

IEEE Consumer Technology Society

CES 2022 Download : Wearable and IoT Devices



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Disclosure

- Companies shown have no business relationships with me
- Comments made are views of me (Joseph Wei) and do not reflect IEEE
- 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 2022 vs. 2020/2021

	2022	2021	2020
Attendance	45,000	Virtual	170,000+
Exhibitors	2300+	Virtual	4500+
Days	3	4	4

Three Main Areas



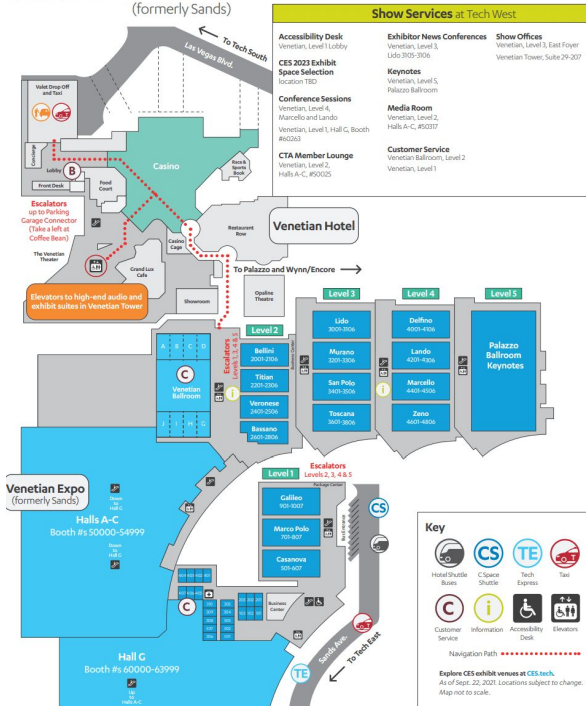
Tech East

Las Vegas Convention and World Trade Center (LVCC), Renaissance Las Vegas and Westgate Las Vegas



Tech West

Venetian Expo (formerly Sands)



Tech South

ARIA





Shared by Eric Savitz, Barron's Assoc. Editor PATRICK T. FALLON/AFP/Getty Images

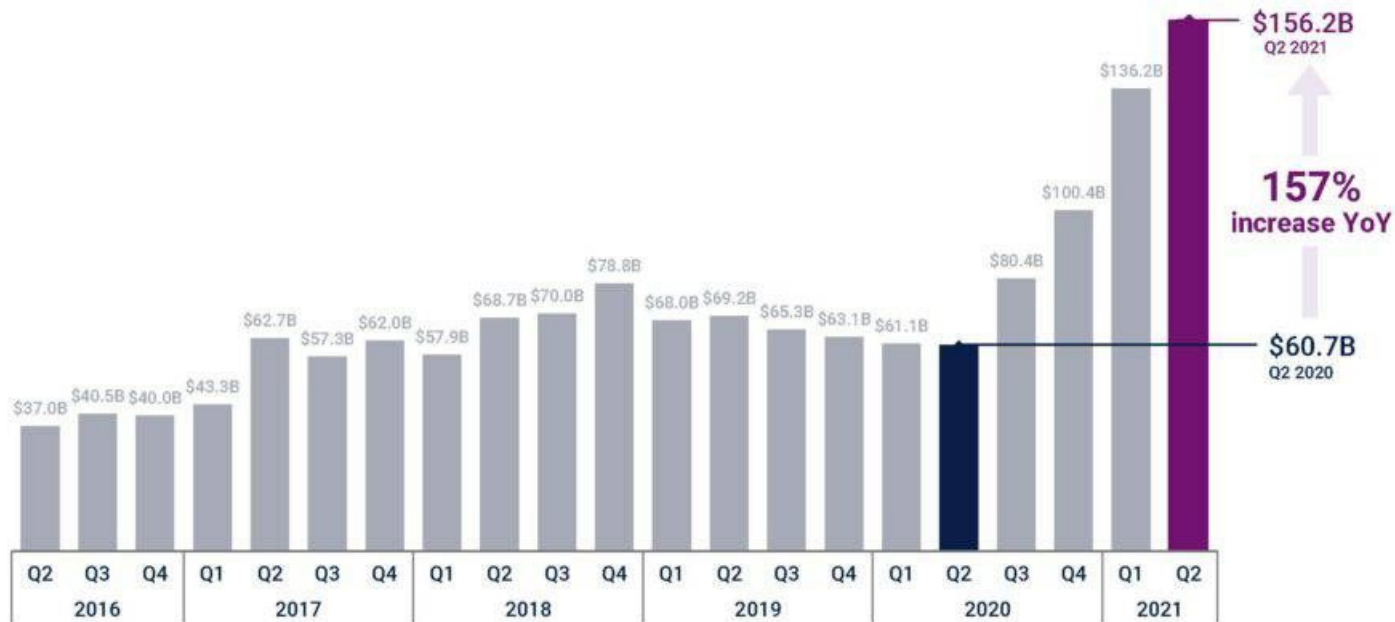
U.S. Consumer Tech Industry Forecast

Retail Revenues, \$ Billions



Source: CTA January 2022 Industry Forecast

Global funding to startups rises to an eye-popping new record





Wearables



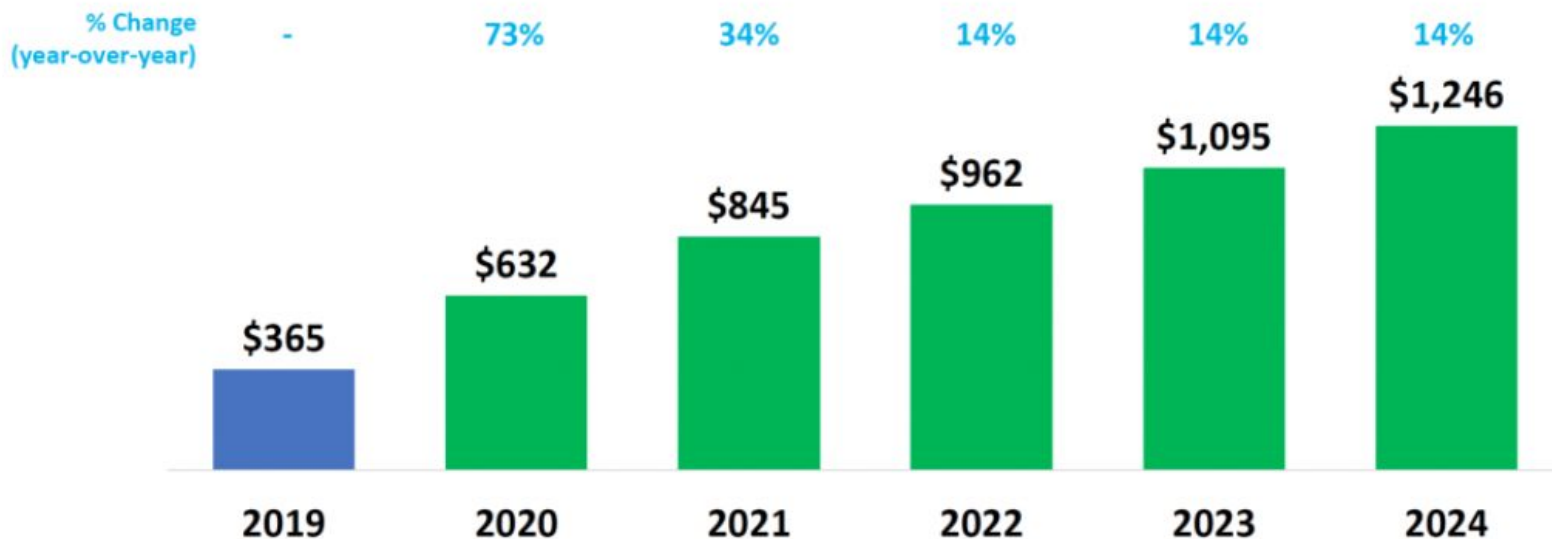
The illustration features a central figure of a person wearing a red shirt and blue sunglasses. Surrounding the figure are several circular icons connected by dotted lines, representing various wearable technologies: a smartwatch with a heart icon, a pair of AR glasses, a smartwatch with a 'John' notification, a wrist-mounted pulse oximeter, a smartwatch with a heart rate monitor, a mobile phone displaying health data, a wrist-mounted device, and a hand with a ring emitting a signal. Below the figure is a large heart icon with a white ECG line.

Wearable Technology

— Healthcare —

Five-Year Forecast: Connected Health Monitoring Devices

U.S. Shipment Revenue (\$Million)





Generates negative ions

Airvida – Wearable Air Purifier headphone

- Produces 6 million negative ions/.6 sec cm³
- Removes coronavirus from the air
- Weighs 40g
- Battery lasts up to 8 hours when both earphones and air purifier are working; more than 30 hours w/just air purifier
- <https://airvida.co/en/home/>



Razor – Zephyr Pro Mask

- 99% Bacterial Filtration Efficiency (BFE)
- Built-in microphone and speakers
- 60 decibels at a range of one meter
- 5 - 6 hrs of battery with fan on
- Replaceable filters
- Programmable LED lights
- weight is ~206.1-gram
- \$149.95 for the mask,
- \$199.95 mask + replaceable filters
- <https://rZR.to/zephyr-pro>





H2-BP - wearable blood pressure monitor

- Inflatable pouch and sensor similar to blood pressure cuff
- BP: 30 - 260 mmHg, +/- 5 mmHG
- Pulse: 40 - 180 bpm , +/- 5%
- BLE 4.0
- Memory: up to 200 measurements
- KFDA Certification
- Weight: 44 grams
- <https://h2care.com/>
- \$350



Reliefband - Anti-Nausea Wristband

- generates a proprietary pulse (neuromodulation) that stimulates the median nerve, travels through the body's nervous system to the part of the brain which controls nausea, retching and vomiting
- FDA cleared
- IPX 7
- <https://www.reliefband.com/>
- Classic: \$130
- Premier: \$250



4K Ultra Wide angle camera

Shoulder-mounted 4K camera is capable of clear and stable filming at the center of your body. With super wide angle, you never miss the memorable moment.

5 microphones array

By 5 microphones array unlike smart phone, you can deliver clear sounds even in noisy outside. Your communication is never interfered wherever you are.

Linklet - wearable camera

- 192 GB memory
- Supports LTE and WiFi
- 4K camera
- 5 microphones array
- 150 min running time
- 90 min fast charging time
- 13.5 hrs Standby time
- weigh 160g
- <https://linklet.ai/>

XR Innovation: Hardware & Use Cases

VR Hardware 3.0



- Six Degrees of Freedom (6DoF) now the norm
- Untethered models

AR Advances



- AR glasses get realistic
- Smartwatch features and more
- More AR apps

Use Cases

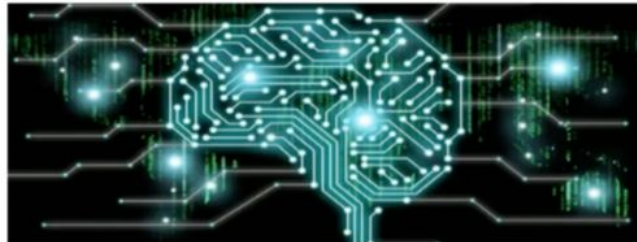


- Productivity increases
- Workforce training
- Travel experiences of the future

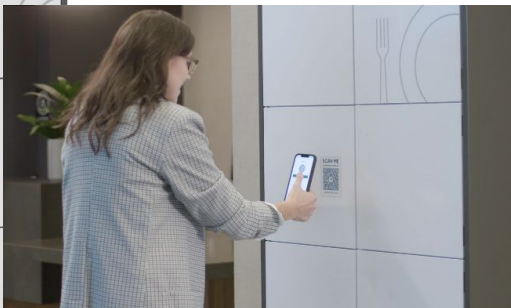
What's Happening in Consumer Tech?



IoT
Internet of Things



IoT
Intelligence of Things



Minnow Pod for Contactless Food Delivery

- Takes up 3 sq. feet of space
- Install under 30 minutes
- No App to download
- Connects through WiFi, cellular, or Ethernet
- Insulated cubbies keep food fresh longer
- Accommodates both hot and cold food
- the cubbies are not refrigerated or heated
- <https://www.minnowpod.com/>



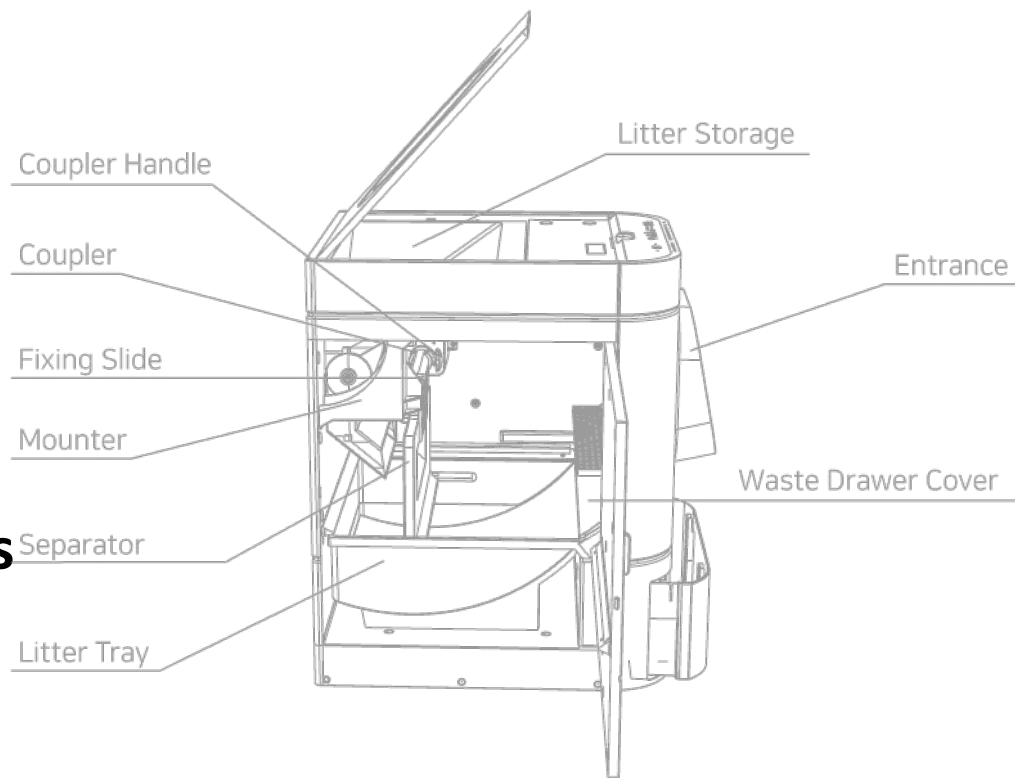
iWater Tech

- Reduces water usage by 15 - 25% by smart sensing
- Retrofittable
- Mobile App that tracks:
 - how much water you used, how much you saved,
 - how much energy you used and saved,
 - how long it takes for your water to heat up
 - how long the water ran before you got in
 - how long you were in high flow & low flow
 - average water temperature was of your shower.
- <https://iwater.tech/>



Knight - Keep Technologies, Inc.

- Video monitoring with a fish-eye camera
- 4G/LTE
- Sensors; Passive infrared + microwave sensors eliminate false positive
- 120dB Siren
- \$199. The self-monitoring option will run consumers \$5 a month and the professional monitoring offering will cost \$20 a month.
- <https://keep.tech/product/the-knight/>



PurrSong Inc. LavvieBot for cats

- Smart Automatic Cat Litter Box
- Self-cleaning
- Auto litter refill
- BLE 5.0 and WiFi
- <https://purrson.com/en/>

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/>

Tech for the Elderly

- CTA Foundation <https://www.cta.tech/Who-We-Are/CTA-Foundation>
- AARP Innovation Labs <https://aarpinnovationlabs.org/>
- Tech for Aging <https://techforaging.com/>

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

Q & A

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