

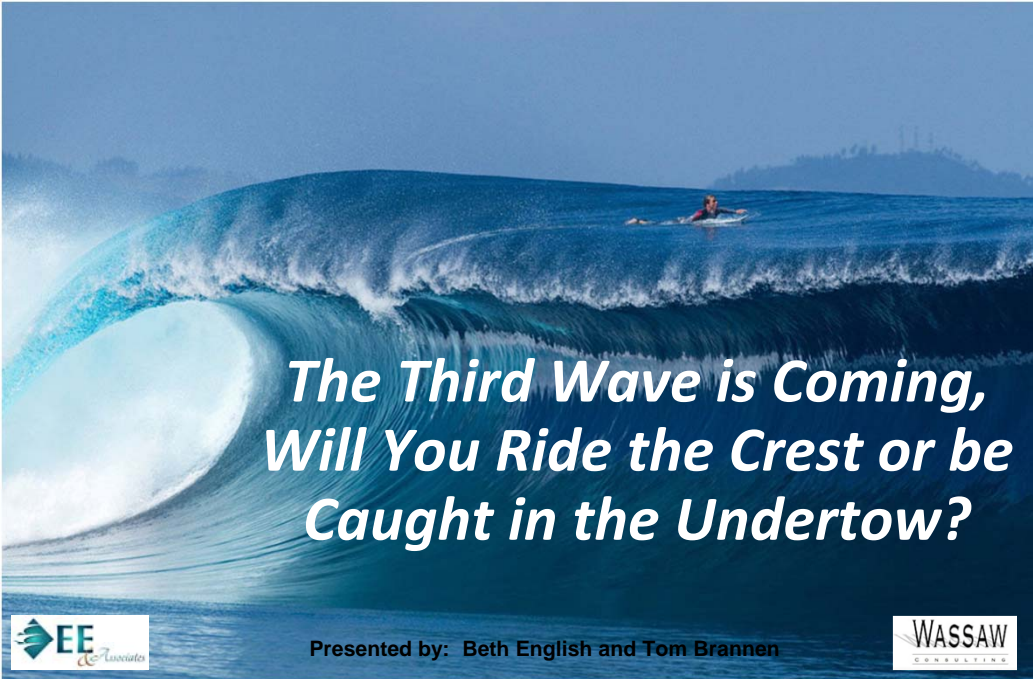
***The Third Wave is Coming,
Will You Ride the Crest or be
Caught in the Undertow?***

Presented by: Beth English and Tom Brannen



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The Three Waves of the Internet

- First Wave 1985-1999
 - Building the Internet
 - Laying the foundation
- Second Wave 2000-2015
 - App Economy and Mobile Revolutions
 - Search, social, and ecommerce, startups grew on top of the internet
- Third Wave 2016 
 - Internet of everything
 - Ubiquitous connectivity allows major real-world sectors to be transformed

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Science Fiction - 2078



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Reality

Uber starts self-driving car pickups in Pittsburgh

Posted Sep 14, 2015 by [Signe Brewster](#) (@signe)



Presented by: Beth English and Tom Brannen

When?

Ford plans mass-market self-driving car by 2021

Carmaker sets up deals to develop model with no pedals or steering wheel



Ford's Fusion sedan that incorporates self-driving technology, including sensors on the roof © FT



AUGUST 16, 2015 by [Peter Campbell](#) in London and [Patti Waldmeir](#) in Chicago

Ford says it will build a totally self-driving car by 2021 as it seeks to take the lead in the global race to produce the world's first high-volume driverless vehicle.

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Science Fiction



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Microsoft Band finds employment in helping epilepsy sufferers

By Ryan Davis
19 September 2016, 10:04 p.m.
Updated

Categories
Continental Data, Devices, Health Monitoring, Health & Wellness, Predictive Analytics, Smartwatches, Trackers



(Image Credit: Microsoft)

Despite rumours of the demise of the Microsoft Band, the original wearable is being employed to aid epilepsy sufferers in predicting upcoming seizures and help to ensure their safety.

A new program called MyCanCenter is being used for the pioneering epilepsy research developed by a range of partners including Microsoft, the Epilepsy Care Alliance, the University of Kent in the UK, Shepherds Systems, Graphnet, and Poole Hospital NHS Foundation Trust.

WFS
28



Zio XT Patch

The Zio XT Patch, developed by iRhythm, aims to detect abnormal heart activity over an extended period of time. These wearable electrocardiogram patches are water-resistant and can be worn continuously around the clock for two weeks. The data that is collected by the patch is then transmitted to iRhythm's cloud app, which relies on algorithms to deliver into the results. The Zio XT Patch has FDA approval.

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Researchers develop low-power wearable system to aid asthma patients

By Visceral Tech
14 June 2016, 12:12 p.m.
Comments

Categories
Health Monitoring, Health & Wellness



(iStock.com/Neurostockimages)

Researchers at the National Science Foundation's Center for Advanced Self-Powered Systems of Integrated Sensors and Technologies (ASIST) at North Carolina State University have developed a low-power wearable system that will help predict and prevent asthma attacks.

Data from the Centers for Disease Control and Prevention reveals that over 24 million people are impacted by asthma in the US and patients currently make use of inhalers to counter the systems that can include attacks that often

avoidable.

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G5 Mobile Continuous Glucose Monitoring System

Deacorn received FDA approval in August for its new G5 Mobile Continuous Glucose Monitoring System, which is designed to transmit blood sugar level data from the sensors worn by the user to a smartphone. With the G5, users will not need to carry a separate receiver for the wearable device. According to Deacorn, the G5 is the first fully mobile continuous glucose monitoring system that is FDA approved for both adults and children as young as 2 with diabetes.

FUTURE OF YOU


Google Glass Flopped. But Kids With Autism Are Using It to Recognize Emotions



By [Lindsey Hacham](#) 
JUNE 23, 2015

Nautilus Lab looks to Indiegogo for "world's smallest pain relief wearable"

By [Wearable Tech](#)
19 April 2015, 11:11 a.m.
Comments
Categories
Health Monitoring, Health & Wellness



Picture credit: [Nautilus Lab/YouTube](#)

Nautilus Lab has launched an Indiegogo crowdfunding campaign for its PEM Wave CARE wearable device for chronic pain relief.

The device claims to also help improve immunity and blood circulation. It can be worn as a necklace to improve blood circulation or attached to a body part to provide relief from chronic pain or inflammation. It can be operated by a smartphone app via Bluetooth.

It is the latest development from Nautilus Lab, and is based on the wellness elements of pulse electro-magnetic fields. The company claims that it can lower chronic pain by 60-66%, and that it can be used by people of all ages. The device emits ultra-low electro-magnetic field frequencies that asymmetrically oscillate for providing relief to severe inflammation and pain, improve wellness and repair muscle damage.

IBD Patients in Pilot Study to Use Digital Watch to Track Symptoms, Disease Triggers

SEPTEMBER 15, 2014 BY [CAROL ANN HANCOCK](#) IN [NEWS](#)

[Click here to receive IBD news via e-mail](#)

Takeda Pharmaceuticals U.S.A. has announced the launch of a pilot digital technology program that consists of a watch specially designed to help patients and physicians manage inflammatory bowel disease (IBD), including Crohn's disease and ulcerative colitis (UC).

The digital technology program, iBData, is designed to cross healthcare and digital technologies. Digital approaches are being used in new platforms across many sectors of healthcare to advance such steps as diagnostics, disease progression, and treatment response.

"iBData leverages the remarkable capabilities available today when wearable technologies and medicine converge, in an effort to help overcome these challenges," Stephanie Brown, vice president and head of Specialty Business Unit at Takeda, said in a press release. "This innovative pilot program will explore new ways to transform care by generating novel insights into the patient experience that physicians can directly utilize."

In partnership with Texas Digestive Disease Consultants (TDDC) and Vanderbilt University Medical Center (VUMC), the pilot program will allow IBD patients to track their symptoms and lifestyle using wearable watch technology.

The technology will allow physicians and patients to have an ongoing dialogue between visits — physicians will be able to analyze symptoms, triggers and aggravating factors to

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- **Required Core Health Conditions (10):** Anemia, Atrial Fibrillation (AFib), Chronic Obstructive Pulmonary Disease (COPD), Diabetes, Leukocytosis, Pneumonia, Otitis Media, Sleep Apnea, Urinary Tract Infection, Absence of condition.
- **Elective Health Conditions (Choice of 3):** Cholesterol Screen, Food-borne Illness, HIV Screen, Hypertension, Hypothyroidism/Hyperthyroidism, Melanoma, Mononucleosis, Pertussis (Whooping Cough), Shingles, Strep Throat.
- **Required Health Vital Signs (5):** Blood Pressure, Heart Rate, Oxygen Saturation, Respiratory Rate, Temperature.
- Star Trek – 2265
- XPRIZE will be awarded in 2017

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Other Trends

- The Rise of the Rest
 - Austin, Texas Big Data-ranked first in start up activity index
 - North Carolina Research Triangle includes Durham Tobacco Complex
 - New Orleans-Education Tech, 1 startup for every 200 people
 - Colorado-Natural Foods, Storage, Bio tech
 - Miami, South Florida- Medical tech Global Expansion Latin America
 - Pittsburgh- Robotics
- Impact Investing
 - Sustainable investments are those which offer competitive financial returns and also create a positive social/environmental impact.
 - Soylent
 - Tesla

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Requirements for The New Era

- Second wave favored mavericks, third wave does not-not a Pokemon Go moment
- Third wave gatekeepers \$.03 pancreatic cancer test versus \$600 EpiPen
 - Third wave industries are most regulated in the world
 - Obstacles
 - Not just hardware and software
 - Logistics
 - Supply chains
 - Partnerships
 - Not overnight success-long slug
 - Requires a new approach to business-can't just focus on tech

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All Industries Will be Affected

- Transportation
- Insurance
- Hospitality
- Education
- Health care-completely personalized, substantial extension of life
- Government
 - Internet enabled air and ocean quality sensors
- Agriculture
 - Self driving tractors-in place for years
 - Nano tech soil sensors
- Communication Technology?

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Microsoft

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Wave Zero

	Founded		Years in Business
Siemens	1847	2016	169
Nokia	1865	?	151
Lucent	1869	2016	147
Avaya	1869	?	147
Ericson	1876	2012	136
Nortel	1895	2009	114
Alcatel	1898	2016	118
		Average	140

* These companies live on through acquisition. Date is an estimation of when their core business no longer operated under the most recent name. For illustration purposes only.

1st and 2nd Wave

	Founded	Market Cap	Years in Business
Cisco	1984	\$156,000,000,000	32
Microsoft	1975	\$451,000,000,000	41
Apple	1976	\$582,000,000,000	40
Google	1998	\$537,000,000,000	18
Facebook	2004	\$359,000,000,000	12
	TOTAL	\$2,085,000,000,000	28.6

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Other 2nd Wave Communications Businesses

- Slack – 3 million daily active users
 - 3 years old
- Whatsapp – Over 1 billion users worldwide
 - 7 years old
 - User Penetration 34% globally
 - Mideast - 63%
 - Latin America - 66%
- North America - 7%



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What's different?

- Haven't we heard this story before?
- Why is this any different?

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How Big is it?

- Bigger than the internet of things, bigger than the internet of everything
- Electricity enabled/internet enabled
- Everything becomes individualized and information enabled



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If you want to go quickly, go alone.
If you want to go far, go together.



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Thank You!

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