Everything you need to know about Charlie, AR, Water, UAPs and more

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Tech Curiosity

2021

3D Print Your Next House

Here's what the first 3D-printed home for sale looks like

Charlie and NFTs

‘Charlie Bit My Finger’ Is Leaving YouTube After $760,999 NFT Sale
The original video of a baby biting his brother’s finger has drawn nearly 900 million views on the platform since 2007. But now one bidder owns it as a nonfungible token.

SORRY!
You missed out on the Charlie Bit Me 1 of 1 NFT Collection.

Charlie, Harry & Dad today

You too will be using AR - soon

- **Augmented reality** (**AR**) is an interactive experience of a real-world environment where the objects that reside in the real world are enhanced by computer-generated perceptual information
- AR can be defined as a system that incorporates three basic features:
  - a combination of real and virtual worlds
  - real-time interaction, and
  - accurate 3D registration of virtual and real objects
- **Nearly 75% of the world's population (and almost all smartphone users) will frequently use AR technology by 2025, predicts Snapchat in its latest report on consumer AR trends.** The company worked with Deloitte Digital to produce its Consumer AR Global Report 2021, which is based on interviews with 15,000+ consumers in 15 countries.

"As AR evolves, it will revolutionize our lives and will become as significant of a technology shift as the web or mobile was to society, changing how we view and interact with the world around us."

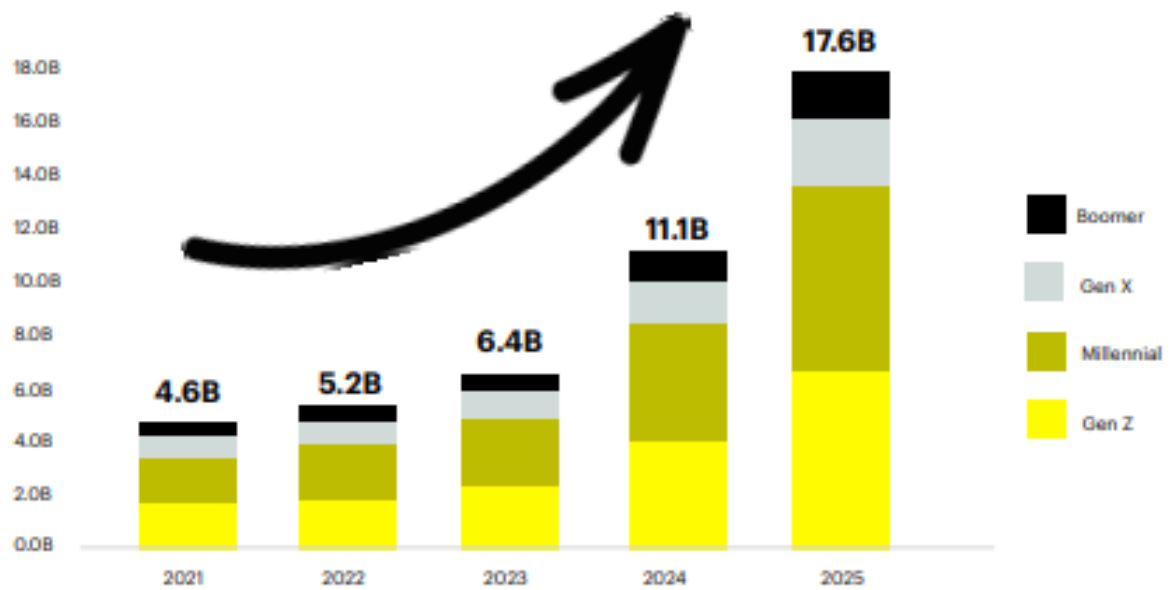
Allan Cook
Digital Reality Business Leader
Deloitte Digital

Over **4.5 billion** AR photos and / or videos are taken daily by consumers

AR use will grow with an increase in awareness and access to AR experiences and content.

AR Photos / Videos Per Day[1]

Generational Breakout of Daily AR Photos / Videos Created



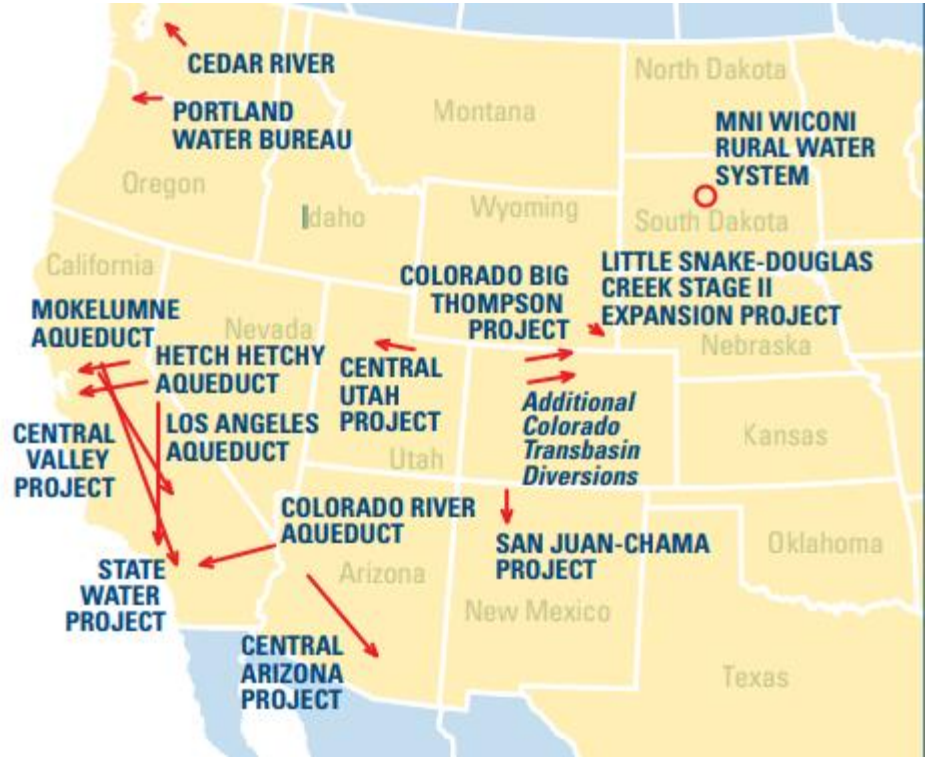
40% 2021-2025 CAGR of AR Photos / Videos per Day.[1]

On Snapchat, there are **500 million minutes** of AR playtime per day on average.[2]

Water, water everywhere – except where we need it…

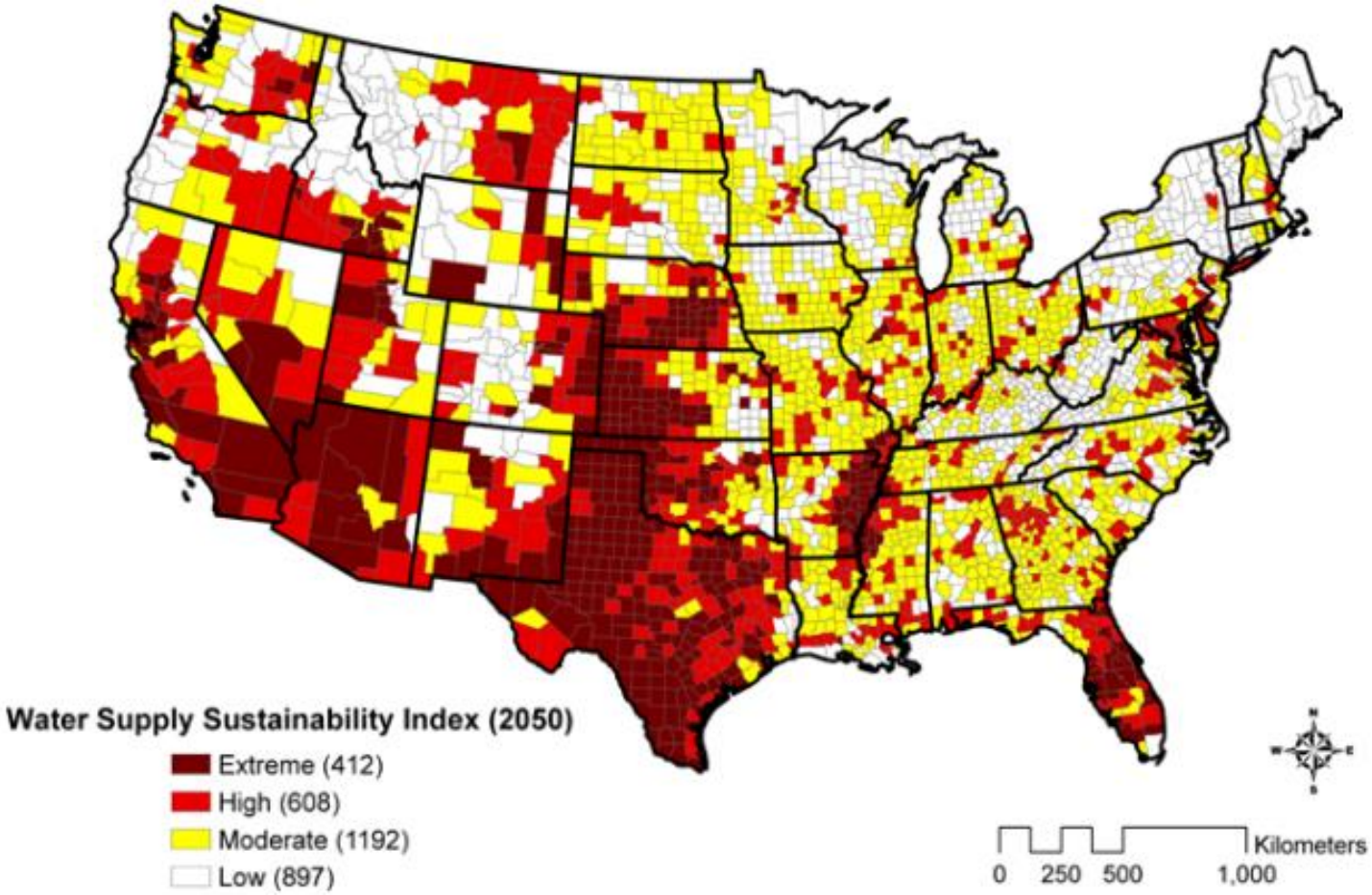
- [Pipe Dreams: Water Supply Pipeline Projects in the West]

Existing



Proposed

Water Supply Sustainability Index at the County Level (2050)



UAP/UFOs in the news…

- UFOs regularly spotted in restricted U.S. airspace, report on the phenomena due next month – 60 Minutes video (start :00-end)

Grunt, the Curious Science of Humans at War
by Mary Roach

- tackles the science behind some of a soldier's most challenging adversaries—panic, exhaustion, heat, noise—and introduces us to the scientists who seek to conquer them
- answers questions not found in any other book on the military:
  - Why is DARPA interested in ducks?
  - How is a wedding gown like a bomb suit?
  - Why are shrimp more dangerous to sailors than sharks?
  - How can diarrhea be a threat to national security?

Thank you Phoebe! I think…

The links below are to YouTube video presentations by company MX3D in Netherlands.
https://www.youtube.com/watch?v=K9npLuRIIFg (start 13:28 – 16:22)
16 min that shows development of bridge concept with original historical idea background.

https://www.youtube.com/watch?v=SEaht2tQ8P8 - 2 min that shows brief concept
(some same video as longer one).

Next is a link to the Cooper-Hewitt Museum exhibit about disability I mentioned.
https://collection.cooperhewitt.org/exhibitions/1141959921/

1 examples of a type of smart clothing - This is a SoundShirt designed by Ryan Genz dated 2015–16. Its medium is stretch microfiber fabric with laser-cut decoration and embedded with 16 mico-actuators. SoundShirt translates the experience of listening to music for the deaf and hard of hearing into a physical and sensory experience that is felt on the skin. By embedding 16 sensors corresponding to each part of the orchestra—violin, cello, drums, etc.—into the fabric of a specially designed shirt, music is felt as an immersive experience of tactile sensations. SoundShirt is available at the Junge Symphoniker Hamburg, Germany.

Millions of electric cars are coming. What happens to all the dead batteries?

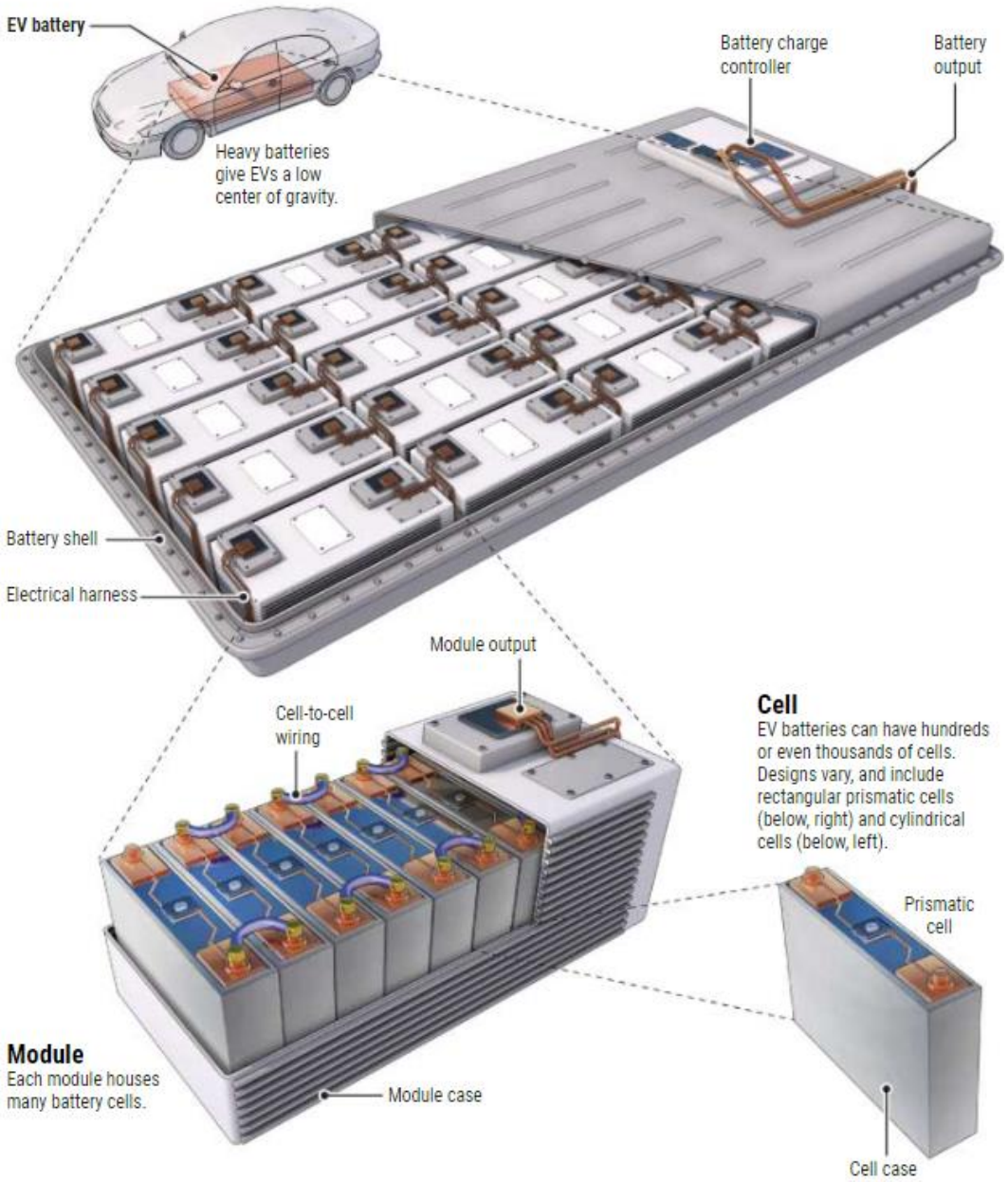
New life for spent cells

- Scientists are working to ensure the electric vehicle (EV) batteries being sold today can be recycled in 2030 and beyond, when thousands of batteries will reach the end of their lives every day.
- There's little time to waste, Abbott says. "What you don't want is 10 years' worth of production of a cell that is absolutely impossible to pull apart."

See also: Electric Vehicle Batteries Addressing Questions about Critical Materials and Recycling

EV battery pack

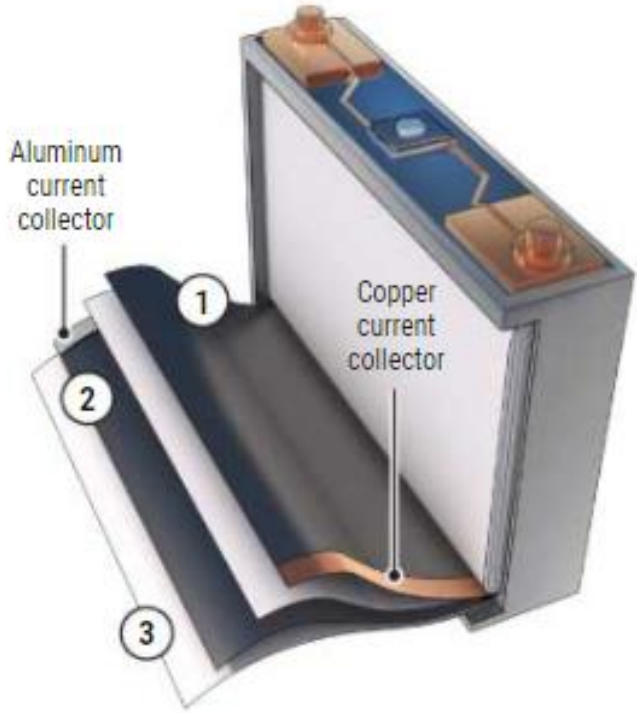
Inside the pack, electrical components manage the charge and stability of dozens of modules



Cell Components

Cylindrical cell
A tough steel casing makes these cells difficult to open. Often durable glue combines thousands of cells into packs.

Cell components
Each cell houses the essential components of a battery. They release and store electricity as lithium atoms move between electrodes.



1 Cathode
The cathode typically holds the most valuable recyclable material, made up of many metals.

2 Anode
Negative electrodes are composed of graphite, carbon, or silicon-based components.

3 Electrolyte and separator
Lithium travels through a separator sheet soaked in electrolyte.

The circles of recycling

- Pyrometallurgy burns spent batteries into a slag, and hydrometallurgy dissolves them in acids. Both aim to extract cathode materials. The ideal is direct recycling, which would recover the cathode intact. But for recycling to be viable it must be cost competitive with mined materials.