CES 2021 Download: Wearable and IoT

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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 or a custom presentation regarding key trends and upcoming technologies related to consumer electronics, you may email me at joseph.wei@ieee.org
CES 2020

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

Steps I walked in 2018

Steps I walked in 2019

Steps I walked in 2020

10,000 steps = ~5 miles or 8 km
Unofficial:
>100,000 people registered
~1,957 exhibitors
Steps I walked in 2021

Hours of visiting virtual booths in 2021

40+ hours
LG Rollable phone

https://www.youtube.com/watch?v=nMA_C8_CRR8
Mudra band with gesture control for Apple watch

- Connected via Bluetooth
- Price: $179
- [https://www.mudra-band.com/](https://www.mudra-band.com/)
- [https://www.youtube.com/watch?v=edJXcigKEPU](https://www.youtube.com/watch?v=edJXcigKEPU)
H2-BP, the world's first wearable blood pressure monitor

H2-BP is the wearable blood pressure monitor. It is the smallest and lightest blood pressure monitor in the world.

- Inflatable pouch and sensor similar to blood pressure cuff
- [https://h2care.com/](https://h2care.com/)
VUZIX NEXT GENERATION SMART GLASSES

**STYLE AND COMFORT**

A sleek exterior leads to a tech-rich interior.

**ADVANCED OPTICS**

Ultra-slim, binocular Waveguides powered by a pair of tiny, highly efficient micro-LED projectors.

**LED DISPLAY AND NOISE-CANCELLING MICROPHONES**

Advanced micro-LED displays require extremely low power while providing brilliantly bright images with excellent contrast.

**VUZIX ADVANCED OPTICS**

- Ultra-slim Waveguides
- High efficiency

**VUZIX NEXT GEN SMART GLASSES**

- see-through 3D display powered by small micro-LED display engines
- Bluetooth connection to smartphone

https://www.vuzix.com/technology/next-gen
ActiveLook®
Visual information in action.

https://www.activelook.net/
Safety Helmet with EEG Sensing

- AI based Risk management system with EEG sensing
- Monitor workers EEG to prevent accident operating heavy machinery while drowsy, under stress and other conditions
- Can be mounted on many safety helmets

http://www.hhskorea.com/
Cove wearable with stress cancelling technology

- **Cove** applies specific gentle vibrations to the skin behind your ears that initiate a natural biological pathway between the skin and the brain. 20 min per day
- Over 4 years of clinical studies and ongoing research with 3500 participants have proven that Cove™ is safe and effective.

https://www.feelcove.com/
DFree: Wearable device for urinary incontinence

- DFree uses safe and non-invasive ultrasound technology to detect bladder fullness
- DFree sends alerts to your phone or tablet when it is time to go to the bathroom
- Price: $399.99
**ATsens wearable ECG Monitor**

**11-day Promise**
A Single 11-day Test. It's enough.

Now, you can meet a new standard of wearable ECG Monitor. Uninterrupted Long-term Ambulatory Cardiac Monitor, AT-Patch.

- up to 11-day uninterrupted ambulatory cardiac monitoring
- Shower proof with IP44
- disposable patch-type (1 channel 3 leads)
- Communicate with Smartphone App via Bluetooth
- internal power supply, DC 3V (Li/MnO2, Type CR2032)
- Certification of Medical Device Manufacturing in Korea, Rep. [2019.08]
- Certification of CE Medical Devices Directive, in Europe [2020.04]

[Learn More](https://www.atsens.com/en/)
Sleepbreathe Sleep Breathing Monitor

Price: $149
https://snorecircle.com/
Motion Pillow

- Sleep Pressure Monitoring System with control of inflation of 4 separate airbags
- Monitor and track snoring frequency and sound in dB
- Auto inflation of airbag(s) to correct snoring

http://corp.tenminds.com/
- uses low level laser therapy and cold laser treatment to relieve pain areas and for helping you to deal with chronic pain management successfully.

https://www.wellscare.net/
Fighting Allergies with Light Therapy

Fluo Labs' breakthrough device uses photobiomodulation to provide fast acting and drug-free relief from hay fever symptoms:

- Drug-free
- No known side effects
- Efficacious with rapid relief
- Safe non-thermal LEDs
- Easy & fast to use
- Cost effective

- Uses photobiomodulation
- Non-thermal, near infrared light
- 6 light pulses per nostril
- Reduces inflammation for up to 24 hrs
- Est. price to be <$100
- https://www.fluolabs.care/
● Free to conduct normal activities while wearing
● Price: $499
● https://shop.willowpump.com/
A sleep trainer in the form of a bedside lamp

- Records sleep and crying patterns
- Analyze cry pattern using an algorithm based on studies of cry patterns of 150,000 babies across 150 countries
- Makes recommendations for optimal time to wake up the baby
- The built-in LED lamp increases intensity in an optimal manner, bringing a pleasant awakening

https://ainenne.com/
Shower power speaker by Ampere

- It generates 100% of its power from water
- An internal 2,500 mAh battery stores more than 20 hours of power
- Supports Bluetooth
- ~$100
- Fall prevention
- Prevents dehydration
- Recognizes patterns/habit changes
- Measures air quality
- Detects intrusion
- Reports fire
- $2,499 with a $19 a month subscription
- [https://nobi.life/](https://nobi.life/)
TOUCHLESS TECH AT CES 2021

https://www.us.kohler.com/us/
A simple urine test

Bisu Body Coach's microfluidic test stick makes urine testing easy, clean and accurate.

Biomarkers
- Electolytes
- Hydration
- Ketones
- pH
- Uric acid

Tech specs
- Spectrometer
- ARM Cortex-M4
- 2 minute test
- 3 months
- Bluetooth LE

https://www.bisu.bio/
Related Consumer Technology Resources:

- IEEE Consumer Technology Society LinkedIn Group (>15,000 members)  
  https://www.linkedin.com/groups/46506/
- IEEE Startup Special Interest Group  
  https://site.ieee.org/scv-yp/startup-sig/
- Consumer Technology Association (CTA) https://cta.tech/
- AARP Innovation Labs https://aarpinnovationlabs.org/
- Technology Ventures Group https://www.techventures.co/