

Here is Your Supply Chain Bulletin

March 2022

The global supply chain feeding into electronic components and electrical items is still suffering from the same issues that have been reported since the outbreak of the **pandemic** in 2019. Capacity constraints, factory backlogs, logistic difficulties, **increased costs**, **raw material shortages**, factory **fires**, **energy crises**, **natural** weather **phenomena** and **trade wars** having all played their part over the last 24 months in shaping the world we live in today.

Now we add the Russian invasion of Ukraine to the list. Some chipmakers have been reviewing their supply chains to scan for potential fallout from conflict in Ukraine. One person at a chipmaking company who declined to be named acknowledged that it has been looking into its supply of neon and other gases, some of which originate in Ukraine. "Even if there was a conflict in Ukraine it wouldn't cut off supply. It would drive prices up," the person said. "The market would constrict. Those gases would become pretty scarce. But it wouldn't stop semiconductor manufacturing," he added.

According to one power chip design startup executive, unrest in Ukraine has caused rare gas prices to increase and could cause supply issues. Fluorine is another gas that has a large supply from that part of the world and could be affected, the executive added. William Moss, a spokesperson for Intel Corp, said the chipmaker was not anticipating any impact to neon supply. But the issue is still concerning, because global chip supplies are tight and chip orders are only expected to pick up.

Techcet estimates demand for all the materials will rise by more than 37% over the next 4 years, pointing to recent announcements by Intel, Samsung, and Taiwan's TSMC. Neon prices rose 600% in the runup to Russia's 2014 annexation of the Crimean peninsula from Ukraine, since chip firms relied on a few Ukrainian companies, according to the U.S. International Trade Commission.

This situation is certainly worth keeping an eye on from a supply chain perspective. Of course the larger concern is the humanitarian crisis this invasion has created.

Capacity & Lead Time Issues

Important: Manufacturers are not allowing expedites until orders are late to their quoted lead-times. For example, If you are working to a 52-week lead-time, the order cannot be progressed until week 53 from order placement.

- Allegro are still managing supply issues and capacity constraints, with their product portfolio reportedly on allocation, minimum observed lead-times are in excess of 52 weeks for all product.
- Manufacturers are still decommitting from confirmed dates due to supply chain issues, most of these decommits are late in the day and beyond anyone's reasonable control.
- Semiconductor lead-times are extended in almost every example, and we are regularly observing 52-week lead-times as standard.
- One semiconductor manufacturer is reported to have a 50bn annual capacity, with a 150bn order backlog, highlighting how constrained factories are.
- Electrical products are under supply difficulties – Siemens, Schneider, Omron, Lapp and Murr are facing difficulties in supplying some product families.
- TI lead-times are still lengthy with no improvements seen or forecast for the next quarter at least.
- **Toshiba** halted production after a 6.6 magnitude earthquake earlier in the month, with the manufacturer confirming some damage to semiconductor production lines.
- The average semiconductor reserve levels for 150 USA businesses is said to be at a median average of just 5 days inventory, compared to 40 days pre-pandemic levels.

Manufacturer Mergers/Acquisitions

- Intel is looking to build a new plant in Ohio, potentially being the world's largest chip making complex in New Albany, backed by up to \$100M investment to create around 3,000 new jobs.
- TSCM are planning to invest up to \$44B to increase capacity in 2022, supporting global demand for AI and 5G chips used in cars, data centers and smartphones.
- Nvidia are no longer expecting their bid to close for the purchase of Arm, valued at \$40B in September 2022. MCU remains one of the most constrained product categories with LTs quoted 52+ weeks for many companies and on allocation for others.
- Maxim Integrated is now part of Analog Devices and they have selected Arrow Electronics to be their Global Supply Chain partner.

PCB Technology

- Panasonic has launched its new material for multi-layer PCB's needed for high speed communication networking applications – they have named it **Megatron 8** and claim it cuts transmission losses by up to 30%

Pricing Uncertainty

- Prices are continuing to rise throughout the supply chain and are being applied to all product from packaging to components, to extraordinary freight charges, and are being applied to new orders as well as order backlog. Raw material costs, shipping costs, production cost increases and energy increases are all equally contributing to these increases.
- Copper pricing is affecting the price of cables, PCB's, and other technologies heavily reliant upon the commodity.
- Some manufacturers are applying quarterly increases, and these increases in some instances are as much as 20% on existing costs and price agreements.
- ADI have imposed price increases in 21Q4, with additional increases on legacy product and 6% on the Maxim portfolio line.
- Emerson, Finder, Entelec, and Eaton have all released new pricing taking effect in January or February 2022.

WE ARE HERE TO HELP.

During times like this, it is highly recommended to extend order coverage as much as possible to identify supply chain issues early on, when mitigation is still possible.

We may recommend changes in purchasing volumes and forecasts to mitigate risk.

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