

Chipping away at it

Mitigating the Semiconductor
Shortage in Europe



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1. Introduction: Europe Hit Hard by Semiconductor Shortages

After the first wave of the Covid-19 pandemic ravaged vehicle demand, most OEMs and suppliers planned for a slow, halting recovery in vehicle sales and production. While that has been the case for many markets, especially in parts of Europe, there have nonetheless been significant bullwhips across the supply chain.

Last year, demand for vehicles in Europe recovered relatively quicker than expected after the lifting of the first lockdowns in spring, when dealerships reopened, and production restarted. Demand returned to around pre-pandemic levels in the summer and early autumn until the second wave of lockdowns once again restricted output and sales, though dealers were then using digital sales and service options, such as 'click and collect', bolstering what could have been a worse performance. There had also been faster-than-expected recovery in certain model segments, such as electric vehicles and SUVs, as well as in overall demand in North America and especially in China, with carmakers working hard to keep up.

The resurgent demand for goods in other industries has led to supply chain shortages and strains in logistics capacity, exacerbated by a misalignment in global container shipping. There is also now a serious shortage in the supply of microchips, otherwise known as semiconductors, referring to the (usually) silicon-based constituent of an electronic circuit.

The shortage in semiconductors was already evident by the second half of 2020. In fact, a perfect storm of sorts was brewing, but relatively few manufacturers took notice as overall vehicle demand was still low in the wake of the crisis. However, a number of factors would combine to worsen the situation, including cautious forecasting by OEMs and suppliers, lean inventory approaches, fallout from the US-China trade war and, at least in some cases, poor planning.

It was only in December, as production volumes started to recover, that OEMs started reporting that individual plants were experiencing shortages of semiconductors and that they would have to reduce production. Since then, the situation has become considerably more critical, with Europe one of the hardest hit regions.

Microchips are now used more than ever in vehicles. According to the Center for Automotive Research, a mainstream car has over 100 microprocessors. Electric vehicles in particular use a high amount of semiconductor content. German semiconductor manufacturer Infineon estimates that there is on average \$434 worth of semiconductor content per internal combustion engine (ICE) vehicle, while there is \$834 per EV¹.

¹ <https://www.investorchronicle.co.uk/news/2021/01/28/race-to-riches/>



The computer chip supply chain is also highly concentrated, including in high-tech manufacturing regions of Europe, the US and especially Asian countries, such as Taiwan. Production is not easy to scale quickly and often has lead times of up to six months. Currently, there is a particular shortage of critical chips such as micro controllers, application-specific integrated circuits (ASICs) and the small 5Nm chip, all of which is impacting the automotive sector.

OEMs have only publicly reported issues directly as a result of supply chain shortages for chips used in vehicle production for around 20% of vehicle assembly plants in Europe. However, based on sources at plants, and analysis of the supply chain, the actual number of plants affected is much higher; all carmakers are likely affected in some way.

Differentiating production volumes lost as a result of the chip shortage versus the pandemic is not always possible. Even as the shortage worsened, many plants in Europe were still not back to 'normal' pre-Covid production volumes, while there have also been extended winter plant stoppages, a reduction in overtime as a result of lower demand, and even some production slowdowns as a result of Brexit and congestion at the ports.

Few automakers have disclosed the actual effect on total production, however, it is likely that at least 100,000 light vehicles will be lost in Europe in the first quarter alone, although some estimates put delayed vehicle production in the quarter at more than 200,000. The annual impact in the region could surpass 500,000 units.

OEMs and suppliers are trying to mitigate the shortages. Some have managed to secure higher stocks of semiconductors. Others are adjusting manufacturing schedules to prioritise production of profitable models. Those with customer orders for key models are prioritising deliveries and avoiding delays where possible. Other OEMs, meanwhile, are reported to be storing unfinished vehicles at plants or external warehouses.

ECG Business Intelligence expects that supply chain mitigation, as well as investment in chip capacity, will help OEMs recover some lost volume later in 2021. We expect the total impact across the EU and UK will be 250,000-400,000 lost light vehicles, reducing annual production to around 15.6m light vehicles. That would be an increase of around 7.5% compared to 2020 – a smaller gain than originally hoped.

As the industry tries to regain output later in the year, and as vehicle sales start to recover, the second half of 2021 is expected to be busy and could see other supply chain and logistics bottlenecks, meaning more vehicle volume might be lost. That would be a tough blow for OEMs, dealers and logistics providers as they strive to regain sales and margins.



2. The Impact on European Vehicle Production

Globally, the automotive industry is expected to lose more than half a million units of production in the first quarter of 2021, owing purely to shortages in microchips and semiconductors, with some estimates as high as 1m units. ECG Business Intelligence estimates that, based on current OEM reports, lost production in Europe will amount to 100,000 units in the first quarter, down 2-3% on overall production for the period. However, the crisis is expected to continue into the second quarter and will likely be felt to the end of 2021. Globally this could result in lost production of around 3% of production in 2021.

Table 2.1 Forecast Impacts on Global Vehicle Production

<ul style="list-style-type: none">• 1m units² up from 628,000 units in lost global production in Q1 2021 says IHS Markit³
<ul style="list-style-type: none">• 250,000 units lost in China in Q1
<ul style="list-style-type: none">• Shortages expected until Q3 2021⁴
<ul style="list-style-type: none">• 500,000 units lost global production in Q1 2021, says AutoForecast Solutions⁵
<ul style="list-style-type: none">• \$14 billion in lost revenue in Q1 2021, \$61 billion in lost revenue in FY 2021, says AlixPartners⁶

Industry analysts suggest that chip shortages will result in the bulk of lost production in the first quarter, adding to OEM pain following a year when 2020 production volume fell 22% year-on-year. Forecasts released in January, before the chip crisis took hold, were pointing to volume production in the EU and UK of over 16m light vehicles, an increase of around 10% compared to 2020.

ECG Business Intelligence's current estimates are for a full-year loss of between 250,000-400,000 units in Europe, with annual light vehicle production in the EU and UK around 15.6m units. In 2022, we expect most units to be recovered compared to the pre-chip crisis forecast, with total vehicle production in Europe rising 12% year-on-year to 17.5m. The industry is not expected to return to levels seen before the pandemic hit until 2023 or later.

² <https://ihsmarkit.com/research-analysis/semiconductor-shortage-update-one-million-vehicles-delayed.html>

³ <https://ihsmarkit.com/research-analysis/daily-global-market-summary-25-january-2021.html>

⁴ <https://ihsmarkit.com/research-analysis/managing-the-2021-automotive-chip-famine.html?hsid=6833818f-d137-461b-8d3b-6cf12cb6a655>

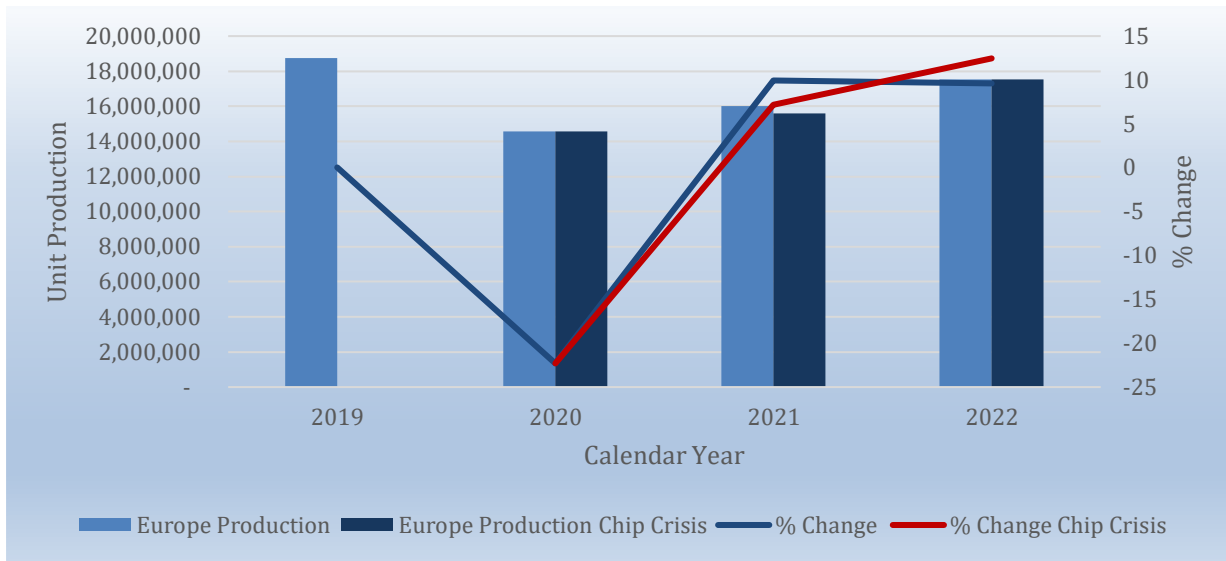
⁵ <https://www.ft.com/content/13094950-fb45-4686-9ef9-8199c674b90d>,

<https://bpmmicro.com/programmable-device-shortage-causes-auto-makers-to-cut-output-idle-plants/>

⁶ <https://www.bloomberg.com/news/articles/2021-01-27/covid-pandemic-slows-down-chipmakers-causes-car-shortage>



Figure 2.1 Impact of Chip Crisis on Light Vehicle Production in EU+UK 2019-2022



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3. Mitigation Measures

3.1 How the Industry is responding

The automotive industry is responding in several ways, including reducing output, adjusting production schedules and working to find alternative suppliers. Plants are notably affected in Europe, North America, India, Japan, South Korea and China.

The main responses among OEMs include the following:

- **Slashing Shifts**: Automakers have reduced assembly shifts and cut down the number of hours in the working day at plants.
- **Shutting Plants**: Automakers have closed plants for days and weeks, and in some more recent developments by up to a month, because of the chip shortage.
- **Furloughing Staff**: Automakers have furloughed and laid off staff as production stops.
- **Prioritising profitable vehicles**: Automakers are choosing to prioritise higher-priced, higher-margin models for production. Automakers are also offering some models without added options to reduce the number of chips used.
- **Changing Supply Chains**: Automakers have begun to reach out directly to chip makers to reduce the lead time needed and ramp up production. They are also seeking alternative suppliers where possible. This is a complex situation, however, as the chips are embedded in components manufactured by tier suppliers, many of which are facing shortages from just a handful of chip makers.



Table 3.1 Impacts to European Production by Carmaker

	Chip shortage affecting production
	Covid-19 issues affecting production
	OEMs claim no issues, maintaining production
OEM	Plants
Ford	Suspends production at Saarlouis, Germany for one week from 19 January, then extends for one month until 20 February. Stops Focus production.
Honda	Swindon, UK plant closed for four days from 18 January because of chip shortage.
JLR	Officially JLR claims no shortage yet. However, sources tell us of chip shortages forcing incomplete vehicles to stockpile at Halewood and Solihull plants in the UK .
Mercedes-Benz	Postpones delivery of A-Class, B-Class, GLA, C-Class and E-Class. Production cut at Rastatt, Germany . Bremen, Germany shut one week from 1st February, 12,000 on 'short-time work'. Sindelfingen, Germany experiencing issues. Keckskemét, Hungary plant shut between 20-30 January.
Renault	Renault hopes to limit annual global production loss to 100,000 units or less Production halted at Flins, France from 1 February, Zoe production moving to Douai. Production of Dacia models stopped at Mioveni, Romania plant. Production at Tangier and Casablanca, Morocco suspended from 8 February.
Stellantis	Production halted at Melfi, Italy from 8-14 February and then extended at least one week further. Around 7,000 staff put on furlough, Jeep models affected. Issues reported at Mirafiori, Italy . Production suspended for several days at Eisenach, Germany from 1 February, 1,300 staff put on furlough, affecting Opel models. Production suspended for several days at Zaragoza, Spain from 5 February. C3 and Crossland affected. Plans to halt production at Poissy, France . Peugeot and DS models affected.
Toyota	Issues reported at Valenciennes, France . Petrol variants of Yaris affected.
VW	Reduced working hours at Kassel, Brunswick and Audi's plant in Ingolstadt, Germany . Production stopped intermittently at Wolfsburg . Audi plant in Neckarsulm shut 18-29 January, 10,000 staff put on furlough.
BMW	Claims no issue as did not reduce semiconductor orders in 2020. Extended winter shutdowns at Oxford, UK because of Covid.
Nissan	Production at Sunderland, UK halted 22 January because of parts holdups at ports, says not impacted by chip issue at UK plant so far.
Toyota	Valenciennes, France reduces Yaris output, cuts overtime for February and March. Enhanced winter shutdown at Deeside, UK and Ovar, Portugal until 5 January – claims no chip issue yet. Covid infection at Burnaston, UK reduces staff numbers from 1 February.
BMW	Maintains production at Dingolfing, Leipzig, Munich, Regensburg, Germany; Goodwood, UK
Ford	Maintains production at Craiova, Romania .
VW	Maintains production at Emden, Germany .
Volvo/Geely	Has enough supply and reporting no problems at Volvo Cars plants in Ghent, Belgium and Torslanda, Sweden ; LEVC in Coventry and Lotus in Hethel, UK .

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3.2 Impacts by Select OEMs

Volkswagen Group is set to be the worst hit globally, expected to lose 100,000 units of production in the first quarter of 2021, or 4% of global output for that period. Of this total, 60,000 units will be lost in China. In Europe, the company has introduced a shorter working week at plants in Wolfsburg, Salzgitter, Brunswick and Kassel. Production of the Golf has stopped intermittently, including on the last two Fridays in February. Audi has furloughed 10,000 workers in Neckarsulm and has cut production in Ingolstadt.

Ford is expected to lose 80,000 units globally in the first quarter of 2021, of which Europe accounts for 20,000. It has shut the Saarlouis plant in Germany for one month where the Focus is built. However, it continues to produce at Craiova, Romania where the higher margin Puma is built. Ford CEO, Jim Farley, said the current stock of chips is being used to produce the most profitable vehicles.

Mercedes-Benz has begun to postpone delivery of models built at its plants in Bremen, Rastatt and Sindelfingen in Germany, with delays also expected to push new model launches. The Kecskemét plant in Hungary was also closed for ten days in January. Daimler is expected to witness lost production of around 50,000 units, though some of this will be in delayed production in the following quarters.

Volvo Cars, which is owned by China's Geely, currently has adequate stock of semiconductors. Speaking to the *Financial Times*, company CEO Hakan Samuelson said the automaker had supply for four weeks⁷. But he acknowledged issues could arise in just a few months' time.

Toyota has avoided the full impact of the chip shortage, having stockpiled four months' supply. The company's CFO, Kenta Kon, said it faces no significant production loss. A Toyota spokesperson for Europe told ECG Business Intelligence that any chip shortage for Toyota in Europe was limited to production of petrol variants of the Yaris in France, output of which the carmaker has partially reduced in February.

"The production adjustment is mainly managed by cancelling scheduled additional working time, such as weekend overtime work. The current three-shift work pattern is maintained, and some weekend overtime that had been foreseen due to the success of the new Yaris will be curtailed."

⁷ <https://www.ft.com/content/3ecd3ccd-18d1-45a0-afb6-84719bdadf52>



4. Avoiding the Next Perfect Storm

4.1 Mismanaging Supply

The origin of this crisis lies in the much larger Covid-19 pandemic. While the automotive industry was hurt throughout 2020 following lockdowns, the third quarter contributed to a particular mismatch in planning and purchasing versus demand. A nearly perfect storm of higher demand for microchips in other sectors, as well as trade policy, logistics issues and even weather have exacerbated the challenge.

As a new wave of coronavirus infections rose, and governments reimposed economic restrictions, many OEMs and tier one suppliers reduced their forecasts, including cancelling orders for parts and chips to avoid carrying too much inventory. The automotive industry has long operated under lean inventory principles and even pre-Covid many OEMs and suppliers were seeing a drop in profits. As the crisis worsened this margin compression⁸, manufacturers pushed to make even deeper cuts to inventory.

At the same time, lockdowns and remote working led to a surge in new orders for personal computers and other home electronic devices, such as tablets, phones, 5G-related equipment and gaming consoles. This boom has meant a sudden ramp up in orders from the consumer electronics sector, which easily absorbed cancelled automotive orders.

At the same time, stocks of chips were hit by the US-China trade war. The Trump administration introduced sanctions against certain Chinese companies, including Huawei. From 15 September 2020, the US prohibited foreign semiconductor makers who use American-made technology from selling to Huawei. Ahead of that date, the Chinese tech giant swept across the industry buying up what chips it could before the deadline hit. The industry now refers to those days as the days of 'ice and fire' when Huawei 'swept the floors' at chip companies. Chip makers such as Taiwan Semiconductor Manufacturing Company (TSMC) came to Huawei's rescue, selling a large share of its inventory to the company.

Accidents, natural disasters and weather have played a role too in limiting supply. A fire at Japanese supplier Asahi Kasei's facility affected supply⁹. Strikes at French supplier STMicroelectronics¹⁰ have further contributed to a low supply of chips in the market. More recently, there has been another earthquake in Tohoku region around Fukushima in Japan, which has affected inbound supply to Japanese manufacturers, including Toyota. Renesas Electronics, which makes electronic components had to temporarily close its Naka facility following a blackout caused by the earthquake.

⁸ <https://rolandberger-com.mynewsdesk.com/pressreleases/pandemic-intensifies-margin-pressure-on-automotive-suppliers-sales-expected-to-decline-globally-by-15-to-20-percent-in-2020-3054077>

⁹ <https://www.reuters.com/article/us-honda-output/chip-shortage-forces-ford-toyota-nissan-fca-to-cut-vehicle-production-idUSKBN29D1NF>

¹⁰ <https://www.eenewseurope.com/news/strike-calls-continue-stmicroelectronics-france>



Furthermore, chip production in the US state of Texas has been badly affected by the freezing weather in February, which has closed down plants and caused blackouts, including at Infineon, NXP and Samsung Electronics.

Meanwhile, vehicle sales have exceeded most predictions. China sales have grown solidly since the second half of 2020. Vehicle registrations in the US and Europe – where much of the UK and EU re-entered some form of lockdown – were not as bad as initially thought. In the fourth quarter of 2020, OEMs sought to change production targets, particularly to increase output of models that sold well and to increase output of fast-growing EVs.

All this substantially increased automotive demand for semiconductors. However, manufacturers had already diverted supply to other sectors, such as consumer electronics. The crunch came in early December 2020. Tier one automotive suppliers suddenly announced that impending supply shortages of chips would dent first quarter automotive targets. Companies such as Continental and Bosch issued warnings that the shortages would be felt for six-to-nine months, and that planned capacity expansions among chip makers would not be enough.¹¹

4.2 Suppliers Strike Back

Chip makers have rallied to increase output but, with the consumer electronics market continuing to grow, most cannot meet demand fast enough or shift those orders in favour of customers in the automotive industry. Both US and German authorities have officially requested Taiwan to help ease the shortage of chips used in the auto industry¹². Taiwan has agreed and chipmakers TSMC, United Microelectronics Corporation (UMC) and others will increase capacity by 2% or 3% in the immediate term, with additional capacity solely for automotive-related chips. Others such as Infineon, Renesas¹³, and NXP have announced plant expansions, including for the automotive sector. Bosch, too, is expanding its own semiconductor output.

However, the expected expansions will come into force only in the second quarter and it will likely take the wider automotive supply chain some months more to catch up. This increased capacity might also not be a long-term fix. Chip makers tend to prioritise consumer electronics sectors over lower volume and lower profit orders from the automotive industry.

Automakers, such as Volkswagen, have also blamed top tier suppliers for the shortfall, pointing out that many did not order or produce enough components. Tier ones are responding, including by looking for alternative new supply, but many remain reliant on key components with a few manufacturers, most of which are in Asia. The 5Nm chip, which is in particularly short supply, is produced only by TSMC and Samsung, for example.

¹¹ <https://www.equities.com/news/volkswagen-continental-and-bosch-warn-of-semiconductor-component-shortage>

¹² <https://www.reuters.com/article/uk-taiwan-autos-chips-idUKKBN29T04O>

¹³ <https://www.ft.com/content/e264fd41-7ee9-4fba-be3c-21446298efd9>



Valeo has reported shortages in its supply chain, though it can still maintain deliveries. Infineon, meanwhile, points to capacity constraints at its contract manufacturers. A spokesperson for Continental told ECG Business Intelligence that the company is negotiating with suppliers to increase supply and capacity, as well as looking at alternative sourcing and material for semiconductor production. However, the company acknowledges that the industry is constrained by shortages of key components that cannot be easily replaced.

“The high investment costs and long capacity-building times [mean] semiconductor suppliers, such as TSMC, are increasingly dependent on silicon foundries for production technology,” said Continental’s spokesperson. “Investment in these specific technology nodes is therefore critical for the automotive industry in terms of supply.”

Other suppliers are increasing their own production in response. Bosch, which is itself a large semiconductor manufacturer, operates two wafer fabrication facilities in Reutlingen, in south-west Germany, and is currently expanding a third in Dresden. Bosch’s CEO, Volkmar Denner, told ECG Business Intelligence that this is the largest investment project in Bosch’s history, but it still needs to be completed.

Denner highlights other components that will still hamper the sector even as Bosch’s capacity ramps up. “Most critical at the moment is the availability of certain semiconductors, such as micro controllers which we do not produce and ASICs. The shortage concerns the entire industry, and we are in very close collaboration with our customers and suppliers to mitigate the topic in order to ensure as much supply as possible. This is not always possible but in many cases it is. We are working very closely with all parties involved.”

4.3 Building a European Chip Industry

Governments are taking notice of these gaps in local and regional supply chains. US president Joe Biden has signed an executive order to investigate critical supply chains including semiconductors and EV batteries and has asked congress for \$37 billion in funding to address the shortfall in the US.

The European automotive industry is also looking for increased chip production in the region. European automakers, including Volkswagen¹⁴, have expressed the hope that the EU-led ‘Important Project of Common European Interest’ (IPCEI) delivers on its mandate to create a production hub for microelectronics, and in particular chips, in Europe¹⁵. The IPCEI includes a joint declaration by 19 EU member states of the EU, including Germany, France, Italy, Spain, Slovakia and Poland, to work together and bolster Europe’s electronics and embedded systems value chain¹⁶.

¹⁴ <https://www.reuters.com/article/uk-volkswagen-chips-audi-idUKKBN2A41RW>

¹⁵ <https://www.ipcei-me.eu>, <https://www.heise.de/news/IPCEI-Mikroelektronik-EU-Halbleiterfertigung-fuer-mehr-als-100-Milliarden-Euro-4983443.html>

¹⁶ The other members are Austria, Belgium, Croatia, Cyprus, Estonia, Finland, Greece, Hungary, Malta, the Netherlands, Portugal, Romania and Slovenia



The IPCEI Microelectronics II project, which followed from the first one launched in 2018, called for proposals from European companies by December 2020 to strengthen their development and production of microprocessors in Europe. And by the end of the month the ambitious plan or ‘declaration’ for production in Europe of 2Nm nodes – a key component in semiconductor manufacturing – was signed¹⁷.

However, experts from the chip industry do suggest that as TSMC and Samsung produce the 5Nm chips, it would be sensible for Europe to start with that. Either way, volume production is a long way off.

¹⁷ <https://ec.europa.eu/digital-single-market/en/news/member-states-join-forces-european-initiative-processors-and-semiconductor-technologies>



5. Conclusion: Lessons in a Crisis

Overall, the global vehicle industry is expected to witness a global loss of production of more than half a million units in the first quarter alone as a result of the semi-conductor shortage. There are strong efforts on the part of OEMs, tier one suppliers and chip makers to catch up, but mismanaged supply is going to impact production and ultimately the market for longer into 2021.

Consumers will have fewer choices and will likely face longer lead times, at least in the short term, while automotive manufacturers, suppliers and retailers face more pain in an already difficult situation. There are, nonetheless, important responses and potential changes to supply chain strategy to address the situation, and hopefully avoid a repeat in future.

5.1 Prioritising 'Strategic and Profitable' Production

For the duration of the chip supply shortage, OEMs are beginning to prioritise which models they choose to use their stock of chips on. General Motors, Ford and Volkswagen are leading this trend.

In North America, GM said it would focus on keeping production running at plants making the highest-profit vehicles, which include full size pickup trucks and SUVs¹⁸. Ford has stated that it will keep production on its most profitable vehicles by moving chips from other lines to its strategically important vehicles such as its EVs¹⁹. Volkswagen's spokesperson told ECG Business Intelligence that it was cutting production of the Golf model where necessary but production of other key models, including EVs, would continue.

OEMs are thus choosing to continue production of strategically important and profitable models. This will ultimately mean that higher-priced models will continue to be on sale to consumers. It points to more potential in strategic supply chain modelling and distribution, with more priority given to customers and key models.

5.2 More Balanced Inventory Planning

OEM and tier one supplier efforts to reduce inventory and free up cash have arguably exacerbated the shortage. The question is whether manufacturers should consider stockpiling more parts. Volkswagen has already indicated that its suppliers should have done so. BMW and Volvo Cars, meanwhile, credit their ability to manage the shortage to having maintained higher semiconductor orders last year. Toyota has said it has avoided production slowdowns at its main plants thanks to a four-month stockpile of chips.

Stockpiling chips is expensive. However, the consequences of not having enough have resulted in lost output, or with another expensive problem – the stockpiling of unfinished vehicles. This can be a far costlier operation, as these vehicles take up space, as well as tie

¹⁸ <https://www.reuters.com/article/us-gm-semiconductors-exclusive/gm-extends-vehicle-production-cuts-due-to-global-chip-shortage-idUSKBN2A91VY> 15

¹⁹ <https://www.cnbc.com/2021/02/08/carmakers-have-been-hit-hard-by-a-global-chip-shortage-heres-why.html>

up working capital. JLR, GM and Ford are reportedly stockpiling as yet unfinished vehicles because of the chip shortages.

This crisis is likely to make more OEMs and tier ones evaluate at least some inventory strategies for critical components. Interestingly, it is Japanese automaker Toyota that has stockpiled the most chips, even though it is the main proponent of lean, just-in-time production strategies. Advanced supply chain modelling will support better inventory planning.

5.3 Expanding and Localising Chip Manufacturing

Automakers and suppliers alike are working to enhance their supply bases by expanding contract suppliers and identifying alternative materials where possible. Manufacturers are pushing forward with plans to produce chips in Europe to counter their dependency on Asia. A joint-EU declaration passed in December 2020 calls for the ambitious production in Europe of 2Nm chips.

However, while individual suppliers are working to strengthen what production they can in Europe to help alleviate the chip shortage, the current situation highlights the industry's reliance on a handful of chip manufacturers based in Asia. While the IPCEI plans are in the spotlight, they are not yet actual procedures for manufacturing and production timetables are a long way off. After all, there has been relatively slow progress in localised microcontroller and chip production in Europe following an earlier IPCEI declaration in 2018. OEMs need the chips urgently and it is unlikely that official policies will alleviate this current crisis in the short term.

Nonetheless, the industry shares a common goal of diversifying its supply base and localising more chip production in Europe, similar to the push to localise the EV battery supply chain.

5.4 Get Ready for A Bumpy but Busy Time Ahead

In Europe, recovery from the first wave of the coronavirus had already been blunted by a new wave of infections and national lockdowns. While vehicle demand has proved more resilient than in the first lockdown, volume is still low. However, the current chip shortage threatens to hinder OEMs in meeting current demand for strong-selling models, as well as in preparing for recovery. The longer the shortage persists, the less likely OEMs will be able to make up lost production later this year. After losing around 100,000 units in the first quarter, we expect that lost units will hit between 250,000-400,000 units in Europe for the full year.

The range will depend on how well OEMs can mitigate shortages until the chip sector catches up. While some automakers have stockpiled and are averting the problem for the



time being, others have already run out. The chip shortage could become a bigger issue than some OEMs are currently admitting.

We would expect most of that production volume to be made up in 2022. However, the limited supply could result in demand that moves to other brands or to the used car market, for example. As the chips are sought after in both the consumer electronics and automotive sectors, the reliance on just a handful of producers, including for the smaller 5Nm chips, will remain a major risk well beyond the current shortage.

As serious as the chip shortage is, it is still dwarfed by the impact of the Covid crisis on European production and sales volumes. However, there are still expectations that, as lockdown restrictions are further eased in the months ahead, and as vaccine rollouts start to show positive results, a wider, more lasting recovery will begin later this year. The shortage risks preventing OEMs, dealers and suppliers building inventory now to meet that demand. Likewise, the supply chain is likely to see even more bottlenecks later this year as the industry tries to make up lost production amidst a wider recovery. All measures should be taken to avoid supply issues slowing that recovery.

Credits

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