**Exercise:**

*Read one of the following abstracts from news articles of 2021. Collect information of the effects of the global chip shortage on your own, then discuss the findings with the group.*

*Guiding question:*

* *How did the global chip shortage affect the automotive sector (or interconnected sectors)?*
* *What are weaknesses of the automotive sector that surfaced due to the shortage?*
* *How would you evaluate the level of “criticality” of such a chip shortage?*

**A Tiny Part’s Big Ripple: Global Chip Shortage Hobbles the Auto Industry**

**New York Times**

Published APRIL 23, 2021

A shortage of semiconductors, the tiny but critical chips used to calibrate cars’ fuel injection, run infotainment systems or provide the brains for cruise control, has upended automaking. One big reason automakers can’t find enough chips is that semiconductor manufacturers have given priority to manufacturers of smartphones, video game consoles and other consumer electronics, which tend to be more lucrative customers. “The crisis has exposed not only how dependent the car industry is on a few suppliers, but also how vulnerable it is to disruptions. Supply chain managers shuddered last month when an early-morning fire knocked out production at a factory owned by Renesas Electronics in Hitachinaka, Japan, north of Tokyo. Renesas is a crucial supplier of chips used to monitor brake functioning, control power steering, trigger airbags and in many other tasks. Weather has also played a role. Storms in Texas earlier in the year temporarily forced the shutdown of three semiconductor factories. And Taiwan is in the midst of a severe drought, analysts at IHS Markit warned in a recent report. Chip manufacturing requires large amounts of very pure water.“

<https://www.nytimes.com/2021/04/23/business/auto-semiconductors-general-motors-mercedes.html>

**Can Indian Auto Industry Overcome the Challenge Of Chip Shortage?**

**Outlook India**

Published 08 DEC 2021 2:32 PM

The second-largest car manufacturer, Hyundai, sold 37,001 cars in the month of Diwali as against 49,002 cars sold in April this year. Apart from affecting supply chains across the world, the pandemic also led to an increased demand for chips in electronic devices due to the adoption of the work from home culture. A Deloitte report estimates that by 2030, about 50 per cent of a car’s cost would comprise the cost of chips used in its electronics systems. This means that the cost of cars in a country would particularly depend on the cost of chips available in that part of the world. A major reason behind the ongoing shortage of chips in the world is the dominance of Taiwan in its manufacturing. The small nation accounted for more than 60 per cent of the total global foundry revenue last year. The dominance of Taiwan in the chip industry is based on just one company—Taiwan Semiconductor Manufacturing Company (TSMC)—which accounted for 54 per cent of global revenue from the chip industry last year. Higher demand for chips has given chipmakers some room to increase prices substantially. Earlier this year, TSMC announced a 20 per cent hike in the price of chips used in automobiles. The companies will either have to increase the prices or absorb the higher cost of production.

<https://www.outlookindia.com/website/story/business-news-chip-shortage-and-the-future-of-indian-auto-industry/404259>

**Metal markets predict auto demand recovery in second half of 2021**

**Fastmarkets Metal Bulletin**

Published 14 JUNE 2021

Many aluminium and steel market participants are increasingly optimistic that automotive production will bounce back in the second half of the year and hopeful that the semiconductor chip shortage will be resolved by 2022. A US steel producer said demand is pent-up because of the lack of cars on lots. “There’s very few cars on the lots. That’s a strong metric. Also, rental car fleets are depleted. We think this has legs into 2022, simply for that reason,” that producer said. In Asia, the chip shortage has had little impact on automotive steel demand in India. "The reduced demand for automobiles due to the Covid-19 pandemic offset the semiconductor chip shortage faced by automotive producers, which had lowered their production rates," a seller said.

<https://www.metalbulletin.com/Article/3993884/Metal-markets-predict-auto-demand-recovery-in-second-half-of-2021.html>

**Alternatively, watch the following video from Wall Street Journal:**

Published OCT 2021

<https://www.youtube.com/watch?v=je9At_CjubA>