

The price of automotive chips may continue to rise in 2023

HONGKONG, February 28, 2023 /EINPresswire.com/ -- Unfavorable news has recently included layoffs, manufacturing cuts, and chip reductions. The "chip winter," according to numerous individuals, is approaching.

Automobile chips, however, are an exception. The three-year "chip scarcity" in cars has not yet ended. Automobile chips are still hard to come by despite the fact that the shortage has eased.

Automotive chips can be roughly categorized into three categories based on their functions. The first category is in charge of computing power and processing and includes AI chips for autonomous driving perception and fusion as well as conventional [MCUs](#) (electronic control units) for engine/chassis/body control. The IGBT (insulated gate bipolar transistor) and other power devices are used for power conversion in the second kind, while sensor chips, which are used in airbags, tire pressure monitors, and other automatic driving radars, are utilized in the third type.

Recently, some organizations estimated that the global output of more than 200,000 vehicles would be decreased in December 2022 due to the ongoing shortage of automotive chips. Also, as of December 4, the worldwide car market's production had decreased by around 4.186 million vehicles due to a lack of automotive semiconductors, according to the most recent statistics from AFS, a business that forecasts data for the automotive sector. Also, according to AFS, fewer than 4.393 million automobiles will be produced globally in 2022.

Overall, there is still a structural deficit of automotive chips. Does this imply that the cost of automotive chips will keep increasing?

Media reports claim that the 2023 foundry price has been the subject of negotiations between TSMC, UMC, World Advanced, GlobalFoundries, and other foundries for about a quarter with IDMs and several Tier 1 manufacturers. Nonetheless, based on the outcomes of the negotiations, most automotive chip foundries would see an increase in pricing in 2023.

The survey noted that although many automotive IDM manufacturers initially called for contract renegotiation in order to increase the capacity of automotive chip foundries, maintain or lower pricing, etc., it is anticipated that the majority of these goals will be challenging to accomplish. In other words, foundry prices for the majority of car chips in 2023 have successfully been adjusted

to meet the needs of TSMC, UMC, World Advanced, GlobalFoundries, and other foundries. They have not been raised, nor have they kept the water level in 2022.

In other words, the cost of the majority of automotive chip foundries will likely increase in 2023, as will the cost of car chips.

However, according to [Kynix](#) study, the scarcity and high cost of automotive chips may persist for an additional two years due to foundries' lack of drive to enter the automotive market.

Let's talk about this topic one last time: the consumer chip market has seen a severe decline in demand since 2022 as a result of the slow growth of the consumer electronics sector. Why is there still such a shortage of automotive chips when wafer foundries like TSMC, UMC, World Advanced, and GlobalFoundries should have a greater manufacturing capacity to enable the production of automotive chips?

There are two primary causes of this issue:

First of all, only 6–10% of the world's production capacity of semiconductor chips is purchased by the automotive industry, according to foundries. However, the profit margin generated by automotive chips for foundries is around 11% smaller than that of consumer chips.

Secondly, it will take at least 6 months to convert a wafer foundry's process capabilities to the production of automotive chips, and it will likely take 2-3 years to complete the verification if the capacity of the foundry has been confirmed by automotive clients.

However even once testing and verification are finished, foundries still struggle to get the high yields required to produce automotive chips in large quantities profitably, incurring significant additional costs.

In general, the "shortage of cores" in autos will persist, the growth of wafer foundries in the automotive industry has been gradual, and the cost of automotive chips could climb further.

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