AWAKENING TECH

01 : 07 : 2015 Sensor Technologies : Affective Computing : Living Architecture

Identified by LS:N Global in 2014, the Awakening Tech macrotrend explored how consumers are negotiating their identities in a digital world and how our continually evolving relationship with technology is becoming integral to our sense of self.

Awakening Tech Overview

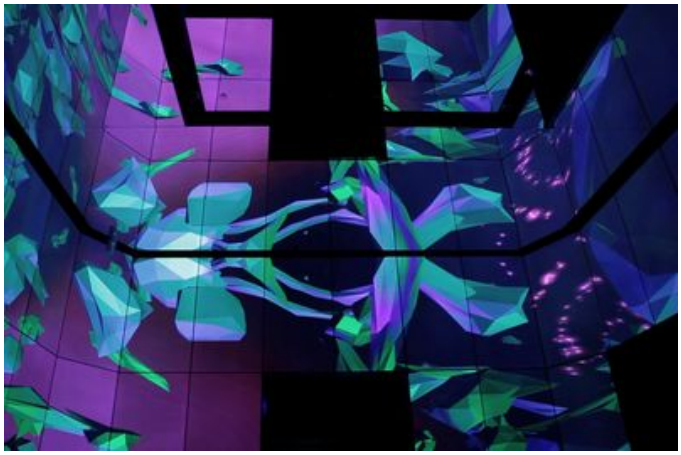
Feel The Reel sensory wristband by Studio XO uses bio-feedback to capture the wearer's emotions

As technology advances, it is giving us the chance to learn more about what it means to be human. It is making it easier to understand, simplify and use the streams of data flowing from our digitally connected world.

The flowering of sensor technology, combined with tumbling data storage and processing costs, is giving rise to a digital world that is rich and complex. From house plants that tweet when they need water to a cup that knows what you're drinking, the widely hailed Internet of Things promises much for the future. For millions of consumers around the world, living a day without digital technology is almost unthinkable. At the same time, people are questioning the effects of a constantly-on society, as we explored in our 2012 macrotrend **The New Sublimity**.

As the **Self-Quant** concept becomes mainstream, consumers are struggling to make sense of the information they collect. The result is a rise in the number of devices that not only analyse, but also harness, an individual's data to encourage wellbeing and productivity. Consumers are on a quest to learn more about themselves. As a result, wearable technology is expanding beyond calorie-counting to monitoring human emotion. Technology is no longer just the problem. It is becoming part of the solution.

2014



Diesel #POSTroma by Andreas Nicolas Fischer and Postmatter magazine, Rome

October: **Immersive digital installation launched in Diesel's new flagship store**

Diesel has enlisted the help of German artist **Andreas Nicolas Fischer** to create a 'living' artwork in its flagship store that responds to Twitter posts. The installation, set in an enclosed atrium, serves as a gateway to the store, displaying an abstract digital organism, designed by Fischer and controlled by an algorithm sensitive to posts on social media.

Key Development: As consumers increasingly expect to be entertained and enchanted by retail environments, architects are introducing responsive elements that draw inspiration from living organisms.

Payment card by Zwipe

October: **Norwegian startup Zwipe and MasterCard announce the launch of world's first contactless payment card with fingerprint recognition**

The Zwipe MasterCard, due to be launched in 2015, is the first of its kind to combine the security of biometric authentication with the speed and convenience of contactless payment.

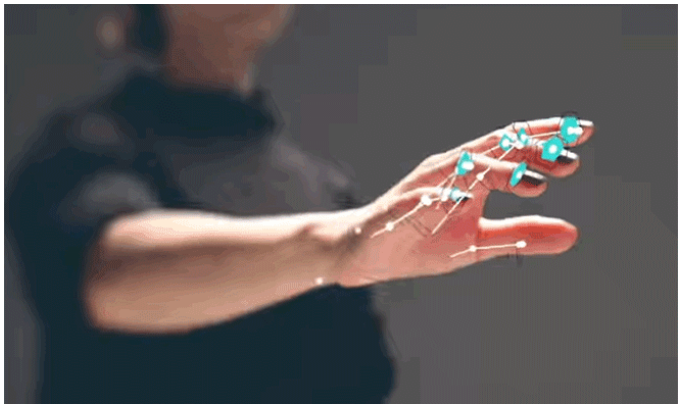
Key Development: The implementation of fingerprint technology into traditional card-based payment is necessary for companies such as MasterCard to keep up with the digitisation of payment and the added security that biometrics can provide.

HP Sprout

November: HP launches a new desktop computer that aims to change the way we interact with digital content

Part of **HP's Blended Reality**, a line of products designed to provide a tactile digital experience, Sprout does not feature a conventional mouse or keyboard. Instead it comes with a touchscreen, overhead projector, 3D scanner and touch mat that encourages users to interact with images projected from the in-built, overhead projector onto the touch mat.

Key Development: To enhance the user experience through seamless haptic interaction, technology brands are introducing gesture-controlled interfaces for computers and connected devices.

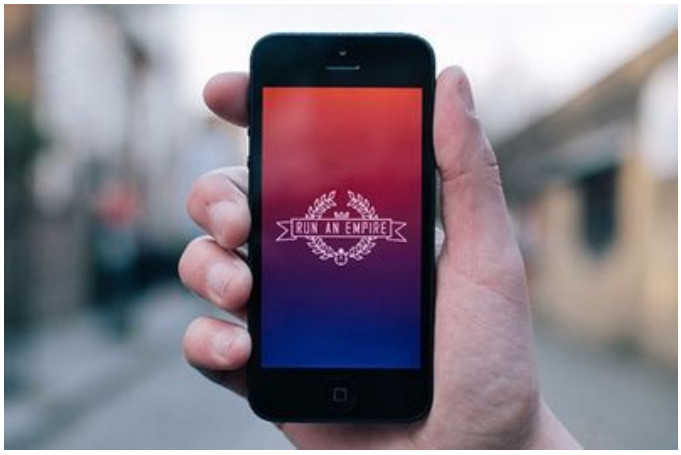


Collider by Funktronic Labs

November: **Game studio Funktronic Labs combines motion-tracking technology with Oculus Rift for an immersive virtual experience**

Entitled Collider, the work uses the **Leap Motion**, a device that attaches to the Oculus Rift, allowing interaction with the virtual world. By grabbing and pulling at the air in front of them, users can control the speed and intensity of the experience.

Key Development: Virtual technology opens up incredible opportunities for brands to create memorable immersive experiences and increase levels of interaction with their content.



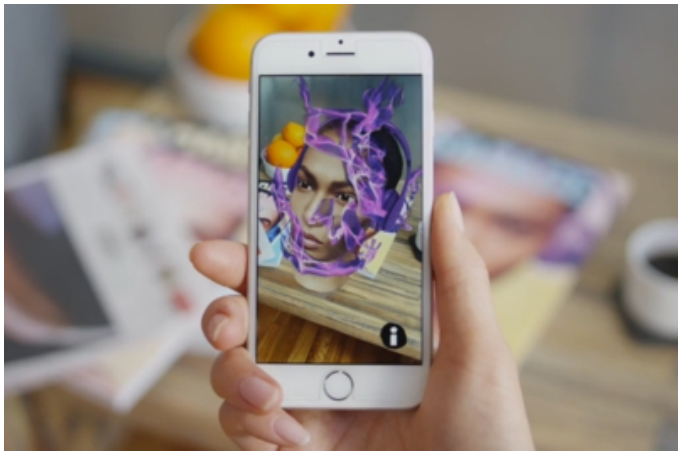
Run an Empire app

November: **Developer PAN Studio launches a mobile game that merges online experience with physical reality**

Run An Empire encourages players to claim local territory by running, jogging or walking around the area. Working with the phone's in-built GPS, the game works by mapping the route of your run. All players use the same map, which means nearby users can compete to capture the most vulnerable territories.

Key Development: The app taps into people's innate competitiveness, combining the strategy of online games with the ability to affect the outcome with physical activity.

2015

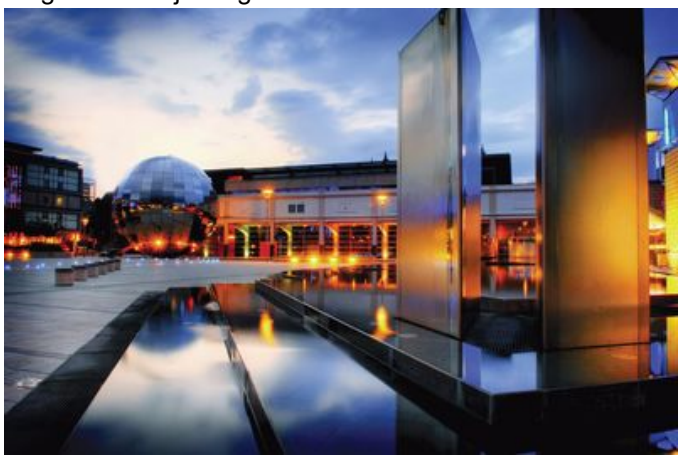


Garage magazine app view

February: **Garage magazine challenges the boundaries between print and digital**

Garage magazine created an augmented reality experience for its spring/summer 2015 Garage No 8 issue, which set a new benchmark in immersive multimedia. Working alongside visual effects designers **The Mill**, February's edition features five of the world's most famous models brought to life through Garage's smartphone app.

Key Development: Keen to prove the doubters who foresee the end of traditional print media wrong, Garage magazine is injecting new life into the medium.



Bristol Planetarium, UK

March: **Bristol announces a plan to become a smart, super-connected city**

The multi-million pound experiment Bristol is Open will fit the city with the latest sensors and connectivity technology to create a high-tech test bed for innovation. 1,500 lamp posts will be used to create a 'canopy of connectivity', collecting data from the city's population of about 450,000 and helping to create new efficient services and technologies.

Key Development: The Internet of Things is opening up the city's infrastructure as an interactive interface and brands need to consider how they can be part of this conversation.

Extraordinary Everyday

April: **Sony's Extraordinary Everyday campaign portrays Xperia mobile users as Sony-enhanced beings**

Leading with the words 'I Can', customers state their achievements as a Sony-enhanced being – 'I can stay awake for days' refers to the phone's extended battery life, while 'I can survive under water' communicates the phone's waterproof feature.

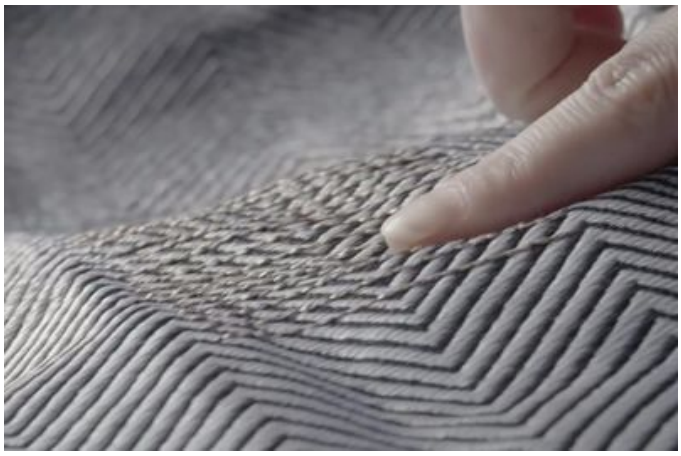
Key Development: The campaign turns negative emotions around dependence on mobile devices into a positive quality, allowing individuals to discover the extraordinary in the everyday.

Force of Nature installation by FIELD for Nike

May: **Nike collaborates with digital artists FIELD on an interactive installation that translates exercise data into a dynamic visual display**

Using Kinect technology and a treadmill fitted with customised sensors, the installation captures a runner's profile and converts it into a dynamic visual that corresponds to their movements. Accompanied by Studiokamp's soundtrack of rushing wind and crashing waves, the hypnotic effect is reminiscent of our Zoned-out Spaces microtrend, where digital technologies are used to create psychedelic experiences.

Key Development: Digital technology enables designers to create optimised workout experiences.



Project Jacquard by Google ATP and Levis, US

June: **Google and Levi's join forces for Project Jacquard, a venture dedicated to creating interactive textiles**

Named after the inventor of the first programmable loom, Project Jacquard makes it possible to weave touch and gesture interactivity into any textile, using standard industrial looms. Although in its infancy, Google and Levi's envisage a future where clothes and furniture can be transformed into interactive surfaces.

Key Development: Conductive yarn will enable wearers to use their clothes as a touchscreen interface, compatible with their mobile devices.

Place Tips by Facebook, Global

July: **Facebook injects new life into beacon technology with its Place Tips feature**

The optional feature helps people learn about and connect with the places they visit and presents an opportunity for bricks-and-mortar stores to connect with consumers in-store via mobile. Place Tips beacons deliver site-specific content on Facebook, such as posts from a business' Facebook page, upcoming events, friends' recommendations and check-ins, which goes straight to the top of the News Feed.

Key Development: While beacon technology has failed to live up to industry hype since it first hit the headlines back in 2013, Place Tips might prove successful by offering a tailored and seamless experience.

Fictional Bahio Coffee advertisement created by M&C Saatchi, London

August: **M&C Saatchi reveals an artificially intelligent poster that uses emotional analytics to self-assess and evolve over time**

By applying the principles of evolution using a genetic algorithm, the poster is able to self-assess and perform executions based on the strength of its features or 'genes', such as copy, layout, font, colour and image. Using facial-recognition software, the poster measures the strength of each execution and acts accordingly, either abandoning less desirable traits, or enabling them to survive and 'reproduce' with other successful iterations.

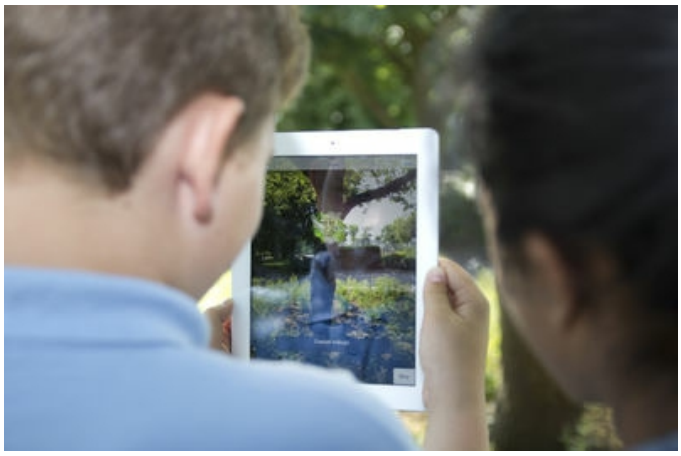
Key Development: Emotional analytics is beginning to transform the advertising industry as agencies fight to create attention-grabbing work.

NO_THING by Milla & Partner

September: **NO_THING by Milla&Partner shows how projection mapping can turn everyday surfaces into interfaces**

Visitors to the installation enter the space and receive a digital guide via a simple piece of cardboard called the SeedBoard. A system projects ultra-red light onto the surfaces, which feature reflective foil markers that recognise when people tap and swipe through content.

Key Development: While most of us are now used to swiping and tapping when we interact with technology, NO_THING does away with these physical restraints.



Net Park created by Metal, Essex

October: **Arts catalyst Metal launches the world's first digital art park in Essex**

The park features five artworks that are GPS-located and can be experienced through phones and tablets. Installations include poetry journeys, a lucid dreaming experience, an animated social history told from the perspective of trees and a mindfulness-based story that draws attention to physical and emotional responses to natural elements.

Key Development: Cultural innovators and brands are employing geo-location technology to bring local environments to life and engage people in their surroundings in new ways.

Mitsubishi Outlander 2015

November: **Car-maker Mitsubishi unveils new technology for preventing accidents caused by loss of concentration**

Using machine learning, Mitsubishi's technology can detect anomalous driving behaviour by analysing vehicle and driver data, including steering, heart rate and facial orientation. When the system detects deviation from predictive driving actions, it warns the driver and recommends an action to improve concentration.

Key Development: The technology marks a pivotal stage in the automation of cars, as a vehicle equipped with such technology will constantly learn from a driver's behaviour .

Speed Factory, Adidas

December: **Adidas is to open Speedfactory in 2016, where its shoes will be built entirely by robots**

Using intelligent robotic technology, Adidas will manufacture its shoes faster and in a more eco-friendly way. The process will require fewer adhesives and reduce shipping emissions. The aim of Speedfactory is to complement traditional mass manufacturing, which the brand has outsourced to China in recent years, with local German manufacturing to enable quick delivery of products to consumers.

Key Development: New manufacturing processes will enable Adidas to open up its brand and involve customers in the creative process.

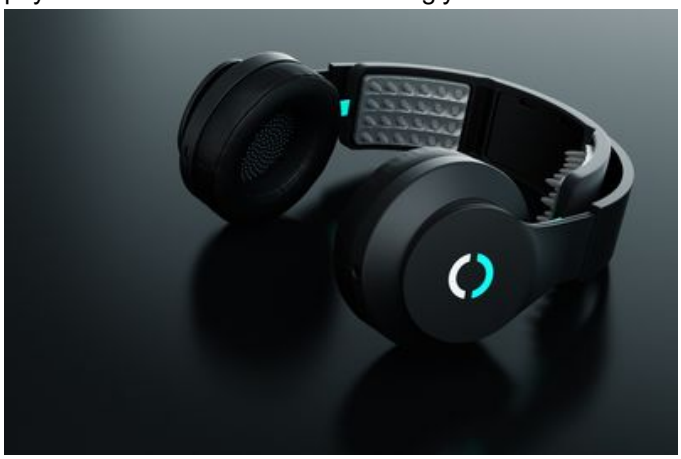
2016

Film Still of JB1.0: Jamming Bodies Laboratory, 2015 by Lucy McRae, Skylar Tibbits with MIT's Self-Assembly Lab and M. Brandon Finney, commissioned by Storefront for Art and Architecture, New York

January: **Storefront Gallery exhibits an interactive room that morphs around visitors**

The exhibition featured an enclosed space surrounded by breathing membranes that inflated to become soft and mouldable. Morphing around the body and applying different degrees of pressure, the installation imagined a future in which static, rigid environments are replaced with self-configuring spaces that serve different functions.

Key Development: The rise of soft robotics and self-assembly technologies hints at a future in which dynamic physical environments will increasingly feature.



Halo Sport, San Francisco

February: **Halo Sport is a pair of headphones that makes your brain work better**

Halo Sport headphones increase the brain's ability to learn new skills. It does this through neuropriming – using pulses of energy that increase the excitability of motor neurons, thereby helping the neurons to connect more readily than normal. It also helps an athlete to get more out of their muscles, because improved signalling to muscles enables them to work harder.

Key Development: Forms of neurotraining used by the military are being made more accessible to the public.

Expedia : Empathy : St Jude Children's Research Hospital

March: **Expedia develops a project that gives severely ill children a virtual travel experience**

Expedia worked with St Jude Children's Research Hospital to offer three young cancer sufferers an immersive travel adventure. The children were paired with Expedia employees who journeyed to Argentina, Miami and Mexico, and live streamed their travels using 360-degree cameras, which the children viewed in real time in a special six-sided room. Due to the broadcast's live nature, the children could ask the employees questions and direct their actions.

Key Development: Brands are using virtual reality to create empathetic experience that enable consumers to see the world through someone else's eyes.

April: **Telecoms company Oi launches a new interactive logo that responds to sound**

The logo, which forms part of Oi's refreshed identity, responds to the volume and pitch of customers' voices when they visit the brand online and in stores. Volume affects the size, while pitch varies the shape and colour. Customers can also save their own unique version based on their own voice, a nice touch for a brand that specialises in communication.

Key Development: Designers are using technology to create responsive typography and branding that resonates with people on a personal level.

Hyper-reality by Keiichi Matsuda, London

May: **Designer Keiichi Matsuda release his terrifying vision of a world immersed in augmented reality**

Matsuda's conceptual film uses post-production techniques to imagine a world in which media is all around us and our interaction with the physical world is covered by a layer of augmented reality. The film also raises questions about how wealth will influence our access to different levels of technology and create barriers between different social classes through alternative realities.

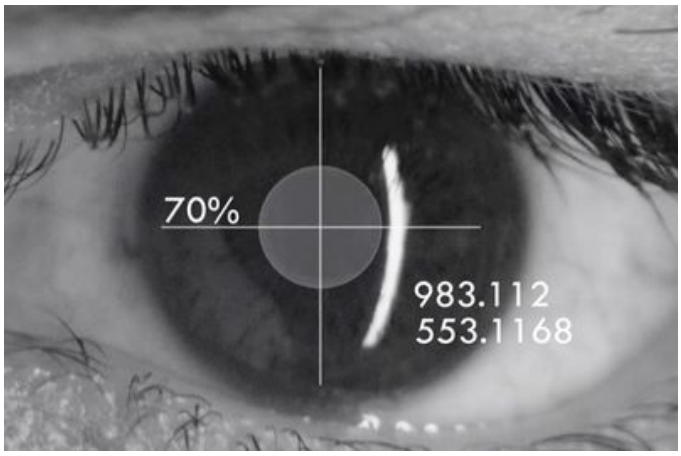
Key Development: Virtual and augmented reality technologies are growing at a phenomenal rate and will introduce new opportunities as well as dangers.


Lucy, Data Portraits by Margot Bowman and Raised by Wolves, UK

June: **Artist Margot Bowman examines the relationship between identity and algorithms in a project for Mini**

Data Portraits raises questions about the way that humans are perceived by algorithms that are designed to determine who we are and what our interests might be. The project was commissioned by Mini as part of its centenary celebrations, in which it examines how the demand for personalisation will be affected by the sharing economy.

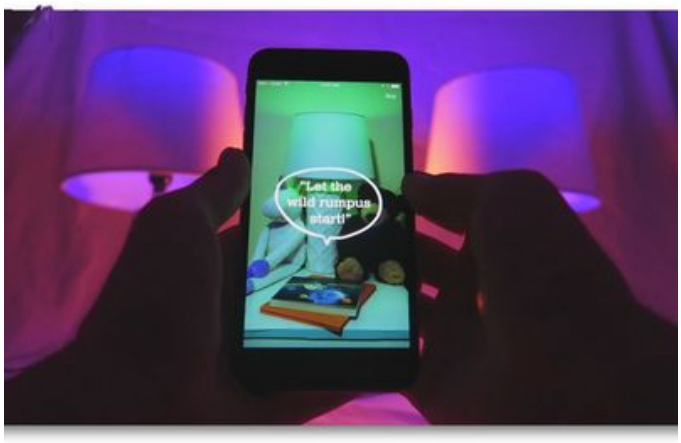
Key Development: The world's Mega-systems are combining big data with a human touch to create products and services that offer a mix of personalisation and inspiration.



July: **Automotive care brand Midas has used advanced lie-detecting technology to prove the trustworthiness of its mechanics**

Automotive care brand Midas submitted 20 of its mechanics to a high-tech lie detector test using a high-speed precision camera to track the involuntary eye movements that result when a person is lying. The Midas mechanics tested had an average reliability score of 88.3%. The results formed the backbone of Midas's subsequent The Eyes Don't Lie campaign.

Key Development: Advances in technology are providing powerful new tools that brands can use to reassure consumers that they are trustworthy.



Campfire

September: **Campfire is a new interactive app that brings bedtime stories to life**

Campfire harnesses voice recognition technology and the Internet of Things to promote the parent-child relationship through traditional bedtime. Usable with any book, the app synchronises with wifi-enabled lighting and Bluetooth speakers to respond to the parent's tone of voice and adapt the visual ambience and background sounds accordingly.

Key Development: Generation I kids are increasingly technology-savvy, but brands must consider what cost this has for personal interaction and respond appropriately.

Recognition by Fabrica, Microsoft and JoliBrain, London

September: **An installation at Tate Britain helps visitors understand the thought process of AI**

Recognition proposes new perspectives on understanding art, positioning artificial intelligence (AI) as a benevolent and useful technology. The installation uses a complex algorithm to compare and match images based on object recognition, facial recognition, composition and context. Pairing current affairs images with classical art, the system offers a list of aesthetic and contextual similarities that make it a match.

Key Development: Technology is increasingly mimicking the world of human emotions and reflecting who we are as a society.

The Smell of Data by Leanne Wijnsma and Froukje Tan, The Netherlands

October: **The Smell of Data project alerts users to potentially hazardous websites using scent**

The scent diffuser emits a metallic scent whenever a user connects to an unprotected wifi network or a nefarious website. The project plays on existing learned behaviour already embedded in many consumers' psyches. 'Compare the smell of data with the smell of gas,' explains designer Leanne Wijnsma. 'We were taught to find this smell dangerous – and we know exactly how to act when we smell it.'

Key Development: Designers are exploring how technology can be more intuitively integrated into our lives by appealing to our deep-seated responses to stimuli.