

TMT Predictions 2020

How has COVID-19 changed expectations?

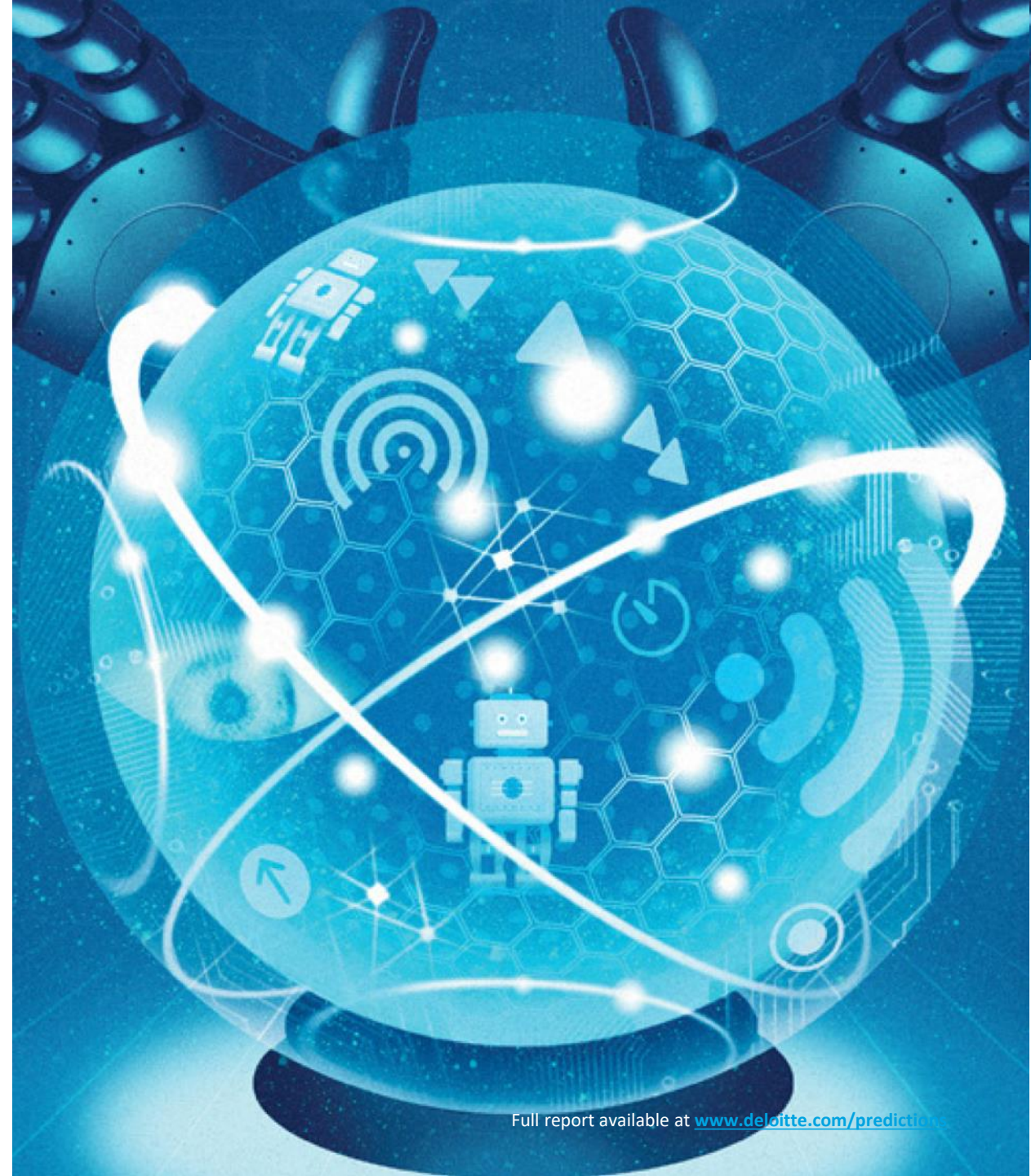
April 2020

TMT Predictions 2020 COVID-19 update: Core assumptions

Global GDP, in our best-case economic scenario, will be weak in Q1, even weaker in Q2, and start to recover by Q4; GDP will be down 8.3 percent for the year as a whole.¹

Smartphone sales were down 40 percent in February;² we assume sales could be down 7 to 10 percent for 2020 as a whole.

Ad spending will be down 5 to 10 percent for the year. (Forecasts as of mid-March were for a 3 percent decline,³ but that was before the Summer Olympics were moved and lockdowns intensified.)



Private 5G networks: Enterprise untethered

Original prediction: We expect that more than 100 companies worldwide will have begun testing private 5G deployments by the end of 2020, collectively investing a few hundred million dollars in labor and equipment.

Revised prediction: No change due to COVID-19, but our original prediction was low. The number of companies testing private 5G deployments is on pace to be well over 1,000 at the end of the year.

Why? According to Deloitte's tracking of tests, the number of companies testing private 5G networks was far ahead of our forecast already in Q1, and tests don't cost much.

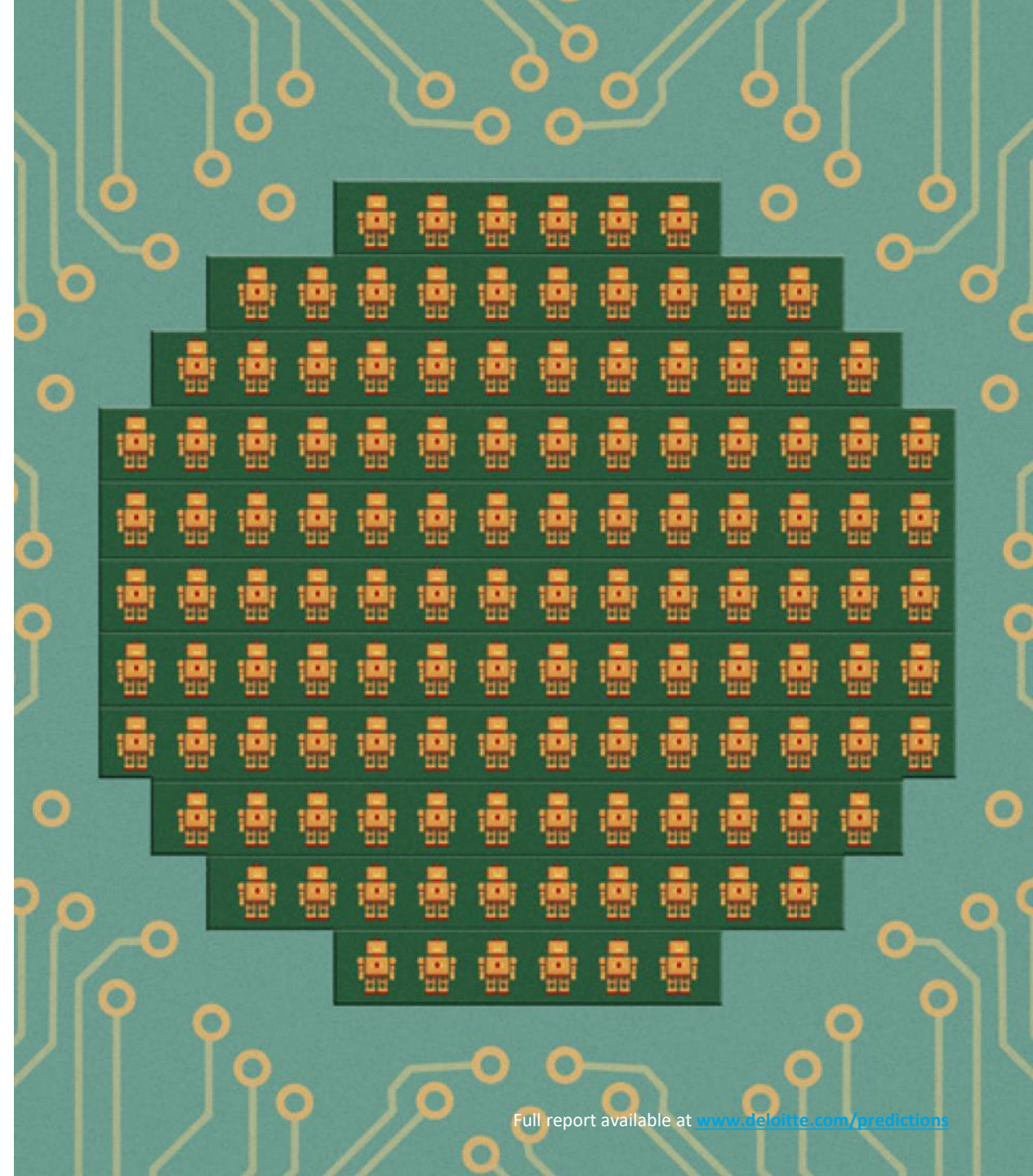


Bringing AI to the device: Edge AI chips come into their own

Original prediction: We predict that in 2020, more than 750 million edge AI chips—chips or parts of chips that perform or accelerate machine learning tasks on-device, rather than in a remote data center—will be sold ... representing a cool US\$2.6 billion in revenue.

Revised prediction: 650 million chips worth US\$2.2 billion.

Why? We expect a decline in global smartphone sales of about 7 to 10 percent for the full year,⁴ but sales of high-end smartphones could be down even more, and these smartphones are the biggest users of edge AI chips for now.



Robots on the move: Professional service robots set for double-digit growth

Original prediction: We predict that the number of units of professional service robots sold in 2020 will surpass industrial robot arms for the first time ever, growing by 30 percent over 2019 compared to industrial robots growing by only 10 percent.

Revised prediction: Professional service robot sales may grow by closer to 40 percent, while industrial robot sales will decline by 10 percent or more.

Why? More than half of professional services robots sold are for the surging warehouse, logistics, and medical verticals, while 60 percent of industrial robots are for the weaker automotive and electrical/electronics industries.



Ad-supported video: Will the United States follow Asia's lead?

Original prediction: We predict that revenue from ad-supported video services will reach an estimated US\$32 billion in 2020, with Asia-Pacific at US\$15.5 billion and North America at US\$9.7 billion.

Revised prediction: Global ad-supported video revenues will likely be under US\$30 billion, with Asia-Pacific at less than US\$14 billion and North America closer to US\$8.5 billion. A lot will depend on China and how it recovers.

Why? The number of viewers and minutes of viewing will likely both be up massively (40 percent?) in all markets due to pandemic lockdowns and people working from home. But with ad spending down by some unknown amount, and the Summer Olympics pushed out, ad-supported video may not be able to monetize all of that growth ... at least in 2020.

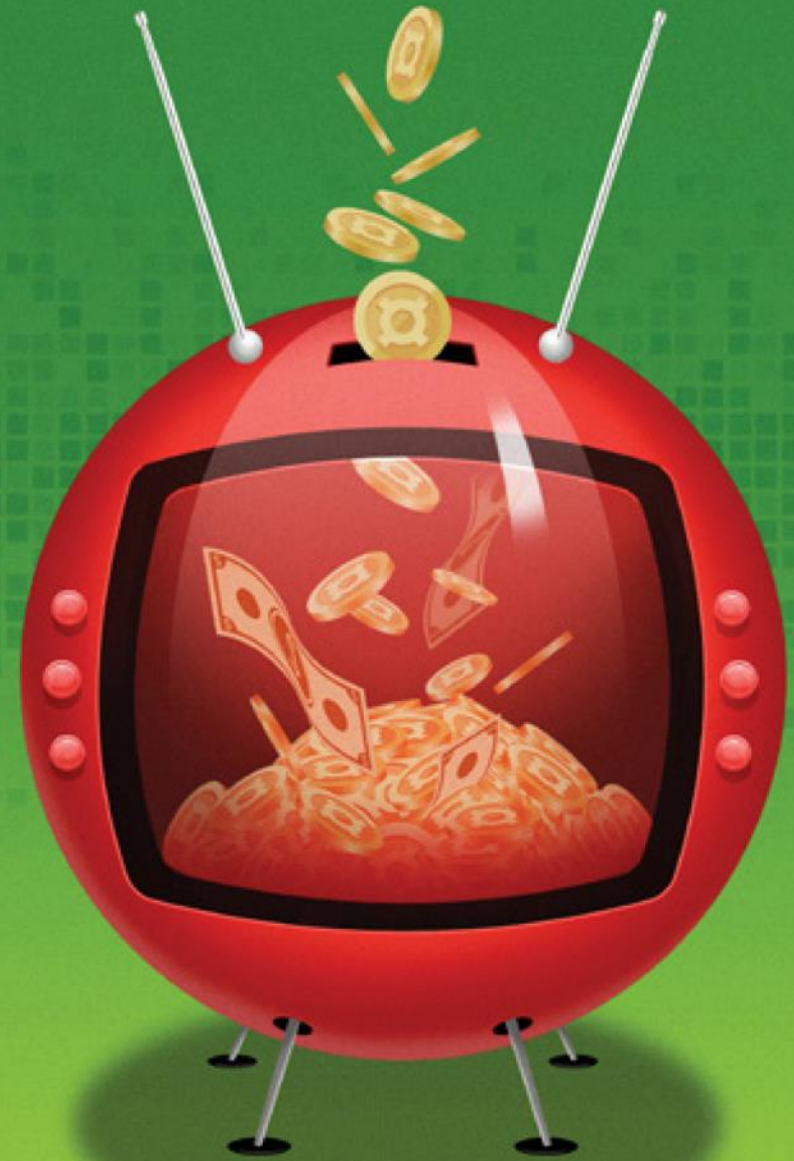


My antennae are tingling: Terrestrial TV's surprising staying power

Original prediction: We predict that in 2020, at least 1.6 billion people worldwide, representing 450 million households, will get at least some of their TV from an antenna.

Revised prediction: Unchanged, possibly up a bit in some markets.

Why? 1.6 billion is such a big number that it is unlikely to move materially. But for those pinching pennies due to economic weakness and layoffs, it's hard to beat 20 to 30 channels of free TV. On the other hand, with traditional TV viewing up so much, perhaps cord-cutting will slow.



The ears have it: The rise of audiobooks and podcasting

Original prediction: We predict that the global audiobook market will grow by 25 percent to US\$3.5 billion. We also predict that the global podcasting market will increase by 30 percent to reach US\$1.1 billion in 2020.

Revised prediction: Audiobooks may reach US\$4 billion, but podcasting is likely to stay under US\$1 billion.

Why? Audiobook sales seem to be up so far in 2020,⁵ likely due to lockdown and sales of kids' books. But podcast listening in the United States is likely to be down about 10%.⁶ This is likely due to fewer commuters listening to podcasts in their cars and during transit. Plus, 75 percent of podcast revenues are from ads, and ad spending is down.

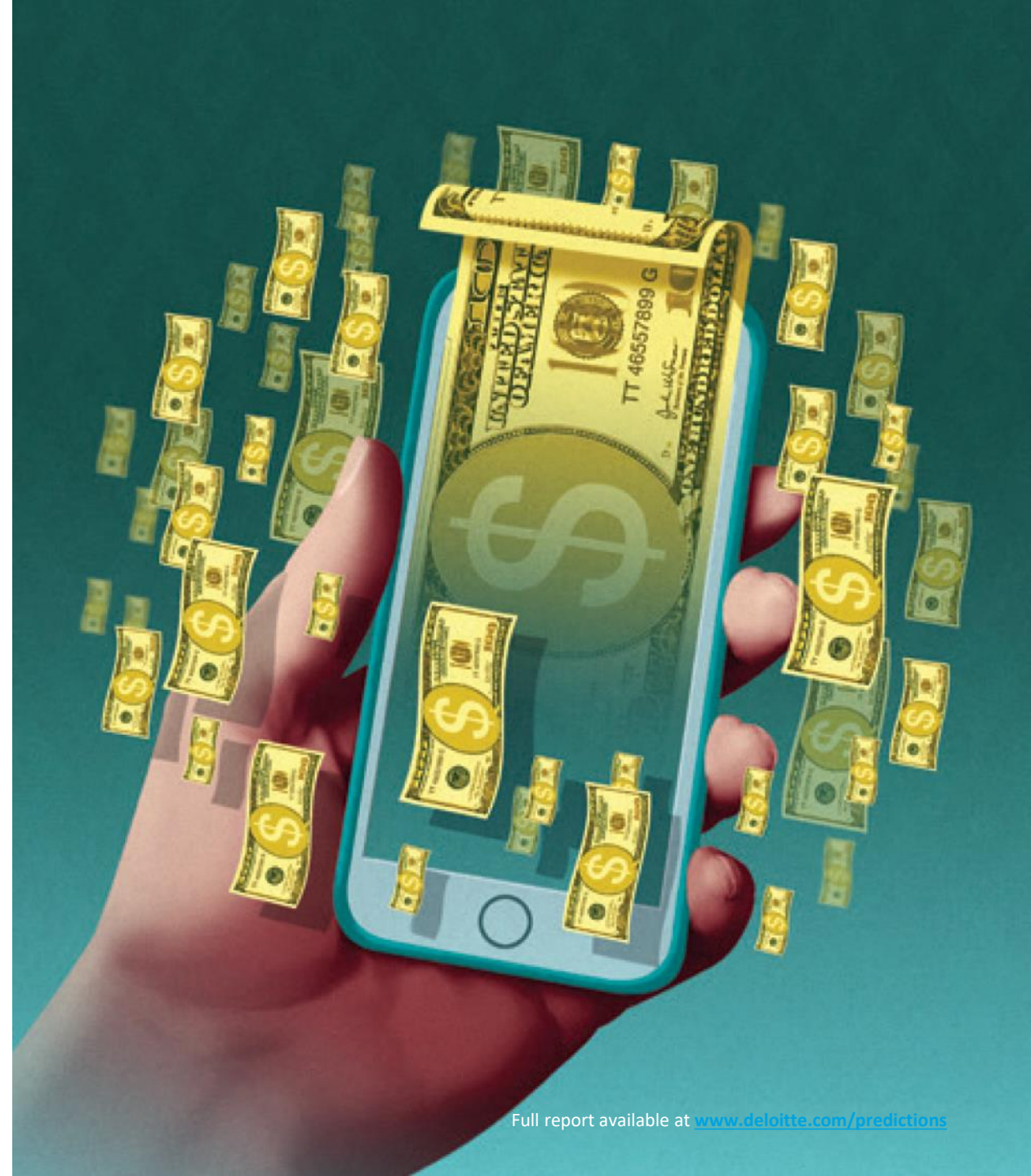


The smartphone multiplier: Toward a trillion-dollar economy

Original prediction: We predict that the smartphone multiplier will drive US\$459 billion of revenue in 2020 alone.

Revised prediction: The smartphone multiplier is likely to be closer to US\$400 billion.

Why? Earphones and cases are tied to sales of new phones, and we're expecting phone sales to be down. But people are using more apps and games, so those should be up. And people are using their phones more, so mobile ad weakness will likely be less bad than other forms of advertising.



Coming to a CDN near you: Videos, games, and much, much more

Original prediction: We predict that the global content delivery network (CDN) market will reach US\$14 billion in 2020, up more than 25 percent from 2019's estimated US\$11 billion.

Revised prediction: Likely to be higher—perhaps 30 to 40 percent annual growth, or up to US\$15.5 billion.

Why? Video and game streaming are up 20 to 70 percent due to lockdowns, school closings, and people working from home,⁷ so the demand for CDNs is higher than ever. But they take time to build, and spending may be constrained due to economic weakness.



High speed from low orbit: A broadband revolution or a bunch of space junk?

Original prediction: We predict that by the end of 2020, there will be more than 700 satellites in low-Earth orbit (LEO) seeking to offer global broadband internet, up from roughly 200 at the end of 2019, or 500 more.

Revised prediction: We now predict over 1,000 LEO satellites in orbit by the end of the year.

Why? Although OneWeb has gone bankrupt, it did place 68 satellites in LEO in Q1,⁸ and those will likely be bought by someone. Starlink placed 240 satellites in LEO in Q1,⁹ and even assuming that it slows to 60 per month, it will end up with around 780 new satellites in orbit for 2020.



Cycling's technological transformation: Making bicycling faster, easier, and safer

Original prediction: We predict that a 1 percentage point rise in the proportion of people who bike to work during the three years from 2019 to 2022.

Revised prediction: No change for 2022, but a significant decrease in bike trips in 2020.

Why? As a result of work from home and lockdowns, there are decreases in all forms of commuting. Cycling will likely not do worse than other forms, but it is not immune either.



Endnotes

1. Daniel Bachman, [United States economic forecast: 1st quarter 2020](#), Deloitte Insights, March 27, 2020.
2. Linda Sui, [Global smartphone monthly shipments \(sell in\), sales \(sell through\) and inventory by vendor: March 2020](#), Strategy Analytics, March 16, 2020.
3. James Hercher, [EMarketer lowers global ad spend forecast due to coronavirus—and it won't be the last time](#),” AdExchanger, March 20, 2020.
4. Yiwen Wu, [Analysis: Global smartphone shipments forecast by vendor by region by quarter](#), Strategy Analytics, March 2, 2020.
5. Ed Nawotka, [How the coronavirus will change book publishing, now and forever](#),” *Los Angeles Times*, March 25, 2020.
6. Nicholas Quah, [It appears people staying at home all the time is bad news for podcasting](#),” NiemanLab, March 31, 2020.
7. Julia Alexander, [The entire world is streaming more than ever—and it's straining the internet](#),” The Verge, March 27, 2020.
8. Wikipedia, [OneWeb satellite constellation—list of launches](#),” accessed April 13, 2020.
9. Wikipedia, [Starlink—list of launches](#),” accessed April 13, 2020.



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