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<u>US Senator Urges Treasury Secretary Yellen to Take Action on</u> <u>Cryptocurrency Scams to Protect Investors</u>

"'This is an unregulated industry, and the alarming amount of criminal activity surrounding cryptocurrency demands action,' he told Yellen."

Why this is important: Regulation in the crypto industry may be here sooner rather than later. Two weeks ago, U.S. Senator Rick Scott wrote to Treasury Secretary Janet Yellen to encourage her to act to help "protect consumers and legitimate investors from widespread cryptocurrency scams." In his letter, Senator Scott pointed out the FTC research that found over the past year, crypto scams have increased by 1,000 percent and caused losses of more than \$80 million. "[T]he median amount consumers lost in scams [is] \$1,900." Secretary Yellen already has voiced concerns about crypto as it pertains to facilitating illegal activity and tax evasion. Additionally, the Biden administration has begun to give us clues about how it intends to regulate crypto. Further, Comptroller of the Currency Michael Hsu has stated that he intends to work with the Federal Reserve, FDIC, and the states to examine how cryptocurrency fits within the banking industry. The days of unregulated cryptocurrency likely are numbered, but it will be interesting to see what the crypto landscape looks like when the various agencies figure out what to do with it. Hopefully by regulating crypto, the agencies do not kill the thing they are attempting to control. -- <u>Kellen M. Shearin</u>

Intel Reiterates Chip Supply Shortages Could Last Several Years

"Company's CEO says COVID-19 has led to a 'cycle of explosive growth in semiconductors,' placed huge strain on supply chains."

Why this is important: Intel Corporation's CEO made clear last week that the global shortage of semiconductors could take years to resolve. The work-and-study from home trend that exploded during the COVID-19 pandemic led to unprecedented demand for all number of products containing semiconductors. Now, the semiconductor manufacturers are racing to bring new plants on-line in order to increase production and alleviate the current shortages. This will not be a quick or easy resolution, however. New production plants require time and investment to site, build, and begin operations.

Production capacity alone is not the issue; there are still problems in supply chains for the critical components to manufacture semiconductors. While the status quo of chip-based products remaining in varying degrees of scarcity is unlikely to change in the immediate future, there is an upside: in a world where all products are becoming "smart", the increased semiconductor production capacity certainly will be necessary to continue satisfying consumer demand. --- <u>Brandon M. Hartman</u>

<u>Next Generation RNA Technology Could Unlock Treatments</u> <u>for Chronic Conditions</u> and <u>Now Proven Against Coronavirus,</u> <u>mRNA Can Do So Much More</u>

"Currently, RNA remains unusable for chronic treatments because patients would have to return to clinics repeatedly for new injections."

"This approach that led to remarkably safe and effective vaccines against a new virus is also showing promise against old enemies such as HIV, and infections that threaten babies and young children, such as respiratory syncytial virus and metapneumovirus."

Why this is important: Both of these articles explain why mRNA research is so promising. Much can be done quickly because RNA is a simpler construct than DNA, but still effective for vaccines. But, RNA is a short-lasting construct. They have developed new techniques that may give RNA much longer life, which may make it a much better treatment for other viruses and even some chronic conditions. Both articles get into the weeds a bit, but in a well-written way that will earn points at meetings and cocktail parties... which we actually are having again, in part due to RNA! --- Hugh B. Wellons

What Would National Data Breach Notification Law Look Like?

"Since the supply chain attack that targeted SolarWinds and its customers was uncovered in December 2020, some members of Congress have been pushing for a nationwide data breach notification law."

Why this is important: For anyone who has had to navigate the complex landscape of data breach notifications can attest, the current U.S. model is a minefield. Besides industry specific laws (such as HIPAA, Graham Leach Bliley, etc.), each state has its own consumer data breach notice law, some aspects of which are preempted by aspects of other federal laws (the FCRA, for example, preempts conflicting state laws regarding fees that credit agencies can charge consumers for fraud alerts or security freezes). Unless the subject of a breach is truly a small, local place, the question of who to notify, when, how, and what to include in the notice will make anyone's head spin. With the increasingly high-profile cyberattacks on enormous entities (like SolarWinds and the Colonial Pipeline Co.), the call for a national breach notice regulation continues to increase. Not only would some national guidance help compromised entities to comply with their obligations, but it could also give national security advisors better insight into the cybersecurity landscape by aggregating information, which will allow them to better understand what the biggest threats are and how they are changing. Finally, there is some indication that a national notice standard might help law enforcement to limit major cyberattacks by facilitating earlier detection and slowing the entity-to-entity spread of follow-up attacks by bad actors. ---- Risa S. Katz-Albert

Scientists Partially Restore Blind Man's Vision with Breakthrough Gene Therapy

"The case marks the first time sight has been partially restored using optogenetics, a type of biological research aimed at controlling nerve cells via light."

Why this is important: Retina pigmentosa is a relatively common condition that causes blindness. A great quote explaining this is, "The retina is like a 'biological computer at the back of your eye,' according to Botond Roska, a biomedical researcher at the University of Basel and author on the new study. Light filters in through the eye and interacts with specialized photoreceptor cells at the bottom layer of the computer, known as rods and cones. These pass signals on to another specialized cell known as a retinal ganglion cell, which sits at the top layer of this computer." Genetic mutations kill off the rods and cones,

interfering with the signals. New research developed genetic mutations that are injected directly into the eye (icky, I know), changing the genetics and allowing some -- not great -- vision for people who have no vision. This is still developing, but initial results are promising. --- <u>Hugh B. Wellons</u>

McDonald's is Testing Automated Drive-Thru Ordering at 10 Chicago Restaurants

"Kempczinski said the technology is about 85% accurate and can take 80% of orders."

Why this is important: McDonald's has rolled out a limited test of voice-ordering technology at 10 Chicago-area restaurants. The initial results are indicating a high degree of accuracy: approximately 85 percentage accuracy in orders taken via the technology with only about a fifth of all orders needing to be taken by a human worker at these locations. CEO Chris Kempczinski has said the technology likely will take a number of years to implement across all U.S. locations. McDonald's also has been testing automation within the kitchen area, such as in fryers and grills, however this level of automation will take even longer and require a much higher level of investment to implement. Labor cost is certain to be a driving force of how quickly these automation technologies are developed and implemented. With the current focus and attention on raising the national minimum wage, coupled with the rapid pace of technological improvement and associated lowering in overall cost of a technology, the pace of automation within the fast food industry is likely only to increase in the near future. --- Brandon M. Hartman

Driving Dystopia: Tesla Activates Driver Monitoring Protocols

"Tesla has decided to activate driver monitoring protocols in an effort to avoid liabilities whenever Autopilot fails and motorists unexpectedly find themselves merging off a bridge."

Why this is important: Tesla, among the most technology-forward of car makers, has activated driver monitoring cameras for those who utilize the cars' driver assistance features. Some Tesla vehicles include "autopilot" functions which, despite their name, are not designed as a substitute for having a living, breathing driver behind the wheel. But technology gives, then technology reminds us that humans lack the self-preservation instincts to survive ourselves. Recently, thanks to the popularity of a video posted to social media sites showing users making a video that involved the 'driver' of a Tesla climbing into the back seat of the vehicle, feigning sleep at the wheel, and more while the car drove along a crowded roadway, Tesla has decided to litigation-proof itself by capturing the camera video data from users who have the cars in autopilot mode. This would shift the burden away from Tesla should there be an accident while the autopilot feature was engaged by demonstrating that the driver was to blame for failure to be attentive. However, for every time it might explain the cause of an accident, there will be many more hours of recorded video of drivers in their cars doing nothing out of the ordinary -- a significant violation of general privacy expectations and a potentially significant risk for Tesla should their system become compromised. It will be interesting to see how market pressures going both directions influence the further refinement of Tesla's camera policies. ---- <u>Risa S. Katz-Albert</u>

Pollen-Sized Technology Protects Bees from Deadly Insecticides

"An early version of the technology — which detoxified a widely-used group of insecticides called organophosphates — is described in a new study, 'Pollen-Inspired Enzymatic Microparticles to Reduce Organophosphate Toxicity in Managed Pollinators'."

Why this is important: Okay, first, can we all agree that honeybees are cool? They make their own queens, they survive by pollinating plants, and they make honey! They even dance when they find pollen, to let the other bees know. Bees also are challenged by quite a few factors, including mites, diseases and pathogens. Research has shown that bees have natural immunities to many of these forces, but those immunities are compromised by insecticides. In fact, almost all U.S. hives are compromised by an average of six different pesticides that often are brought in with the pollen that bees gather and consume. Cornell developed a pollen-sized micro-particle filled with enzymes that can detoxify the pesticides. You mix it with sugar water to attract bees to ingest it. It passes into a bee's gut, where it

