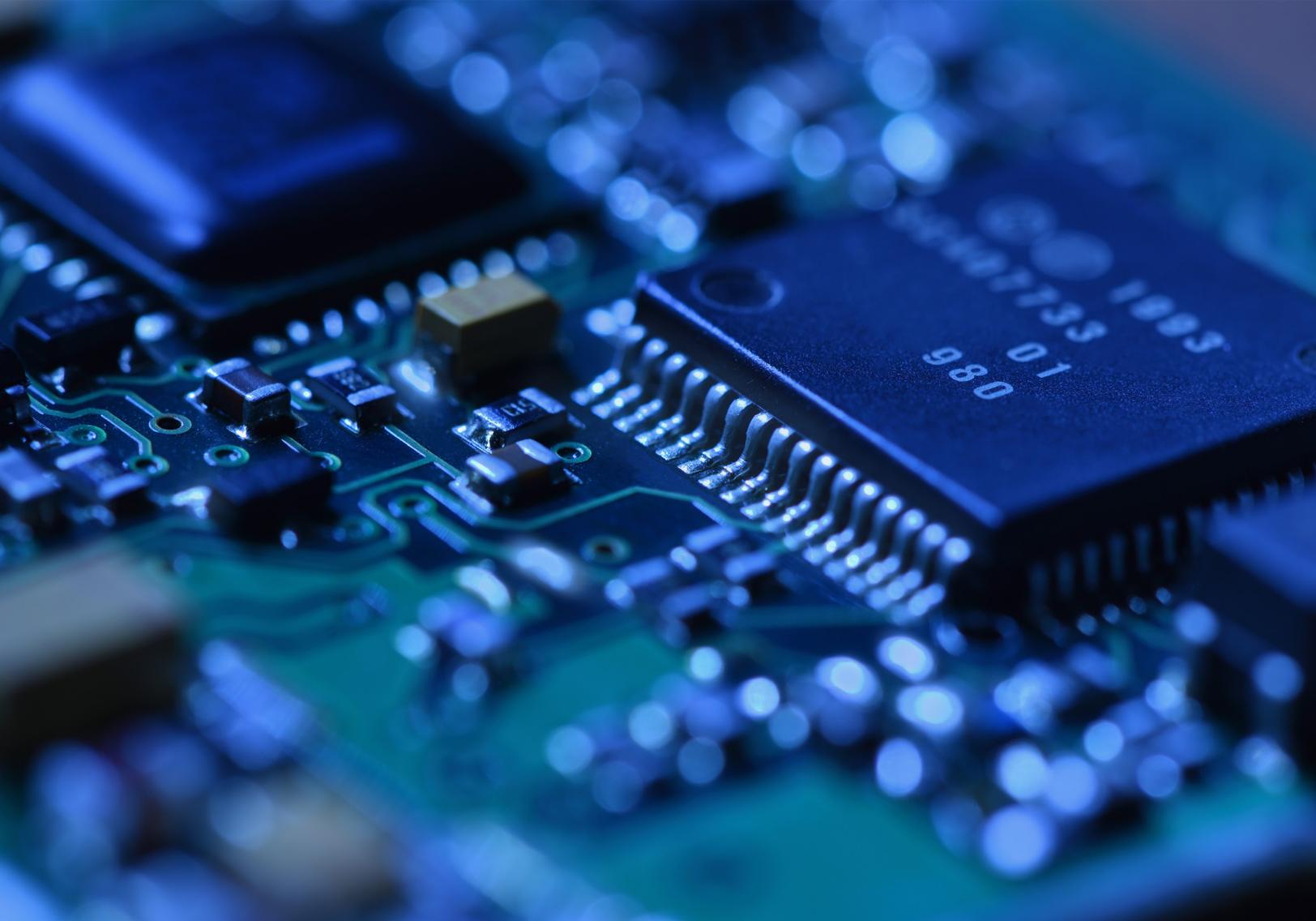


THE FLD WHITEPAPER SERIES

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# HELPING FLEETS THRIVE IN THE FACE OF A GLOBAL CHIP SHORTAGE.



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SUMMER 2021



**Remarketing**  
Remarketing Without Risk.

## EXECUTIVE SUMMARY

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Today's vehicles are marvels of modern technology. And while little has changed over the last 80 years as far as the job they do – moving people and goods from point a to point b – everything has changed regarding the engineering, mechanics and technology that go in to manufacturing them. Perhaps no piece of technology is more important to vehicle manufacturing than the modern microchip. Tasked with running everything from engine management to driver assist systems, these tiny transmitters handle myriad functions every time someone turns a key. But with a global microchip shortage causing vehicle manufacturers to scale back production, cancel certain models, and trying to find a way forward, what does the future hold? How will manufacturers get the chips they need? And what will be the fallout for fleets anxious to recover after the global pandemic?

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### THE MICROCHIP SHORTAGE: HOW DID WE GET HERE?

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Like many problems facing today's world, the chip – and now the rubber – shortage was brought on by a perfect storm of issues, most notably the global Covid 19 pandemic. With billions of people forced to stay home, consumers stocked up on computers, gadgets and products from the internet of things (IOT), most of which require sophisticated, high-cost chips.

At the same time companies that make electronics ramped up production to meet ravenous global demand from consumers working, going to school and entertaining themselves from home, vehicle makers across the globe were forced to shutter plants and cancel chip orders. This not only left them short on chip supplies and unable to meet demand when they did move to re-open, but effectively put them in direct odds with consumer electronics manufacturers, an industry that accounts for the majority of the most lucrative chip sales. Effectively moved to the back of the line when new chips did become available, vehicle makers have been trying to play catch up ever since. Making matters worse, Americans bought more new vehicles in 2020 than predicted, further driving down inventory and increasing the demand for chips.

Geopolitical problems also weighed heavily on the global chip market. According to Gartner, sanctions against Chinese tech companies have further enflamed the crisis, especially as tensions rose over tariffs and the origin of the Covid pandemic. At the same time, many Chinese companies have been stock piling – and hoarding – both chips and chip making equipment, making the shortage even worse for vehicle manufacturers. In addition to the pandemic and proliferation of consumer electronics, several unforeseen factors also weighed heavily on the global chip supply. This included fires at several important chip manufacturing plants, including one in Japan, as well as winter storms in Texas that interfered with production at American plants.

Further exacerbating the situation, chip makers have done little to increase manufacturing of the kind of relatively low tech chips used by auto makers, as orders for more expensive chips took priority. This created further chip scarcity for vehicle manufacturers and will be a concern even as chip stocks return to normal levels.

The chip shortage has also been harder on US vehicle makers because the majority of chips are made in China and other Asian countries, giving first priority to manufacturers outside America. According to Reuters – US semi-conductor companies account for 47% of worldwide sales, but only 12% of global production.

Finally, there simply aren't enough chip making machines on the planet to keep up with growing demand, and no easy way to make more. And while several chip suppliers are in the process of building new plants, the reality is that most new facilities won't come on line for years. According to Reuters – US semi-conductor companies account for 47% of worldwide sales, but only 12% of global production, meaning leaving US manufacturers reliant on chip makers outside the country.





### LOOMING TIRE SHORTAGE COULD ADD TO PROBLEMS

While the situation is nowhere near as dire as the chip shortage, analysts have predicted that all of the factors are in place for a tire shortage to effect vehicle manufacturing sometime in 2022. And like the chip shortage, the main reason stems from the global pandemic, which at its height caused rubber producers to plant less plants in 2020. That means less access to rubber over the next few years, while also putting a crimp in the supply tire manufacturers need to meet a normal year's demand. Further complicating matters is the fact that China — the world's biggest consumer of rubber — has increased auto production, meaning less access to tires for American auto manufacturers, many who rely on a steady flow of inexpensive Chinese tires to meet production demands. Throw in a shortage of the shipping containers needed to ship tires from China, and many auto industry watchers believe the stage is set for a global tire shortage in both the Americas and Europe over the next few years. Thus far the CEOs of major tire companies like Continental, Goodyear and Bridgestone have all assured uneasy markets that they have enough rubber in their supply chains to not only meet current needs, but also any increased demand that may come from ramped up auto production.

### WHY AUTO MANUFACTURERS HAVE TAKEN THE BRUNT OF THE CHIP SHORTAGE

Twenty years ago, most vehicles were built using analog devices and decades old systems that required little or no microchips. Today, most new vehicles have upward of 3,000 chips running a variety of systems. Despite that, according to Gartner, vehicles manufacturers amount for less than 10% of global chip purchases, leaving them at the mercy of chip makers who prioritize sales of more lucrative — and sophisticated — chips to industries like consumer electronics.

As the pandemic has eased, automakers hoping to step up production have been unable to find enough chips to do so, forcing them to turn away customers looking to purchase new vehicles. The result has been dwindling inventory, and disappointed buyers, a situation that bodes poorly for the auto industry as a whole. The shortage has even caused some manufacturers to leave out certain systems in new autos, or to simply change back to decades-old analog technology. For example, Ram has stopped including an "intelligent" rear view mirror on four different truck models including their popular 1500 series, a feature that used to come standard.

Perhaps more than anything, the shortage has put a premium on used vehicles, with many consumers finding that opportunities to purchase have dried up, and — when vehicles are available — markedly higher prices than just a year before. This is especially true of work vehicles, and as the country's largest independent vehicle remarketer, FLD can confirm that it is paying higher prices for used vehicles than ever before. Anecdotal evidence also shows some used models fetching prices near what they cost new several years ago, further evidence that demand remains high, inventories remain low, and little consumer confidence that access to new vehicle will get better any time soon.

The situation has become so dire that according to a report from AutoForecast Solutions, three big Michigan-based automakers are bearing the brunt of the chip shortage with nearly 1 million less units produced in the first few months of 2021. That includes Ford taking 324,616 vehicles out of production this year, GM removing 277,966, and Stellantis reducing production by 252,193 units, and the year's not even half over. Meanwhile, Honda, Nissan, Subaru, Toyota and Volkswagen have all lost between 20,000 and 46,000 units. And by the end of the first four months of 2021, more than 25 different American car models have manufactured at least 10,000 units less each. Leading the way — the Ford F-150, America's most popular consumer truck — which had produced nearly 110,000 fewer units by the end of April. Right behind the F-150 is the Jeep Cherokee with 98,584 less vehicles made year to date and the Chevy Equinox with 81,833 less vehicles manufacturers.

The shortage has also crept its way into ancillary businesses — like rental cars — that depend on a steady supply of new vehicles. According to one Hertz executive, the rental giant is trying to figure out ingenious ways to get the new cars it wants, or to be forced to turn away both business and leisure customers primed to travel after a year of Covid restrictions. This includes keeping vehicles longer than in the past or having to move vehicles to high-volume locations.

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### FLEET ENTITIES SUFFERING FROM CHIP FALLOUT

Thus far, the biggest effect of the chip shortage on fleet has been a marked reduction in the number of new vehicles available to fleets. This means that fleets that usually take vehicles out of service every 3-7 years simply don't have new vehicles to replace their aging fleets. And while that may be more of a minor annoyance than an immediate threat in the short term, the longer the shortage continues, the more precarious the situation becomes, and the opportunity for long-term damage to their business increases. Especially for fleets that put a lot of miles and stress on vehicles. And while it is difficult for even the most experienced fleet experts to predict how long this situation will continue, any day fleets go without access to new vehicles strains existing resources and — in some cases — jeopardizes their ability to execute business as usual.

The global chip shortage is also expected to have an impact on telematics, an industry that has exploded into the fleet space over the past decade.

Perhaps most challenging, the lack of access to new vehicles has required fleets to find new and inventive ways to get more miles and hours of service out of their existing assets, driving up maintenance costs and putting a premium on safety. This is especially true for fleets that are in the habit of remarketing their fleets on a regular schedule. Not knowing when — or even if — they'll be able to purchase new vehicles makes it hard to carry on business as usual, and even harder to right size their fleets.

AS AN INDUSTRY THAT RELIES ON WHAT WAS ONCE ON-DEMAND ACCESS TO NEW VEHICLES, FLEET ENTITIES ARE FEELING PRESSURE FROM THE GLOBAL CHIP SHORTAGE...

### HOW FLEETS CAN BEST WEATHER THE CHIP SHORTAGE

As an industry that relies on what was once on-demand access to new vehicles, fleet entities are feeling pressure from the global chip shortage, and will surely experience difficulties if a meaningful experience difficulties if a meaningful tire shortage plagued the automotive industry. And while the fallout to date has mostly been limited to the inability to purchase new vehicles, the longer the chip shortage continues, the better the possibility that fleet entities experience negative repercussions.

At this point, FLD suggests that the most important thing fleets can do to stay ahead of the chip shortage is remain hyper-vigilant of their current situation. And that even those fleets suffering from vehicle shortages quickly determine exactly which assets they need, and which they can go without. And while each case is different, the goal is for fleets to "right size" as quickly as possible. In many cases, this may mean selling used assets to create liquidity. For others, it may simply be a strategy to stay "lean and mean" so they are best able to take advantage of emerging opportunities as the chip shortage recedes, and new vehicles become available.

**PROGNOSIS REMAINS MURKY, RELIEF STILL A WAYS OFF**

According to experts, the microchip shortage is here to stay at least through the end of 2021, and possibly a longer. As it stands, demand is still outstripping supply, and — according to a May article BY CNBC — it’s no longer only the auto industry that is being solely affected. At this point, the shortage has started to effect production of widely used products like household appliances and handheld devices. For things to go back to pre-pandemic levels, it will not only depend on the industry’s ability to recover from the existing shortage, but to increase production to meet demand that seemingly grows daily. The problem is that many companies in China — especially those hit by sanctions — have begun hoarding chips in hopes of weathering the shortage, furthering depleting available stock, and making it hard for companies of all kinds to find the chips they need to keep their businesses running.

And while some chip manufacturers have said they can see a light at the end of the tunnel by the end of this summer, most analysts told CNBC they consider that timeframe “highly ambitious. As it stands, most chip manufacturers themselves have indicated that lead times for existing orders have increased in 2021, with Bloomberg reporting that the average lead time for a chip order has moved to 17 weeks this year from 10 weeks pre-pandemic. For example, an official with Samsung — one of the world’s top 3 chip makers — told Reuters that the company was meeting with existing buyers to determine priorities and allocate available chips to their most important product offerings, hardly an idea solution for either party. The situation is so dire that Samsung officials have

said they may even consider scrapping the launch of its next Galaxy notebook in order to fill existing orders, an indication of just how short the supply of available chips has become. Meanwhile, the CEO of German chip maker Infineon has said as recently as late May that the chip industry is in “unchartered territory,” and that he doesn’t expect things to improve until at least the Summer of 2022, still a year away.

In the eyes of several analyst, the demand for chips is expected to skyrocket as key drivers fall into place. That includes the introduction of 5G, and the proliferation of IoT (Internet of Things) products and services that require increasingly more sophisticated chips. Further clouding the horizon are competition and consumer demand for technologically advanced vehicles, something that will only increase demand for sophisticated microchips that may not always be available. Many governments have also tried to encourage chip makers to find new and better ways to quickly solve the problem, and US President Joe Biden has said he will offer incentives for US producers to find ways to increase production. And the European Commission, the executive arm of the EU, said that while it accounts for less than 10% of global chip production, it is exploring investments of \$24-\$36 billion to boost that figure to 20% as a way of becoming less beholden to Asian markets. In a step in the same direction, US chip manufacturer Intel said it will spend over \$20 billion to build two new chip making facilities in Arizona, a move Gartner said should help with future domestic demand.



**WITH YOU AT EVERY TURN**

As the leader — and pioneer — in vehicle and equipment remarketing, FLD has been working tirelessly to help our clients avoid risk — while remaining nimble — throughout the vehicle shortage brought on by the lack of microchips. That includes giving them the ability to instantly right-size their fleets by taking advantage of our longstanding policy of purchasing any vehicle before it’s remarketed. As always, we’ll give fleets an offer in hours, and full payment for the price they agree to in less than a day. We even make it safe, easy and fast to remarket vehicles with our WebAccess online tool, the only remarketing service that lets fleet pros remarket vehicles in real time from any smartphone, computer or tablet anywhere in the world. Perhaps most important, with 40 plus years in business, we’re a trusted partner fleets can count on in any type of business climate, no matter what the business challenge.

*For more information, or to schedule a conversation on how your fleet can thrive and not just survive during challenging times like the chip shortage, give us a call at 1-800-754-1522, or log on to [fldinc.com](http://fldinc.com) or [vehicleremarketing.com](http://vehicleremarketing.com) today.*

