

IEEE Consumer Electronics Society

CES Download – Wearable and IoT

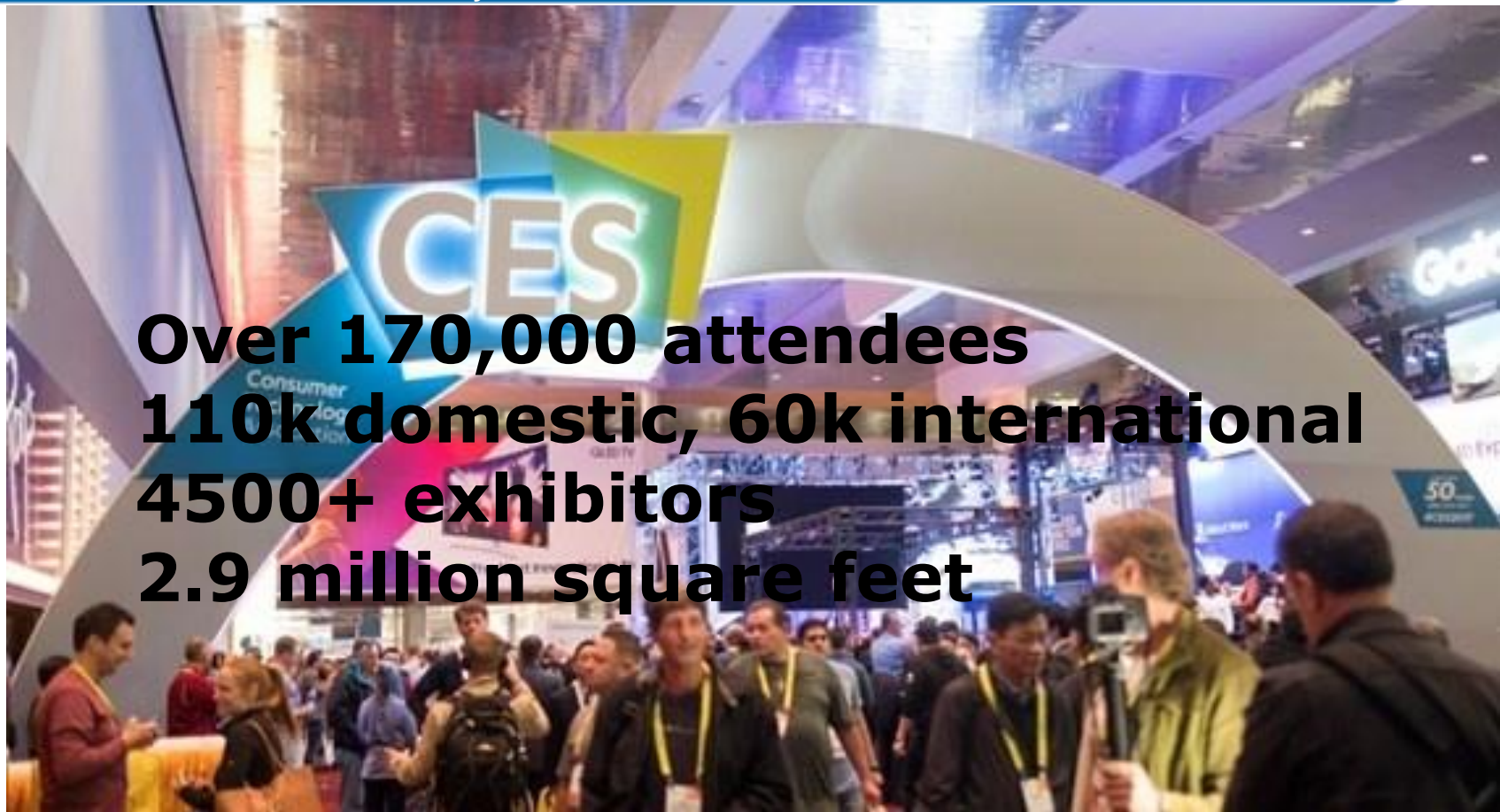


Joseph Wei
joseph.wei@ieee.org



Disclosure

- Companies shown have no business relationships with me at the time the pictures were taken
- Comments made are views of me (Joseph Wei) and do not reflect IEEE or business entities that I am associated with
- These are only selective highlights
- I would be happy to provide a more detail talk including other hot tech companies, you may email me at joseph.wei@ieee.org

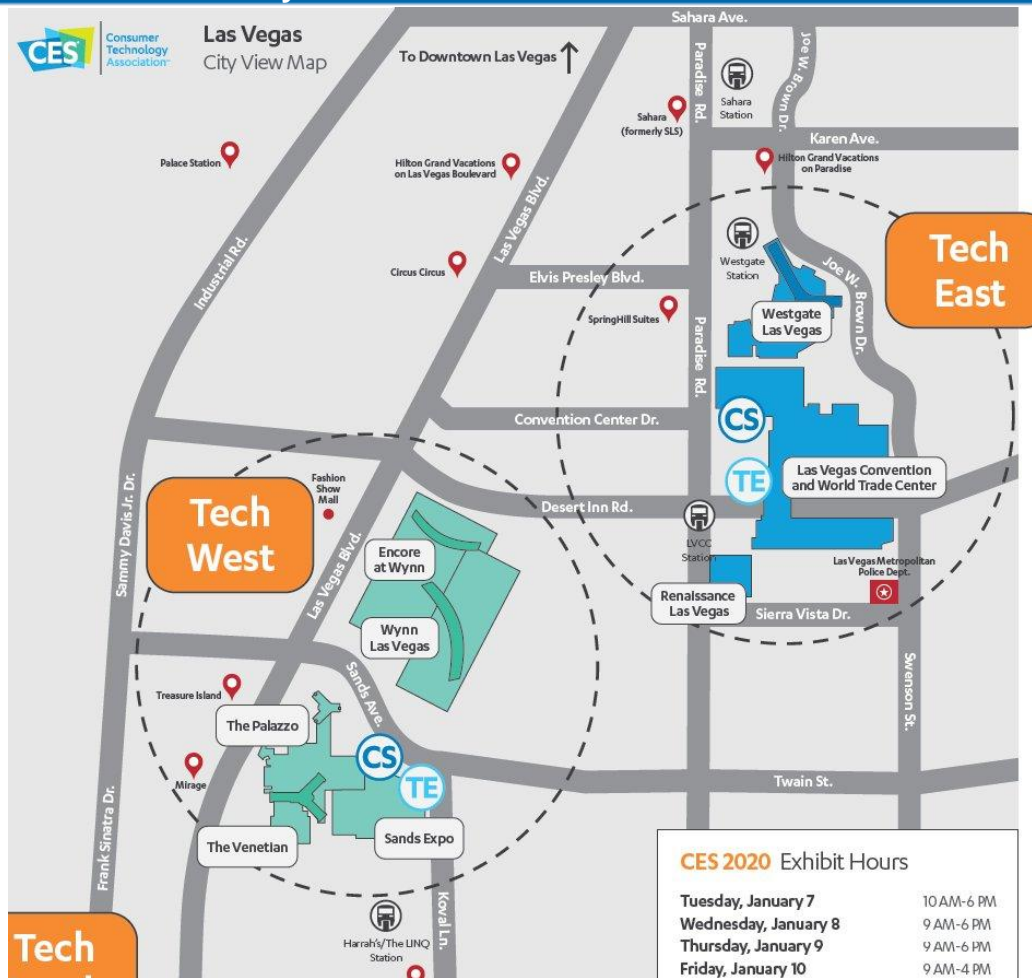


Over 170,000 attendees
110k domestic, 60k international
4500+ exhibitors
2.9 million square feet



Consumer
Technology
Association

Las Vegas
City View Map



CES 2020 Exhibit Hours

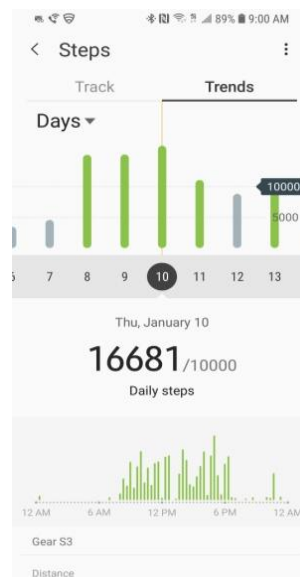
Tuesday, January 7	10 AM-6 PM
Wednesday, January 8	9 AM-6 PM
Thursday, January 9	9 AM-6 PM
Friday, January 10	9 AM-4 PM



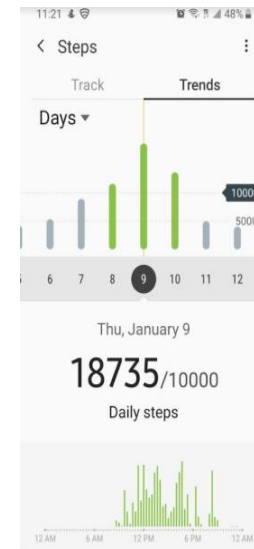
Steps I walked in 2018

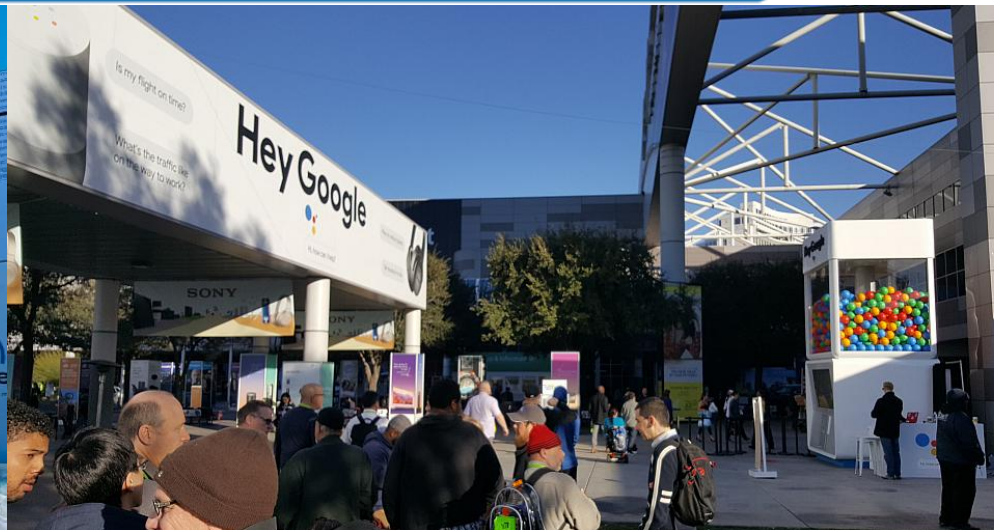


Steps I walked in 2019



Steps I walked in 2020



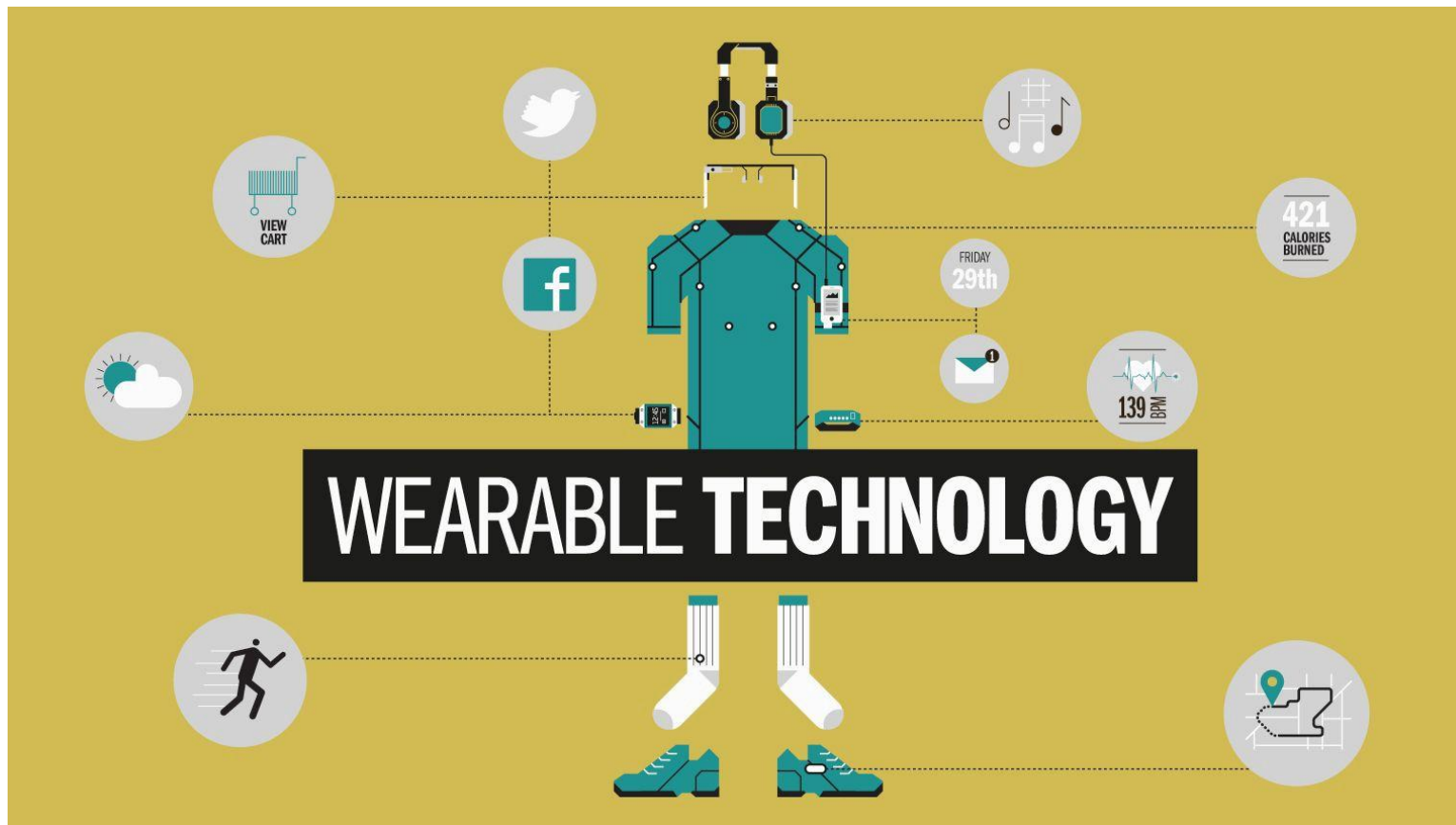


Hey Google Everywhere



Where is Intel at CES 2020?





Nextmind Wearable



<https://www.next-mind.com/>

Brain control by Brainco



<https://www.brainco.tech/>



Focus 1 Headband EEG headband

- Weight: 95g
- Operating temp: 32 - 104 F
- Battery Capacity: 400mAh
- Battery Life: up to 4 hours
- Battery Charge Time: 1 - 1.5 hrs
- Wireless: IEEE 802.11 b/g/n 2.4Hz
- Electrode Material: Hydrogel

EMG Prosthetics by BrainRobotics (Brainco)



<https://www.brainrobotics.com/>

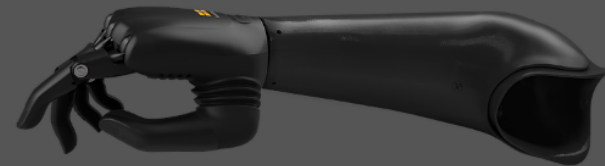
PRODUCT OVERVIEW

Modular Mechanical Design

Traditional prostheses have an integrated design that is vulnerable to damage. To solve this problem, our team has created a prosthetic hand with a modular mechanical design. It allows users to easily replace broken components without having to purchase an entirely new hand, which will greatly reduce maintenance costs.

Multi-Channel EMG Signal Detection

The BrainRobotics team has integrated eight signal detection channels into the prosthetic hand which detect EMG signals precisely.

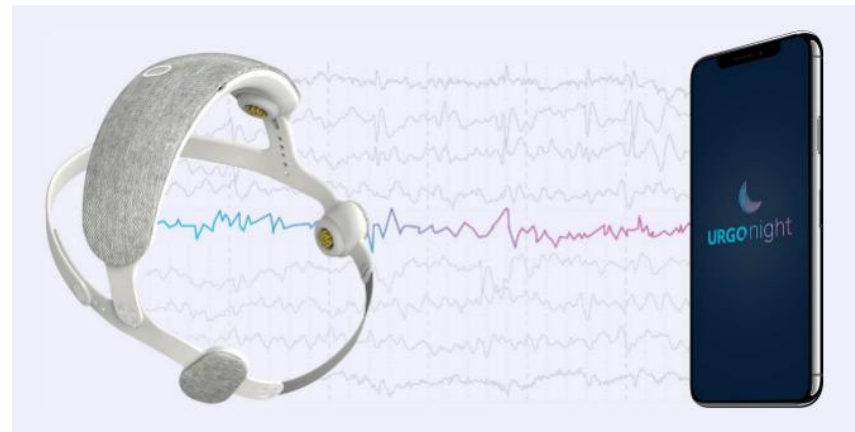


Machine Learning

The BrainRobotics team has utilized multi-channel signal detection and an advanced machine learning algorithm to allow amputees to intuitively control the prosthetic hand.



Urgonight wearable to help with sleeping with EEG



Fall asleep 40% faster

Hoedlmoser K., et al. (2008). SLEEP, Vol. 31, No. 10, 1401-1408
Individual results may vary.



Reduce nighttime awakenings by 53%

Cortcos A., et al. (2010). Appl Psychophysiol Biofeedback, Vol. 35, 125-134
Individual results may vary.

<https://urgonight.com/>

Sleep Mask by Lumina - using red light therapy



<https://www.luminainnovations.com/>

LifePlus Smartwatch - continuous glucose monitoring with light sensor



<https://www.lifeplusinc.net/>

Wearables from Honda for Workers

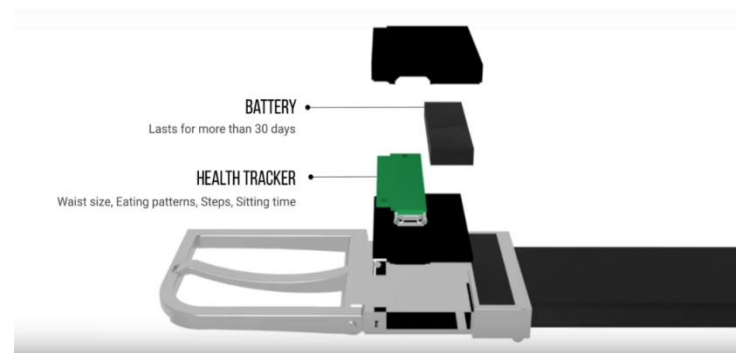
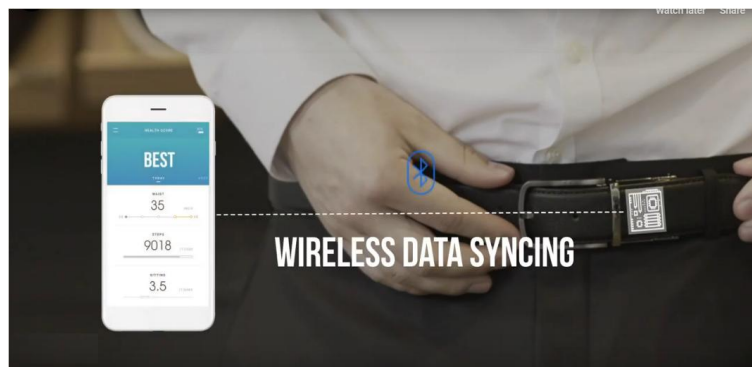
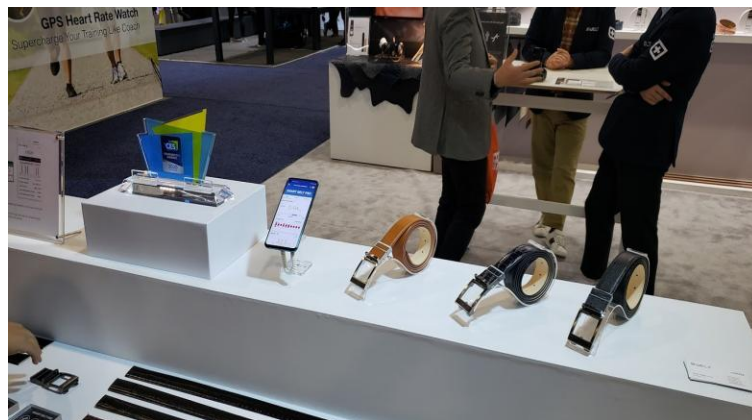


Remote brake by Stopskate

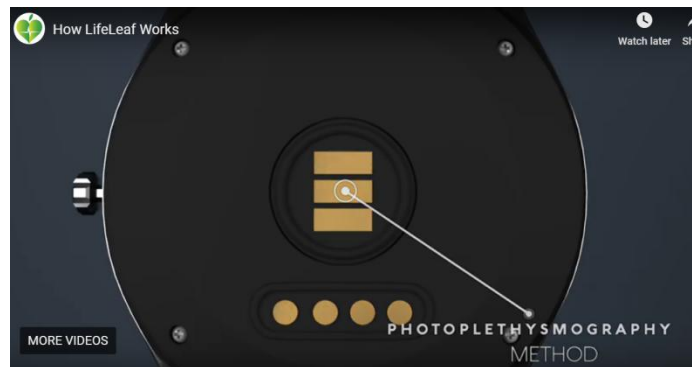


<https://www.stopskate.com/>

Smartbelt to for health tracking by Welt

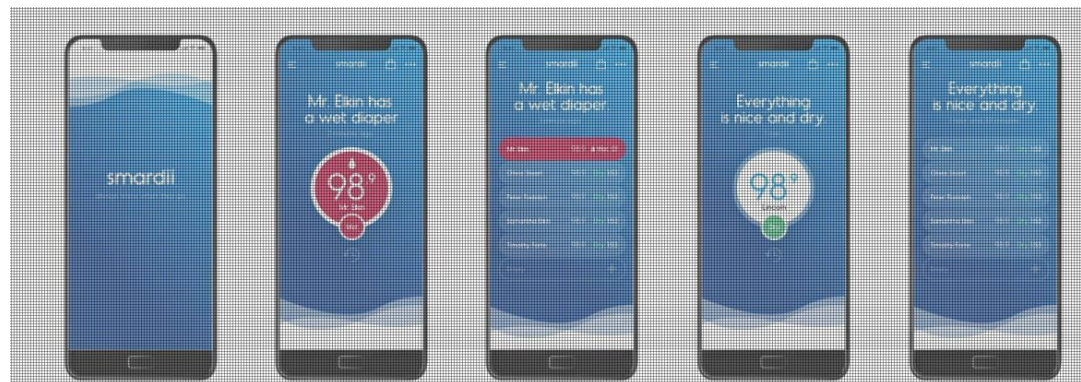
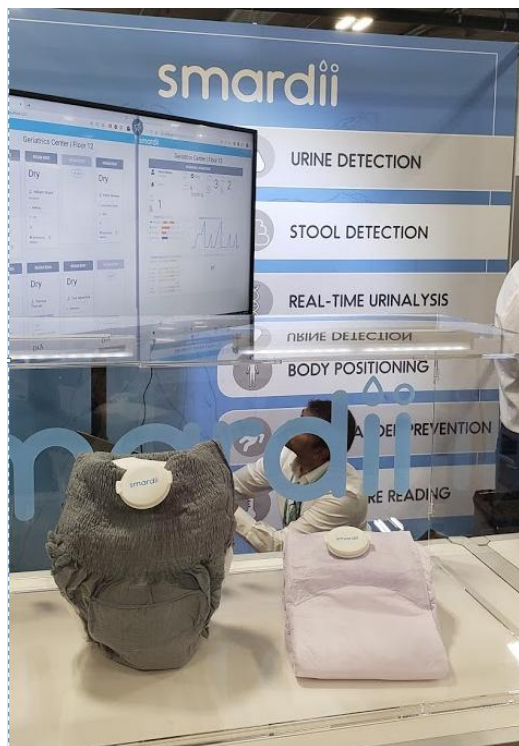


Continuous Glucose Monitoring by LifePlus

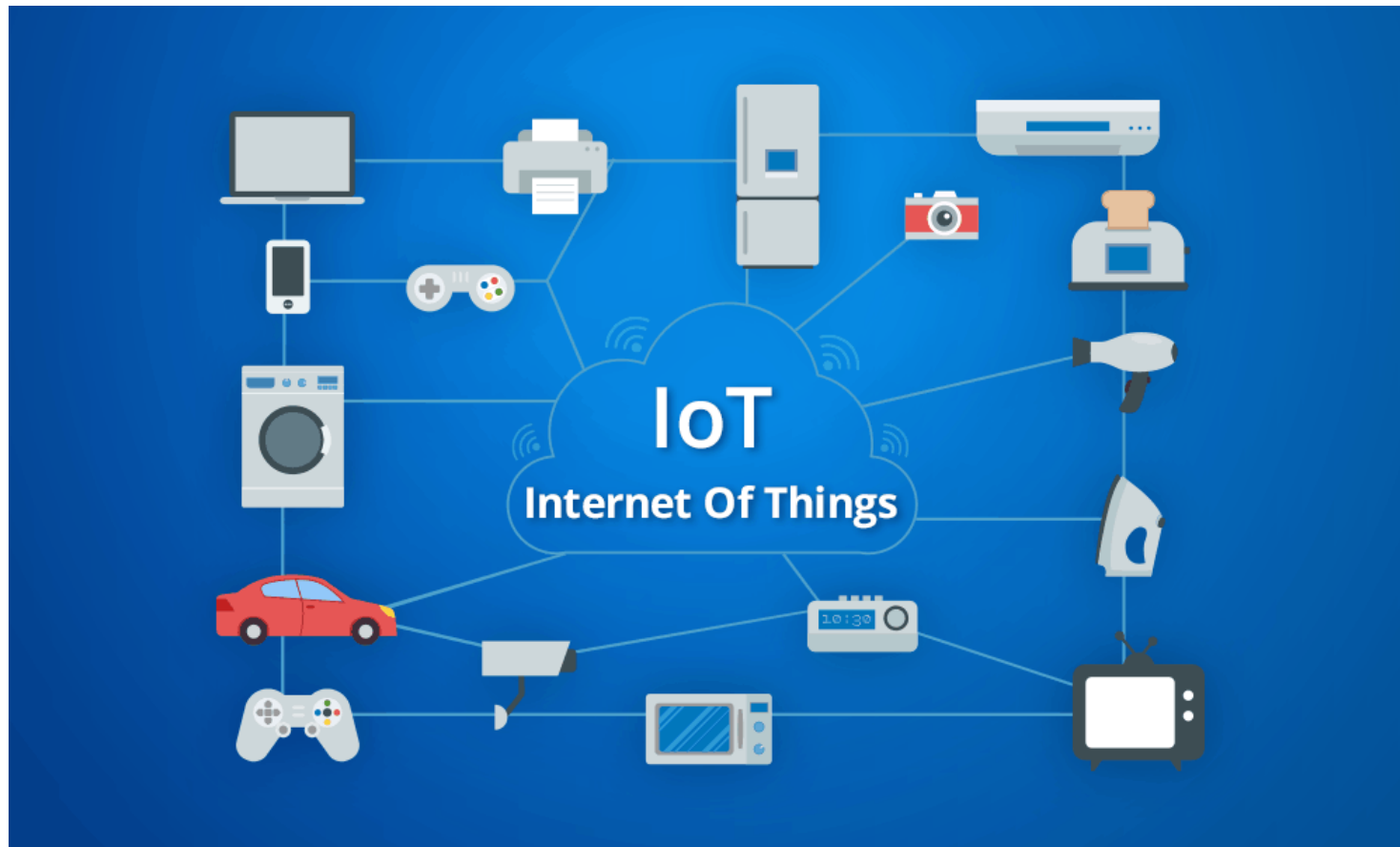


<https://www.lifeplusinc.net/>

Smart Adult Underwear from Smardii



<https://www.smardii.com/>



Qi charging pad by Allsop



Smart Bathroom Accessories by P&G



Toilet paper robot



Smell Sense



VI Pee

Portable MRI by Hyperfine



General Anatomical Brain Imaging

- Stroke
- Headaches
- Non-specific muscle weakness
- Encephalopathy

<https://www.hyperfine.io/>

Resonado “Flat-core” speaker fits into tight spaces e.g. car doors, RVs, boats, etc

Enabling **new speaker form factors** with advantages in size, weight, cost, and quality.



Image: Traditional Conical Speaker Driver Simplified Structure

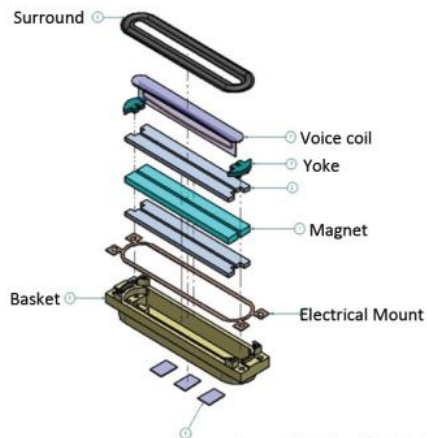


Image: Flat Core Speaker Driver Simplified Structure











Upcoming IEEE Conference

IEEE VISION | INNOVATION CHALLENGES SUMMIT

An IEEE Summit and Honors Ceremony

SAVE THE DATE

15 MAY 2020
JW MARRIOTT PARQ
VANCOUVER,
CANADA

WWW.IEEE-VICS.ORG



WHO ATTENDS

2018 Information

350+ decision makers and innovators

from diverse disciplines that range from Communications, Computer-Related Technology, Robotics, Managerial Leadership, Emerging Technologies, Start-Up Ventures, Devices, Microelectronics, Photonics, Power and Energy Systems, Industrial Technologies, and Education.

IEEE
VISION | INNOVATION
CHALLENGES
SUMMIT

An IEEE Summit and Honors Ceremony

A Broad Cross-Section of
the Technology
Community

Countries:

Austria	Mexico
Canada	The Netherlands
Finland	Poland
France	Sweden
Germany	Switzerland
Hong Kong	Turkey
India	Tunisia
Japan	U.S.A.
Jordan	



IEEE HONORS CEREMONY

"The Award Ceremony & Gala certainly felt like attending the Academy Awards."

"It's the most exciting awards show that I've ever attended!"

"I was captivated by the accomplishments of the recipients."



Imagine a human health database
powered by everyone in a city.



IEEE
VISION | INNOVATION
CHALLENGES
SUMMIT
IEEE Summit and Markets Committee

IEEE
VISION | INNOVATION
CHALLENGES
SUMMIT
IEEE Summit and Markets Committee



www.ieee-vics.org
Contact: joseph.wei@ieee.org

תודה
Dankie Gracias
Спасибо شكراً
Merci Takk
Köszönjük Terima kasih
Grazie Dziękujemy Dékojame
Ďakujeme Vielen Dank Paldies
Kiitos Tänname teid 谢谢
Thank You Tak
感謝您 Obrigado Teşekkür Ederiz
감사합니다