphs and charts that react in celebration when you reach your goals. Health and diet advice often comes in the style of a text message, using natural and friendly language.

The next step for interfaces will see them become much more open to personalisation. As AI becomes more advanced, users will be able to decide precisely how they want their wearables to talk to them, based on factors such as which data sets are most important to them – as well as what kinds of [slang](#) they prefer.

Beyond the screen, a new language of haptic and verbal communication will also develop, as tech becomes more intimate and takes up the role of [personal assistant](#) full-time.

Just as wearables mean that tech gets to know us, they also mean we will get to know our tech – so it's important to make sure that we like how it talks to us.



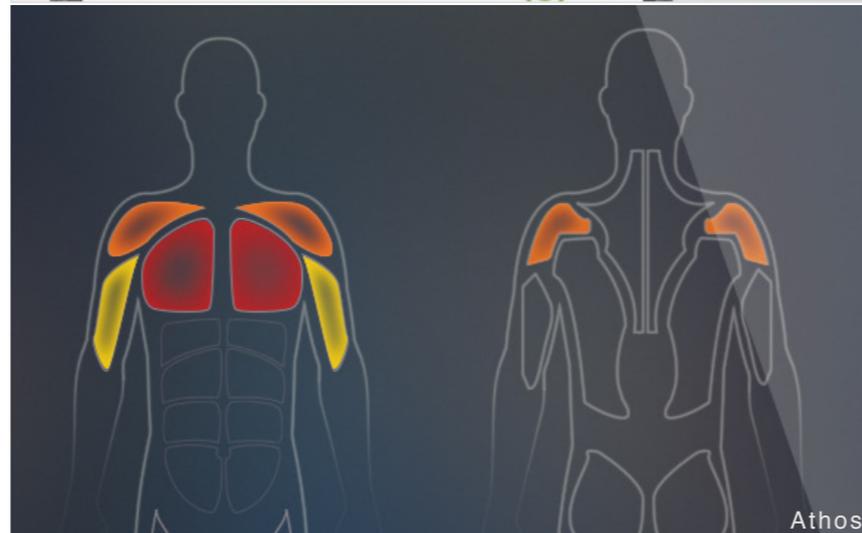
Under Armour



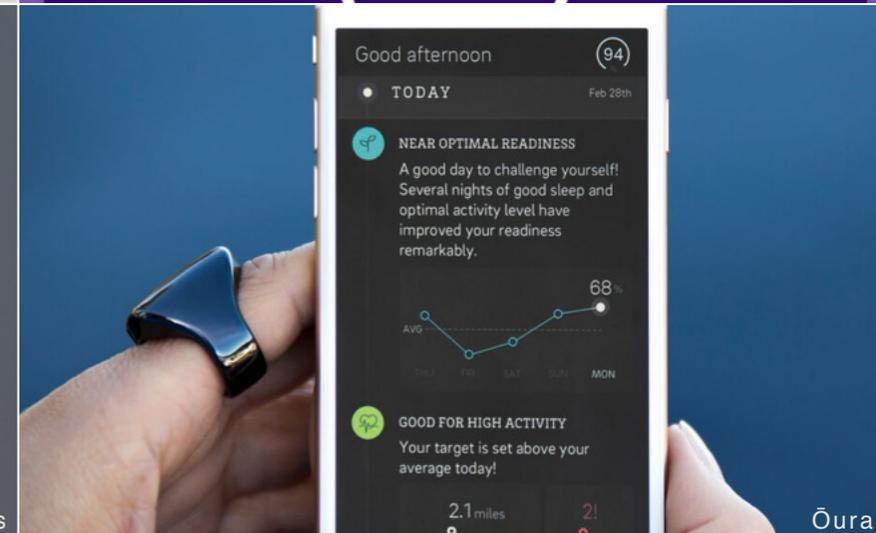
Jawbone



Jawbone



Athos



Oura

# WHAT'S NEXT?

Looking further ahead, new form factors, more advanced sensors, low-power energy use and growing consumer ease with wearables will lead to:

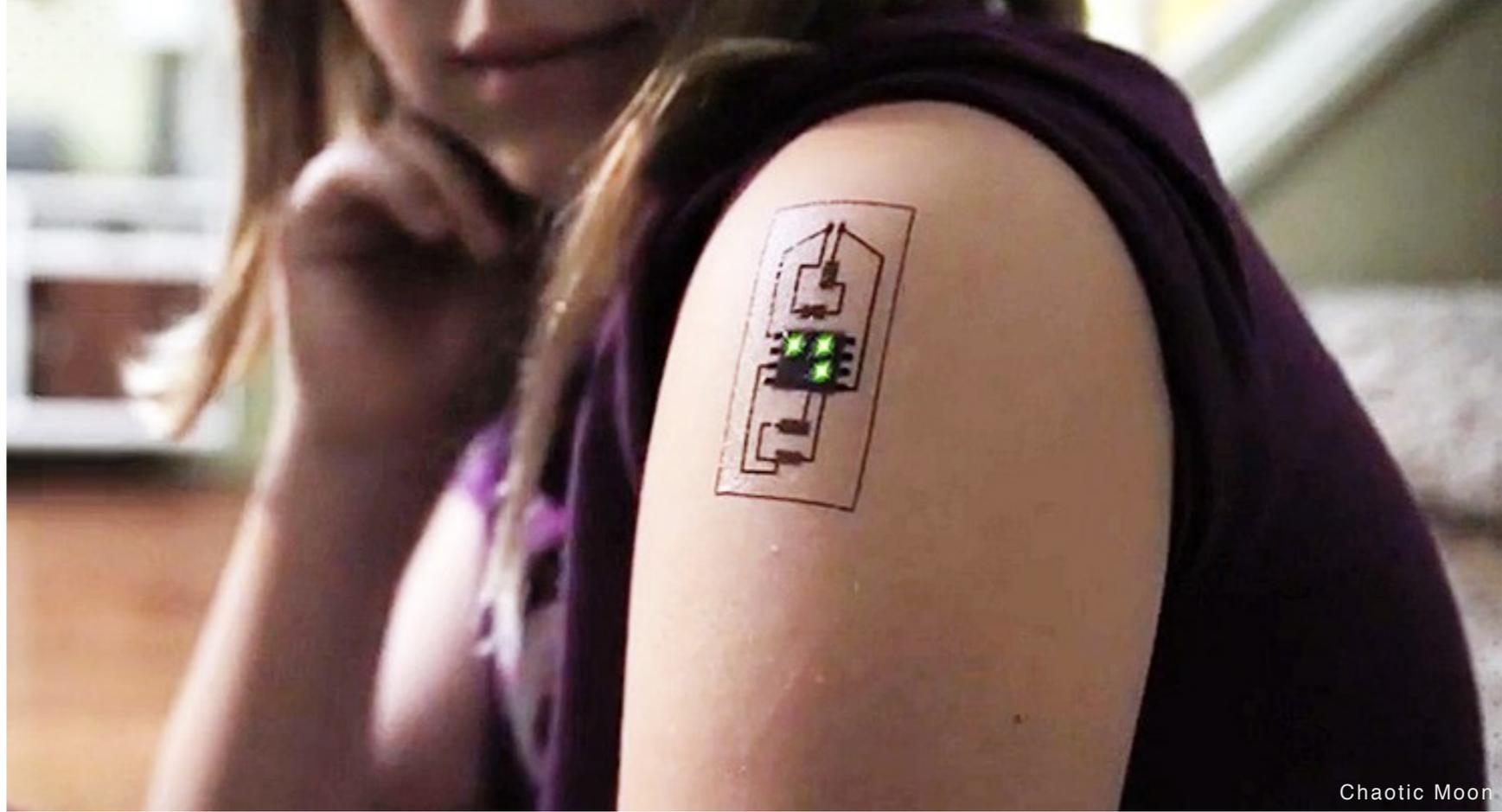
**Fully flexible, hyper-thin screens:** wearable tech is enabled to interact naturally with the body, and communicate fuller data sets.

**Close-to-body solutions:** stick-on or draw-on wearables that last for months or years at a time alert their user to high levels of air pollution or other damaging environmental elements.

**Predictive function:** tech-infused apparel radically changes colour, shape, temperature or function in anticipation of our upcoming needs.

**Next-generation haptics:** transmissions of [heartbeats](#) are just the start; a full language of haptic signals is set to emerge in the future, just as [emojis](#) and GIFs have developed through online communication.

**Embeddables:** tech is inserted under the skin to provide long-lasting functionality. Embeddables will come in utilitarian versions as well as more decorative concepts modelled in the style of living tattoos.



Chaotic Moon

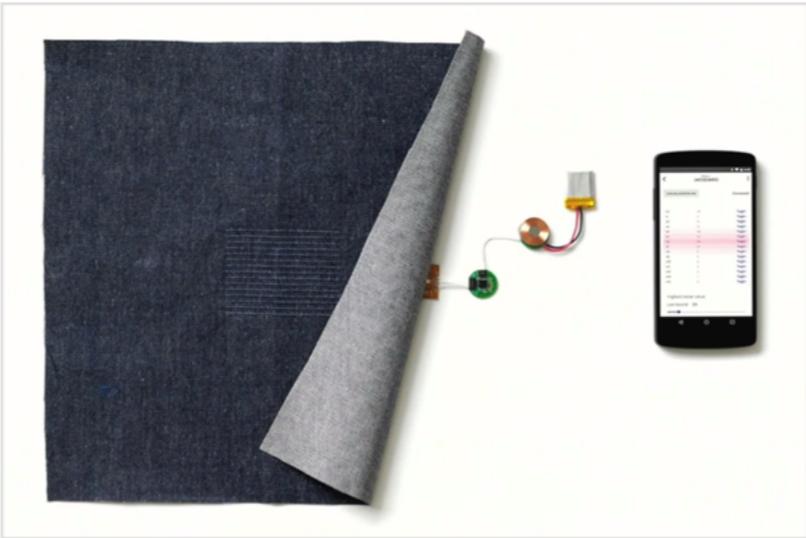


New Deal Design

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