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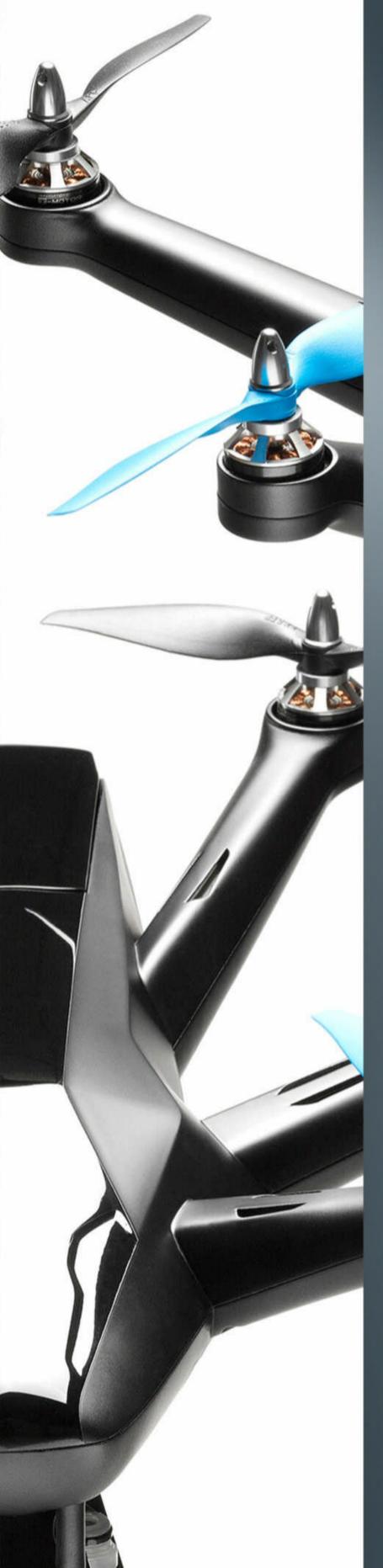
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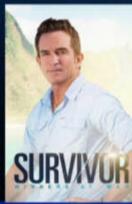
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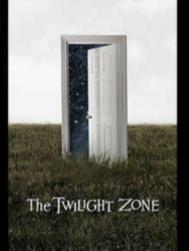














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#### AIRBNB, RESILIENT IN PANDEMIC, GOES FORWARD WITH IPO

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Airbnb proved its resilience in a year that has upended global travel. Now it needs to prove to investors that it sees more growth ahead.

The San Francisco-based home sharing company makes its long-awaited debut on the public market Thursday. The company priced its shares at \$68 apiece late Wednesday, giving it an overall value of \$47 billion, according to a person with knowledge of the transaction who was not authorized to speak because the amount had not yet been made public. The shares will trade on the Nasdaq Stock Market under the symbol "ABNB."

Airbnb raised \$3.7 billion in its offering, making it the biggest U.S. IPO this year, according to Renaissance Capital, which tracks IPOs. The

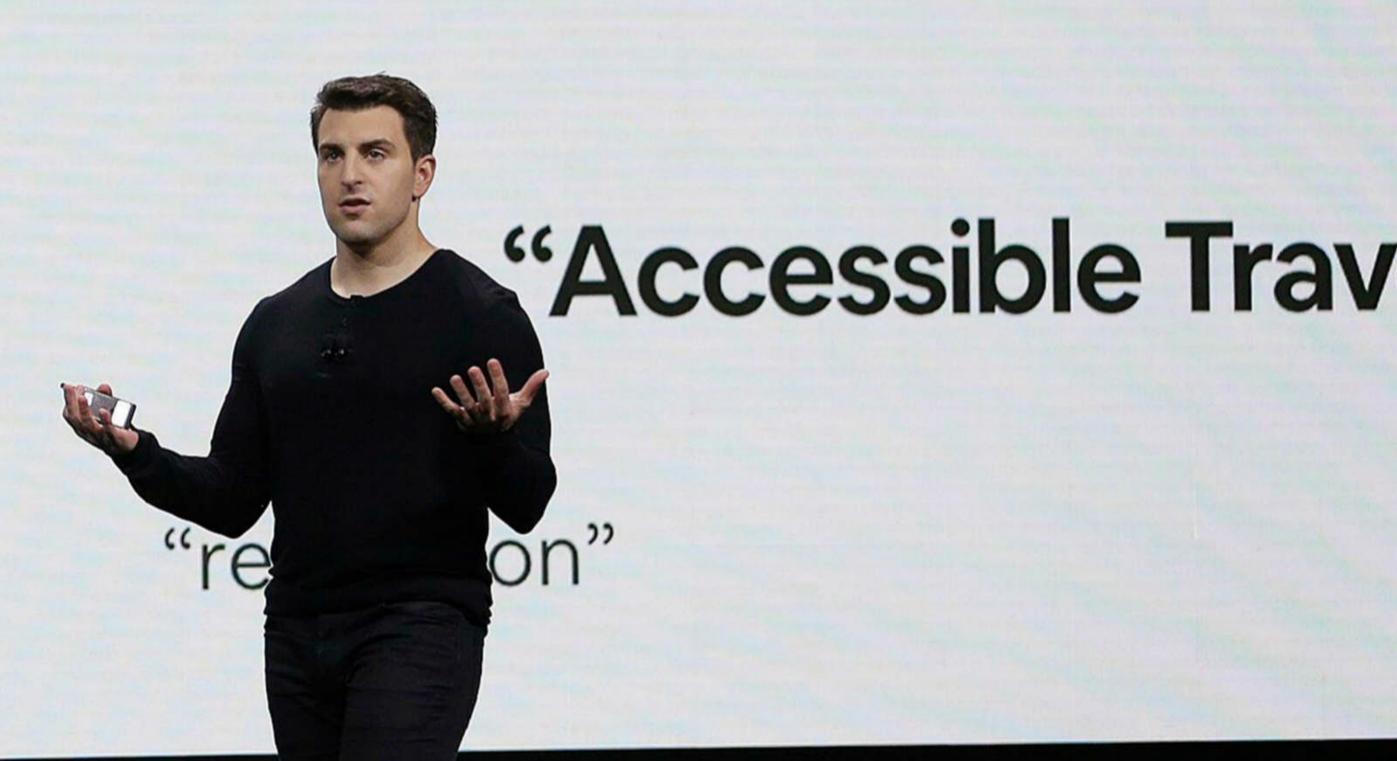
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company had initially set a price range of \$44 to \$50 for it shares, but raised that to a range of \$56 to \$60 earlier this week indicating rising investor demand.

Airbnb's listing comes a day after another San Francisco-based company, DoorDash, soared through it initial public offering, the second largest after Airbnb's. DoorDash's stock jumped 85.8% to close at \$189.51. The meal delivery app raised \$3.4 billion with its offering.

Airbnb wants to add more hosts and properties, expand in markets like India, China and Latin America and attract new guests.

First, it will need to recover. Airbnb — which has never posted an annual profit — said its revenue fell 32% to \$2.5 billion in the first nine months of this year as the coronavirus forced travelers to cancel their plans. The company delayed its IPO — initially planned for the spring — and funded operations with \$2 billion in loans. In May, Airbnb cut 1,900 employees — or 25% of its workforce — and halted programs not related to its core business, like movie production.

But in the months since, Airbnb's business rebounded faster than hotels as travelers felt safer booking private homes away from crowded downtowns during the pandemic. In Miami, for example, short-term rental occupancy reached 83% in October, while average occupancy for hotels was 42%, according to STR, an accommodations data firm.

Airbnb said the number of nights and experiences booked, which plummeted 72% in April compared to year-ago levels, were down 20% in September. Airbnb debuted experiences — from cooking classes to surfing lessons — in 2016.





Airbnb now has 7.4 million listings, from castles to treehouses, in 220 countries. They are operated by 4 million hosts. The company controls around 39% of the global short-term rental market, according to Euromonitor. It's the market leader in Europe but trails VRBO, a vacation rental company owned by Expedia, in North America.

Looking ahead, Airbnb thinks it could see a surge in business from people who are able to work remotely.

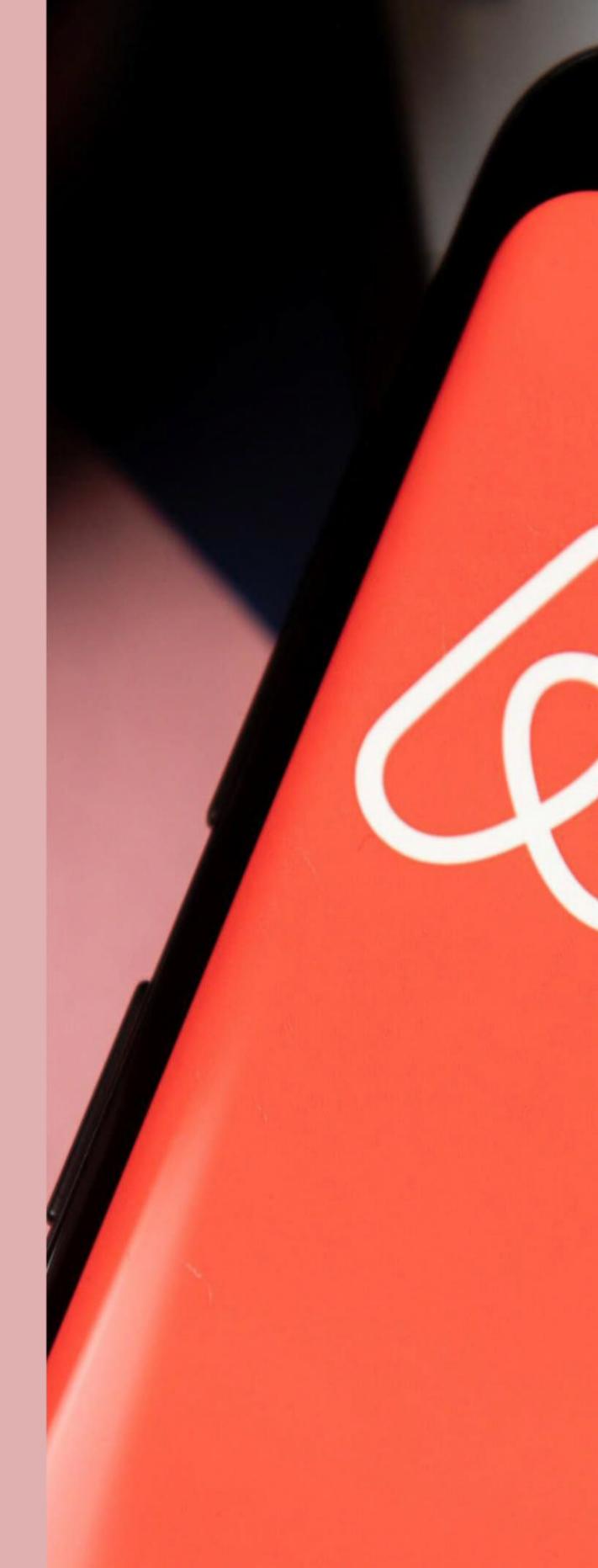
"We believe that the lines between travel and living are blurring, and the global pandemic has accelerated the ability to live anywhere," Airbnb said in a recent financial filing.

It could also expand its offerings further into boutique hotels, as it signaled with its 2019 purchase of last-minute hotel room supplier Hotel Tonight.

Still, Airbnb acknowledges it will be difficult and expensive to attract new hosts and guests. Its revenue growth rate was already slowing in the years leading up to the pandemic.

"I do think the company will benefit from the pent-up travel demand once the vaccine is widely distributed, but why would someone want to buy into a travel-related, unprofitable business with slowing growth?" said Scott Rostan, the CEO of Training the Street, which advises Wall Street analysts.

Airbnb was born 13 years ago in the San
Francisco apartment shared by Brian Chesky
— now the company's CEO — and Joe Gebbia,
who leads its design studio and **Airbnb.org**, its
charitable arm.









Chesky and Gebbia were looking for a way to subsidize their apartment. When they learned a design conference was coming to town and hotels were full, they set up a website — AirBedandBreakfast.com — and rented out air mattresses. They got three takers. In 2008, they formed a company with Nate Blecharczyk, a software engineer.

Home sharing wasn't new. VRBO was launched in 1995. **Booking.com**, another older rival based in Amsterdam, mainly offers hotel rooms but has also branched into vacation rentals.

What Airbnb did differently was focus on affordability, letting hosts rent out spare rooms and sofa beds, said Tarik Dogru, an assistant professor in the Dedman College of Hospitality at Florida State University who studies Airbnb. Guests strayed further into neighborhoods than they would if they stayed at a hotel.

"Airbnb offered that feel of authenticity for those who are looking for it," Dogru said.

That has sometimes been a problem. The company has angered some cities, which accuse it of promoting overtourism and making neighborhoods less affordable by taking housing off the market. Los Angeles, Paris and even Airbnb's home city of San Francisco have passed laws restricting its rentals.

Airbnb's rapid growth — the number of hosts and active listings grew more than 20% in both 2018 and 2019 — has also made it difficult for the company to ensure quality. Last November, Airbnb promised to verify all its listings to make sure they match the photos on its site. It also spent the last year removing party houses and tightening rules for guests after a deadly

2019 shooting at an illegal Airbnb house party in California.

Relationships with hosts and guests have been rocky at times. After multiple reports of racist behavior targeting guests, Airbnb instituted a nondiscrimination statement that all guests and hosts must sign. It won't display a guest's profile photo until a property is booked, so a host can't deny a room based on a guest's race.

And earlier this year, hosts revolted after the company let guests cancel bookings and get full

refunds due to the pandemic. Airbnb responded by promising \$250 million to hosts to help make up the shortfall.

Cary Gillenwater, a university professor and Airbnb host in Duivendrecht, The Netherlands, said the company didn't provide much financial assistance to him, even though he let many guests cancel without penalties.

Gillenwater usually makes more than \$21,000 each year renting out a room on his property with its own entrance. This year, he'll be lucky to





make \$2,500. He's looking into renting the room to office workers to use during the day.

Despite his experience, he's considering investing in Airbnb and thinks it will continue to grow. Home sharing is invaluable for his family of five, he said, because it's difficult to find hotel rooms that are large enough.

"I feel like there is a future for them, but we have to get through all this first," he said.





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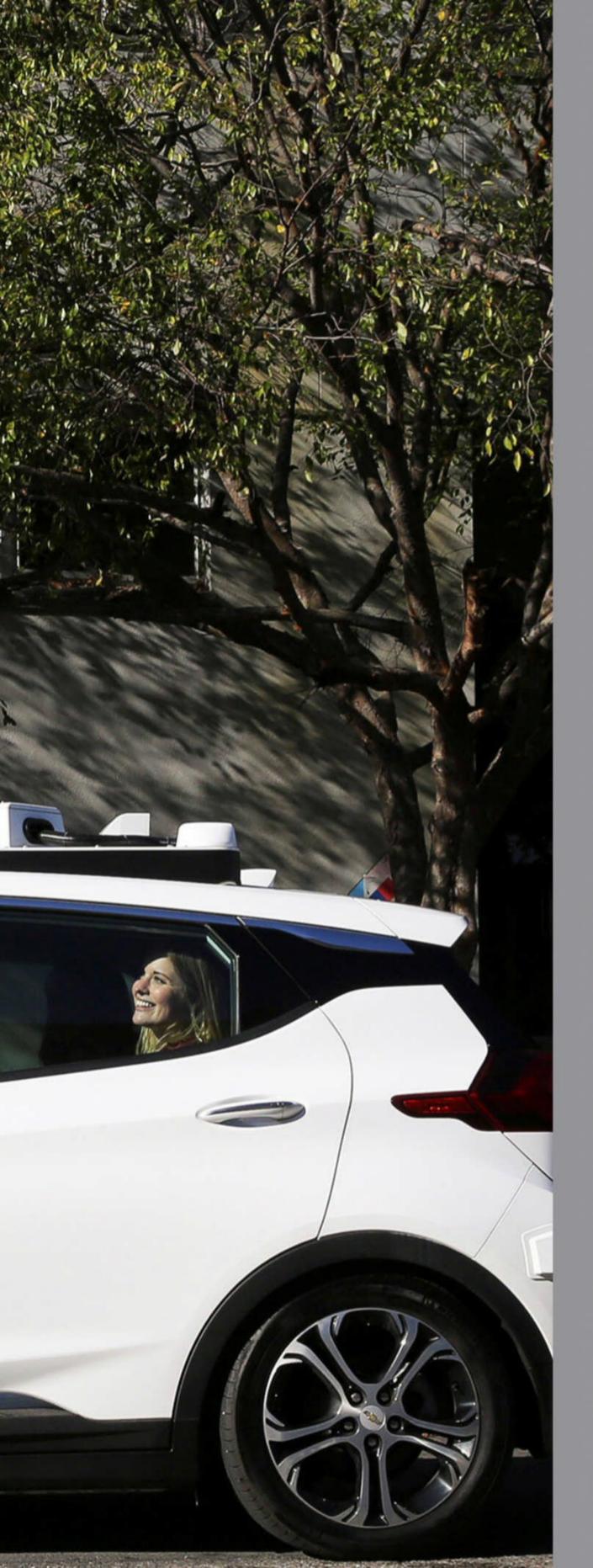
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#### GM'S CRUISE TO DEPLOY FULLY DRIVERLESS CARS IN SAN FRANCISCO

General Motors' self-driving car company is sending vehicles without anybody behind the wheel in San Francisco as it navigates its way toward launching a robotic taxi service that would compete against Uber and Lyft in the hometown of the leading ride-hailing services.

The move announced Wednesday by GMowned Cruise come two months after the company received California's permission to fully driverless cars in the state.

Like dozens of other companies testing the robotic technology, Cruise's self-driving cars have been allowed on California public streets for several years with humans poised behind the wheel to take over in an emergency. Now, Cruise is confident enough to send out its self-





driving cars without that safety net, instead monitoring from remote locations and, at least initially, having a company employee sitting in the front passenger seat. That employee won't have access to the same controls as a backup driver and eventually won't be sitting in front, according to the company.

"You're seeing fully driverless technology out of the (research and development) phase and into the beginning of the journey to being a real commercial product," Cruise CEO Dan Ammann said Wednesday.

California regulators also recently approved new rules allowing ride-hailing services to pick up passengers in self-driving cars, but Cruise isn't going down that road yet.

Instead, Ammann pledged the company will move cautiously while dispatching up to five fully driverless cars into parts of San Francisco initially. Cruise's employees most likely will be the only passengers initially riding in the fully driverless cars, just as they were when the company was testing the vehicles with a human backup behind the wheel.

Ammann declined to provide a timeline when asked if Cruise planned to use its driverless cars in ride-hailing service within San Francisco next year.

Cruise, which GM bought in 2016, had initially set a goal of using driverless cars in a ride-hailing service by the end of last year, but perfecting the required technology has proven far more challenging than some of the world's top robotic engineers envisioned when they working on their driverless technology anywhere from five to 10 years ago.



Waymo, a self-driving car pioneer spun out of a Google project, also has had to move more slowly with a robotic ride-hailing service it launched in the Phoenix area two years ago. That service, though, has been able to steadily expand since its debut, and Waymo also has a permit to deploy fully driverless cars in California, although the company hasn't yet indicated when it might do that.

Three other companies have California permits to operate fully driverless cars in the state:
AutoX Technologies, delivery service Nuro and Amazon's Zoox, which recently posted a video promoting a Dec. 14 announcement about its future direction.

Cruise has spent the past five years testing its technology that has been used in 2 million miles of self-driving to reach this point in its evolution.



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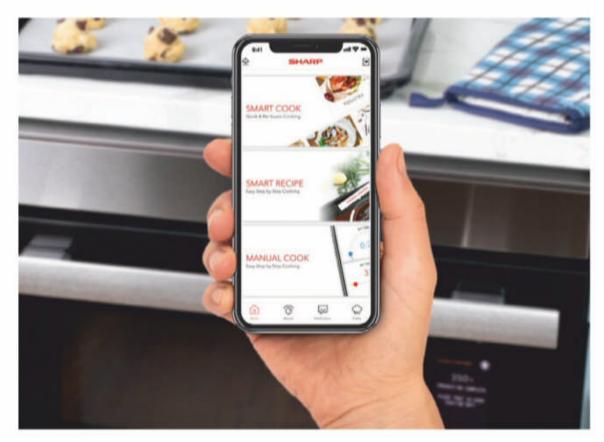


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# US GOVT, STATES SUE FACEBOOK FOR 'PREDATORY' CONDUCT

The U.S. government and 48 states and districts sued Facebook Wednesday, accusing it of abusing its market power in social networking to crush smaller competitors and seeking remedies that could include a forced spinoff of the social network's Instagram and WhatsApp messaging services.

The landmark antitrust lawsuits, announced by the Federal Trade Commission and New York Attorney General Letitia James, mark the second major government offensive this year against seemingly untouchable tech behemoths. The Justice Department sued Google in October for abusing its dominance in online search and advertising — the government's most significant attempt to buttress competition since its historic case against Microsoft two decades ago. Amazon and Apple also have been under investigation in Congress and by federal authorities for alleged anticompetitive conduct.

James noted at a press conference that "it's really critically important that we block this predatory acquisition of companies and that we restore confidence to the market."

The FTC said Facebook has engaged in a "a systematic strategy" to eliminate its competition, including by purchasing smaller up-and-coming rivals like Instagram in 2012 and WhatsApp in 2014. James echoed that in her press conference, saying Facebook "used its monopoly power to crush smaller rivals and snuff out competition, all at the expense of everyday users."

The FTC fined Facebook \$5 billion in 2019 for privacy violations and instituted new oversight and restrictions on its business. The fine was the largest the agency has ever levied on a tech company, although it had no visible impact on Facebook's business.

Facebook called the government actions "revisionist history" that punishes successful businesses and noted that the FTC cleared the Instagram and WhatsApp acquisitions years ago. "The government now wants a do-over, sending a chilling warning to American business that no sale is ever final," Facebook general counsel Jennifer Newstead said in a statement that echoed the company's response to a recent congressional antitrust probe.

Facebook is the world's biggest social network with 2.7 billion users and a company with a market value of nearly \$800 billion whose CEO Mark Zuckerberg is the world's fifth-richest individual and the most public face of Big Tech swagger.

James alleged Facebook had a practice of opening its site to third-party app developers, then abruptly cutting off developers that it saw as









a threat. The lawsuit — which includes 46 states, Guam and the District of Columbia — accuses Facebook of anti-competitive conduct and using its market dominance to harvest consumer data and reap a fortune in advertising revenues.

North Carolina Attorney General Josh Stein, who was on the executive committee of attorneys general conducting the investigation, said the litigation has the potential to alter the communications landscape the way the breakup of AT&T's local phone service monopoly in the early 1980s did.

"Our hope is to restructure the social networking marketplace in the United States, and right now there's one player," Stein told reporters.

James said the coalition worked collaboratively with the FTC but noted the attorneys general conducted their investigation separately.

Antitrust expert Rebecca Allensworth, a law professor at Vanderbilt University, said it is "hard to win any antitrust lawsuit and this one is not any different." But as far as antitrust cases go, she added, the government has a strong one.

The Justice Department's suit against Google, announced just two weeks before Election Day, brought accusations of political motivation from some quarters. It was filed by a cabinet agency headed by an attorney general seen as a close ally of President Donald Trump, who has often publicly criticized Google.

The FTC, by contrast, is an independent regulatory agency whose five commissioners currently include three Republicans and two Democrats.

President-elect Joe Biden has said the breakup of Big Tech giants should be seriously considered.

He has singled out Facebook's Zuckerberg for scorn, calling him "a real problem."

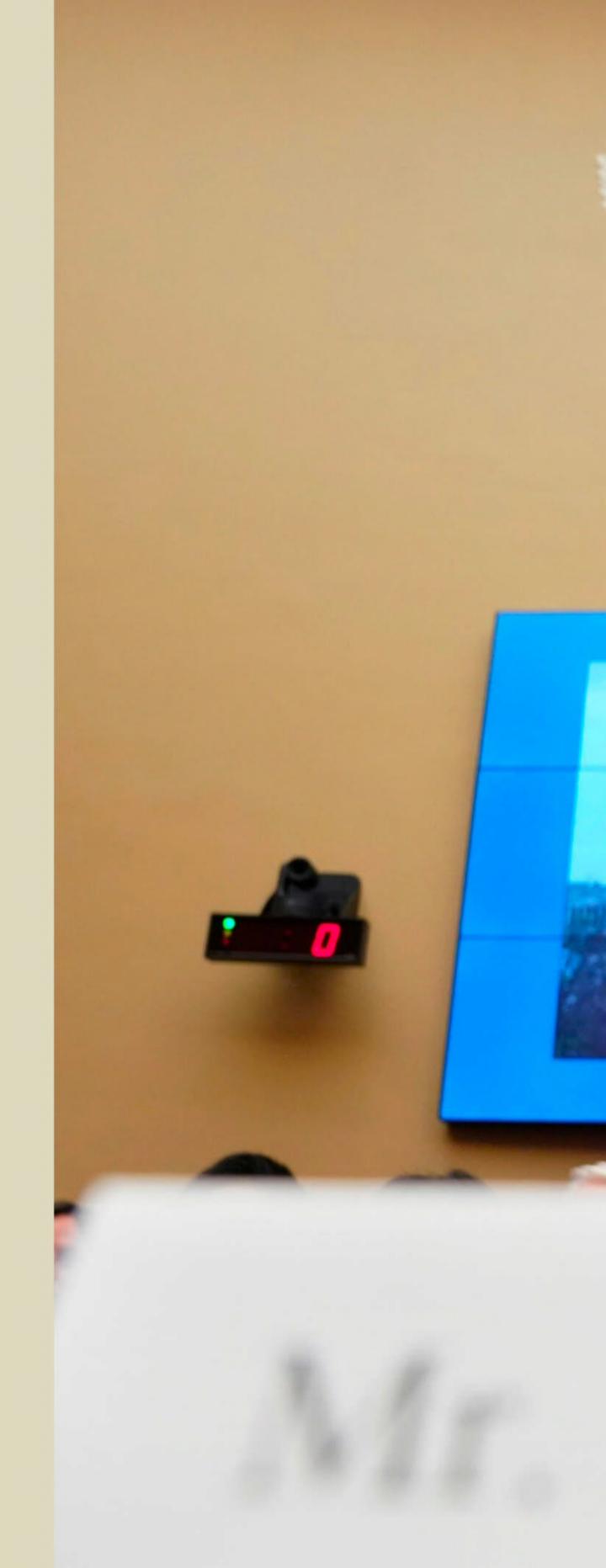
Instagram and WhatsApp are among some 70 companies that Facebook has acquired over the past 15 years. But they are the ones most frequently held up by Facebook critics as properties that should be split off.

Facebook paid \$1 billion for Instagram, bolstering the social network's business a month before its stock went public. At the time, the photo-sharing app had about 30 million users and wasn't producing any revenue. A few years later, Facebook acquired WhatsApp, an encrypted messaging service, for \$19 billion.

Zuckerberg vowed both companies would be run independently, but over the years the services have become increasingly integrated.
Users are now able to link accounts and share content across the platforms. Instagram now has more than 1 billion users worldwide. Such integration could make it more difficult to break off the companies.

NetChoice, a Washington trade association that includes Facebook as a member, quickly panned the lawsuits. The case for antitrust enforcement against Facebook "has never been weaker," NetChoice vice president Carl Szabo said in a statement, pointing to newer social services such as TikTok and Snapchat as rivals that could "overtake" older platforms.

"These lawsuits mark an important turning point in the battle to rein in Big Tech monopolies and to reinvigorate antitrust enforcement," said Alex Harman, competition policy advocate for Public Citizen, a nonprofit consumer advocacy group.







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# S&P DJ REMOVING CHINESE COMPANIES FROM INDEX AFTER US ORDER

S&P DJ Indices is removing 21 Chinese companies from its indexes, or groups of stocks and bonds used to track financial market movements, after Americans were barred from investing in them as part of a feud with Beijing over technology and security.

The Chinese government criticized Wednesday's move as politically motivated.

The companies affected include surveillance technology provider Hikvision Digital Technology Co.; China's biggest processor chip manufacturer, SMIC, and state-owned nuclear power and construction companies.

The announcement follows President Donald Trump's Nov. 13 order barring Americans from buying stocks or bonds issued by companies that U.S. officials say are owned or controlled by the Chinese military.









The move by S&P DJI Indices has no direct impact on the companies but investment funds that are designed to track market movements will have to sell their stocks and bonds, which might at least temporarily depress prices.

"We firmly oppose the relevant practices of the U.S. side," said a foreign ministry spokeswoman, Hua Chunying. "I believe that the U.S. practice of fabricating lies and rumors and hunting and containing Chinese enterprises without a bottom line will eventually be proven not in the interests of the U.S. itself."

U.S. officials complain China's ruling Communist Party takes advantage of access to American technology and investment to expand its military, already one of the world's biggest and most heavily armed.

Washington also has imposed export bans and other sanctions on Hikvision and other Chinese companies including telecom equipment maker Huawei Technologies Ltd.

HikVision and Huawei say they have no connection to the military and never have conducted militaryrelated research and development.

The Pentagon has cited 31 companies since June as being military-linked.

The securities order was Trump's first major action toward China since he lost his reelection bid to challenger Joe Biden. Economists and political analysts say Trump is likely to take more actions before leaving office on Jan. 20.

Political analysts expect little change in policy under Biden due to widespread frustration with China's trade and human rights records and accusations of spying and technology theft.



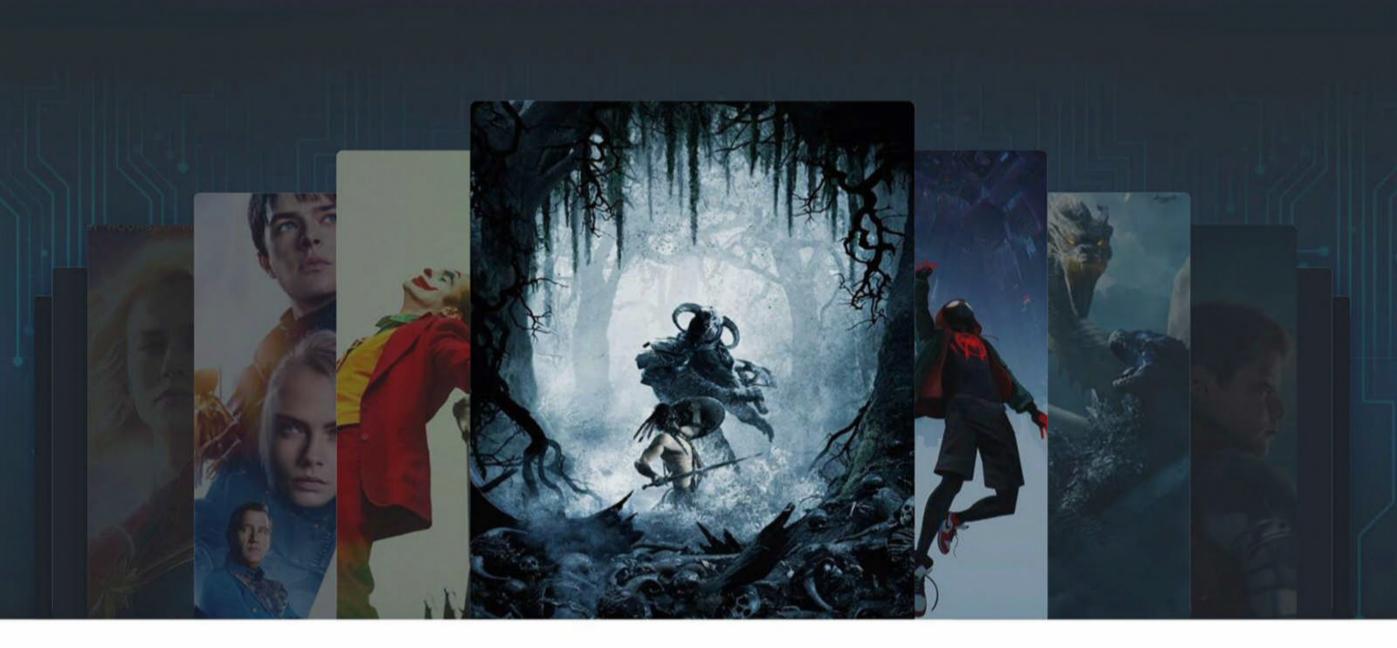




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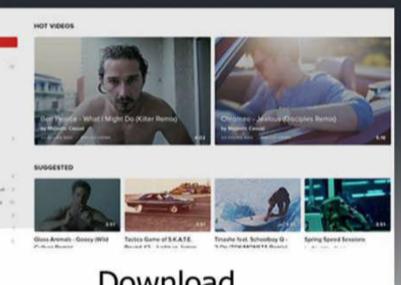




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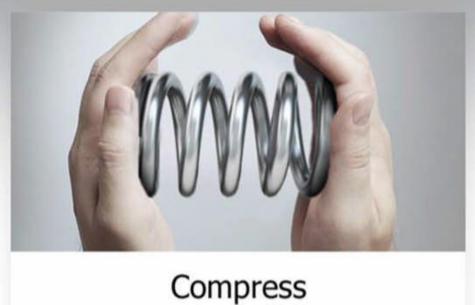


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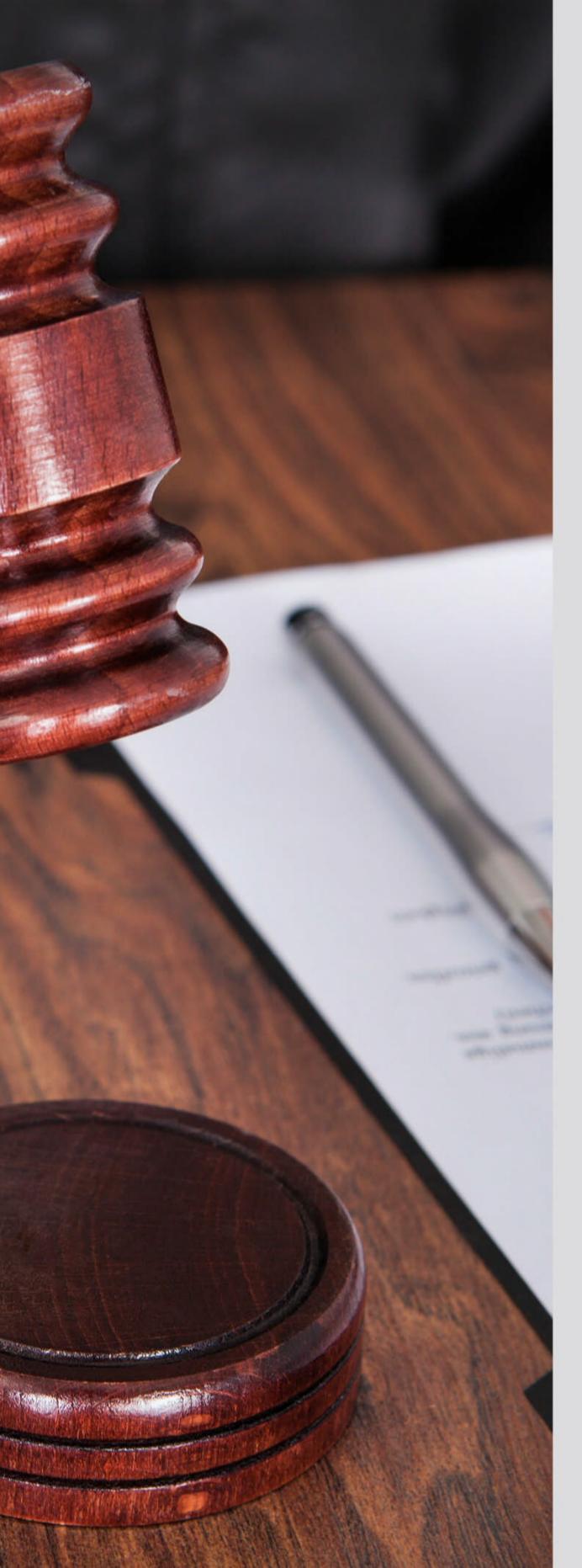
# FRAUDSTER DUPED INVESTORS WITH FALSE CLAIMS ABOUT NASA

The founder of a nanotechnology company was arrested Wednesday on fraud charges after authorities said he accepted over \$12 million from investors who were told NASA was helping him develop a breathalyzer to detect cancer and narcotics.

James Jeremy Barbera, 64, former chief executive of Nanobeak Biotech Inc., originally called Nanobeak, was released on \$1 million bail after appearing in Manhattan federal court, where he faces conspiracy, securities and wire fraud charges carrying a potential of decades in prison.

A message seeking comment was sent to his lawyer.





According to court papers, he misled dozens of investors since 2013 by telling them that his company used technology developed by the National Aeronautics and Space Administration to create a breathalyzer sensor technology that could detect cancer and narcotics.

Acting U.S. Attorney Audrey Strauss said in a release that Barbera enticed investors with claims that an institutional investor was on board, including a large publicly traded chemical company, that licensing deals were in the works and that an initial public offering of shares was likely.

"As alleged, James Barbera defrauded investors out of millions of dollars by offering the opportunity to invest in a seemingly plausible but wholly fictitious technology, purportedly developed in coordination with NASA," she said.

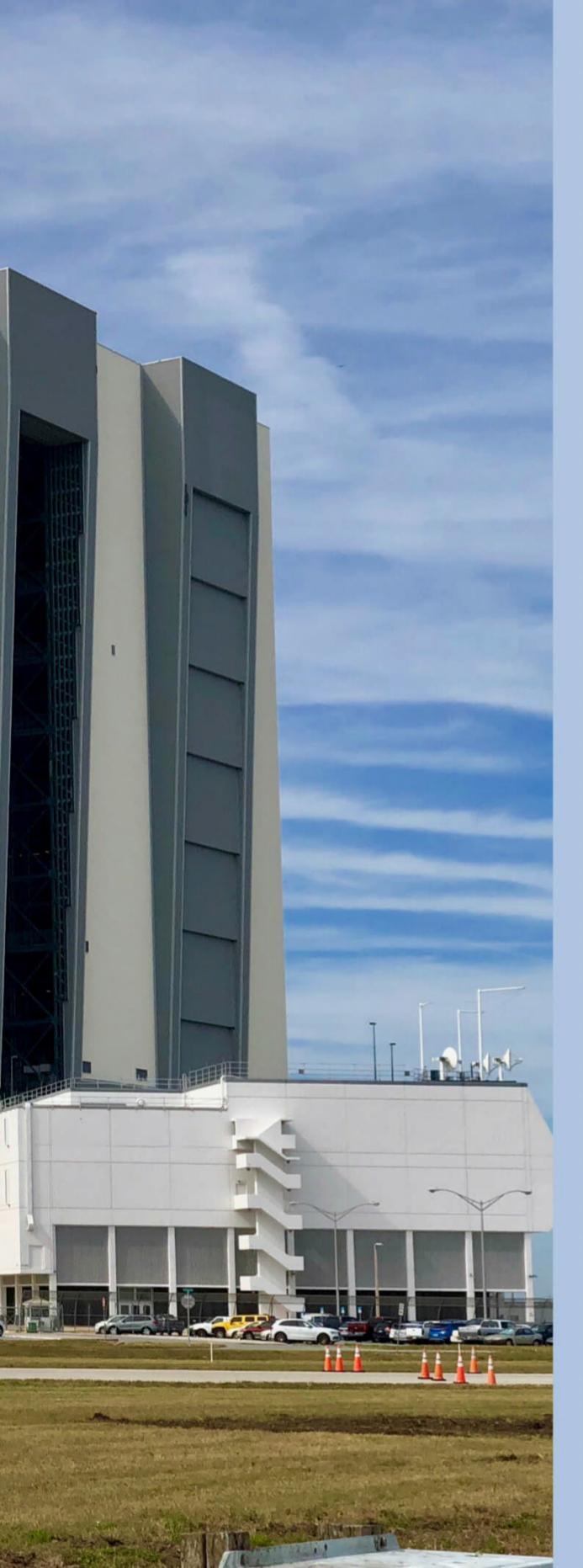
William F. Sweeney Jr., head of New York's FBI office, said Barbera spent half of investors' money on private school and college tuition for his children and mortgage payments on his apartment alongside Manhattan's Central Park.

Meanwhile, he claimed falsely that he had an exclusive arrangement with NASA and used the agency's logo to solicit investors, authorities said.

"As we demonstrated today, Barbera's nonexistent 'exclusive' landed him nothing more than a trip through the federal criminal justice system," Sweeney said.

Authorities also said Barbera's spending included \$5,400 on spas and salons, \$4,400 for pet-related expenses and \$477,000 to Barbera's two ex-wives, his mother, and his daughters.





In July 2014, the U.S. Securities and Exchange Commission and Barbera settled separate civil securities fraud charges against Barbera, barring him from future securities laws violations as he agreed to pay a \$100,000 penalty and never again act as an officer or director of a public company.

The SEC brought fresh charges Wednesday in Manhattan federal court, saying Barbera's comments to investors were false and misleading because NASA's sensor device was designed to diagnose diabetes, not cancer or drugs.

It said NASA and Nanobeak signed a licensing agreement in 2013, to develop the device for use in cancer and narcotics detection, and Nanobeak paid NASA about \$340,000, but all work on the proposed technology had ceased by late 2017 because Nanobeak failed to fully fund the research.

The SEC said Barbera falsely told at least one investor that Nanobeak had agreements with some local sheriff's departments in Florida and Colorado, was working on a deal with the Los Angeles police department and that law enforcement agencies wanted to buy Nanobeak's sensor technology.

In fact, the SEC said, Barbera only had agreements with some local sheriff's departments calling for them to accept free samples of the sensor to try out once it was functional and available.

The SEC said Barbera also falsely claimed to be a former NASA scientist when he had previously testified that he merely worked as a research assistant through a NASA affiliated program in New York.

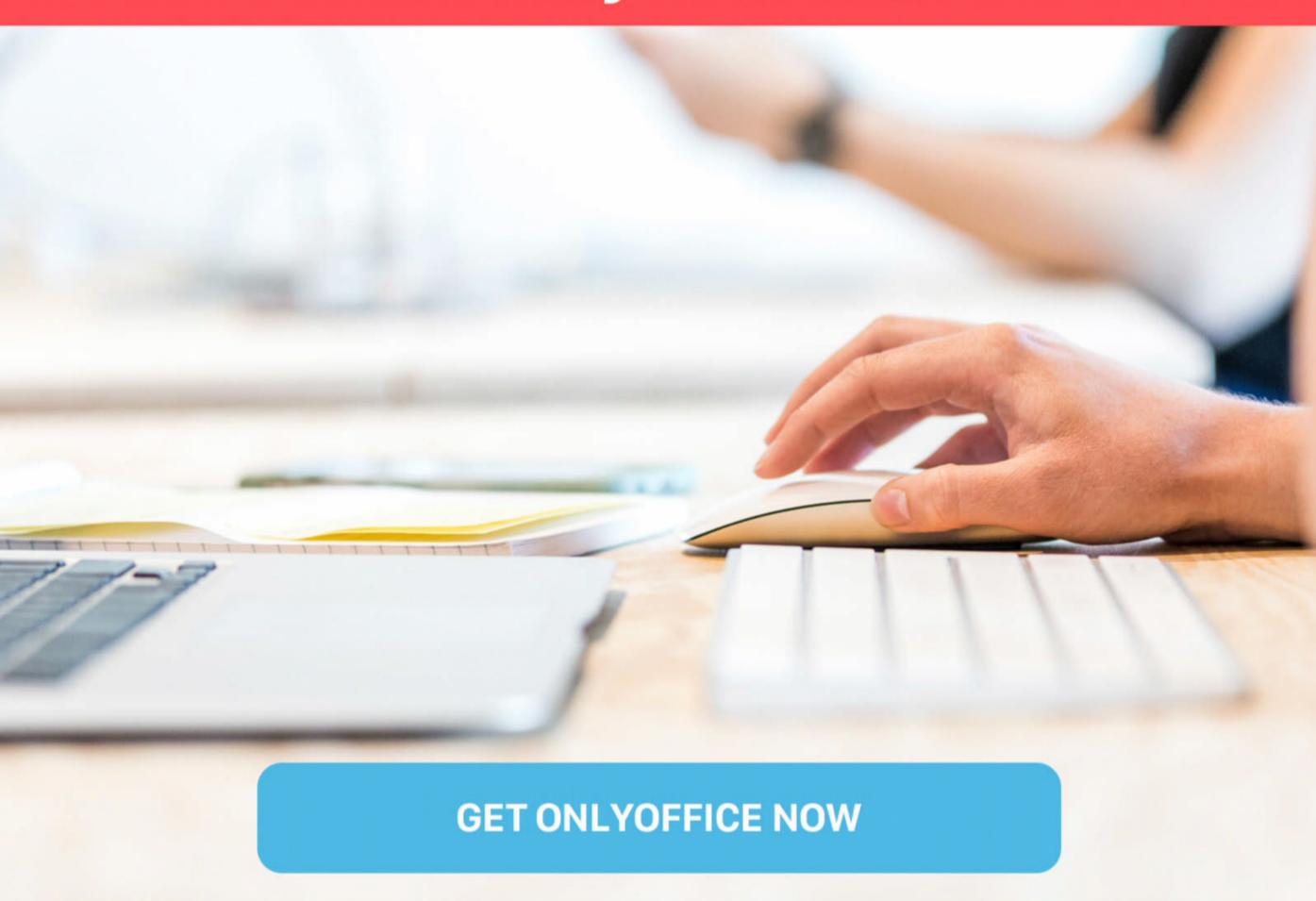


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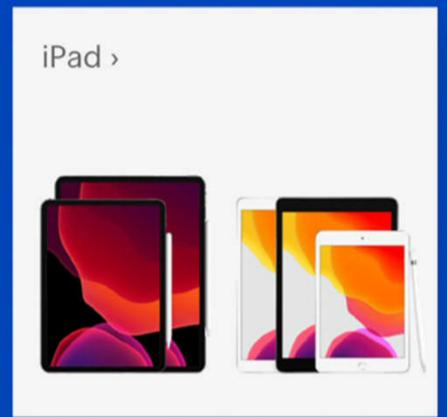
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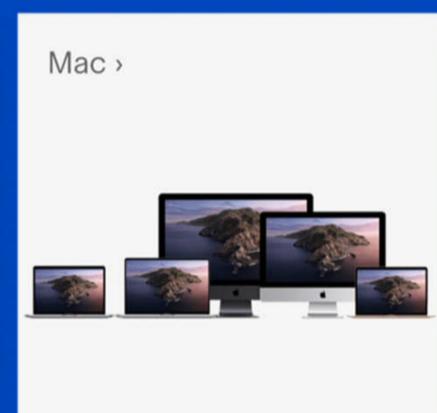
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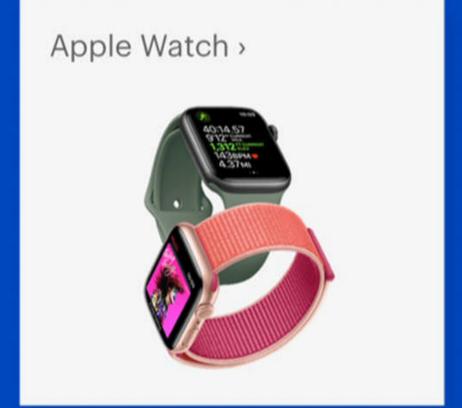
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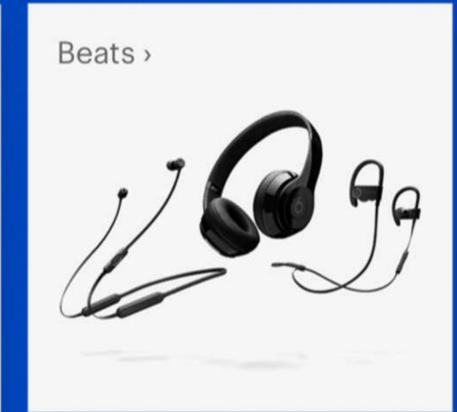






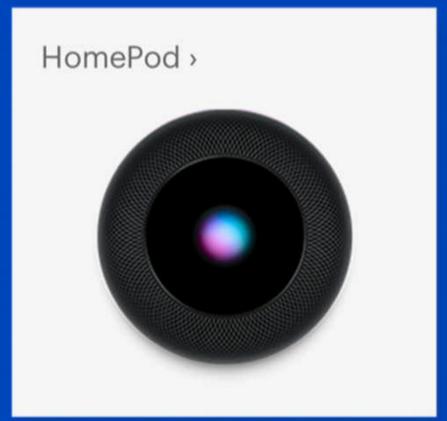










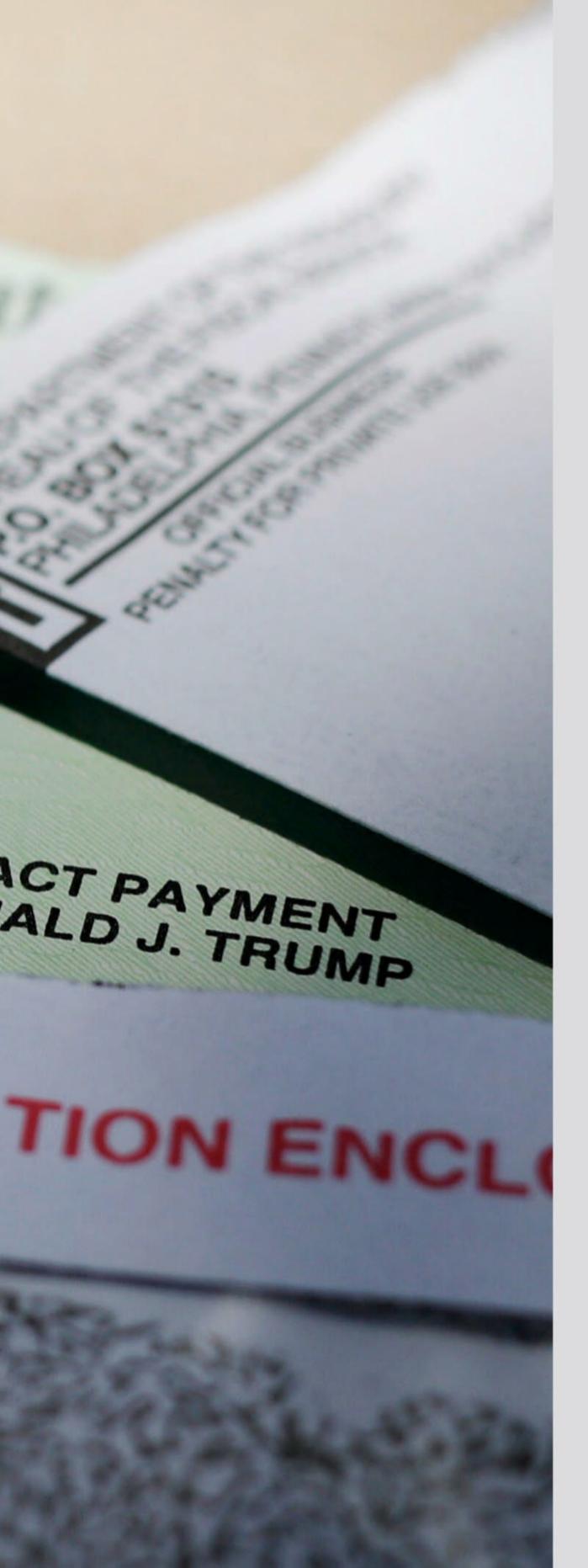


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## LIKE EVERYTHING ELSE 2020, TAXES WILL BE LIKE NO OTHER YEAR

It's the time of year to start thinking about taxes — but the upcoming filing season is going to be a bit trickier for many Americans due to rampant unemployment, working from home and general upheaval due to COVID-19.

Here are a few pandemic specific conditions — good and bad — to be aware of.

#### UNEMPLOYMENT

Unemployment benefits are taxable income, which tax experts say may surprise some filers.

Workers are not required to have federal taxes withheld from their benefit payments. While people have the option to have the tax withheld, many do not.

It's worth noting that unemployment benefits are all subject to federal taxes but not all states tax it.

Taxpayers who unintentionally do not include unemployment income on their taxes could face a tax bill, penalties or interest charged by the IRS, said Mark Steber, Jackson Hewitt's chief tax information officer.

The drop in income from job loss could mean some households are eligible for deductions and credits that they did not qualify for in the past, such as the earned income tax credit or child and dependent care credit, said Lisa Greene-Lewis, a CPA and tax expert at TurboTax. The size of some credits may also change based on income.

#### **RELIEF CHECKS**

As part of the CARES Act, a relief package passed early in the pandemic, millions of Americans were given payments of \$1,200 per adult and \$500 per child. At last count, the IRS said 160 million payments totaling about \$270 billion have been delivered by direct deposit, paper check or prepaid debit card.

That money is not taxable.

However, what many people do not realize is that the money they received is actually an advanced payment on the Recovery Rebate Credit for 2020 tax filers, said Dina Pyron, Global TaxChat Leader at Ernst & Young.

As such, people who did not receive their payment or only got a partial payment can resolve this issue on their 2020 taxes when they file. If you were overpaid, you will not owe.

Also, if you did not get a relief check because your income was too high, but it has since fallen in 2020 and made you eligible, you also can get the payment via this credit.

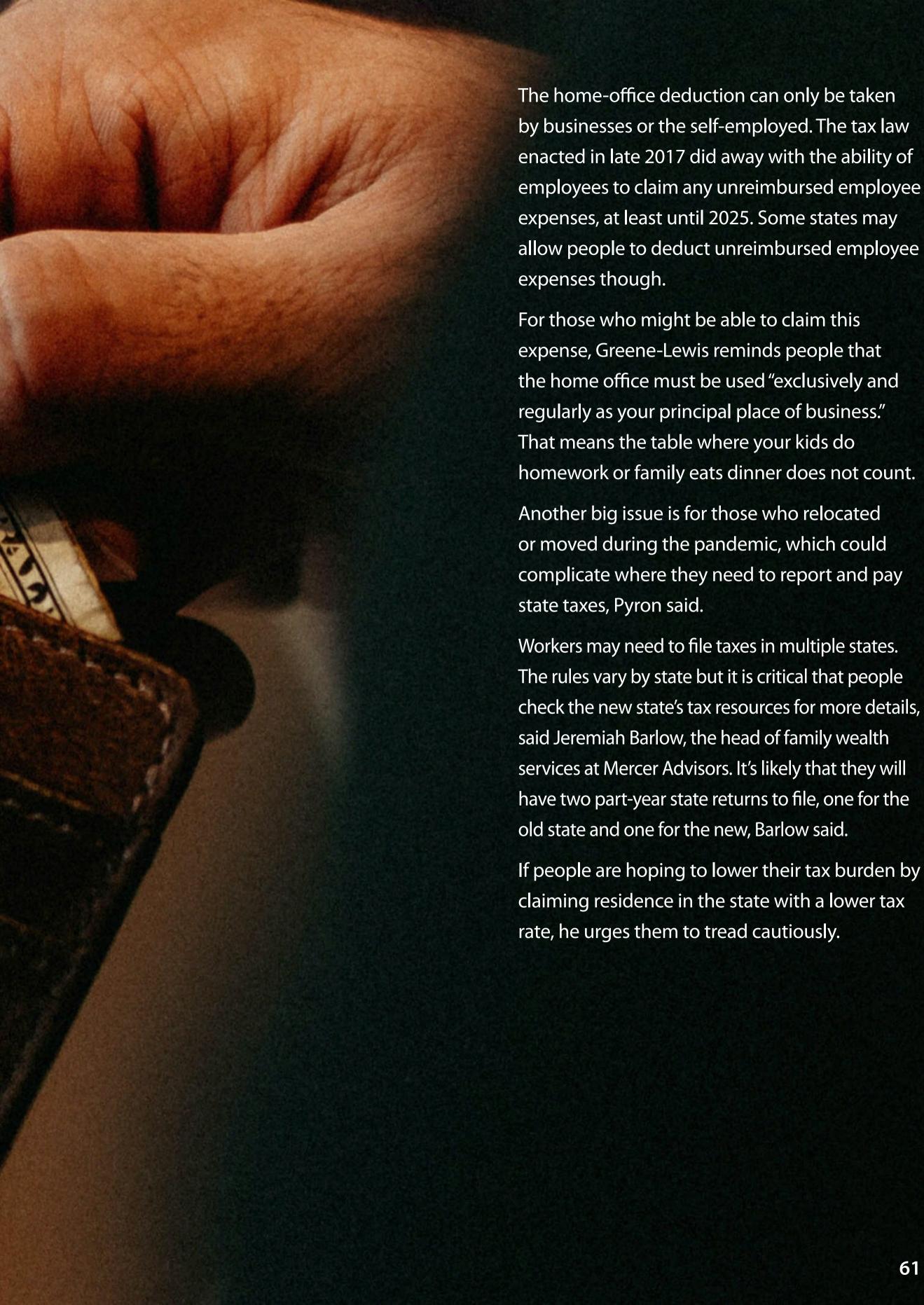
#### **WORKING FROM HOME**

Working from home became the norm in 2020 for many people, but most won't likely be able to claim expenses for their new work-fromhome setup.









"States can be aggressive about auditing taxpayers who claim they're no longer residents," Barlow said. "Requirements vary by state, but they're looking to see if taxpayers gave up most of their ties to the old state and have closer ties to the new state instead, such as still owning or leasing a residence, where you are registered to vote, and the state of your driver's license, just to name a few."

#### **CHARITY**

One bright spot is a new, temporary deduction for charitable donations.

As part of the CARES Act, taxpayers can deduct up to \$300 for cash donations given to charity even if they choose to take the standard deduction, rather than itemizing their deductions. The IRS estimates that about nine in 10 taxpayers now take the standard deduction.

So, if someone makes a cash donation before the end of the year they can get a deduction of up to \$300 when they file. A deduction lowers both adjusted gross income and taxable income for the taxpayer.

#### **TIMING**

The IRS has yet to announce when the tax filing season will open; it typically begins in early January.

The agency has brought some of its employees to the office. But its face-to-face operations with taxpayers will remain extremely limited. The IRS continues to urge taxpayers to file their taxes online and use other online tools whenever possible.



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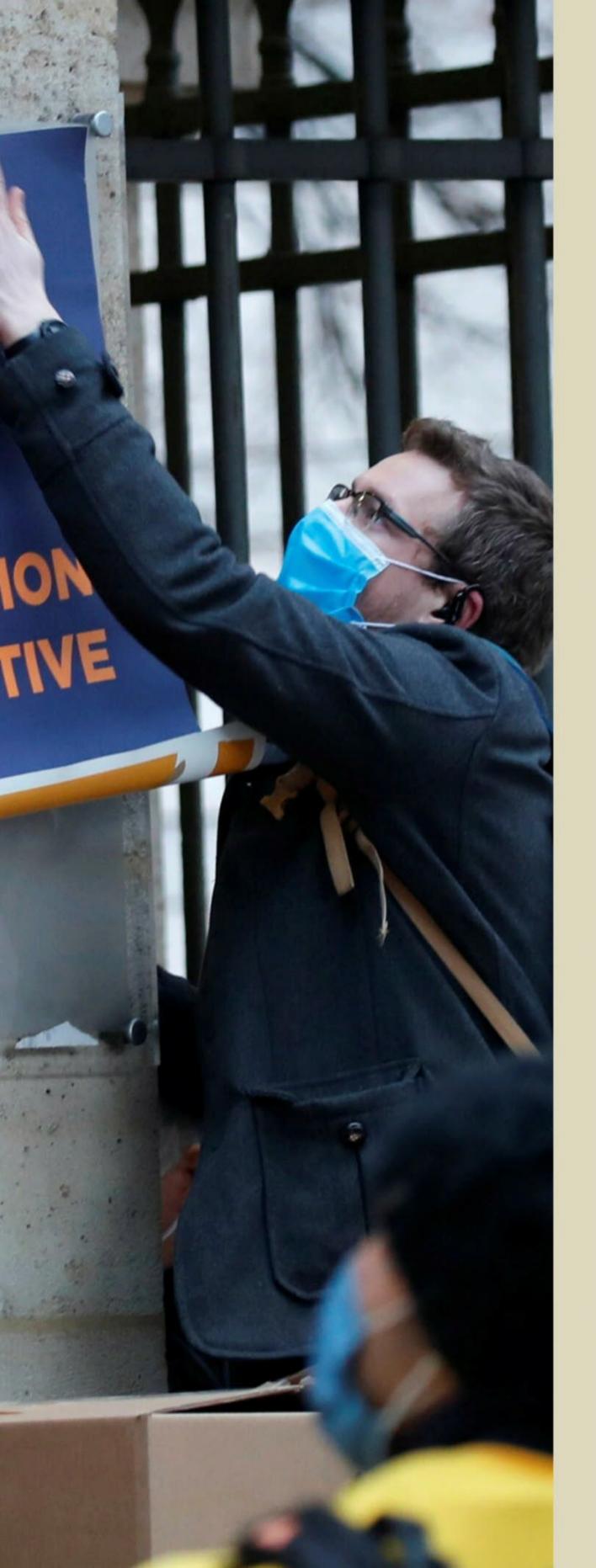




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## GOOGLE, AMAZON FINED \$163 MILLION BY FRENCH PRIVACY WATCHDOG

France's data privacy watchdog said Thursday it has fined Google 100 millions euros (\$121 million) and Amazon 35 million euros (\$42 million) for breaching the country's rules on advertising cookies.

The CNIL said in a statement that the French websites of both companies did not request prior consent from internet users about trackers, or cookies, that were automatically saved on computers for advertising purposes.

It said Google and Amazon also failed to provide clear information to users about the purposes of these cookies and how they might refuse them.

The CNIL noted that both companies made changes to their websites in September, yet said efforts were not sufficient to be in line with French rules.

In the case of Google, it noted it had derived "significant profits" from the advertising income indirectly generated from data collected by the cookies and said that the practices affected "almost fifty million users."

The CNIL the size of the fines was justified by "the seriousness" of the breaches.

The watchdog gave Google and Amazon three months to change the way they tell consumers how their data is used and how they can reject cookies. Otherwise, they will face an additional fine of 100,000 euros (\$ 121,095) for each day of delay.





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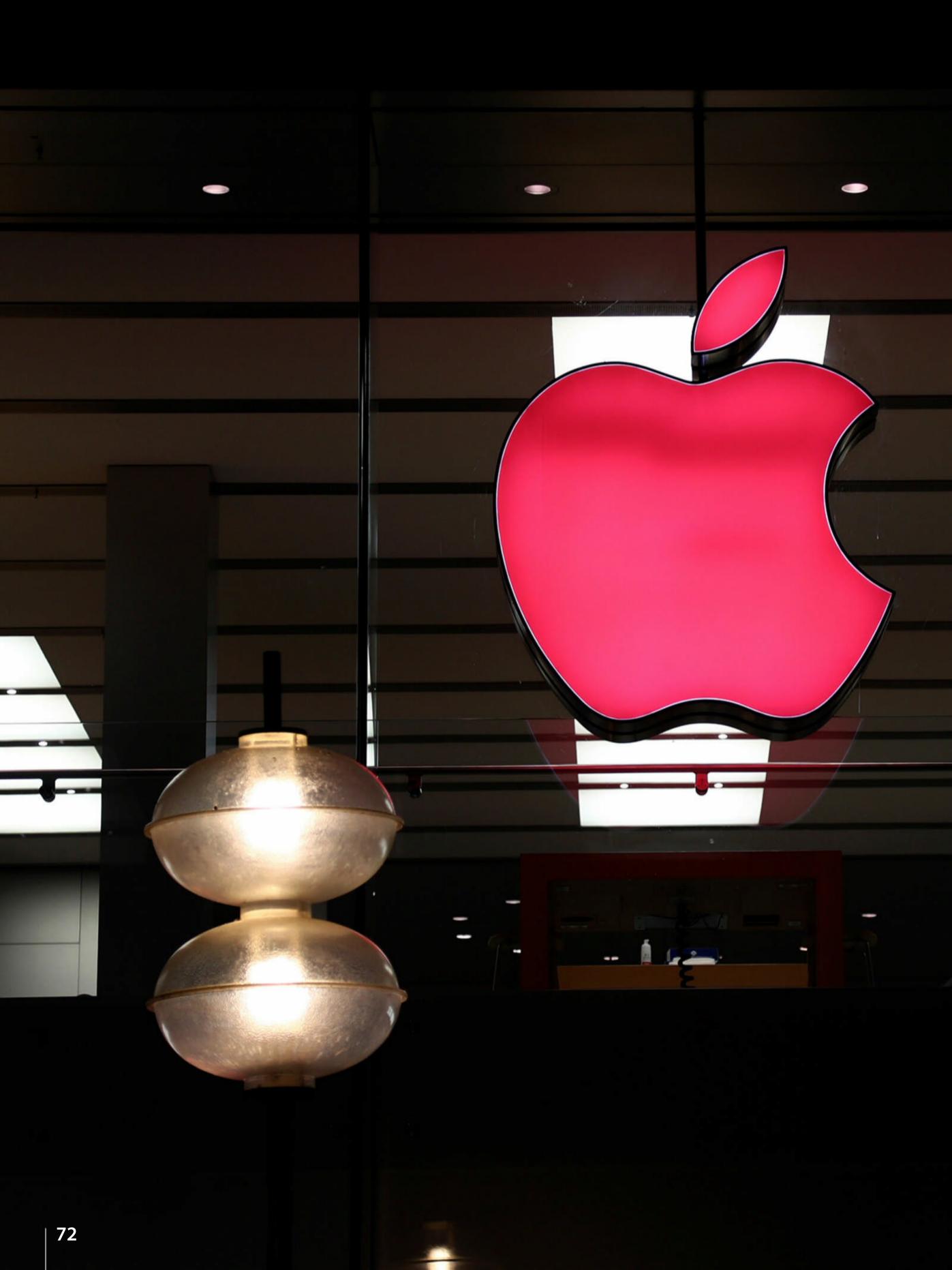


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# APPLE TO TIGHTEN APP PRIVACY, REMOVE APPS THAT DON'T COMPLY

Apple is stepping up privacy for app users, forcing developers to be more transparent about data collection and warning they could be removed if they don't comply with a new anti-tracking measure, a company executive and regulators said this week.

The U.S. tech giant said it's set to roll out the anti-tracking feature next year and warned it could kick apps off its widely used App Store if they don't obey its requirements.

Called App Tracking Transparency, it will require apps to clearly ask for users' permission before tracking them. It was due to be launched this year but was delayed to allow developers more time to make changes.





"Its aim is to empower our users to decide when or if they want to allow an app to track them in a way that could be shared across other companies' apps or websites," Senior Vice President of Software Engineering Craig Federighi said.

"Developers who fail to meet the standard can have their apps taken down from the app store," Federighi said in an online keynote speech to the European Data Protection and Privacy Conference.

Privacy campaigners say the move is a vital step that could strengthen respect for privacy but tech rivals like Facebook that make money from digital advertising that tracks users have pushed back against the measure.

Federighi said tech users should be empowered to have more control of their data and dismissed arguments from advertisers and tech companies who say the anti-tracking feature will hurt the online ad industry.

"When invasive tracking is your business model, you tend not to welcome transparency and customer choice."

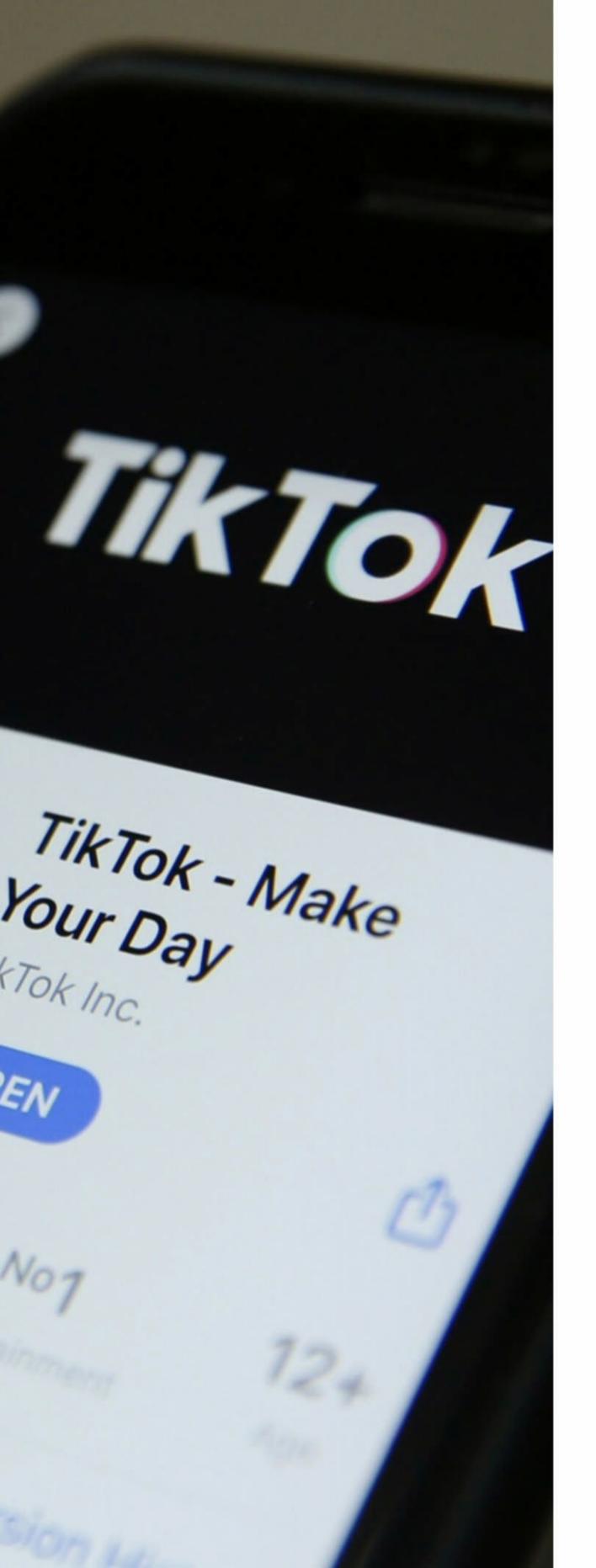
Apple is itself the subject of complaints by
European privacy activists who say the company
uses software that tracks the behavior of iPhone
users. Vienna-based group NOYB, founded by
lawyer and activist Max Schrems, last month
asked data protection authorities in Germany
and Spain to examine the legality of unique
codes that they say amount to tracking without
users' knowledge or consent, a practice banned
under strict European Union privacy rules.

In a separate policy update, apps in the App Store will soon start giving users more details









## ANOTHER JUDGE BLOCKS TRUMP'S TIKTOK BAN; APP STILL IN LIMBO

A federal judge has blocked President Donald Trump's attempts to ban TikTok, the latest legal defeat for the administration as it tries to wrest the popular app from its Chinese owners.

The Trump administration had tried to ban the short-form video app from smartphone app stores in the U.S. and cut it off from vital technical services. TikTok sued, arguing such actions would violate free speech and due process rights.

Judge Carl Nichols of the U.S. District Court in Washington, D.C., said in a ruling that the Commerce Department "likely overstepped" its use of presidential emergency powers "and acted in an arbitrary and capricious manner by failing to consider obvious alternatives."

Nichols is the second federal judge to fully block the Trump administration's economic sanctions against the app as the court cases proceed. The Trump administration has alleged that TikTok is a security threat because the Chinese government could spy on app users' personal data. TikTok has denied it's a security threat but said it's still trying to work with the administration to resolve its concerns.

Trump in September gave his tentative blessing to a proposal by ByteDance, the Chinese company that owns TikTok, meant to resolve U.S. national security concerns by having the U.S. companies Oracle and Walmart invest in TikTok. Oracle would manage U.S. user data under the arrangement. But a federal agency still has to review and finalize an arrangement.

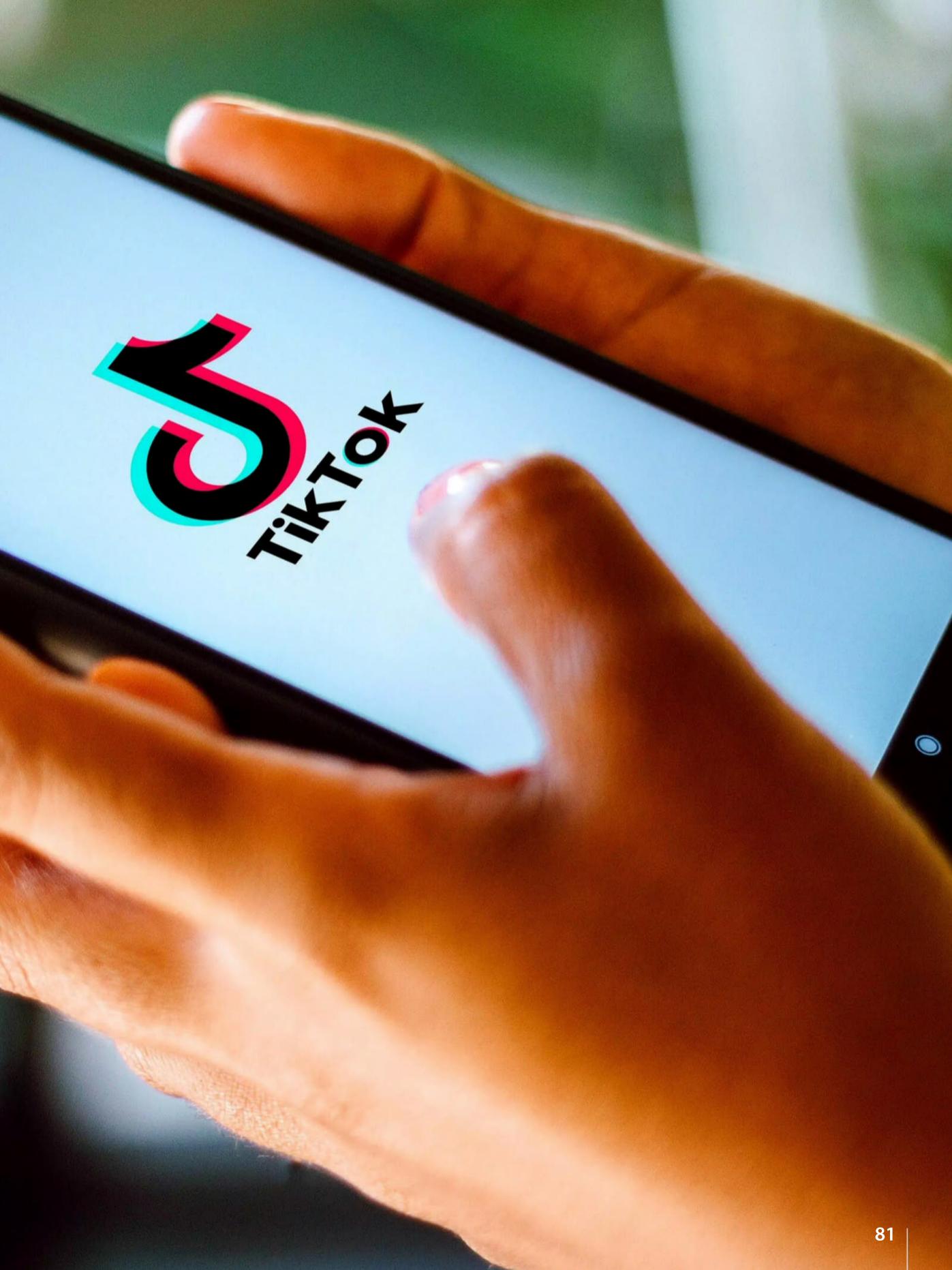
A government deadline for ByteDance to complete the deal passed on last week, and it's not clear what the status of the agreement is.

The Treasury Department, which chairs the agency reviewing the deal, said that the agency "is engaging with ByteDance to complete the divestment and other steps necessary to resolve the national security risks arising from the transaction."

The Trump administration's aggressive tactics are part of its latest attempt to counter the influence of China. Since taking office in 2017, Trump has waged a trade war with China, blocked mergers involving Chinese companies and stifled the business of Chinese firms like Huawei, a maker of phones and telecom equipment.

While President-elect Joe Biden has said TikTok is a concern, it's not clear what his administration will carry on the Trump administration's ongoing attempts to secure a ban, or increase the involvement of U.S. companies.







ALL THE SOUND TECH YOU CAN GET





Apple may not have hosted an all-bells, all-whistles event to show off its new headphones, but it didn't need to: the company's letting the sound speak for itself. After a year of speculation, Apple lifted the lid on AirPods Max online, with its \$549 over-ear headphones offering breathtaking high-fidelity audio combined with the magic of AirPods. Designed for professional musicians and audiophiles, Apple's ready to claim the headphone crown.

### THE ULTIMATE PERSONAL LISTENING EXPERIENCE

Since the introduction of AirPods back in December 2016, Apple's wearable technology division has exploded in popularity, and recent analysis suggests that the Cupertino company managed to ship more than \$9 billion worth of AirPods and AirPods Pro in 2019. That's without mentioning the continued brand power of its Beats headphones range, which cost



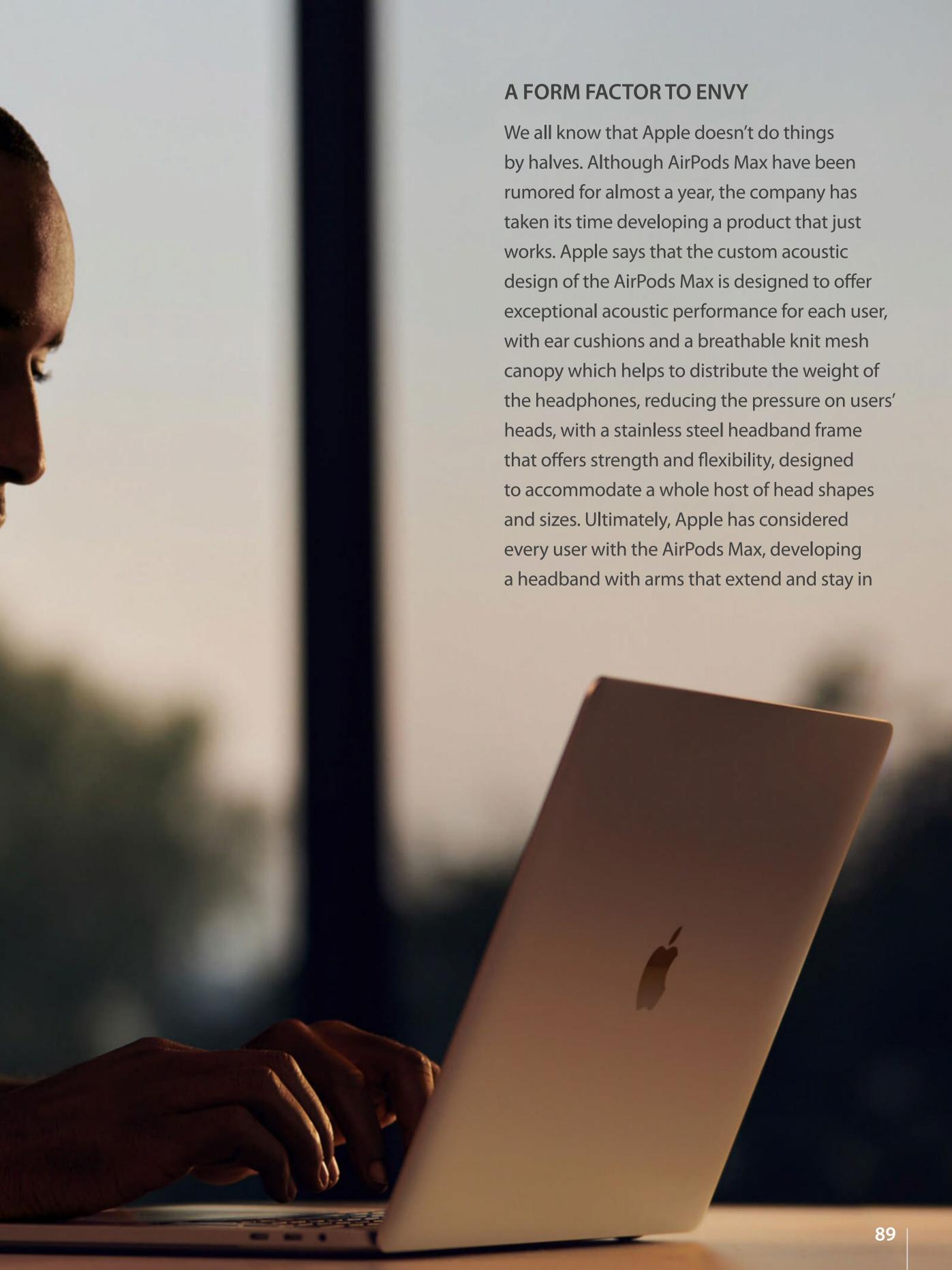


the company a cool \$3 billion and helped it launch the successful Apple Music, a service that is continuing to boom. Fast-forward to 2020, and Apple was ready to take AirPods to the next level. We'd previously heard Apple planned to release AirPods Studio, a highend version of its AirPods to compete against rivals such as Sony and Bose, and though there's been a name change since the initial rumors, those were indeed true. Apple appears to want to pivot its Beats sub-brand towards the budget-conscious consumer, AirPods towards the general consumer, and now AirPods Max towards those looking to invest in a premium audio experience. Being able to cater to virtually every shopper - from its \$50 Beats Flex headphones, an entry-level product released alongside the iPhone 12, which shipped without EarPods for the first time - to the new \$549 AirPods Max, and there's something for everyone, helping Apple add another product category to add to its swelling product portfolio.







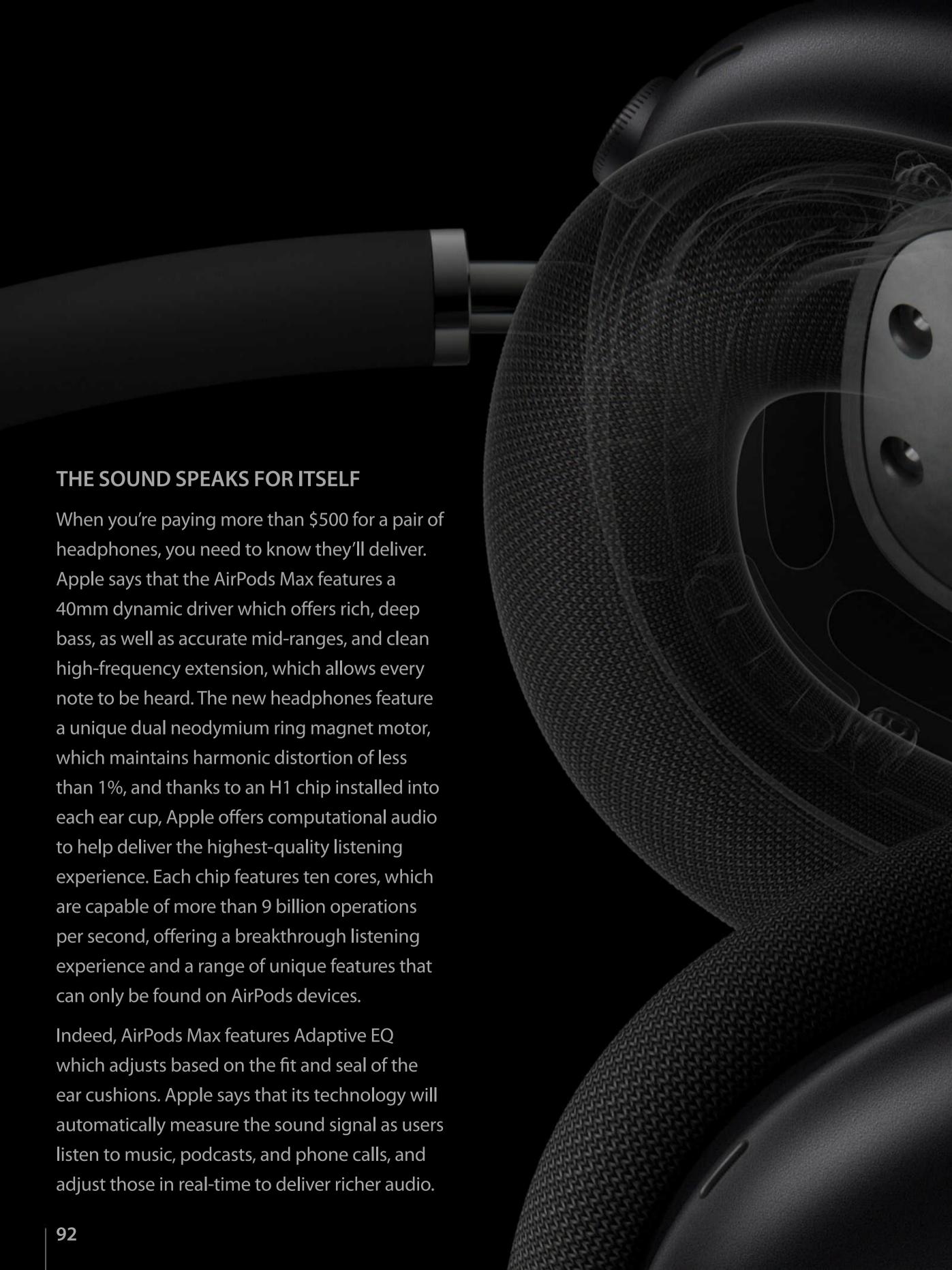






place, allowing users to "save" their desired fit once they've found it.

Each ear cup on the AirPods Max - which includes its own H1 chip - features what Apple calls a "revolutionary mechanism" that helps to balance and distribute pressure, allowing it to pivot and rotate to fit the contours of the head. Each cushion comes complete with memory foam which helps to create a seal around the users' head, allowing Apple to offer truly immersive sound experiences, wherever you are. And that's not all - Apple has taken inspiration from the Apple Watch, bringing the "digital crown" to AirPods Max, allowing for volume control, Siri activation, and other use cases such as pausing and answering calls.





Active Noise Cancellation is offered, too, which each ear cup on the AirPods Max featuring three external microphones, which help to detect environmental noise, with an internal microphone to monitor the sound that reaches the users' ears. Transparency Mode, on the other hand, gives users the freedom to listen to music whilst listening to the environment around them, ideal when you're out and about and want to hear traffic and other noises. Finally, Spatial Audio is offered to deliver what Apple describes as "an immersive, theater-like experience". Apple depends on a gyroscope and accelerometer in the AirPods Max to compare motion data, remapping the sound field in real-time so it can be anchored to the device, even when users move their heads; ideal for listening to live music, playing immersive games, and watching the latest movies and shows on Apple TV+.









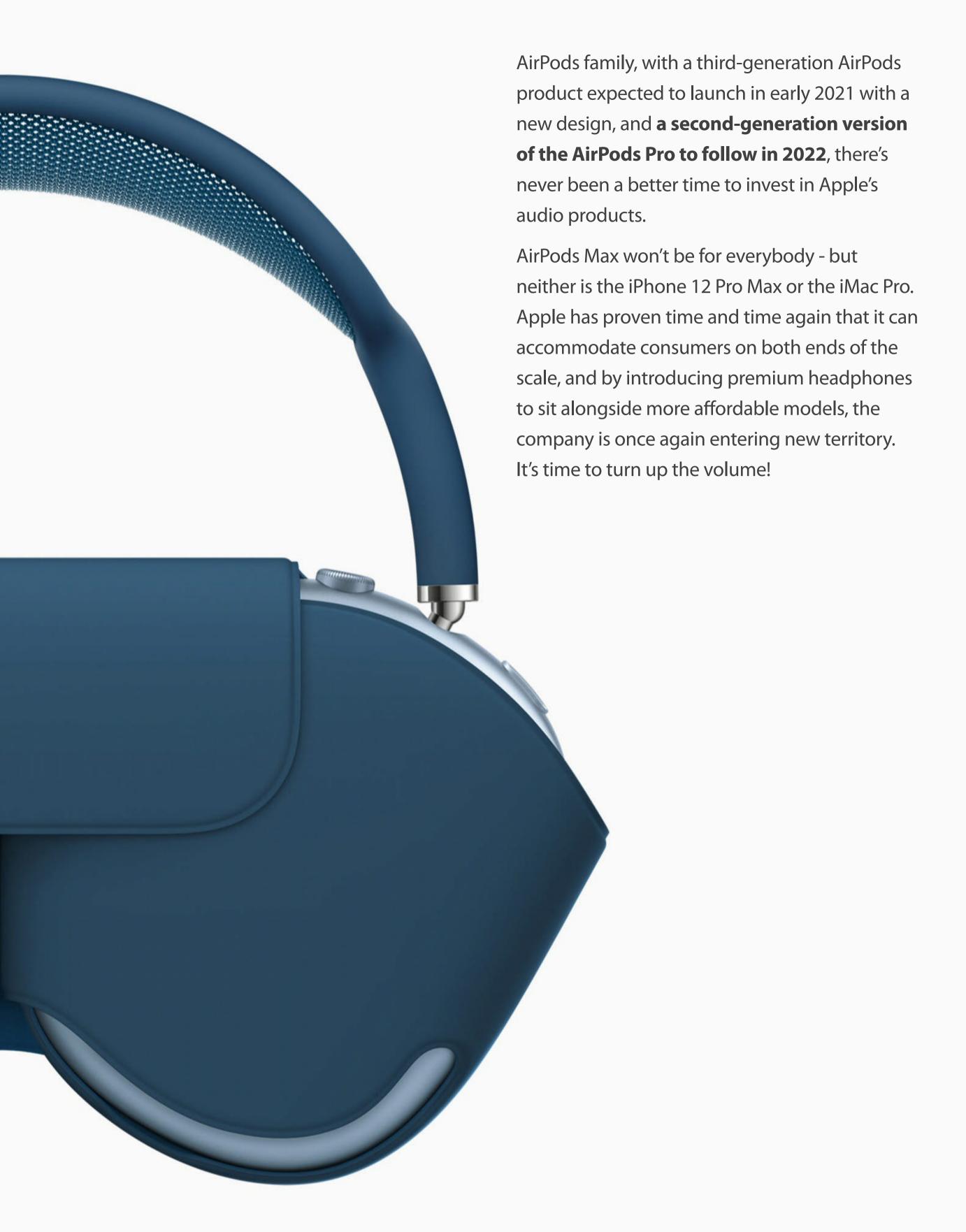
#### IT'S ALL IN THE PERFORMANCE

One of the reasons why AirPods Max will outperform leading alternatives is because they are built into the Apple ecosystem, and come packaged with all of the great features you know and love about AirPods already. From the straightforward set-up process, where users can tap a button and have their new headphones paired with all of their devices in an instant, to the quick transition from one Apple device to another, AirPods Max falls in line with the rest of the AirPods family. So, too, does the new model automatically detect when users are wearing the new AirPods Max on their heads, with optical and position sensors. The headphones automatically play and pause audio when users lift an ear cup, and because beam-forming microphones help to block out ambient noise, they offer crisp audio for calls, recordings, Siri commands, and more, so they're ideal for the workplace.

AirPods Max also offer impressive battery life, with up to 20 hours of talk time, movie playback, and high-fidelity audio from Apple Music - and that's with Active Noise Cancellation activated. What's more, Audio Sharing is available, so users can stream a video on one device (a Mac, iPad, or iPhone) and listen to it on two separate pairs of Apple-branded headphones - ideal for long car journeys and flights. Siri works her magic on AirPods Max, too, automatically reading incoming messages, translating content, and making phone calls on the go. That's all packaged inside of a stunning slim Smart Case, included in the box, which helps AirPods Max enter a low-power state to preserve battery life, meaning that users can depend on them throughout the day and into the evening.

## **NEXT-GENERATION LISTENING**

**HAS ARRIVED** There's no denying that AirPods Max sits at the higher end of the professional headphone spectrum, but the truth is that they're packed with so many next-generation features that it's impossible to write them off. Indeed, though Bose and Sony offer products for \$200 less than AirPods Max, they don't feature Dolby Atmos, don't come with Siri, and don't ship with a Smart Case out-of-the-box, making AirPods Max a sensible investment for those looking to upgrade to a top-end product. And as Apple continues to expand upon the ever-successful

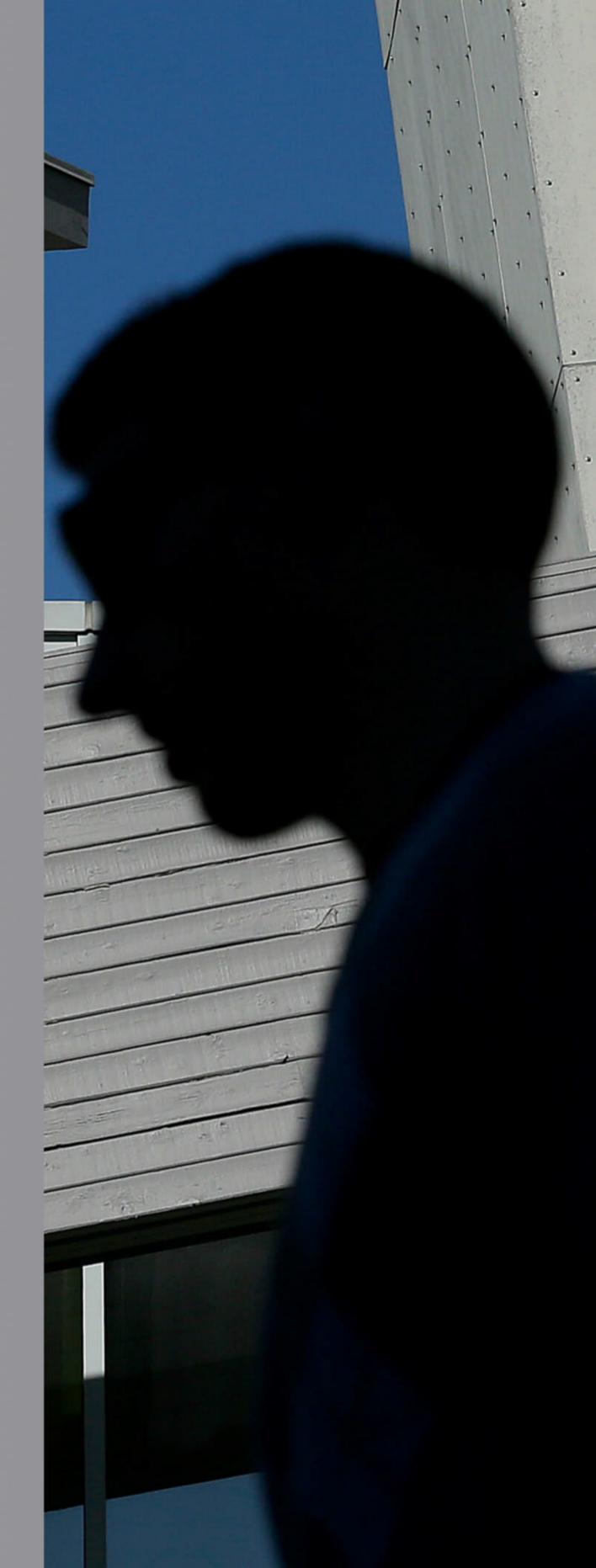


# GOOGLE AI RESEARCHER'S EXIT SPARKS ETHICS, BIAS CONCERNS

Prominent artificial intelligence scholar Timnit Gebru helped improve Google's public image as a company that elevates Black computer scientists and questions harmful uses of AI technology.

But internally, Gebru, a leader in the field of AI ethics, was not shy about voicing doubts about those commitments — until she was pushed out of the company this week in a dispute over a research paper examining the societal dangers of an emerging branch of AI.

Gebru announced on Twitter she was fired.
Google told employees she resigned. More than
1,200 Google employees have signed on to an









open letter calling the incident "unprecedented research censorship" and faulting the company for racism and defensiveness.

The furor over Gebru's abrupt departure is the latest incident raising questions about whether Google has strayed so far away from its original "Don't Be Evil" motto that the company now routinely ousts employees who dare to challenge management. The exit of Gebru, who is Black, also raised further doubts about diversity and inclusion at a company where Black women account for just 1.6% of the workforce.

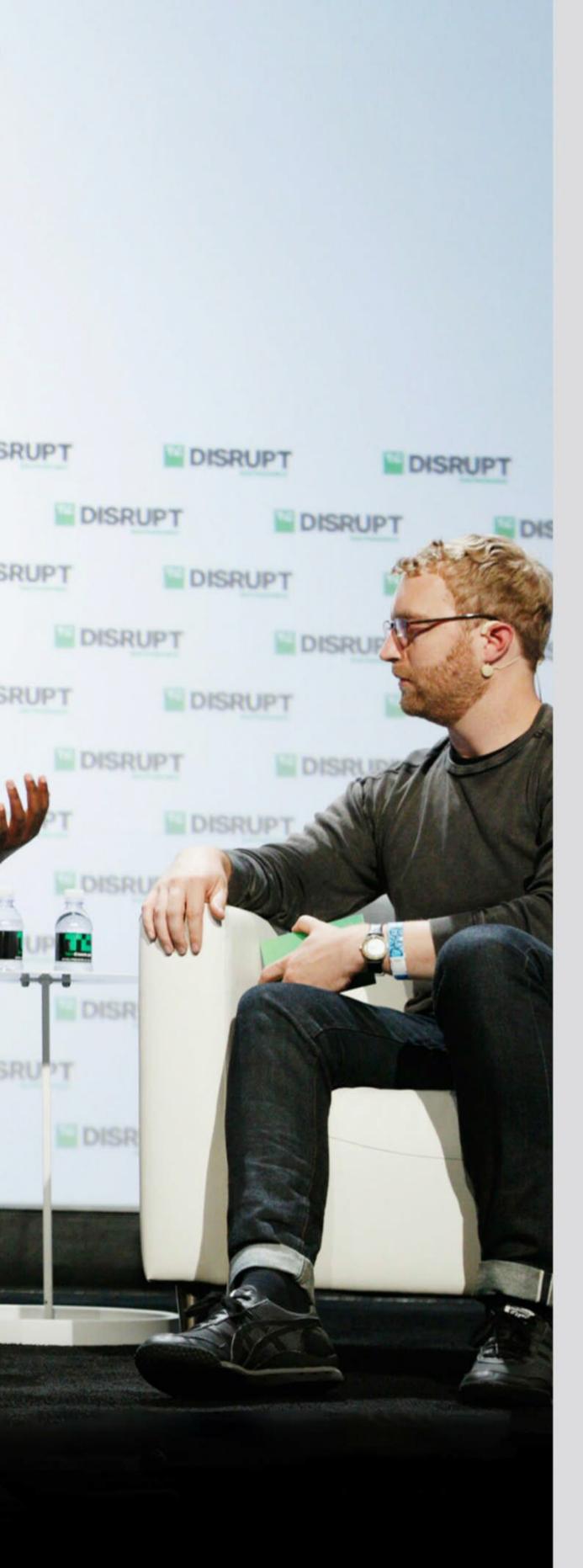
And it's exposed concerns beyond Google about whether showy efforts at ethical AI — ranging from a White House executive order this week to ethics review teams set up throughout the tech industry — are of little use when their conclusions might threaten profits or national interests.

Gebru has been a star in the AI ethics world who spent her early tech career working on Apple products and got her doctorate studying computer vision at the Stanford Artificial Intelligence Laboratory.

She's co-founder of the group Black in AI, which promotes Black employment and leadership in the field. She's known for a landmark 2018 study that found racial and gender bias in facial recognition software.

Gebru had recently been working on a paper examining the risks of developing computer systems that analyze huge databases of human language and use that to create their own human-like text. The paper, a copy of which was shown to the press, mentions Google's own new





technology, used in its search business, as well as those developed by others.

Besides flagging the potential dangers of bias, the paper also cited the environmental cost of chugging so much energy to run the models — an important issue at a company that brags about its commitment to being carbon neutral since 2007 as it strives to become even greener.

Google managers had concerns about omissions in the work and its timing, and wanted the names of Google employees taken off the study, but Gebru objected, according to an exchange of emails shared with the AP and first published by Platformer.

Jeff Dean, Google's chief of AI research, reiterated Google's position about the study in a statement.

The paper raised valid points but "had some important gaps that prevented us from being comfortable putting Google affiliation on it," Dean wrote.

"For example, it didn't include important findings on how models can be made more efficient and actually reduce overall environmental impact, and it didn't take into account some recent work at Google and elsewhere on mitigating bias," Dean added.

Gebru vented her frustrations about the process to an internal diversity-and-inclusion email group at Google, with the subject line: "Silencing Marginalized Voices in Every Way Possible."

Gebru said on Twitter that's the email that got her fired.

Dean, in an email to employees, said the company accepted "her decision to resign from





Google" because she told managers she'd leave if her demands about the study were not met.

"Ousting Timnit for having the audacity to demand research integrity severely undermines Google's credibility for supporting rigorous research on AI ethics and algorithmic auditing," said Joy Buolamwini, a graduate researcher at the Massachusetts Institute of Technology who co-authored the 2018 facial recognition study with Gebru.

"She deserves more than Google knew how to give, and now she is an all-star free agent who will continue to transform the tech industry," Buolamwini said in an email.

How Google will handle its AI ethics initiative and the internal dissent sparked by Gebru's exit is one of a number of problems facing the company heading into the new year.

At the same time she was on her way out, the National Labor Relations Board cast another spotlight on Google's workplace. In a complaint, the NRLB accused the company of spying on employees during a 2019 effort to organize a union before the company fired two activist workers for engaging in activities allowed under U.S. law. Google has denied the allegations in the case, which is scheduled for an April hearing.

Google has also been cast as a profit-mongering bully by the U.S. Justice Department in an antitrust lawsuit alleging the company has been illegally abusing the power of its dominant search engine and other popular digital services to stifle competition. The company also denies any wrongdoing in that legal battle, which may drag on for years.





## CAPSULE WITH ASTEROID SAMPLES ARRIVES IN JAPAN FOR RESEARCH

Japanese space agency officials were delighted by the return of a small capsule containing asteroid soil samples obtained by their Hayabusa2 spacecraft and were anxiously waiting to look inside after preparations are complete.

Hayabusa2 dropped the capsule from space and it landed as planned in the Australian Outback over the weekend. It arrived in Japan on Tuesday and will be studied for insights into the origins of the solar system and life on Earth.





The Japan Aerospace Exploration Agency said the capsule, tightly sealed and carefully stored in a container box, arrived at its research facility in Sagamihara, near Tokyo, for analysis.

"It's really like a dream," said Yuichi Tsuda, the Hayabusa2 project manager. "After 5.2 billion kilometers (3.2 billion miles) of space journey which took six years, (the capsule) has returned and now it's here with us."

Mission officials will have to wait until next week to look inside.

"I'm anxious to find out if the samples are really inside and how much is there," mission manager Makoto Yoshikawa said.

At the end of its yearlong journey from asteroid Ryugu, more than 300 million kilometers (190 million miles) from Earth, Hayabusa2 released the capsule Saturday from 220,000 kilometers (136,700 miles) in space, successfully sending it to land in a targeted area in a sparsely populated desert in Australia.

The extremely high precision work at the end of Hayabusa2's six-year mission thrilled many Japanese.

Launched in December 2014, the unmanned Hayabusa2 spacecraft touched down twice last year on the asteroid. Despite an unexpectedly rocky surface that forced the mission team to revise landing plans, the spacecraft successfully collected data and soil samples from two locations — on the surface and from underground.

Scientists say the samples taken from under the asteroid's surface are likely to contain data from 4.6 billion years ago unaffected by space radiation and other environmental factors. They are particularly interested in studying organic materials in the samples to learn about how they were distributed in the solar system and if they are related to life on Earth.

Usui said depending on the amount of the samples, priorities in research will be placed on an analysis of minerals, the variety of organic materials and their structures, and a chronology of the samples.

"Everyone is interested in organic matters, including myself," Usui said, adding that he hopes to find out how they evolved while being transported to Earth and Mars. (asterisk)We want to find proof, not theory, of hypotheses."

Tsuda said he is hoping for surprises. "I'm looking forward to finding unexpected organic matter that we never thought of, those with complex molecular geometries, or minerals containing water."

The samples will be treated in a clean room at the Sagamihara facility to avoid any external impact. After initial studies in Japan for about a year, some of the samples will be shared with NASA and other international scientists for further study beginning in 2022.

An initial inspection at a quick check facility in Australia detected unidentified gases from the capsule, a sign they are related to solar wind or samples from Ryugu. JAXA will further analyze the gases, which could provide information about organic elements and water.

Outside the JAXA facility in Sagamihara, senior members of the Hayabusa2 team and local fans lined up at the gate to welcome the arrival of the capsule, transported from the airport on a truck, some holding up a sign saying "Welcome back!"



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### AURORA TO BUY UBER'S SELF-DRIVING VEHICLES ARM

Uber is selling off its autonomous vehicles development arm to Aurora as the ride-hailing company slims down after its revenues were pummeled by the coronavirus pandemic.

Aurora will acquire the employees and technology behind Uber's Advanced Technologies Group in an equity transaction, the companies said.

Uber will invest \$400 million into Aurora, and Uber's CEO Dara Khosrowshahi will join Aurora's board of directors, the companies said.

After the transaction, Aurora will be worth \$10 billion and Uber will hold 26% stake in the company, said Chris Urmson, CEO of Aurora, in an interview.

"Our first product will be in trucking and freight, but we look forward to taking this great team that we have and accelerating that while





continuing working on light vehicles and ridehaling, and we'll ultimately see our vehicles deploying on the Uber network," Urmson said.

Uber will not have exclusive rights as a ridehailing company to Aurora's technology, but the two companies will have a "preferred relationship," Urmson said.

"For the last five years, our phenomenal team at ATG has been at the forefront of this effort — and in joining forces with Aurora, they are now in pole position to deliver on that promise even faster," said Dara Khosrowshahi, Uber CEO, in a statement. "I'm looking forward to working with Chris, and to bringing the Aurora Driver to the Uber network in the years ahead."

Uber will lose a critical piece of its company after the pandemic cut into its finances by suppressing demand for shared rides. Its path to profitability has often been linked with its plans to deploy autonomous vehicles and reduce the high cost of paying drivers.

The company's efforts around self-driving technology was marred in March 2018 when one of its automated test vehicles hit and killed a woman, the first death involving the technology. The backup Uber driver involved in the crash was charged with negligent homicide for being distracted in the moments before fatally striking the woman in suburban Phoenix.

"There's no doubt they had a pretty rough couple of years a while back," Urmson said.
"What's been impressive to me in meeting the team over the last little while is just how much the team has learned, and the tenaciousness, and determination of the team as they come to market in a thoughtful, safe way."

Aurora, based in Mountain View, Calif., is led by former Google, Tesla and Uber executives. Aurora also has partnerships with delivery giant Amazon and auto companies Hyundai and Kia, among others, but its partnership with Uber is its first official relationship with a ridehailing company.

The deal means Uber will be entrusting a key piece of its future to a 3-year-old startup cofounded and run by one of the engineers who launched Google's pioneering work in self-driving cars more than a decade ago. Urmson was one of the most visible people involved in the once-secret project that Google initially dubbed "Chauffeur" before it was finally spun off into a separate company called Waymo. Google and Waymo remain closely aligned under the same corporate parent, Alphabet.

While at Google, Urmson also worked on the self-driving car technology with another top engineer, Anthony Levandowski, who defected to Uber in 2016 oversee its early efforts to build robotic vehicles.

As part of that effort, Uber bought Levandowski's startup, Otto, for \$680 million. That deal quickly disintegrated into a scandal after Waymo accused Levandowski of stealing its trade secrets and using them to help Uber to make the transition from human drivers to autonomous vehicles.

Uber denied the allegations, but eventually reached a \$245 million settlement with Waymo in 2018 after a few days of testimony during a high-profile trial in San Francisco. Before the settlement, Uber's former CEO and co-founder Travis Kalanick revealed he believed Google's





self-driving car technology posed an existential threat to Uber during his dramatic appearance on the witness stand.

That fear drove Kalanick Uber's open its own self-driving car division stocked with robotic experts from Carnegie-Mellon University as former Google engineers acquired as part of the deal with Levandowski. Uber eventually fired Levandowski in 2017 and Levandowski wound up being sentenced to 18 months in prison earlier this year after pleading guilty to stealing some of Google's trade secrets before he left the company in 2016.





# CYBERSECURITY FIRM FIREEYE SAYS WAS HACKED BY NATION STATE

Prominent U.S. cybersecurity firm FireEye said that foreign government hackers with "world-class capabilities" broke into its network and stole offensive tools it uses to probe the defenses of its thousands of customers, who include federal, state and local governments and top global corporations.

The hackers "primarily sought information related to certain government customers,"
FireEye CEO Kevin Mandia said in a statement, without naming them. He said there was no indication they got customer information from the company's consulting or breach-response businesses or threat-intelligence data it collects.

FireEye is a major cybersecurity player — it responded to the Sony and Equifax data breaches and helped Saudi Arabia thwart an oil industry cyberattack — and has played a key role in identifying Russia as the protagonist in numerous aggressions in the burgeoning netherworld of global digital conflict.





# COFICE SECURITY REIMAGINED

### **Key Judgments**



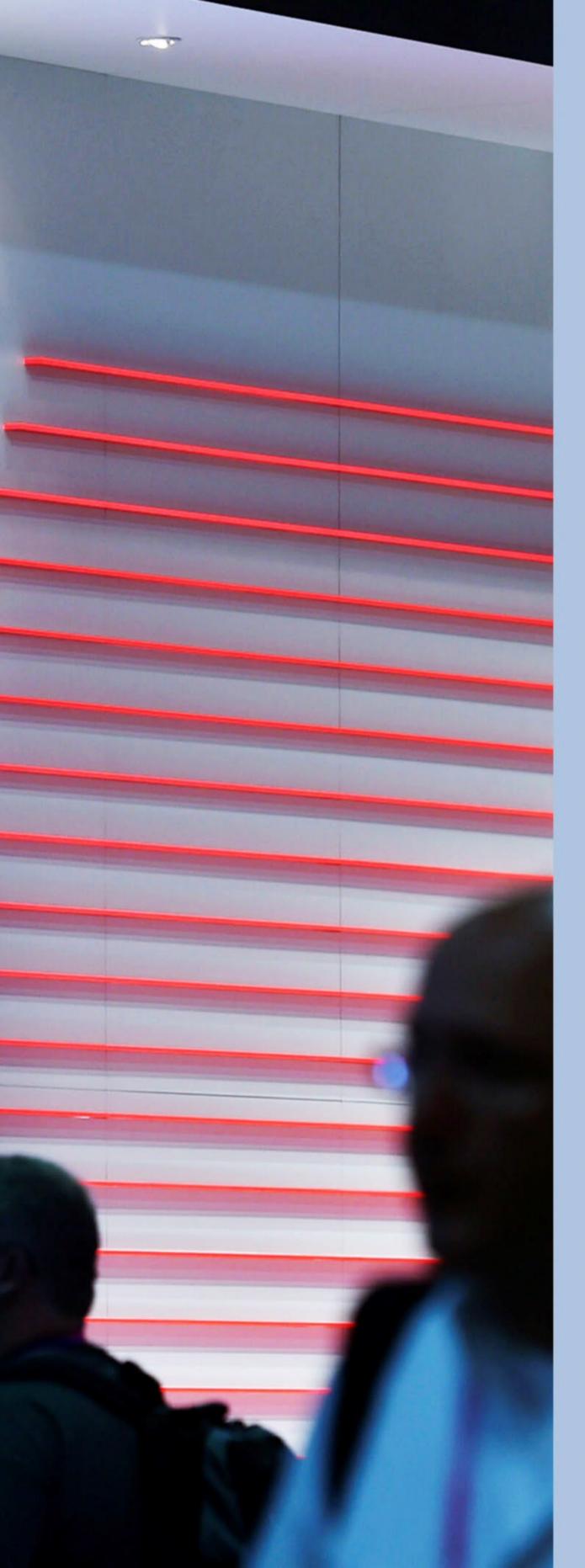
54%

- Explosion of ICS vulnerabilities since 2010—the year Stuxnet was disclosed. Most – 90 % -- of the vulnerabilities we track date after 2010 and we only expect the upward trend to grow.
- More than half of the vulnerabilities since 2013 deal with "Level 2" compromises—or systems that allow operators to supervise and control physical processes, such as opening valves or modifying machines.
   Versary access to this level is sufficient to modify properties alled process.

early 1,600 total vulnerability disclorendor fixes—presenting a significant state.

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Neither Mandia nor a FireEye spokeswoman said when the company detected the hack or who might be responsible. But many in the cybersecurity community suspect Russia.

"I do think what we know of the operation is consistent with a Russian state actor," said former NSA hacker Jake Williams, president of Rendition Infosec. "Whether or not customer data was accessed, it's still a big win for Russia."

FireEye's Mandia said he had concluded that "a nation with top-tier offensive capabilities" was behind the attack.

The stolen "red team" tools — which amount to real-world malware — could be dangerous in the wrong hands. FireEye said there's no indication they have been used maliciously. But cybersecurity experts say sophisticated nation-state hackers could modify them and wield them in the future against government or industry targets.

The hack was the biggest blow to the U.S. cybersecurity community since a mysterious group known as the "Shadow Brokers" in 2016 released a trove of high-level hacking tools stolen from the National Security Agency. The U.S. believes North Korea and Russia capitalized on the stolen tools to unleash devastating global cyberattacks.

The nation's Cybersecurity and Infrastructure
Security Agency warned that "unauthorized
third-party users" could similarly abuse FireEye's
stolen red-team tools.

Milpitas, California-based FireEye, which is publicly traded, said in Tuesday's statement that it had developed 300 countermeasures to

protect customers and others from them and was making them immediately available.

FireEye has been at the forefront of investigating state-backed hacking groups, including Russian groups trying to break into state and local governments in the U.S. that administer elections. It was credited with attributing to Russian military hackers mid-winter attacks in 2015 and 2016 on Ukraine's energy grid. Its threat hunters also have helped social media companies including Facebook identify malicious actors.

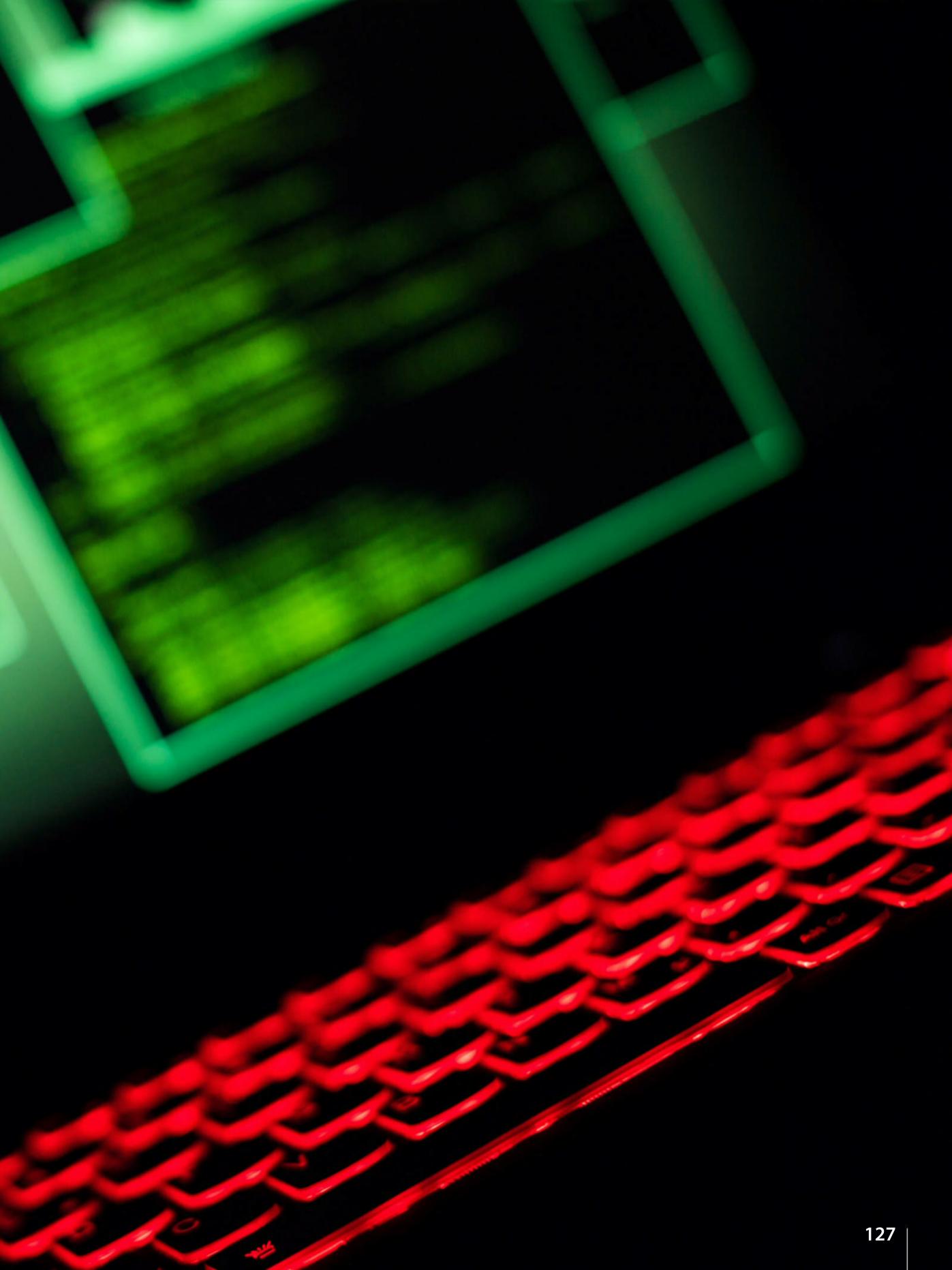
Thomas Rid, a Johns Hopkins cyberconflict scholar, said that if the Kremlin were behind the hack it could have been seeking to learn what FireEye knows about Russia's global state-backed operations — doing counterintelligence. Or it might have seeking to retaliate against the U.S. government for measures including indicting Russian military hackers for meddling in the 2016 U.S. election and other alleged crimes. FireEye is, after all, a close U.S. government partner that has "exposed many Russian operations," he said.

FireEye said it is investigating the attack in coordination with the FBI and partners including Microsoft, which has its own cybersecurity team. Mandia said the hackers used "a novel combination of techniques not witnessed by us or our partners in the past."

Matt Gorham, assistant director of the FBI's cyber division, said the hackers' high level of sophistication (was) consistent with a nation state."

The U.S. government is "focused on imposing risk and consequences on malicious cyber actors, so





they think twice before attempting an intrusion in the first place," Gorham said. That has included what U.S. Cyber Command terms "defending forward" operations such as penetrated the networks of Russia and other adversaries.

U.S. Sen. Mark Warner, a Virginia Democrat on the Senate's intelligence committee, applauded FireEye for quickly disclosing the intrusion, saying the case "shows the difficulty of stopping determined nation-state hackers."

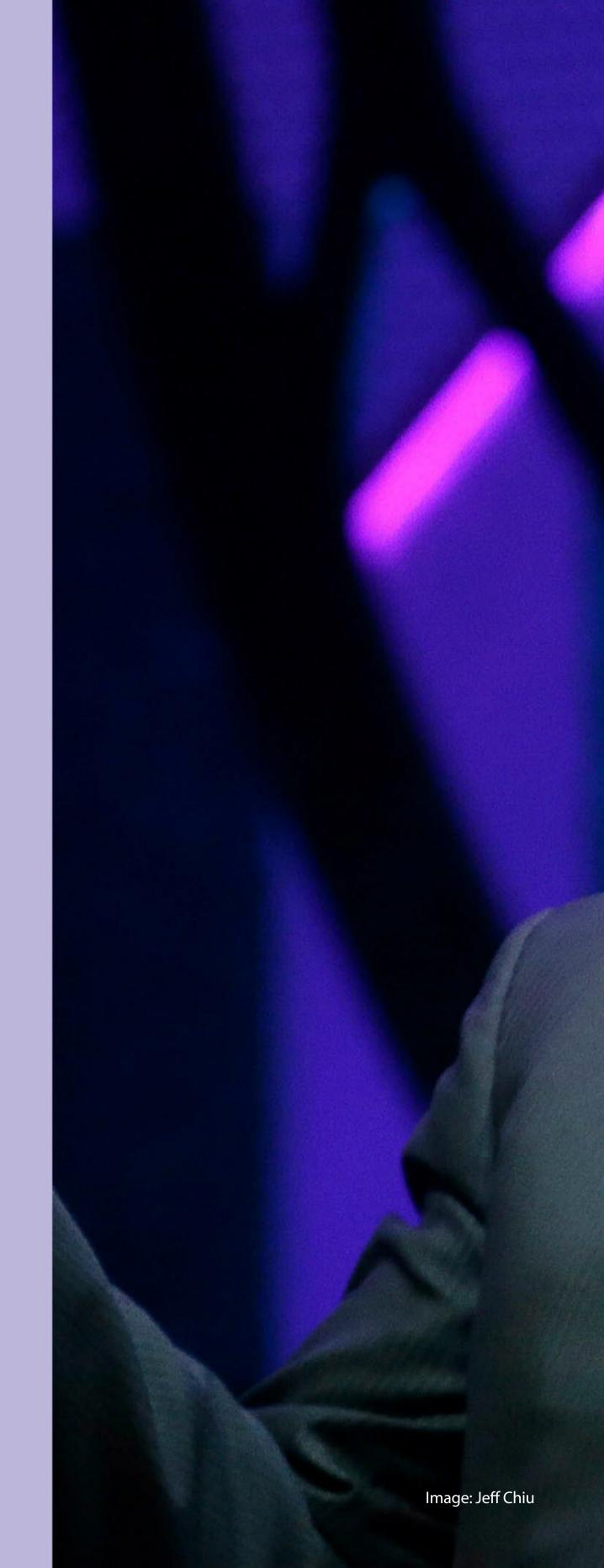
Cybersecurity expert Dmitri Alperovitch said security companies like FireEye are top targets, with big names in the field including Kaspersky and Symantec breached in the past.

"Every security company is being targeted by nation-state actors. This has been going on got over a decade now," said Alperovitch, the co-founder and former chief technical officer of Crowdstrike, which investigated the 2016 Russian hack of the Democratic National Committee and Hillary Clinton's campaign.

He said the release of the "red-team" tools, while a serious concern, was "not the end of the world because threat actors always create new tools."

"This could have been much worse if their customer data had been hacked and exfiltrated. So far there is no evidence of that," Alperovitch said, citing hacks of other cybersecurity companies — RSA Security in 2011 and Bit9 two years later — that contributed to the compromise of customer data.

Founded in 2004, FireEye went public in 2013 and months later acquired Virginia-based Mandiant Corp., the firm that linked years of cyberattacks against U.S. companies to a













### HOW PHONES CAN ALERT YOU TO COVID-19 EXPOSURE

More than 8.1 million people in the U.S. have turned their iPhones and Android devices into pandemic contact-tracing tools, but it hasn't been of much use when their neighbors, classmates and coworkers aren't on the same system.

Apple and Google co-created "exposure notification" technology to alert phone users if they spent time near someone who tests positive for the coronavirus, so they know to get tested, too.

It's built with tight privacy restrictions to maintain users' anonymity, but the tech companies have left it to each state's public health authority to decide whether to use it. So far, 16 U.S. states, plus Guam and Washington, D.C., and more than 30 countries have made the exposure notification system available to their residents.

### **HOW DOES IT WORK?**

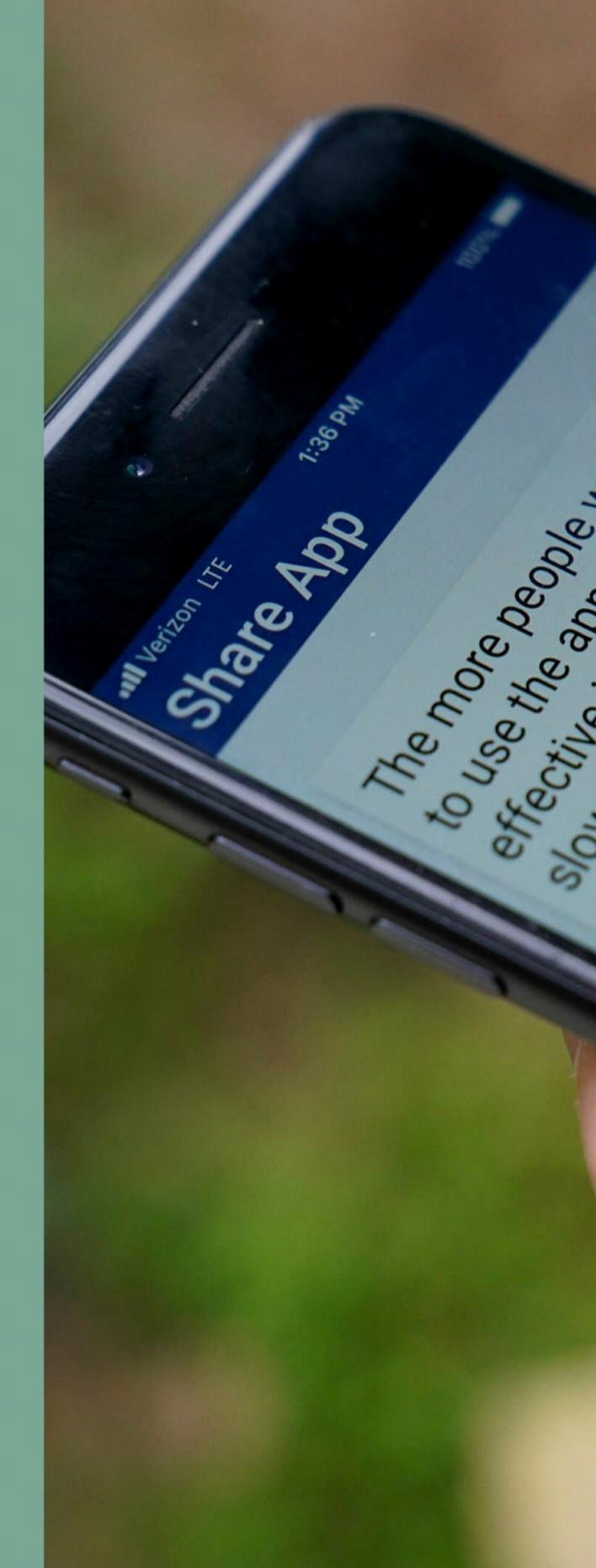
The technology relies on Bluetooth short-range radio signals to detect when two phones are in close proximity for long enough for someone to likely transmit the virus. Most states measure that close contact as within 6 feet for at least 15 minutes in a day.

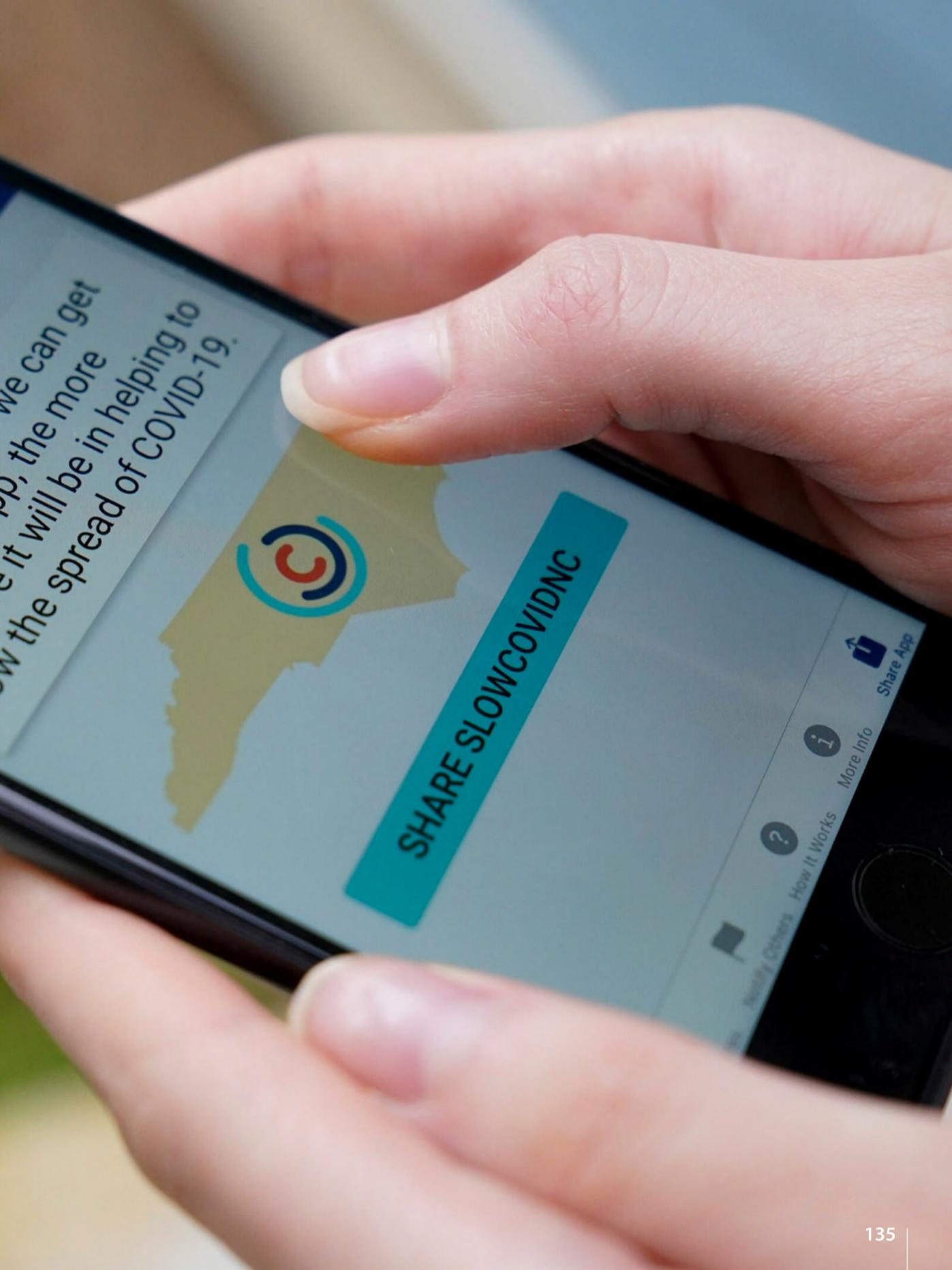
Those wireless encounters — the kind that might happen between strangers on a train or in a crowded store — are randomly generated into keys and temporarily logged in a way that doesn't reveal a person's identity or geographic location.

When one person tests positive for the virus, and state health workers verify the diagnosis, others who recently spent time near the infected person get an automatic alert. That also comes with advice from your state health agency about how to get tested and avoid spreading the disease.

### WHERE AND HOW CAN YOU USE IT?

In Colorado, Connecticut, Maryland and Washington, as well as Washington, D.C., iPhone users don't have to download an app, but will have to adjust their phone settings to consent to the tracking. Android users in those places must download an app that Google has automatically generated for the region's public health agency.





In another 13 places, public health agencies have custom-built exposure notification apps that can be found in the Apple and Google Play app stores. Those places are Alabama, Delaware, Guam, Michigan, Minnesota, Nevada, New Jersey, New York, North Carolina, North Dakota, Pennsylvania, Virginia and Wyoming.

Four other states have a limited pilot program: Arizona, California, Hawaii and Oregon.

### WHAT IF YOU CROSS BORDERS?

If you travel between the places where the technology is activated, in most cases it doesn't matter that you're using your home state's app. It still tracks if you've been exposed elsewhere.

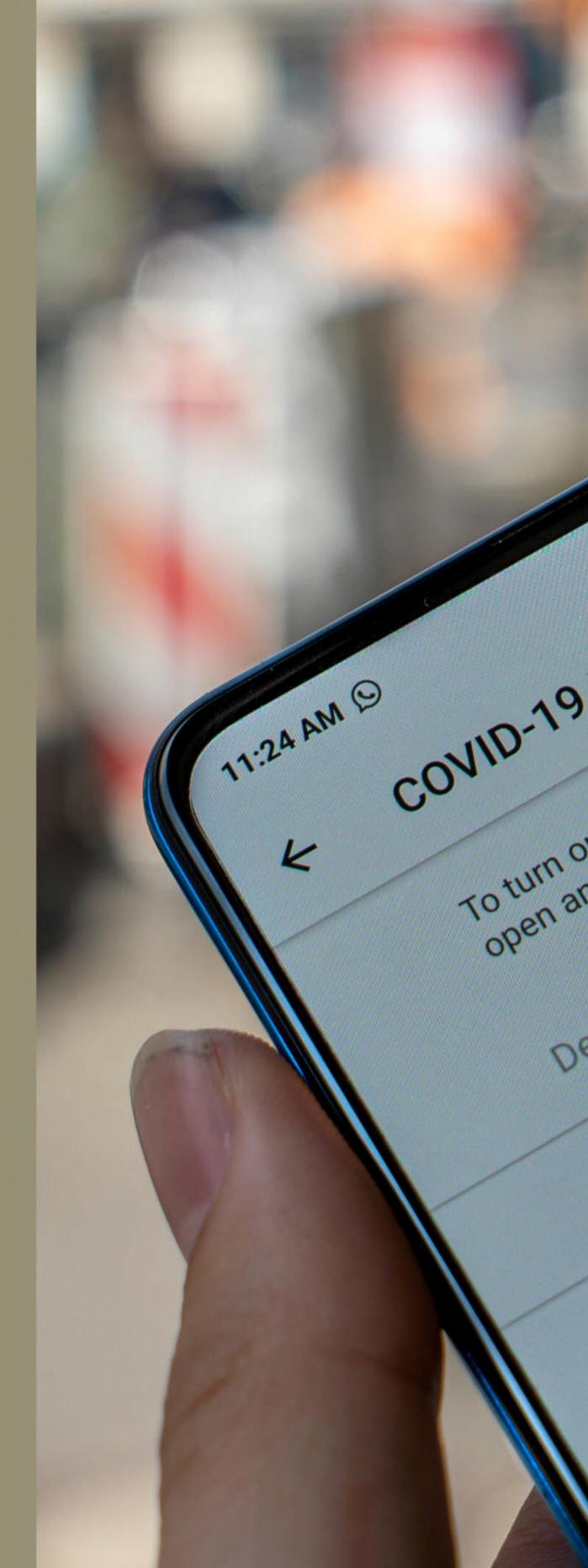
That means, for example, New Jersey residents who download their state's app are still going to pick up signals from New York app users if they spend the day in Manhattan.

That's because a group of coordinating public health agencies has set up a shared national server of Bluetooth keys. A similar arrangement happens across some national borders in the European Union.

### **ARE THERE GLITCHES?**

Yes, some as much tied to human behavior as technology. Users have complained about the process for confirming a case, which can vary by state but typically relies on a conversation between the infected person and oftenoverwhelmed human contact-tracing teams.

As a protection against prank alerts, no notifications are triggered until the public health agency has verified that an app user has COVID-19.





In some states, someone who tests positive and wants to tell other people about it must first get a code from a health worker. Some users never get that code, or get it but never enter it into the app. Amid a raging pandemic, it's not always the first thing on everyone's mind.

### HOW MUCH PARTICIPATION MAKES IT EFFECTIVE?

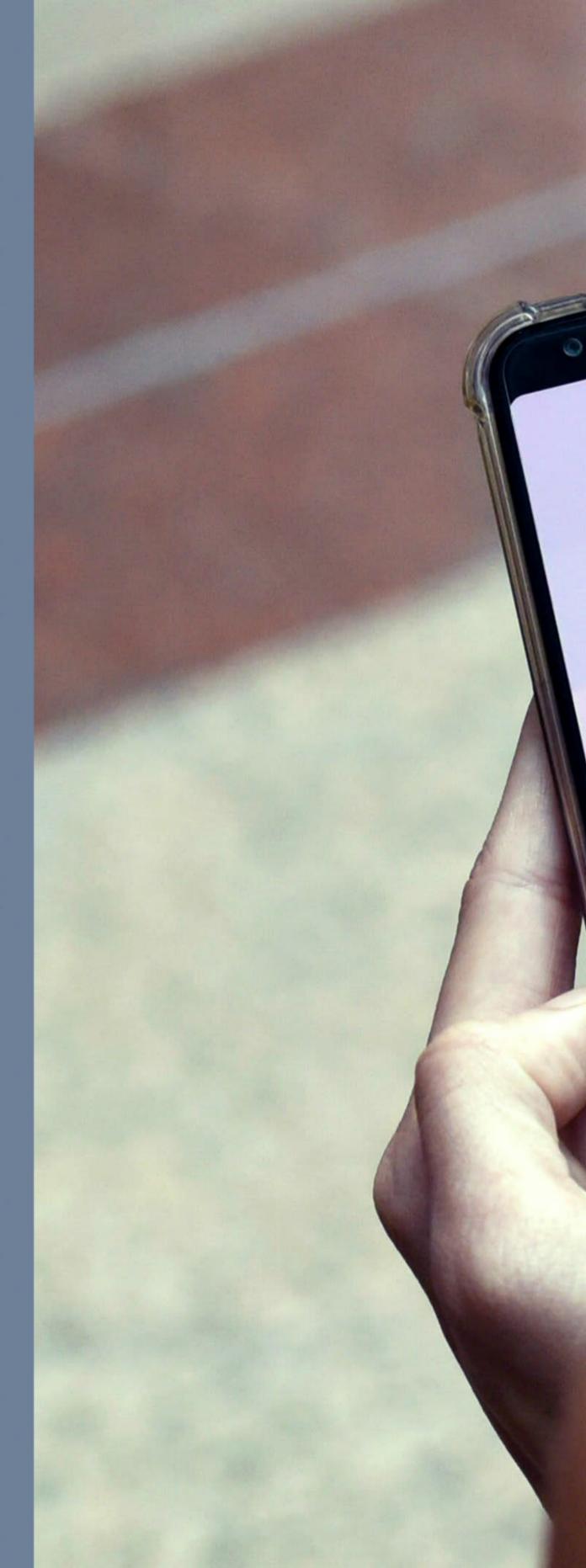
Guam officials said they were advised to get 60% of the island territory's adult population using the app for it to be effective, but it's rare for even the best-known consumer apps to get that kind of reach.

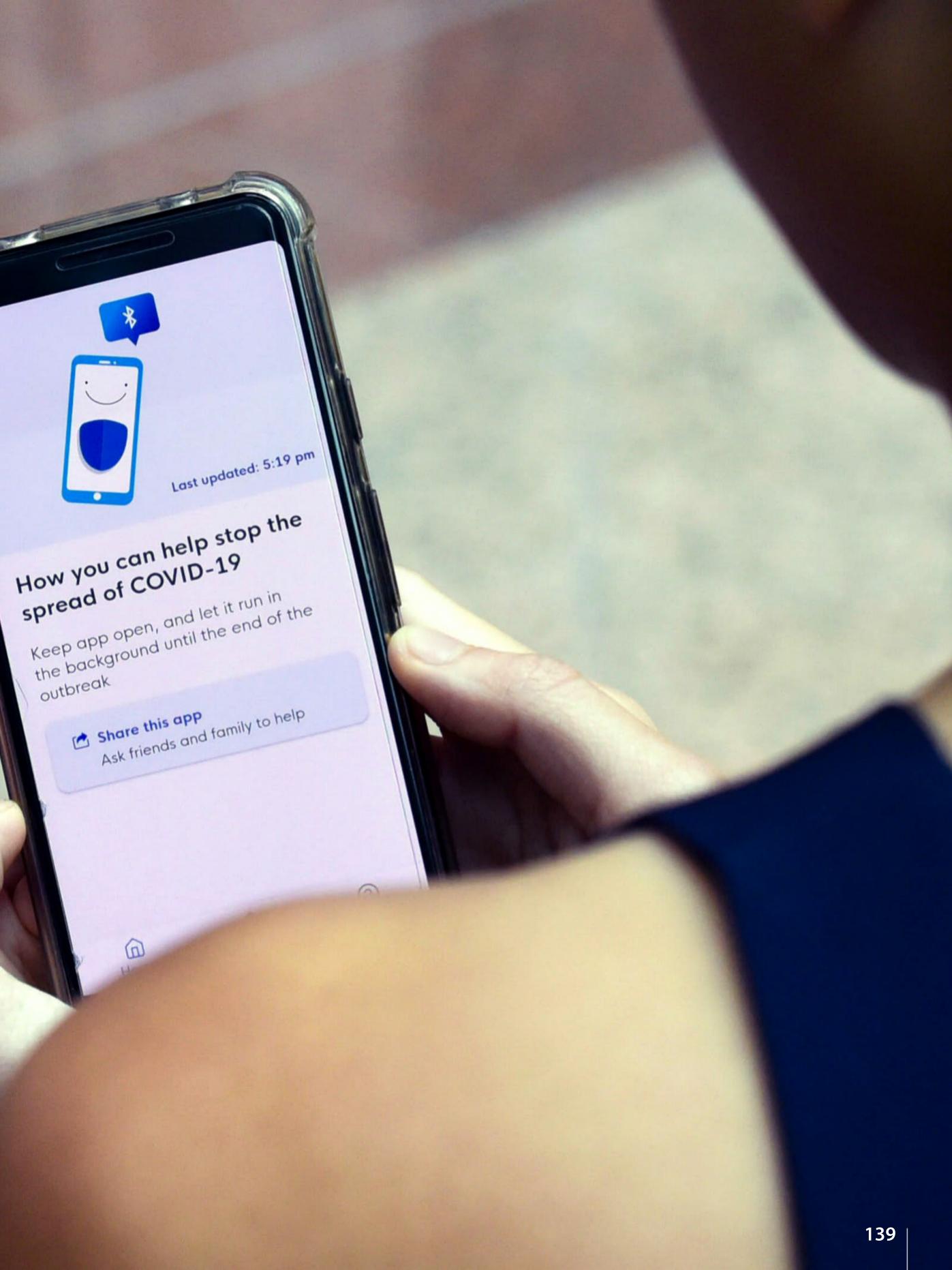
Add the politicization of COVID-19 response in the U.S., the stigma of disease, privacy fears and confusion over every state having a different approach and it's not surprising that enthusiasm has been lacking.

The 60% goal came from an Oxford University study earlier this year, but Oxford researchers later emphasized that even far lower participation rates can save lives.

They estimated in September that, in the state of Washington, a "well-staffed manual contact tracing workforce combined with 15% uptake of an exposure notification system could reduce infections by 15% and deaths by 11%." Washington's system went live on Nov. 29 and within a day had about 9% adoption.

Participation has been highest in states where iPhone users don't have to download an app and get a pop-up prompt inviting them to consent to the tracking.









### CALIFORNIA RELEASES SMARTPHONE VIRUS TOOL AS CASES SOAR

California Gov. Gavin Newsom announced a voluntary smartphone tool to alert people of possible coronavirus exposure as cases soar higher, new restrictions are imposed and many people still say they won't heed the pleas to stay home.

The tool — which has been used on a pilot basis on some state university campuses — doesn't track people's identities or locations but uses Bluetooth wireless signals to detect when two phones are within 6 feet (1.8 meters) of each other for at least 15 minutes, officials said.

California's 40 million residents can opt in to the system starting this week. When someone who has activated the technology tests positive for the virus, that person will receive a verification code from state health officials that can be used to send an anonymous alert to other users who may have been exposed over the past 14 days.

"The more people that participate in it, the more that opt in, the more effective this program can be," Newsom told reporters.

"We are hoping there will be enough to make this meaningful."

The technology comes as coronavirus cases are exploding in California and more than 80% of the state's residents are under orders not to leave their homes for at least the next three weeks except for essential purposes. Sixteen other states, plus Guam and Washington, D.C., have already made available the system cocreated by Apple and Google, though most residents of those places aren't using it.

Andrew Noymer, a public health professor at University of California, Irvine, questioned how many residents would opt in due to privacy concerns and the value of the tool if they don't.

He said people may find themselves paralyzed by a flood of information and it isn't clear what they'll do with it — especially if they take a coronavirus test after getting an alert and wind up negative, only to receive another alert.

"In a purely epidemiological perspective, uptake is everything. If about 10% of people do it, it's useless," he said. "Even if it does get takers. It's still unproven. Because then, what do you do?"





## SCRENING

COVID-19





Over the past two weeks, California has reported a quarter of a million positive virus cases. The 7-day average for new virus cases last Monday neared 22,000, a 50% increase over the prior week, state data shows.

More than 10,000 people were hospitalized with COVID-19, including more than 2,300 in intensive care, Newsom said.

The state's 400 hospitals are at about 80% capacity but there are hospitals in San Diego, Imperial, and Los Angeles counties with intensive care units that are full, said Carmela Coyle, president of the California Hospital Association. Hospitals are limited by staff shortages following a spike in virus cases around Halloween, she said.

"These numbers do not yet include the Thanksgiving holiday, and the gathering of families just a week or so ago so. We do expect that this will get far worse before it gets better," she said.

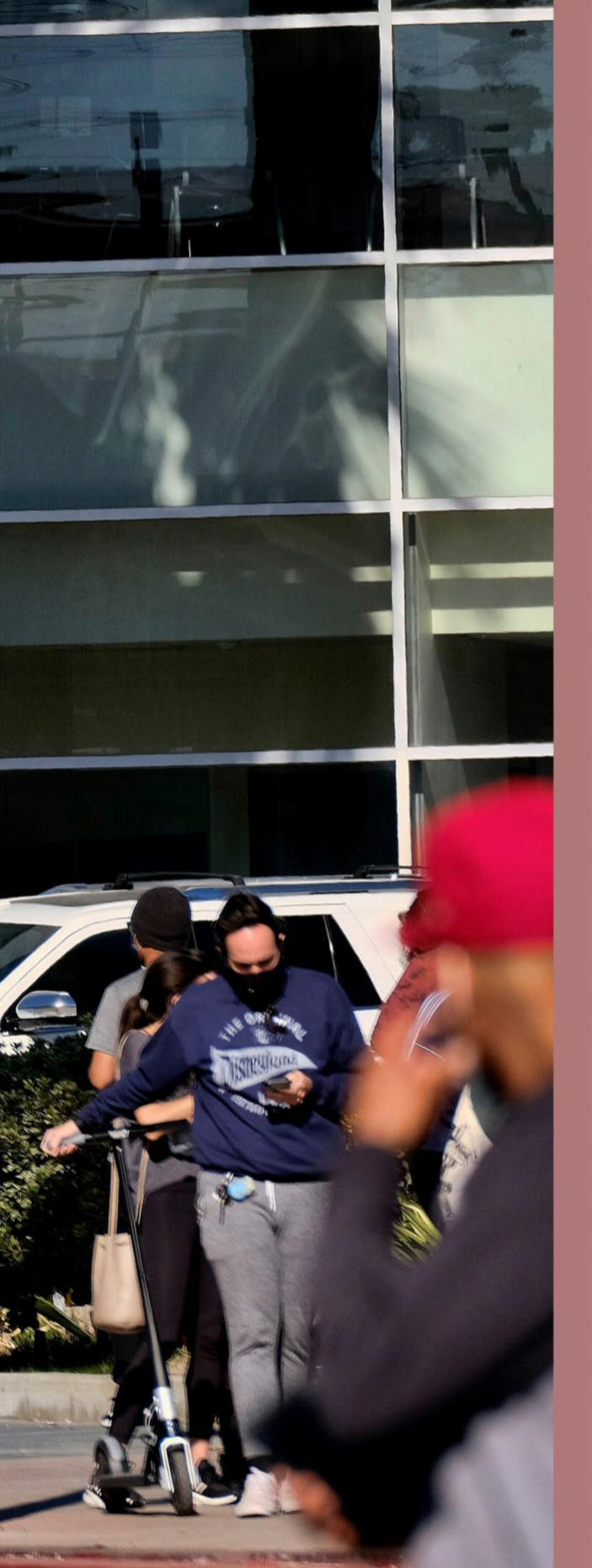
Newsom's administration issued the stay-athome rules closing restaurant dining, salons and playgrounds in Southern California and a large swath of the state's Central Valley agricultural region after more than 85% of beds in intensive care units were occupied in those regions. Five San Francisco Bay Area counties voluntarily joined the rules over ICU capacity concerns. Those restrictions will last until Jan. 4, a week longer than the state's timeline.

Ten months into the pandemic, most of the state is now back to where it started with the stayat-home rules. But unlike in March, when the pandemic was in its infancy and California was the first state to impose such rules, fewer people are likely to obey them.









Some business owners said they would keep their doors open and several law enforcement agencies say they won't enforce the rules and are counting on people to voluntarily wear masks and practice physical distancing to protect themselves and their families.

Lu Garcia Reynoso, who owns a Southern California barbershop, told the Press-Enterprise he'll stay open. She's concerned salons may move underground to avoid being detected.

The recent rise in coronavirus infections began in October and is being blamed largely on people ignoring safety measures and socializing with others.

Under the new stay-at-home rules, retailers including supermarkets and shopping centers can operate with 20% capacity while restaurant dining and hair and nail salons must close.

Schools that are currently open can continue providing in-person instruction.

But Los Angeles Unified School District, the nation's second-largest, on Monday announced the suspension of all school-based instructional and childcare programs and conditioning programs for student athletes due to the record number of virus cases.

Starting on Thursday, Californians will be able to activate the new "exposure notification" tool in their iPhone settings or on Android phones by downloading the CA Notify app from the Google Play store. Many residents will get a notification inviting them to participate.

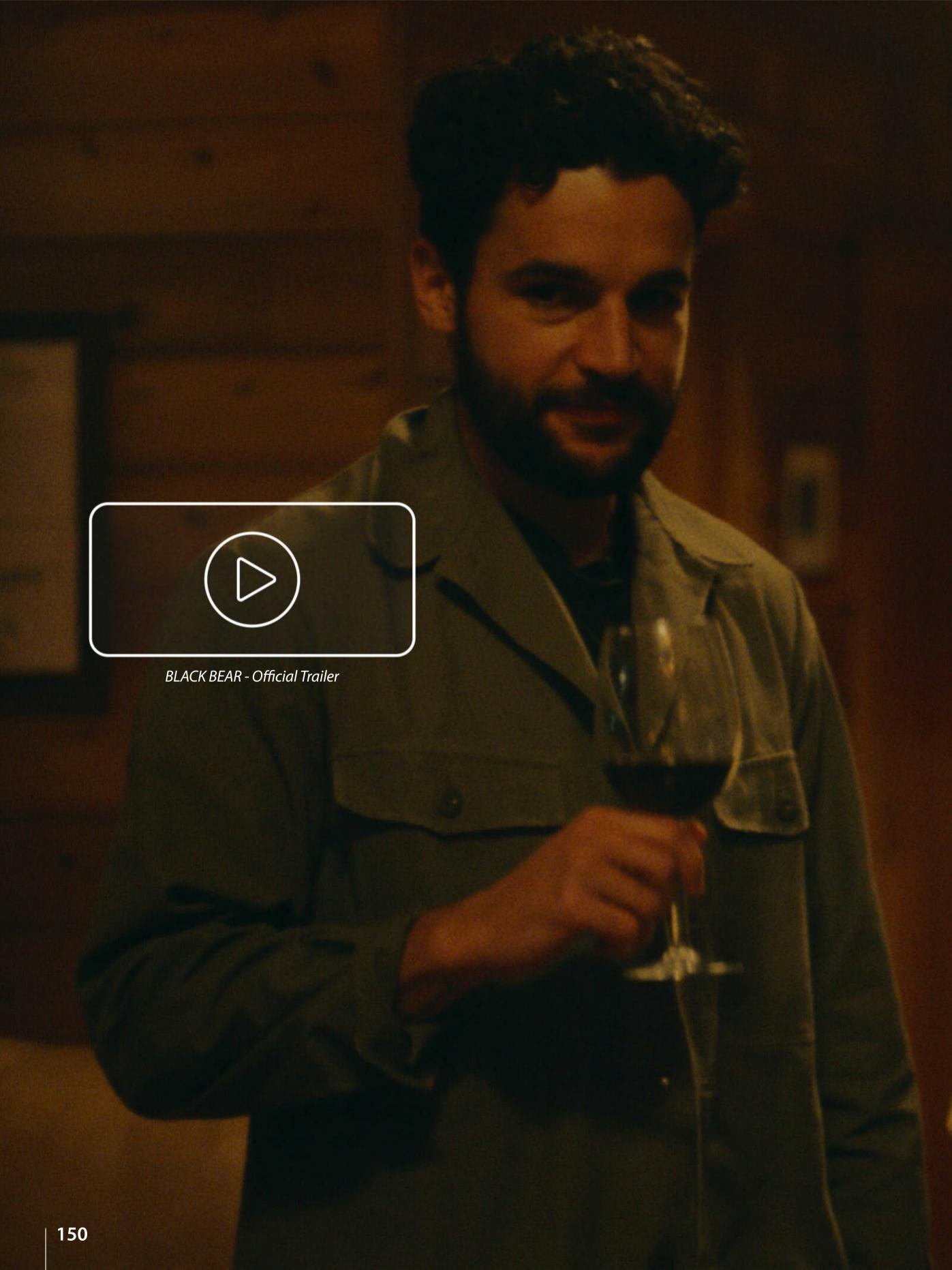
Officials said the encounters are temporarily logged in a way that doesn't reveal a person's identity or geographic location.





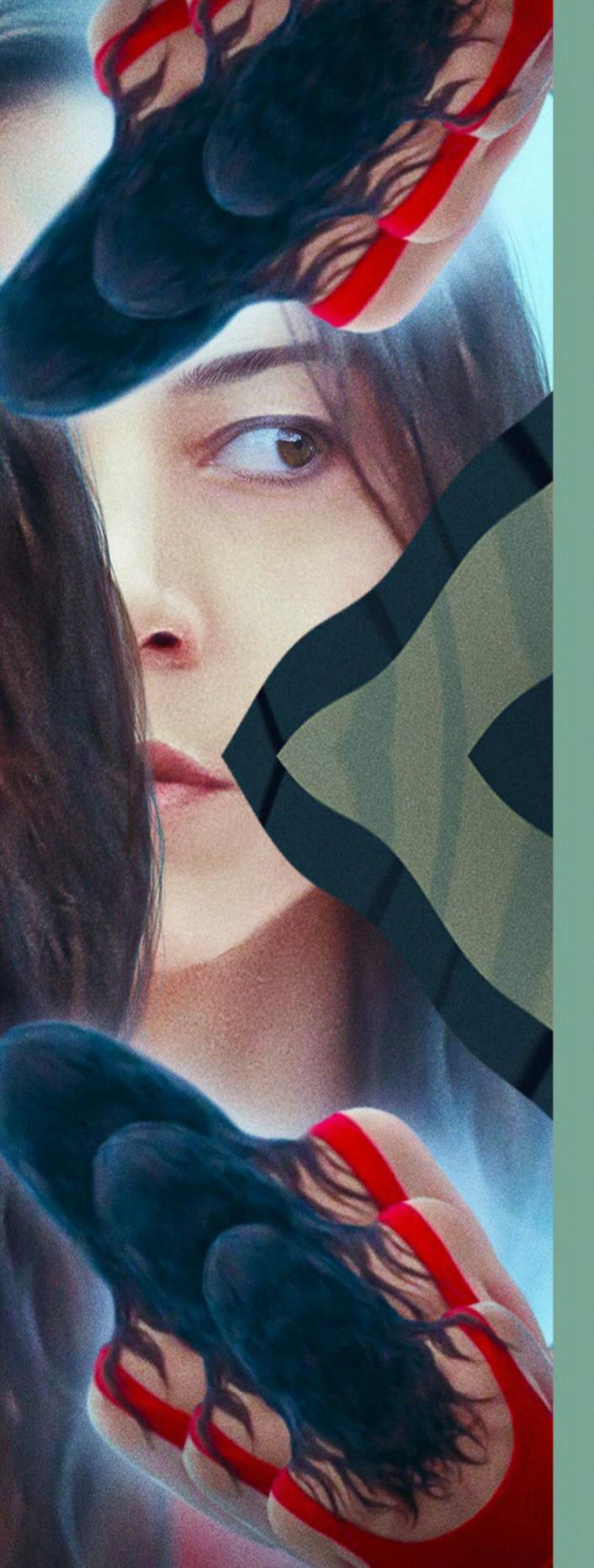
'Tis the season of great Aubrey Plaza performances, apparently. The "Parks and Recreation" and "Legion" alum has been long overdue for a breakout film role, something fitting of her wide-ranging talent and more imaginative than just relying on her quirky deadpan and eye rolls.

She's been excellent before as a motivated teen in "The To Do List" and an empathetic social media stalker in "Ingrid Goes West" but the bigger studio comedies have largely failed her. Something finally clicked into place, though, and she has proven that she is on another level. And no, I'm not just talking about her effortlessly cool "Happiest Season" character, a side-player who became a social media favorite simply by existing.







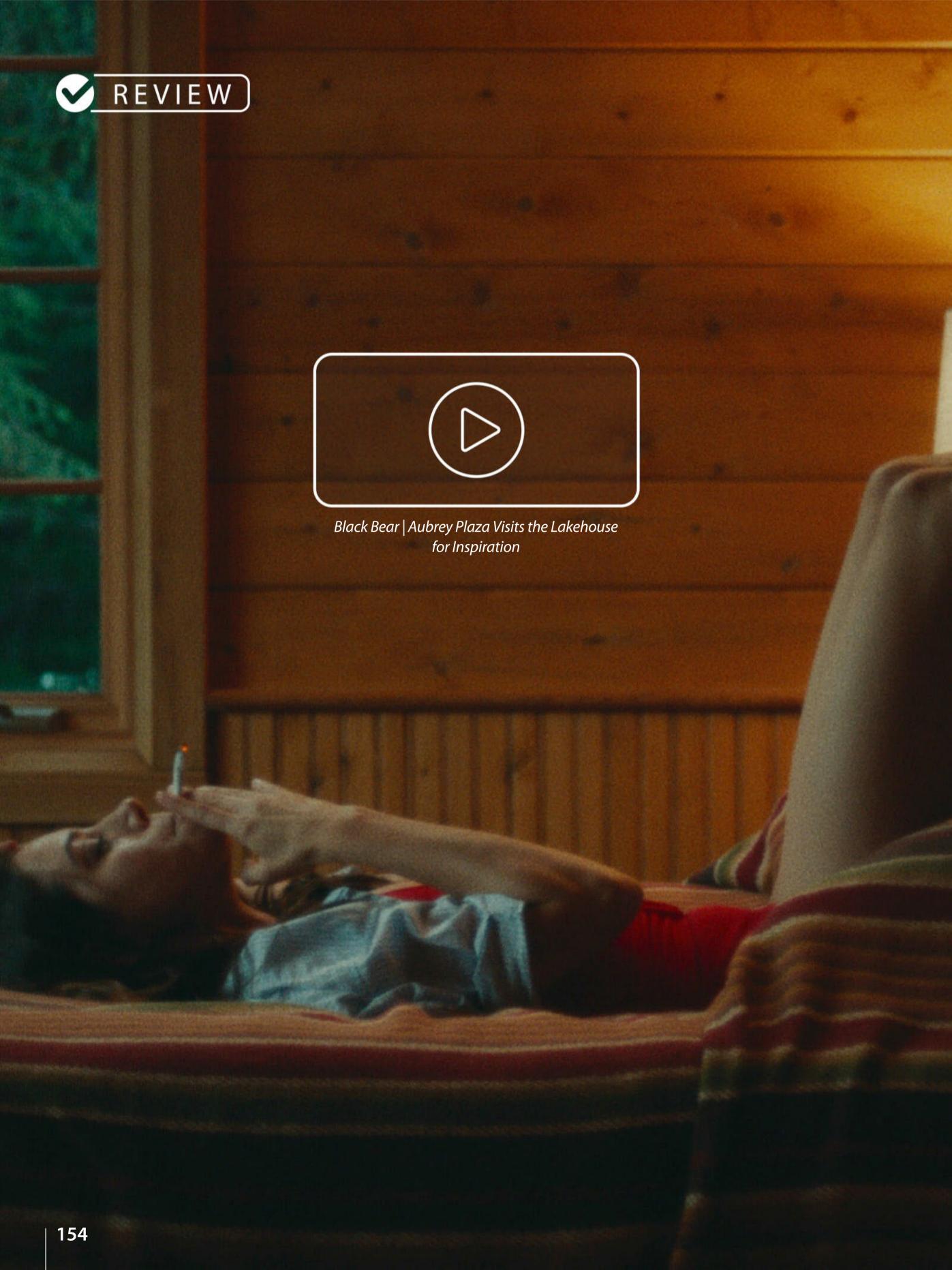


The movie is "Black Bear," a meta thriller about moviemaking, creativity and ego from writer-director Lawrence Michael Levine that debuted earlier this year at Sundance and is the kind of indie that can so easily get lost just because it is never going to be an Oscar contender. It also has the misfortune of being enormously tricky to describe coherently or satisfyingly: It essentially becomes a different movie halfway through. But even though it is purposefully disorienting and occasionally a little too heightened, it is never not interesting and keeps you rapt with its captivating performances, revealing dialogue and moody, lo-fi style.

In the first section, Plaza plays Allison, an actor turned filmmaker who has decided to escape to a bed and breakfast in the woods on a lake to work on her next screenplay. Her movies, she says, are the small, unsuccessful ones that no one likes. And she quit acting because she was difficult or not pretty enough or, more likely, some other reason she would rather not admit to herself much less a stranger whose property she's renting.

The cabin is maintained by a young, pretty couple Gabe (Christopher Abbott), a musician, and Blair (Sarah Gadon), a dancer, who are expecting their first child. Their struggling artist life in Brooklyn was too expensive and unsuccessful to continue and they're trying on the rustic life for a change. Although, like an unhappy couple who have been isolated for too long, the cracks are starting to show.

The first act unravels like a play. The three have a long, wine-fueled dinner talking, bickering and provoking one another to the breaking





point and beyond. Allison is sarcastic, evasive and quippy and finds herself allying with Gabe much to the distress of the much more direct and sincere Blair. Gabe is a very particular kind of millennial male whose artistic temperament, dismissive intellect and sensitive posturing make for a toxic combination — a theme which carries over into the second part of the film to explosive results. It's cringey and enthralling as the three dig themselves into deeper and deeper holes and you begin to wish for any kind of release.

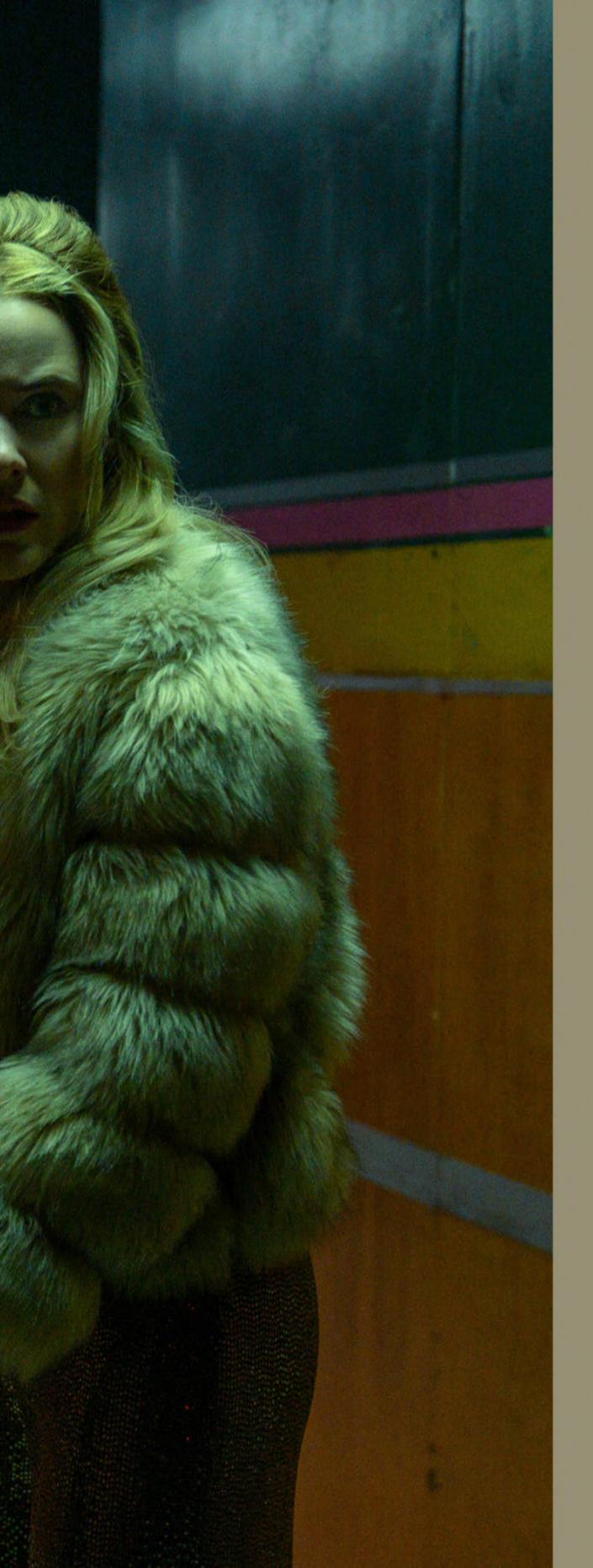
Perhaps that's part of the reason why "Black Bear" cuts to black and restarts with a different premise but similar themes. Gadon and Abbott are darkly excellent as they playfully skewer the worst kind of egos in their industry. And it's here where Plaza, as actor Allison, gets some real showstopper moments within the stereotypical construct of a desperately insecure, jealous and dangerously method female lead. It's reminiscent of and probably inspired by Gena Rowlands and puts Plaza in a different class.

The film itself might not wrap up in any sort of tidy or satisfying way, but nothing leading up to the conclusion would lead you to expect something so basic.

"Black Bear," a Momentum Pictures release, is rated R by the Motion Picture Association of America for "for language throughout, sexual content, drug use and some nudity." Running time: 104 minutes. Three stars out of four.

MPAA Definition of R: Restricted. Under 17 requires accompanying parent or adult guardian.





# REORIENTING THE CRIME DRAMA IN 'I'M YOUR WOMAN'

When it's at its best, "I'm Your Woman" feels like you've slipped through a trap door, revealing a hidden pathway in an old genre apparatus. Everything looks familiar — this is a '70s-set crime drama with all the usual trappings of shootouts, safe houses and polyester — but you're seeing it from a different perspective. The camera doesn't stick with the usual characters. It has other interests.

"I'm Your Woman," which debuts Friday in theaters and Dec. 11 on Amazon Prime Video, is directed by Julia Hart, who also wrote the script with her husband, the producer (and Oscar flub hero ) Jordan Horowitz. Rachel Brosnahan ("The Marvelous Mrs. Maisel") stars as Jean, the kind of woman typically relegated to bit character in more masculine dramas.

She's sitting in their suburban home when her husband Eddie (Bill Heck) comes home and presents a new baby the way someone might unveil a new toaster. "Who is that?" Jean says. "He's our baby," he answers, beaming. We get no more information than she does, as the film immediately drops us into the disorientation of Jean's world as the kept woman of a man we soon learn is some kind of gangster. But even Jean doesn't seem to know much about what he does.

Instead of Eddie coming home one night, Jean is roused by a knock at the door. The man, Cal (a very good Arinze Kene), explains men are after Eddie, and soon will be looking for Jean, too. They have to go. Whatever Eddie did or whoever his pursuers are remains, like Jean's own hazy understanding, in the distant background. Instead, the film rigorously stays with her as she and the baby are plunged into a loosely connected underworld meant to shield her from whatever trouble is after her. Eventually, she'll reach for a gun, herself.

Hart's schematic framework is a worthy and intriguing one, yet "I'm Your Woman" struggles to turn thesis into drama. Jean slowly transforms into a more conscious, decision-making woman but her character's psychology doesn't fill out.

Even with growing independence, Jean remains a perplexingly passive genre fragment in a narrative that never comes into focus — though it continues to compellingly bring in elements usually kept at bay in the crime film, like family and race. It's also possible that Brosnahan, so identifiable already as the unflinching Midge Maisel, is too charismatic and clever to convince us otherwise.

Hart has spoken about how she was pulled to make "I'm Your Woman" by wanting to follow





Diane Keaton in "The Godfather" or Tuesday
Weld in "Thief." It's a tantalizing concept, one
that "I'm Your Woman" comes close to achieving.
Hart, gifted as a filmmaker rich in both texture
and ideas, has already skipped around in genre,
often reorienting it in the process. Her 2019
sci-fi film "Fast Color" told a human-scaled
superhero story about three women in a family
with superhuman powers. It will be exciting to

see what genre she tackles — and potentially remakes — next. In the meantime, I wouldn't mind knowing where that baby came from.

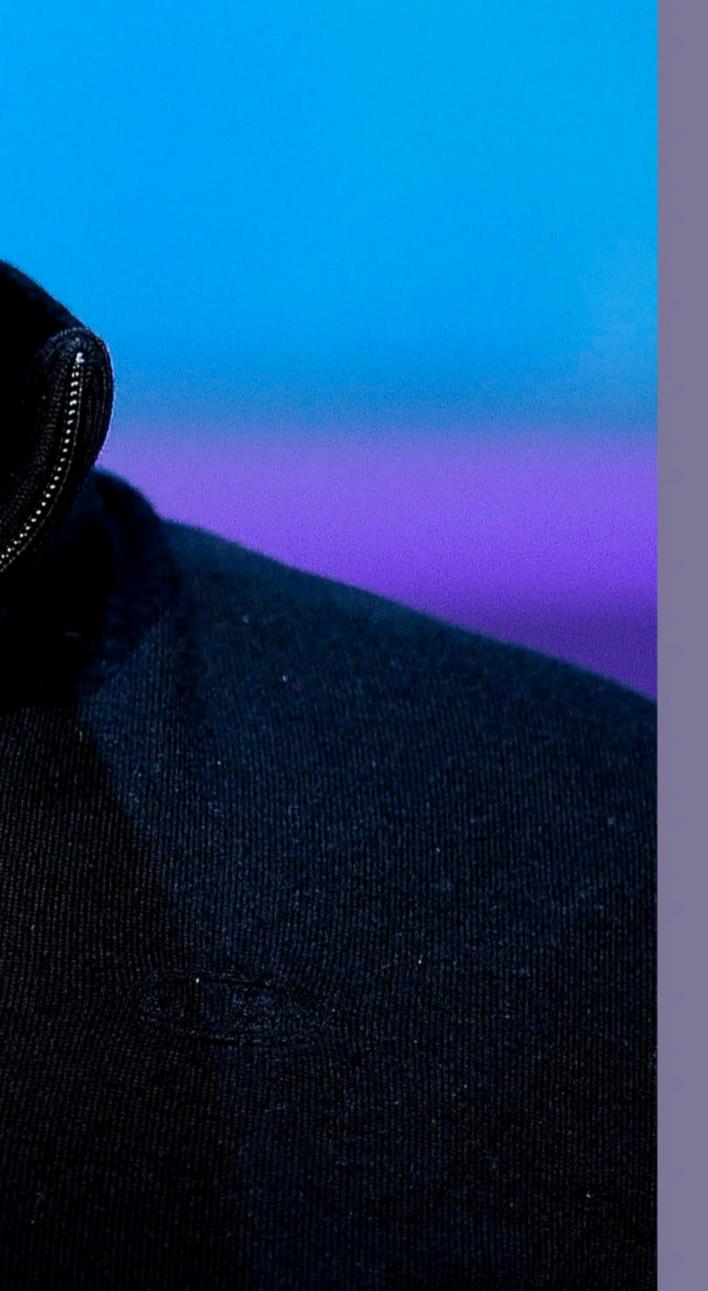
"I'm Your Woman," an Amazon Studios release, is rated R by the Motion Picture Association of America for violence and language. Running time: 120 minutes. Two and a half stars out of four.



I'm Your Woman - Official Trailer







#### TWILIO CEO DISCUSSES WHY PANDEMIC LIFTED TECH TO NEW HEIGHTS

Twilio has emerged as a technological backbone for thousands of companies during the pandemic. Its users rely on its digital tools to connect with customers through mobile apps, call centers and messaging services as the shift to online commerce and curbside pickup accelerates.

The San Francisco company ended September with 208,000 customers, a 21% increase from the same time last year, while its revenue surged 52%. Despite its rapid growth, Twilio still hasn't proven it can be profitable. The 12-year-old company has amassed nearly \$1 billion in losses since it was co-founded by its CEO, Jeff Lawson, a software programmer who got the idea for Twilio while helping Amazon build its now-massive web services division.

Investors clearly believe Twilio has established itself as a vital service. The company's stock price has tripled this year, boosting Lawson's fortune to an estimated \$2.3 billion. Lawson recently talked by video to The Associated Press.

**Q**: What are some of the lessons that Twilio has learned during these trying times?

A: The need for agility, to kind of change on a dime and incorporate new information and responses to problems. The companies that have (done that) really invested in agility by hiring software developers, listening to customers, not creating a five-year road map, but creating a sprint after sprint to keep getting better and better. The companies that evolved to incorporate these agile practices, those are the ones that really excelled and were able to meet the challenges and demands of COVID.

**Q**: What are some areas where you saw faster growth than you anticipated because of the pandemic?

A: One of them is the contact center. A few years ago, we launched a contact center product that is all software. It runs in the cloud, so the only thing the (call center) agents need is a computer, they just plug in a headset. There is not a hard(wired) phone, so they can really be anywhere. So when you had to send everybody home, they could actually keep working.

Another big area of acceleration for us was in health care. We're seeing the world's medical systems turn to using electronic patient engagement much more than they have ever before, in particular, telemedicine. So, if you go to a doctor's office, instead of going in and waiting in the waiting room and there is no place to sit and you are worried whether you are getting COVID just by being in there, you wait in a virtual queue. It's like curbside pickup for the doctor's office.





**Q**: Does it feel like the digital shift has been moving even faster this year?

A: This is the year of the great digital, not transformation, but acceleration. We did a survey of about 2,500 (business) decision-makers over the summer and we asked them: Has COVID impacted your digital plans? Unsurprisingly, 97% said yes, it has. But we wanted to quantify how it has changed those road maps. So we asked them how much do you think it has accelerated your digital road maps? And the average was six years. It's not like we are going to undo all this stuff.

**Q**: Do you think the tremendous wealth being created by technology companies is alienating the rest of society?

A: My belief in building Twilio is that corporations exist to benefit people, not the other way around. Corporations are a construct that humans invented. It's not like some natural law of the universe that corporations exist. Corporations are a super organism that are allowed to exist because of laws. I think it's up to companies to act morally and ethically to improve the world around them because of their existence. Otherwise, there is no Godgiven right for companies to exist. However, I don't think you can say at this point, let's go back and put the genie back in the bottle. But what you can do as entities is ensure you are a good neighbor, ensure you are a good part of the community and you are strengthening the world around you.









### AMERICANS CAN PAY THEIR CREDIT CARD BILLS, BUT FOR HOW LONG?

The coronavirus pandemic hasn't stopped
Americans from keeping up with their
credit card payments, thanks in large part to
government relief programs passed by Congress
earlier this year.

For some, however, the ability to keep buying things with plastic and then pay the bill likely depends on whether current negotiations in Washington produce another round of economic aid. Many existing aid measures are set to soon expire.

The pandemic plunged the U.S. economy into a deep recession, costing millions of Americans their jobs and businesses. While the economy has recovered somewhat, the latest report on the job market shows the pace of hiring has slowed in the face of a wave of new COVID-19 cases.

While the banking industry has not shared industry wide statistics, the major credit card issuers — JPMorgan Chase, Bank of America, Citigroup, Capital One and American Express — have reported relatively stable delinquency rates despite the recession.

Even Capital One, which lends to borrowers who may be less creditworthy, reported a decline in delinquency rates since a momentary spike earlier this year.

But both industry data and analysts have made it clear: The measures the government took earlier this year have worked, and without them, the industry and cardholders would be in deeper trouble.

"The stimulus and unemployment benefits have definitely helped the lower end of (credit card borrowers)," said Sanjay Sakhrani, an analyst at investment bank Keefe, Bruyette & Woods.

As part of the \$2 trillion coronavirus aid bill Congress enacted in March, most Americans got a \$1,200 stimulus check. While the Census Bureau found that the bulk of Americans used their funds toward household expenses, roughly one out of five used it to pay down debt. Experts also argue that some household expenses would have ended up on credit cards were it not for stimulus checks and healthy unemployment benefits.

In some ways, what's going on in the credit card market also reflects the diverging fortunes of those impacted by the pandemic.

Since the Great Recession more than 10 years ago, few mainstream credit card companies have put effort into lending to subprime borrowers or to the poor. Credit card companies are now focusing most of their attention on middle- to upper-class borrowers, who typically have jobs allowing them to work remotely and are not in businesses that have been shut down due to the virus.









Even so, many middle-class individuals who do work in industries impacted by the pandemic have gotten financial relief through extended unemployment benefits or government and private programs that have allowed borrowers to enter into forbearance or deferred payment programs.

"But those measures are now sunsetting, and (once they are gone, these borrowers) are most likely to be the first to feel pressure and pain," said Sakhrani of Keefe, Bruyette & Woods.

Congress appears to be making progress toward an agreement on a new COVID-19 relief bill in the \$1 trillion range. Additional unemployment benefits are likely, though it's unclear if Americans will see another round of stimulus checks.

Credit card executives have for months been bracing for the impact on their customers if there is no new aid.

"(Like our competitors), our customers are also helped by external factors such as the impact of record levels of government stimulus and the broad availability of forbearance programs," said Jeff Campbell, American Express' chief financial officer, in October with a call with investors. "As a result, we do remain cautious about the potential for future shocks to the economy."

One point of uncertainty is how banks are reporting their credit card loans. The coronavirus aid bill and government regulators have required the industry to provide borrowers accommodations and relief without having to report these loans as troubled on their balance sheets, which accounting rules would otherwise require the banks to report as losses.

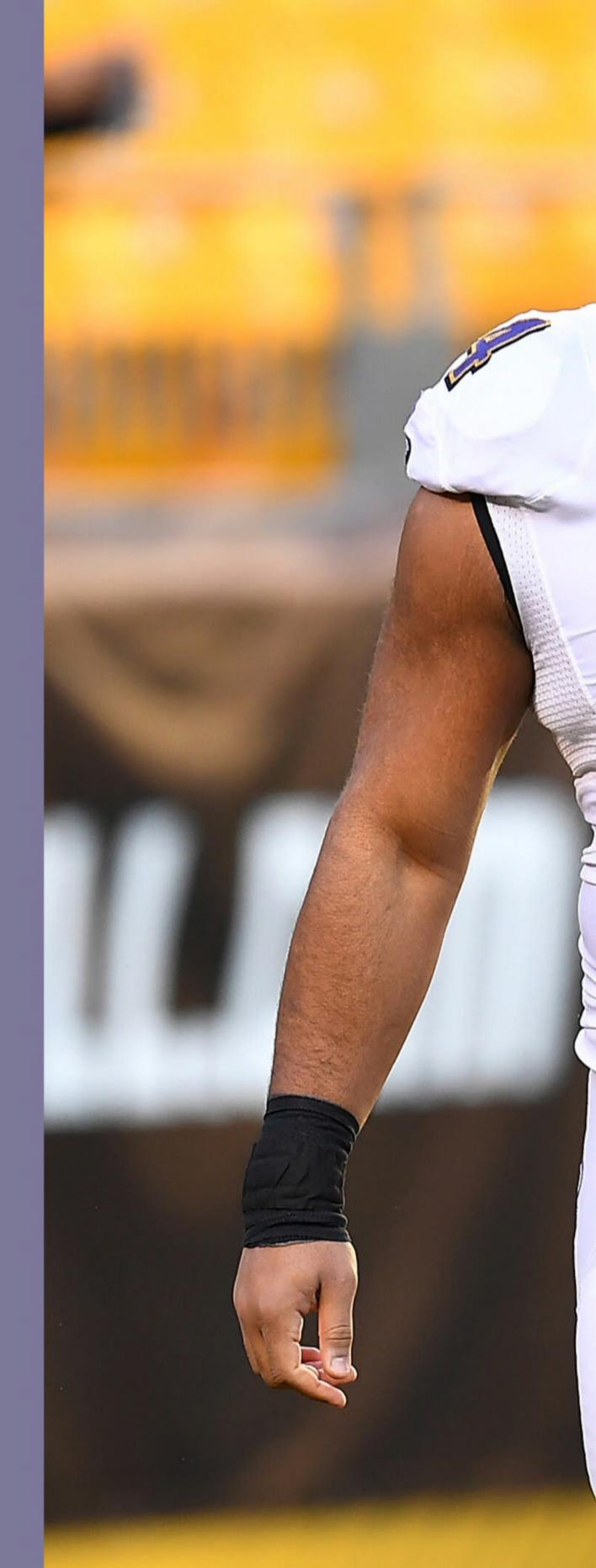
In the absence of these programs and regulations, it's unclear whether delinquencies would be higher, at least on paper.

#### FORMER NFL PLAYER URSCHEL SELLS VIRTUE OF MATH TO YOUNGSTERS

John Urschel has found that a master's degree in mathematics, his stature as an accomplished author and his pending doctorate from the Massachusetts Institute of Technology isn't necessarily enough to sell young students on the benefit of crunching numbers.

What really makes him interesting to most kids is that he's a former NFL player who opted to immerse himself in math.

"In the broader context, it helps because it makes me more believable. It shows I have an interest in doing other things," Urschel said. "Often, a mathematician is too abstract for young people."









Urschel recently drew 700 participants worldwide for an event staged by the National Museum of Mathematics (MoMath) called Bending the Arc. Urschel is a member of the board of trustees at MoMath and serves as the organization's ambassador by extolling the virtues of the subject to children of all backgrounds, particularly African-Americans.

"My job in some sense is to teach and encourage young people in math, which is very close to my heart," Urschel said. "Math for its own sake is a pretty reasonable pursuit because no matter what field you go into, you really need to able to think reasonably to some degree."

His vast education and independent study of mathematic equations enable Urschel to speak expertly about calculation and intuitive thinking. Throw in the fact that he played three seasons as an offensive lineman with the Baltimore Ravens, and you've got a combination that's as sound as 1+1=2.

"John has a lure because he was a professional football player, and we really honor that in this country," said Cindy Lawrence, CEO and executive director of MoMath. "People are very excited to meet someone who played professional football. So that's the hook. And then we complete that with someone who is enthusiastic and eloquent and speaks wonderfully about the benefits of math."

Now 29, Urschel starred at Penn State before being selected by the Ravens in the fifth round of the 2014 NFL draft. He played 40 games with Baltimore, starting 13, and enjoyed just about every minute of it.

And then, in July 2017, Urschel abruptly retired and turned his full attention toward his studies at MIT.

"I have amazing memories of playing in the NFL. There's nothing more special than to play a sport at a high level," he said. "Three years was the perfect time. I have a pension, I'm vested, I really got the experience.

"I'm glad I decided to go into the NFL instead of going straight to a Ph.D., which I was thinking about. I'm glad I got out when I did because I have a lot of things in math that I want to do. I want to prove myself as a mathematician."

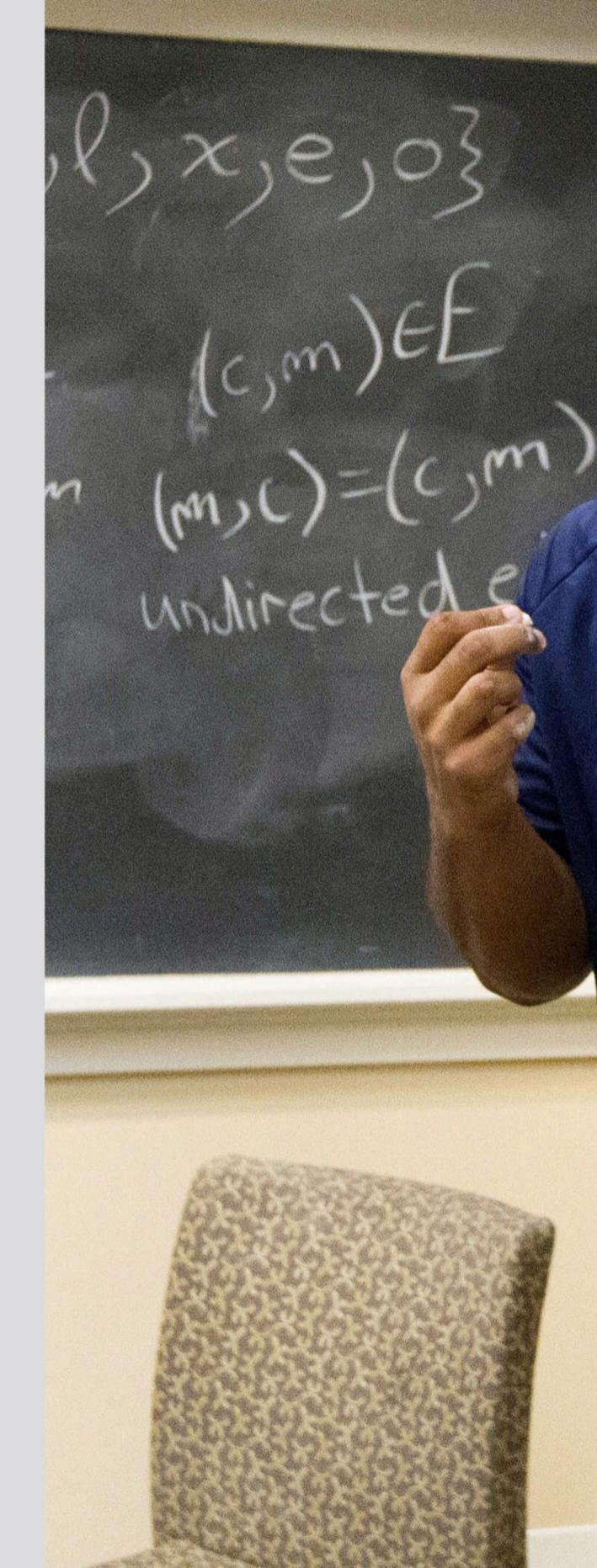
The potential for concussions and a study that showed the prevalence of chronic traumatic encephalopathy (CTE) in deceased players also were factors in his exit from the football.

"The cost of an NFL season on your body, not just your head, was definitely something I had to think about," Urschel said.

Urschel wrote a book called "Mind and Matter: A Life in Math and Football" that was published last year. He got it done while studying at MIT and remains on course to graduate this spring.

"My job is going to be a professor at some math department or computer science department where my primary responsibility will be to perform research, and I hope be able to teach the values and importance of broader sciences," he said.

Urschel will always be welcomed at the New York City-based National Museum of Mathematics.





"He's very passionate about the museum and encouraging people of all backgrounds to engage in mathematics and consider a career in math," Lawrence said. "From the day I first met him, I was impressed by his friendliness, his intelligence, his enthusiasm."

Those qualities, along with his past, enabled Urschel to make a lasting impression on a group of middle school kids during one of his initial visits to the museum.

"John talked about playing professional football, which many of them thought would be a great career at first," Lawrence recalled. "And by the end of John's 10-minute talk, he had them convinced they all wanted to go to school to study math."

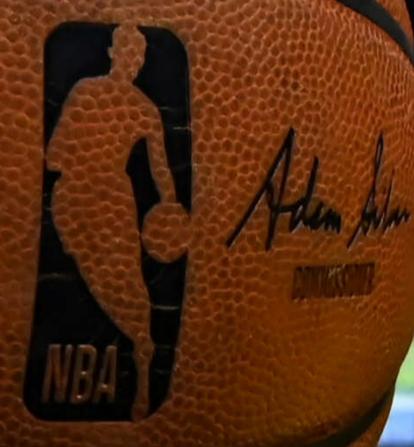


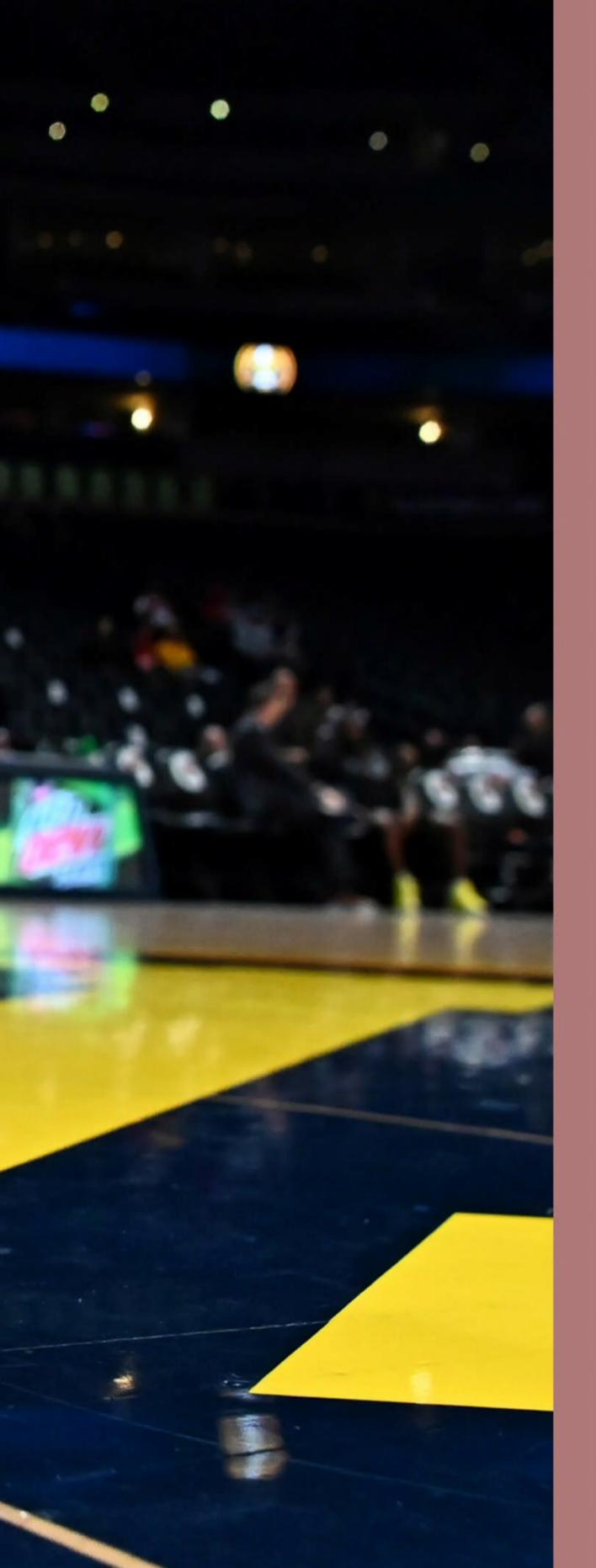






OFFICIAL GAME BALL
ONBA





## ARE IN, JACKETS ARE OPTIONAL

For NBA coaches, masks are required this season. Jackets are not.

Rules for coaching attire will be relaxed by the league this year, though not as much as was the case during play at the bubble at Walt Disney World this past summer. Suit jackets or sport coats will not be required — as was the case in the bubble, when most coaches wore polo shirts and many said they preferred that option.

The new league mandate, as detailed in a memo sent to coaches Sunday and obtained by The Associated Press, requires "business attire ... dress shirts, pants, socks, and shoes." There's no mention of ties, which some coaches have often gone without in recent years, but an exception is made for polo shirts as long as they are NBA-licensed and the head coach and all assistant coaches are wearing the same shirt.

The biggest change, though, is the masks, a decision made with safety in mind as the coronavirus pandemic rages on and NBA teams prepare to play in arenas again for the first time since last season was suspended on March 11 when Utah center Rudy Gobert tested positive.

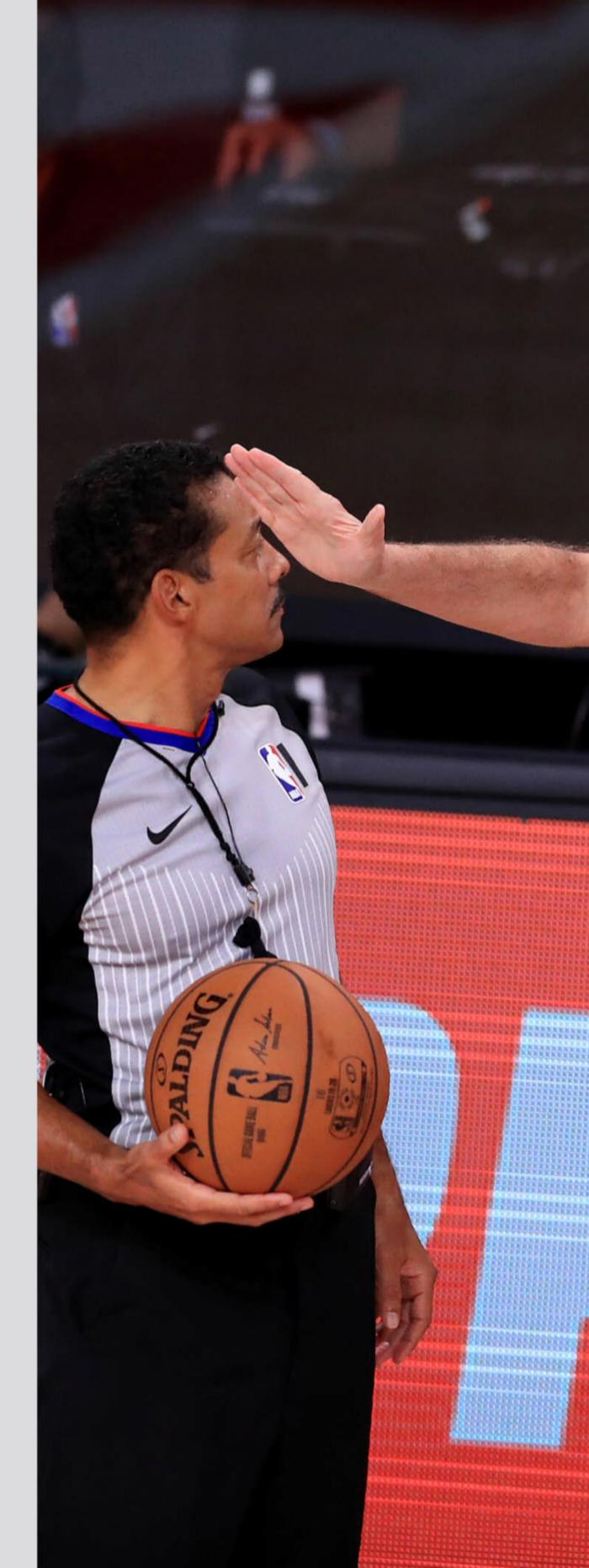
"The NBA has always been a dynamic business and the challenges we face in society right now with COVID, it only amplifies the dynamic nature of our business," Dallas coach Rick Carlisle, the president of the National Basketball Coaches Association, told AP on Tuesday night. "You have to be able to adapt, you have to be looking for solutions ... and we're going to make it work."

The NBA preseason begins Friday and the regular season starts Dec. 22. The NBCA discussed the changes in a call with the league Tuesday night, and some teams will begin traveling for preseason games Thursday.

"Wear a mask at all times," Carlisle said when asked how he's preparing for the challenges that will come with traveling again for games. "That's your No. 1 shield. And No. 2, be alert and follow the protocols. It's an incredible amount of work to not get COVID. You've got to work extremely hard to try to stay out of harm's way and there are never any guarantees. But if you work at it you have a chance."

San Antonio coach Gregg Popovich wore masks for games in the bubble this past summer, as did former Houston coach Mike D'Antoni and former New Orleans coach Alvin Gentry. They are all 65 or older, and at more risk of contracting the virus based on guidelines established by the Centers for Disease Control and Prevention.

Now, masks are a mandate for all coaches, regardless of age.





Miami coach Erik Spoelstra said he hopes the move by coaches will further normalize mask-wearing among the public; the Heat were part of a campaign across Florida last summer, as virus numbers were soaring, to get people to wear masks.

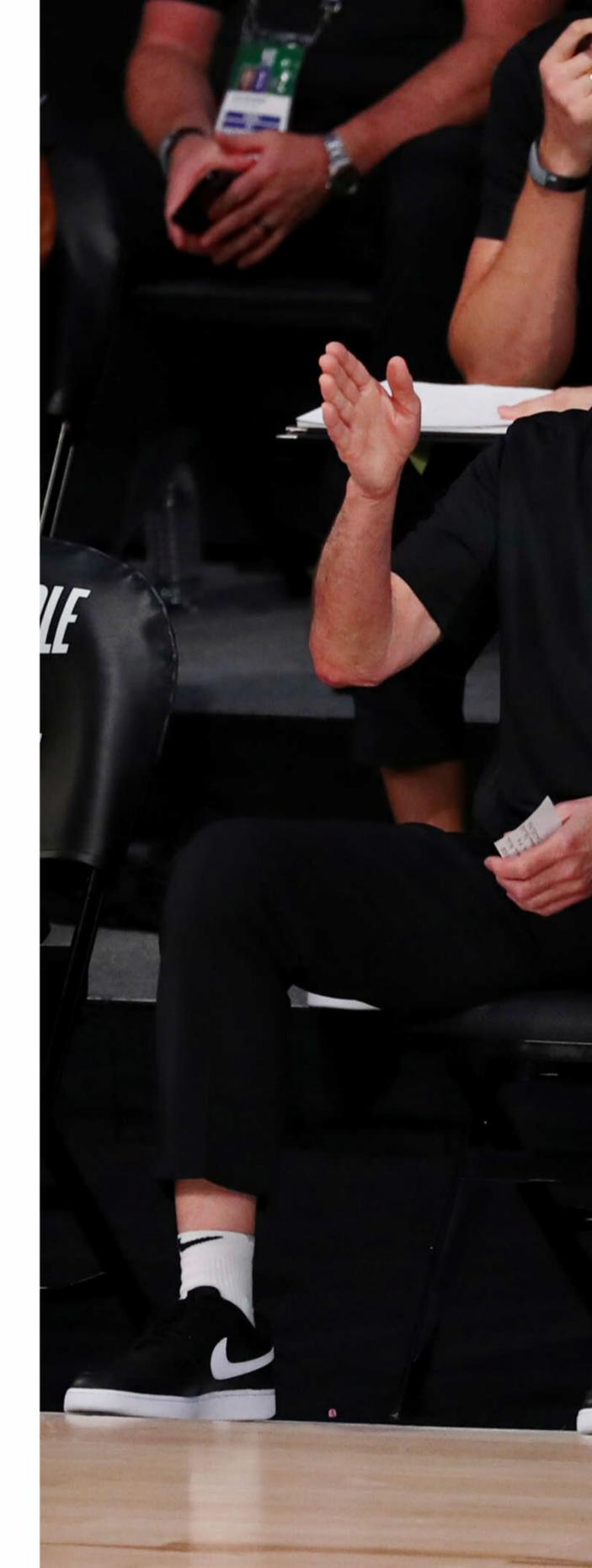
"That's why I continued to wear masks during the playoffs, during the finals, even when we were not required to wear them during our media sessions," Spoelstra told The Associated Press. "One, it became a habit. And then two, we want to continue to use our platform to make people aware that masks can and do make a difference. And if they see us wearing them all the time and not having a problem with it and understanding the importance of it, hopefully that can normalize it everywhere else."

It's not just a game-night rule. The league, with limited exceptions, also will require coaches to wear masks "at all times" inside their team facility, while traveling and during practices.

"Although I look very good in a suit and tie, I will admit, I'm also very, very comfortable wearing a Nuggets polo and a pair of TravisMathew athletic leisure wear pants," Denver coach Michael Malone said last season during play in the bubble. "I think I've done a very good job with the look."

Alas, the athletic pants — "athleisure" is the term the NBA uses — must be shelved for game nights this season.

The decision on coaches wearing masks comes not long after the league and the National Basketball Players Association decided on health and safety protocols for the coming season, including how teams that do not comply with league rules designed to minimize the spread of the coronavirus could face major penalties such as forfeiting games or draft picks.









## GENE-EDITING TREATMENT SHOWS PROMISE FOR SICKLE CELL DISEASE

Scientists are seeing promising early results from the first studies testing gene editing for painful, inherited blood disorders that plague millions worldwide, especially Black people.

Doctors hope the one-time treatment, which involves permanently altering DNA in blood cells with a tool called CRISPR, may treat and possibly cure sickle cell disease and beta thalassemia.

Partial results were presented Saturday at an American Society of Hematology conference and some were published by the New England Journal of Medicine.

Doctors described 10 patients who are at least several months removed from their treatment. All no longer need regular blood transfusions and are free from pain crises that plagued their lives before.

Victoria Gray, the first patient in the sickle cell study, had long suffered severe pain bouts that often sent her to the hospital.

"I had aching pains, sharp pains, burning pains, you name it. That's all I've known my entire life," said Gray, 35, who lives in Forest, Mississippi. "I was hurting everywhere my blood flowed."

Since her treatment a year ago, Gray has weaned herself from pain medications she depended on to manage her symptoms.

"It's something I prayed for my whole life," she said. "I pray everyone has the same results I did."

Sickle cell affects millions, mostly Black people. Beta thalassemia strikes about one in 100,000 people. The only cure now is a bone marrow transplant from a closely matched donor without the disease like a sibling, which most people don't have.

Both diseases involve mutations in a gene for hemoglobin, the substance in red blood cells that carries oxygen throughout the body.

In sickle cell, defective hemoglobin leads to deformed, crescent-shaped blood cells that don't carry oxygen well. They can stick together and clog small vessels, causing pain, organ damage and strokes.

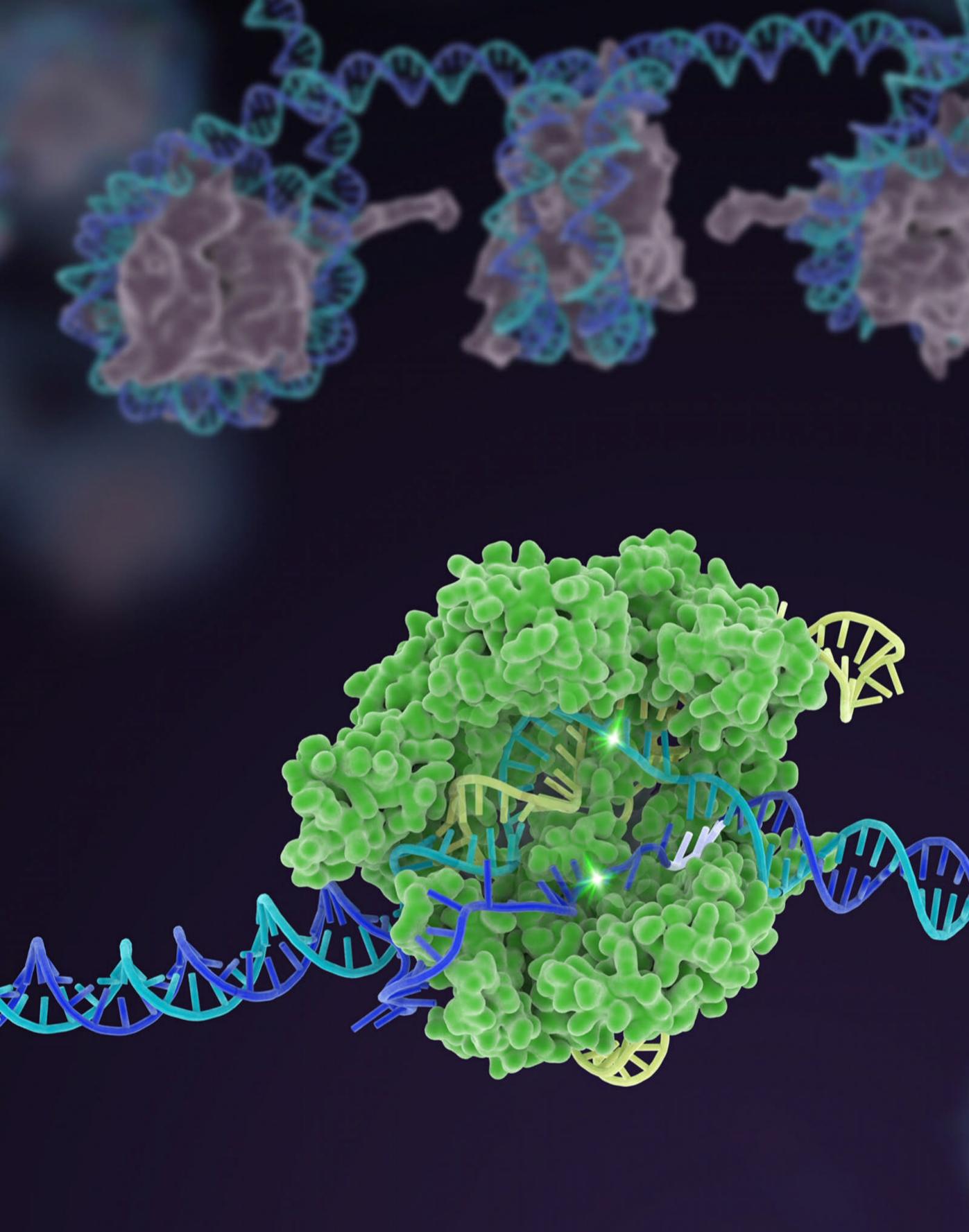
Those with beta thalassemia don't have enough normal hemoglobin, and suffer anemia, fatigue, shortness of breath and other symptoms.

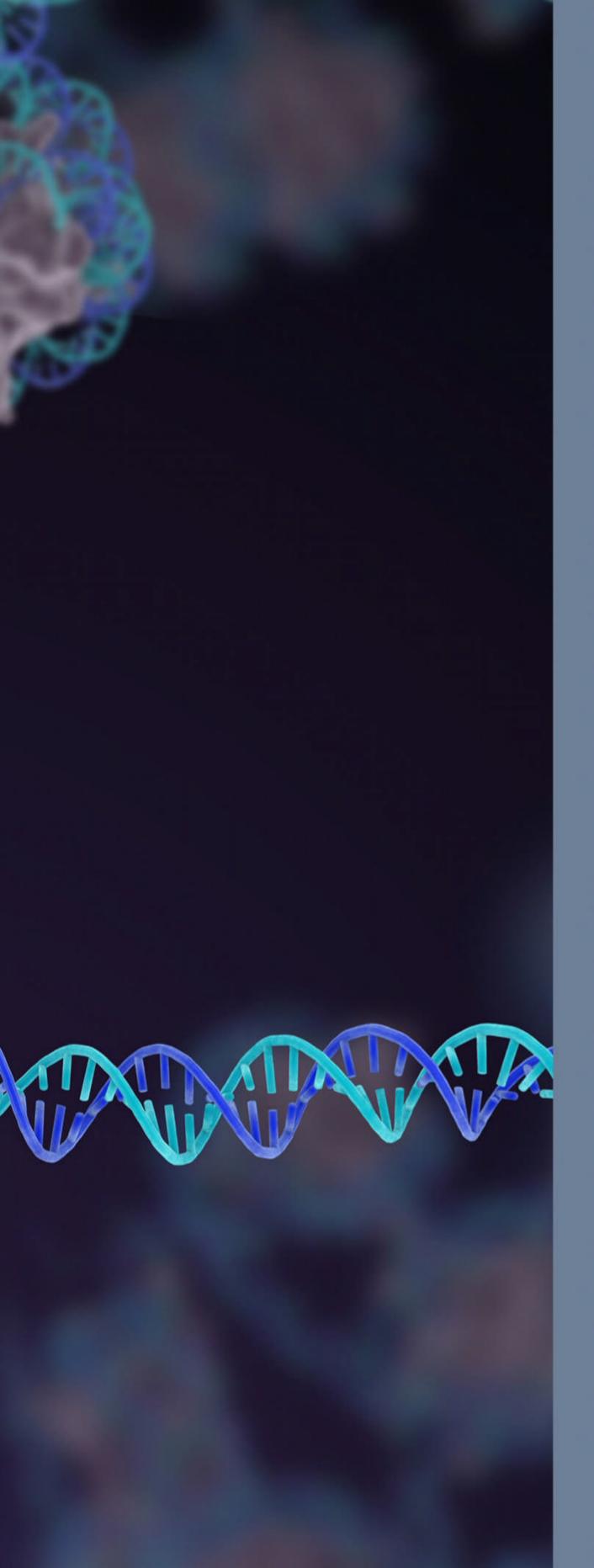
Severe cases require transfusions every two to five weeks.

The treatment studied attacks the problem at its genetic roots.









In the womb, fetuses make a special type of hemoglobin. After birth, when babies breathe on their own, a gene is activated that instructs cells to switch and make an adult form of hemoglobin instead. The adult hemoglobin is what's defective in people with one of these diseases. The CRISPR editing aims to cut out the switching gene.

"What we are doing is turning that switch back off and making the cells think they are back in utero, basically," so they make fetal hemoglobin again, said one study leader, Dr. Haydar Frangoul of the Sarah Cannon Research Institute in Nashville.

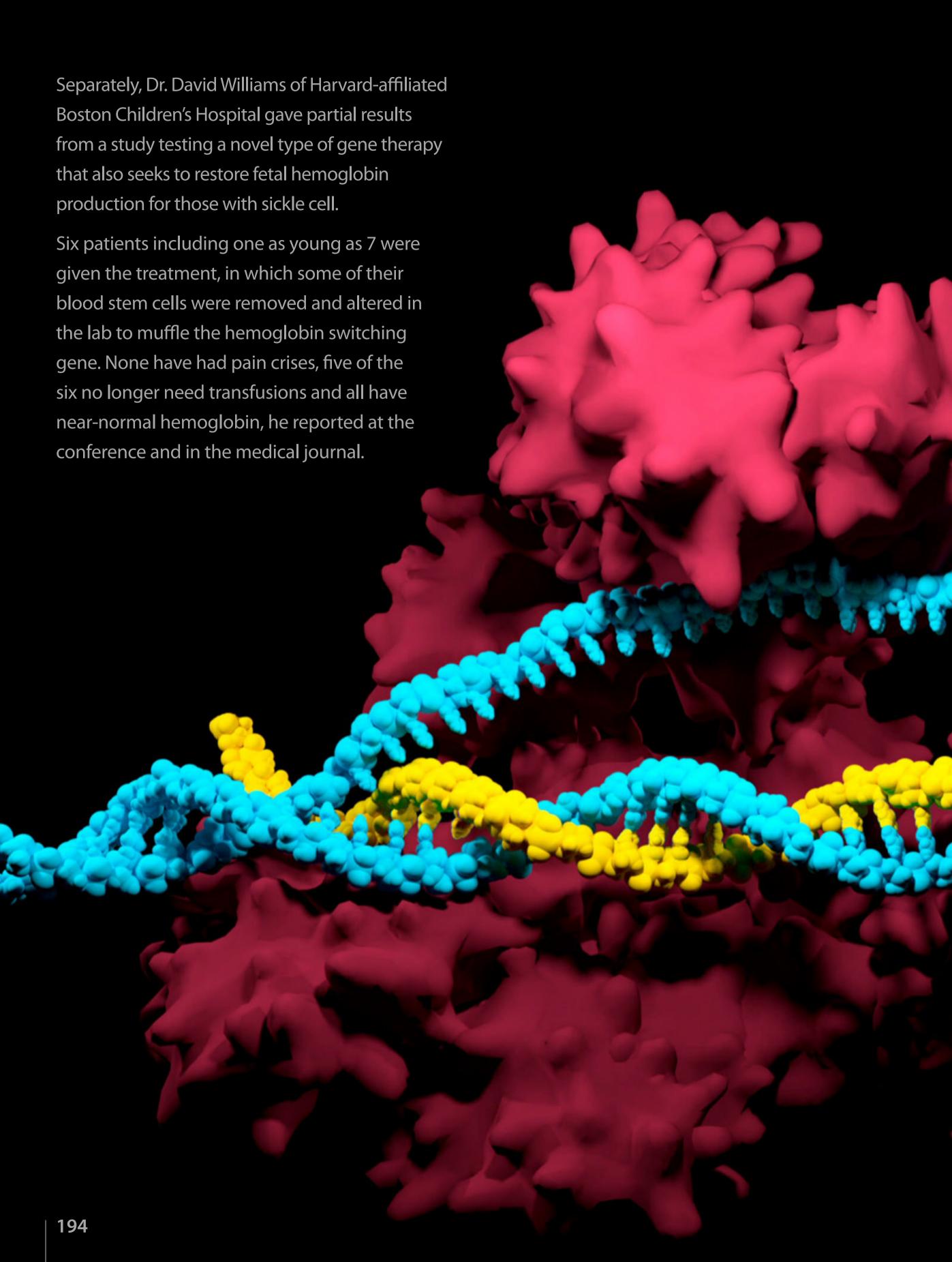
The treatment involves removing stem cells from the patient's blood, then using CRISPR in a lab to knock out the switching gene. Patients are given strong medicines to kill off their other, flawed blood-producing cells. Then they are given back their own lab-altered stem cells.

Saturday's results were on the first 10 patients, seven with beta thalassemia and three with sickle cell. The two studies in Europe and the United States are ongoing and will enroll 45 patients each.

Tests so far suggest the gene editing is working as desired with no unintended effects, Frangoul said.

"The preliminary results are extremely encouraging," he said.

The study was sponsored by the therapy's makers — CRISPR Therapeutics, with headquarters in Zug, Switzerland, and Massachusetts-based Vertex Pharmaceuticals. Some study leaders consult for the companies.









# REPORT FINDS MICROWAVE ENERGY LIKELY MADE US DIPLOMATS ILL

A new report by a National Academy of Sciences committee has found that "directed" microwave radiation is the likely cause of illnesses among American diplomats in Cuba and China.

The study commissioned by the State
Department and released is the latest attempt
to find a cause for the mysterious illnesses that
started to emerge in late 2016 among U.S.
personnel in Havana.

The study found that "directed, pulsed radio frequency energy appears to be the most plausible" explanation for symptoms that included intense head pressure, dizziness and

cognitive difficulties. It found this explanation was more likely than other previously considered causes such as tropical disease or psychological issues. The study did not name a source for the energy and did not say it came as the result of an attack, though it did note that previous research on this type of injury was done in the former Soviet Union.

In its report, the 19-member committee noted that it faced significant challenges in trying to get to the bottom of the medical mystery. Among them, not everyone reported the same symptoms and the National Academy of Sciences research did not have access to all the previous studies on the illnesses, some of which are classified.

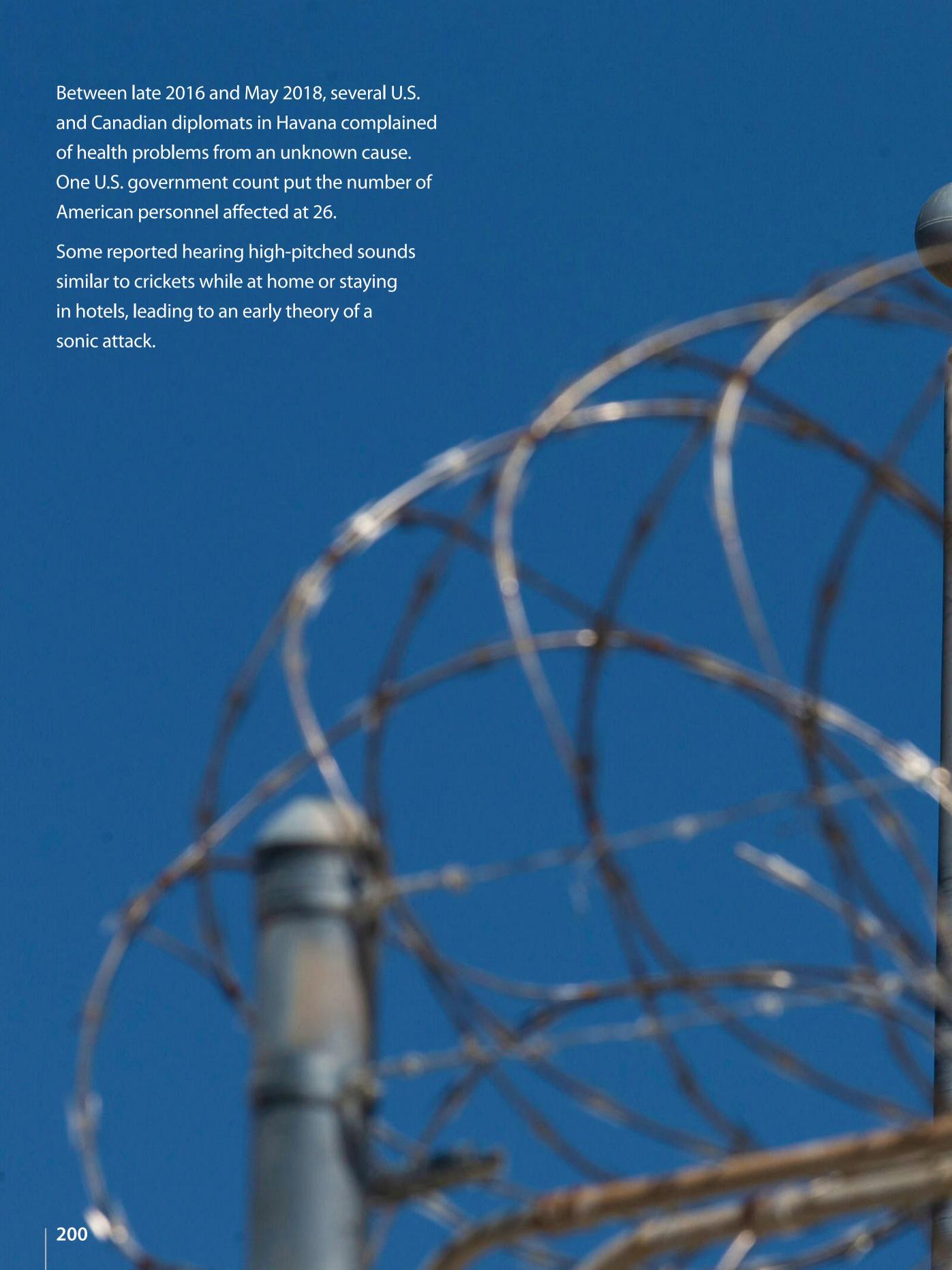
"The committee found these cases quite concerning, in part because of the plausible role of directed, pulsed radiofrequency energy as a mechanism, but also because of the significant suffering and debility that has occurred in some of these individuals," said committee chairman David Relman, a professor of medicine at Stanford University. "We as a nation need to address these specific cases as well as the possibility of future cases with a concerted, coordinated, and comprehensive approach."

The health effects were experienced by about two dozen Americans affiliated with the U.S. Embassy in Cuba as well as Canadian diplomats and personnel at the U.S. consulate in Guanghzhou, China, in early 2017.

Some of the Americans have been critical of the U.S. government's response to their health complaints and at least one has filed suit against the State Department.





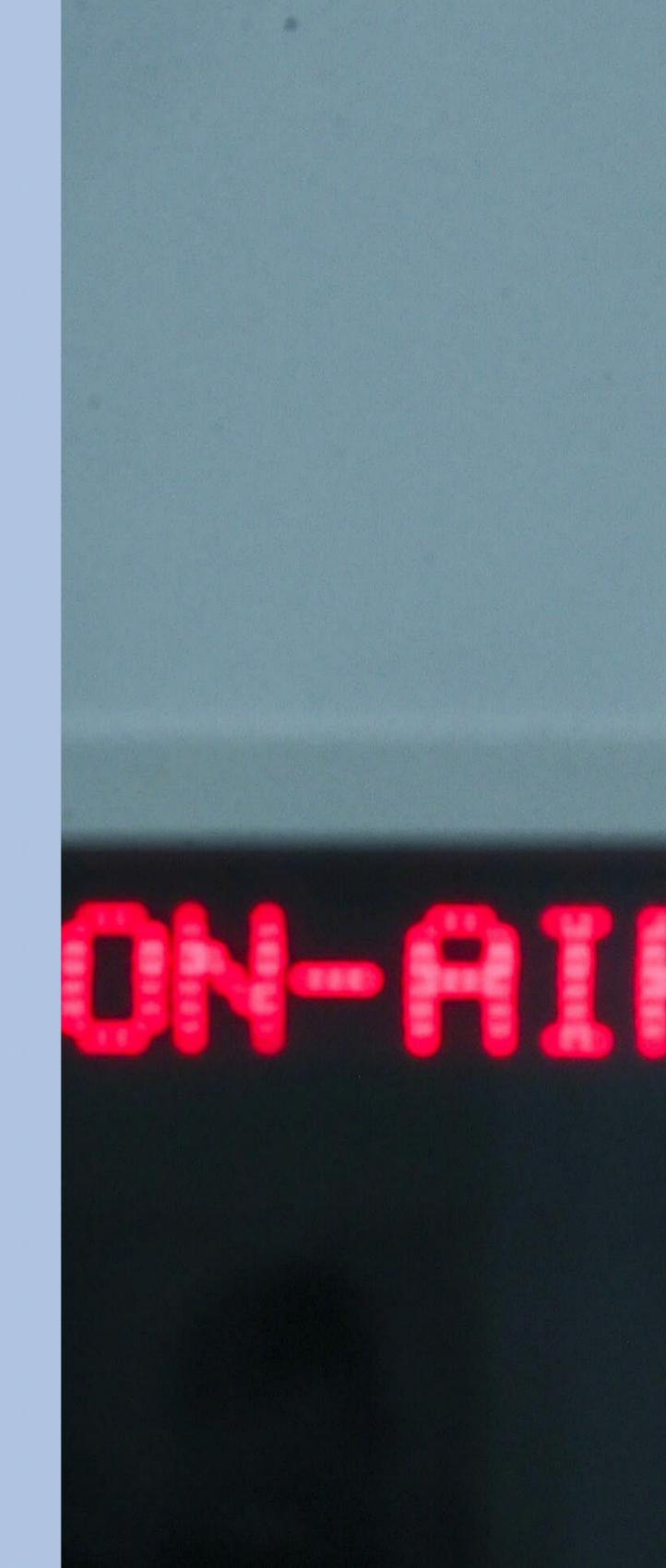




### AUSTRALIA TO REVEAL LAWS TO MAKE GOOGLE AND FB PAY FOR NEWS

Australia's government will reveal legislation in Parliament on Wednesday that would make Facebook and Google pay for journalism.

Treasurer Josh Frydenberg said Tuesday that the legislation to create the News Media Bargaining Code will be scrutinized by a parliamentary committee following its introduction and before lawmakers vote on it next year.





"This is a huge reform," Frydenberg told reporters. "This is a world first. And the world is watching what happens here in Australia."

"This is comprehensive legislation that has gone further than any comparable jurisdiction in the world," he added.

The legislation differs from draft proposals that were released in July after consultations with the social media platforms as well as Australian media organizations.

The government had initially planned to exclude state-owned media — Australian Broadcasting Corp. and the Special Broadcasting Service — from being compensated by the tech giants for their journalism.

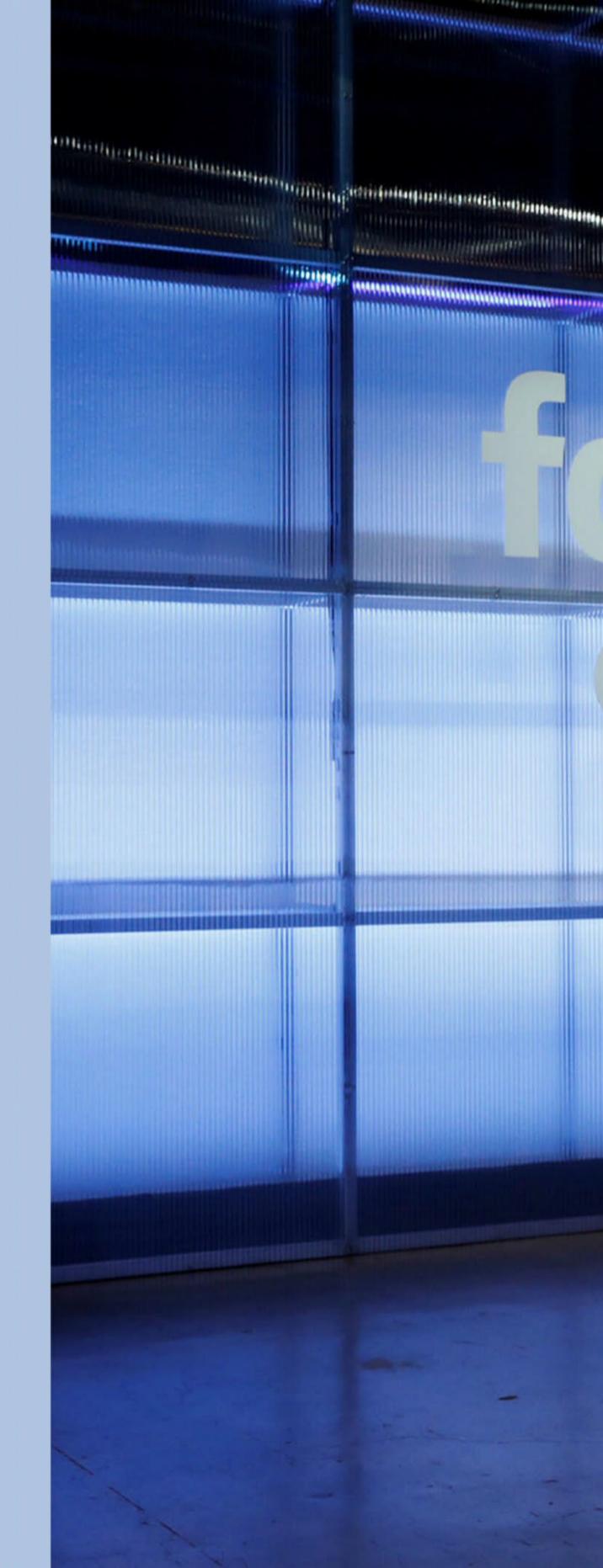
Frydenberg said those broadcasters would be paid under the latest draft legislation like commercial media businesses.

Facebook has warned it might block Australian news content rather than pay for it.

Google has said the proposed laws would result in "dramatically worse Google Search and YouTube," put free services at risk and could lead to users' data "being handed over to big news businesses."

Frydenberg said Google was taking 53% of online advertising dollars and Facebook took a 23% share.

Michael Miller, executive chairman of News
Corp Australia, one of the nation's largest media
organizations, described the draft legislation as
a "significant step forward in the decade-long
campaign to achieve fairness in the relationship
between Australian news media companies and
the global tech giants."





"All we have ever sought is a fair commercial outcome and fair payment for the valuable news content our journalists create," Miller said in a statement. "I believe this code puts in place the framework for this to be achieved."

Facebook Australia's managing director,
Will Easton, said he would review the draft
legislation once it became public on Wednesday.

"We'll continue to engage through the upcoming parliamentary process with the goal of landing on a workable framework to support Australia's news ecosystem." Easton said in a statement.

Google said in a statement that it would comment after it had seen the revised legislation on Wednesday.

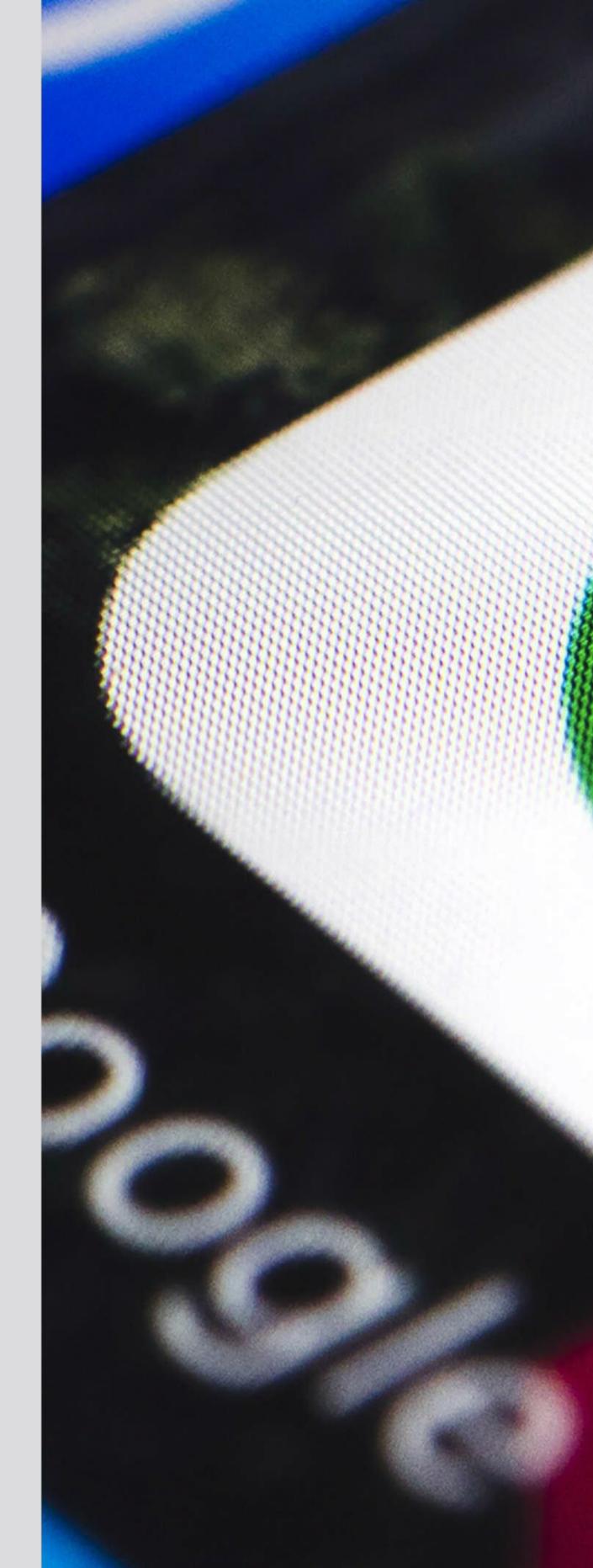
The conservative government might need the support of the center-left opposition Labor Party to get the legislation through the Senate, where no party or coalition holds a majority of seats.

Senior Labor lawmaker Jim Chalmers said his party gave in-principle support for "efforts to ensure that the playing field is levelled between the tech platforms and the news media organizations."

But Chalmers said the government had yet to brief Labor on the legislation's details.

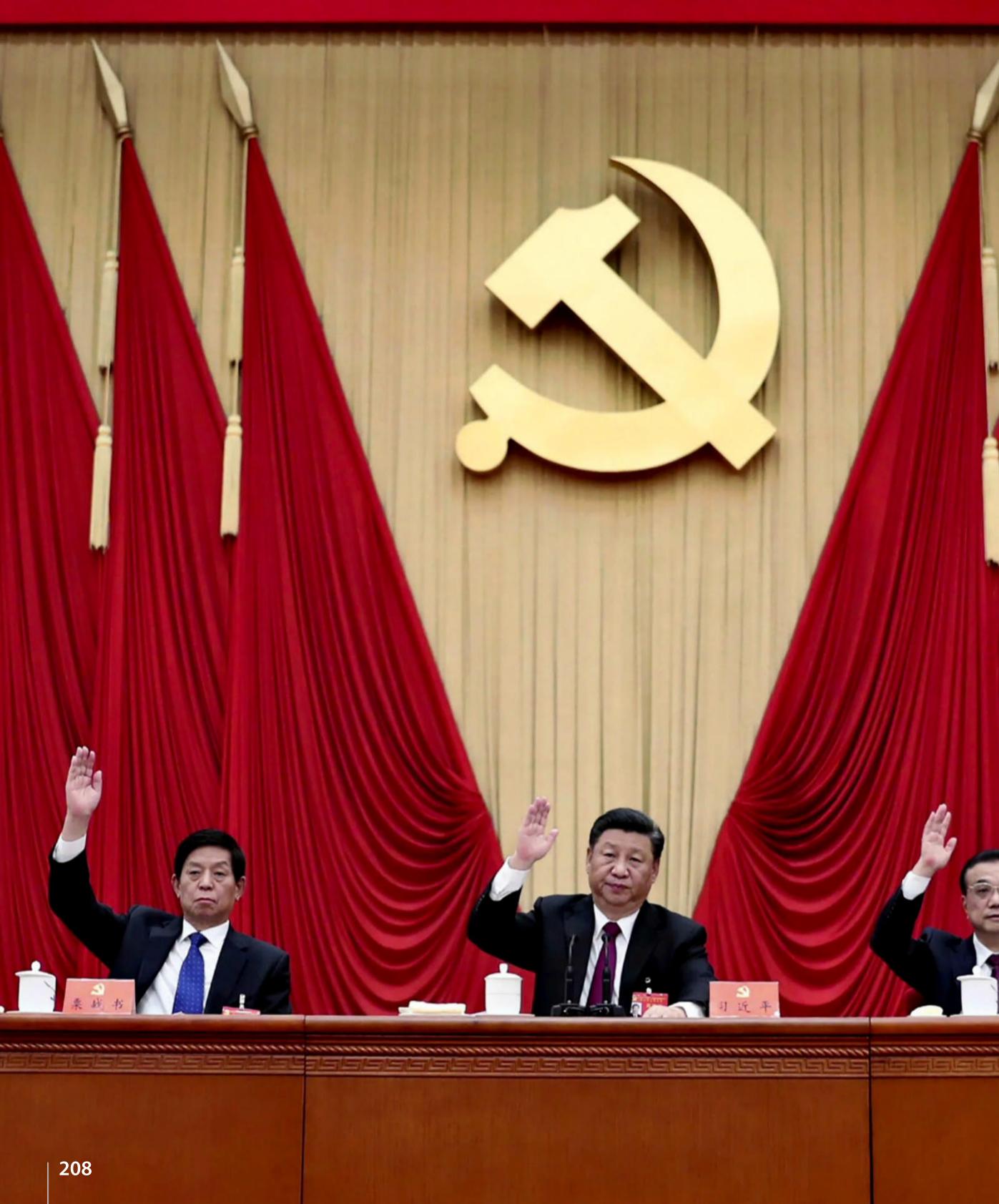
The legislation would create an arbitrator to address the bargaining imbalance between the tech giants and news businesses. If a platform and a news outlet can't reach an agreement on price, an arbitrator would be appointed to make a binding decision.

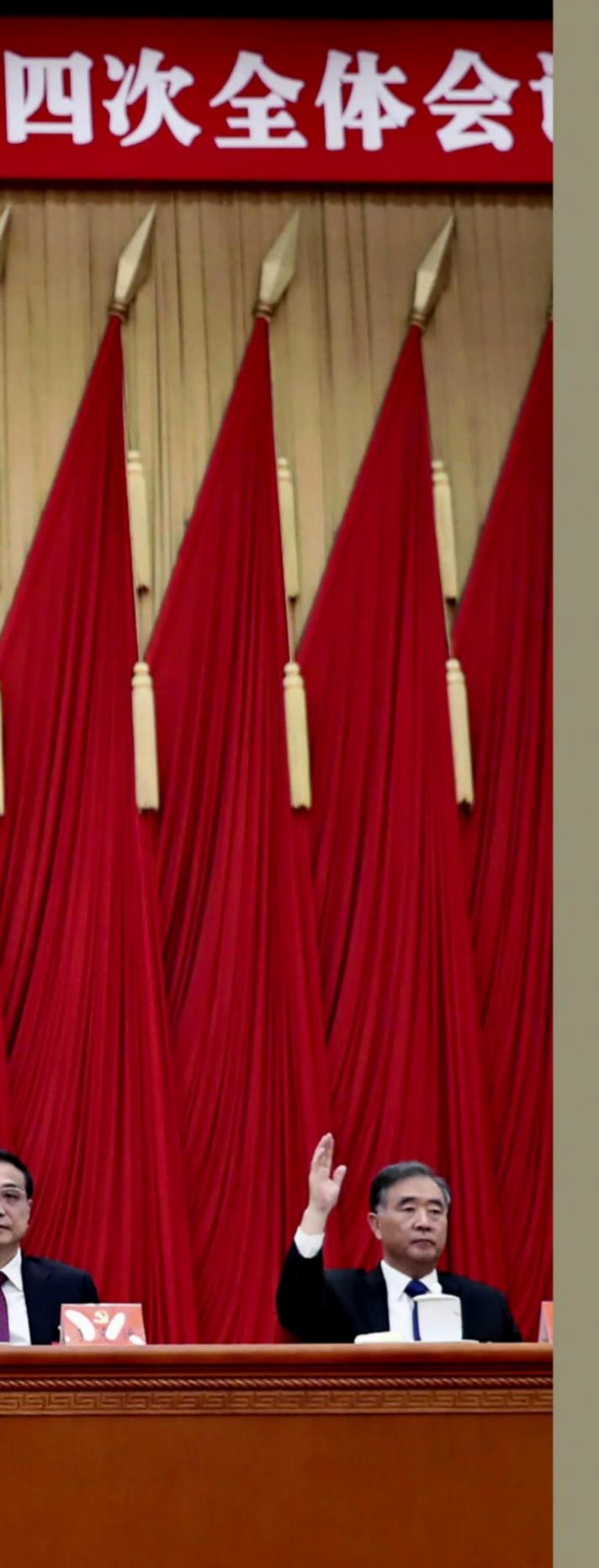
Spain and France and have both failed to make Facebook and Google pay for news through copyright law.





### 党第十九届中央委员会第





# CHINA ORDERS REMOVAL OF 105 APPS, INCLUDING TRIPADVISOR

Companies including the Chinese arm of TripAdvisor Inc. have been ordered by regulators to overhaul their mobile phone apps in what the Chinese government said is a crackdown on pornography and other improper content.

The National Cyberspace Administration ordered the removal of 105 apps including TripAdvisor from app stores this week, although it gave no details of what each app was accused of doing wrong. It cited what it said were public complaints about obscene, pornographic and violent information or fraud, gambling and prostitution.

The ruling Communist Party tightly controls what the Chinese public sees online and has launched repeated crackdowns on websites and apps.

TripAdvisor China, a joint venture between
TripAdvisor and its Chinese partner **Trip.com**,
did not immediately respond to an email
seeking comment.

Following the removal of its app in China, Nasdaq-listed TripAdvisor's stock price was down 1.68% to \$29.59 at the market's close in the U.S. on Tuesday.

TripAdvisor owns a 40% stake in TripAdvisor China, with **Trip.com** owning the other 60%. Under the partnership, the companies share its travel inventories and content.







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