



Electronic Component Market Outlook Q1 2021

Q1 2021 Market Outlook

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Executive Summary

Unfortunately, we continue to receive more signals about added challenges in the component market moving forward. The effects of Covid-19; Brexit, fires and the recovering market are now affecting the supply chain. Costs are trending upwards and lead times are lengthening. Many freight routes are reduced causing more pain on the already extending lead times

There are extended lead times for specific segments; reduced flexibility in logistics (for push outs, pull ins and cancellations), and direct price increases from manufacturers. The increase in demand has been consistent over the last 4 months within Medical, 5G infrastructure, white goods growth and the industrial market showing signs of recovery. The automotive industry is back to pre-Covid levels for EHV.

NOTE Central Sourcing receive regular manufacturer updates through its strategic distribution partners and have noted the forward trends in future slides. If you have any specific questions regarding a manufacturer or segment, please do not hesitate to ask.



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Executive Highlights

- Almost 3 months have passed since the fire and AKM still cannot predict when their production line will resume. It is reported that Renesas will help AKM to replace the production of automotive chips that have been suspended due to the fire shutdown. Samples have been provided for alternative production and it is estimated that the formal supply will begin in Spring. However due to the rapid recovery of automotive demand and the popularity of electric vehicles, the shortage of other types of automotive chips in the market is now very serious. **It is estimated that the shortage of automotive chips may last the year.** Many major manufacturers have raised the prices of automotive chip products with prices rising by an average of 10 to 20%.
- A fire broke out at Taiwanese passive component Walsin Technology's factory site in Dogguan China in January. No damage was made to production lines or inventory for MLCC's. Nevertheless, the fire has raised concerns as both MLCC's and chip resistors are in tight supply. It may take several months for the full market impact to be realized.
- Freight – import and export costs are at a 5-year high. Seasonal (Christmas/CNY/Easter) surcharges and congestion (£125 per W/M) are being applied.

Semiconductors by segment

Semiconductors, microcontroller and MEMs lead times have moved out and many are on 30 weeks+. There are currently long delays on back-end packaging, particularly on the very popular SOT523 package and derivatives. Power semiconductors such as SiC, IGBT and MOSFET are in demand for electric vehicles and charging stations, and as a result we are seeing some longer lead times on these too. Our expectation is for lead times to increase further in the coming months with the possibility of allocation on certain products.

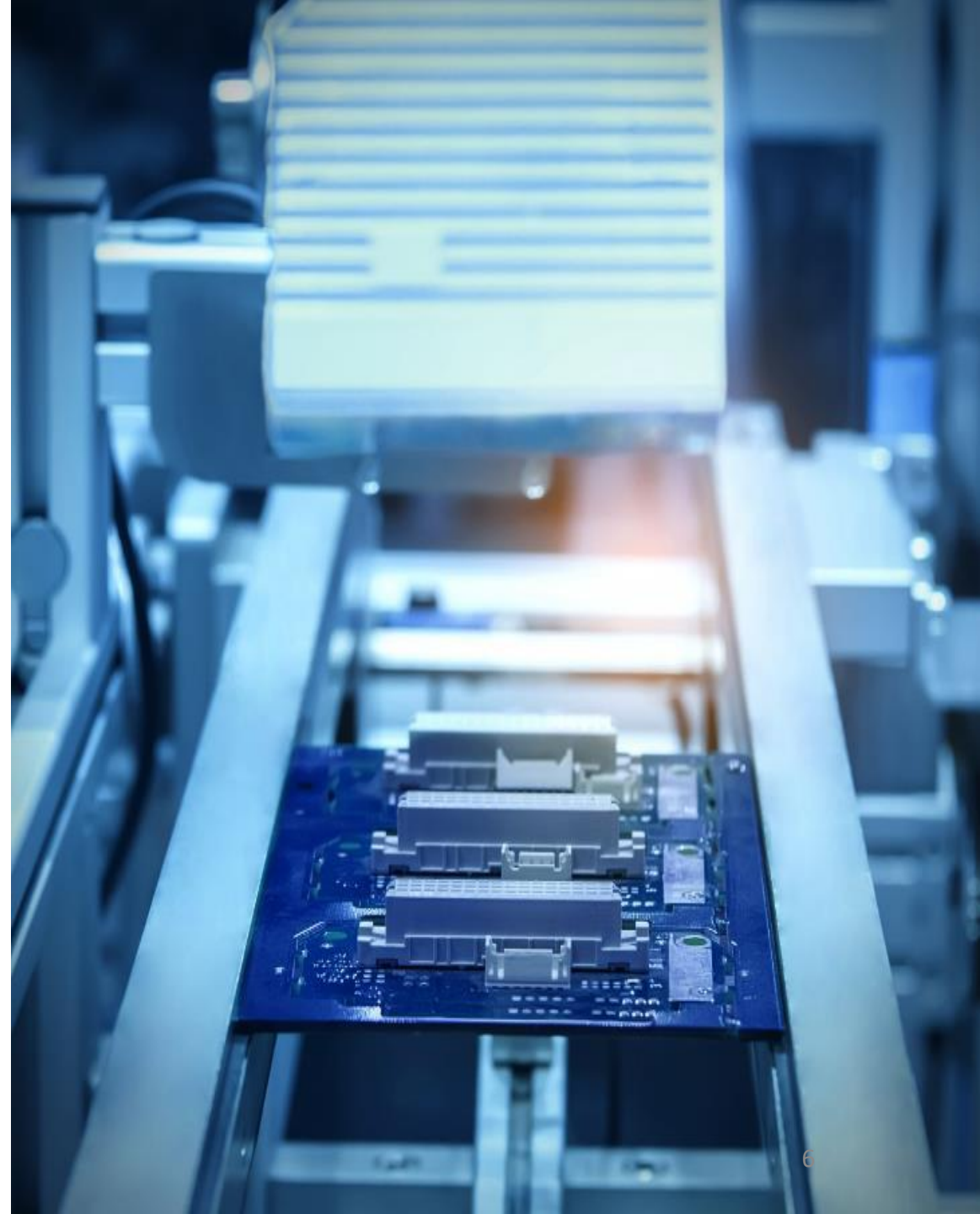
- **Xilinx** are showing positive signs of demand recovery in some markets for 2021. As a result they are seeing products with extended lead times. Xilinx are working to mitigate the impact and believe they will recover the majority of lead time extensions by 2H 2021. Xilinx announced a 25% price increase on all Spartan-6, Virtex-6 and -7 and Kintex-7 FPGA family products. The new pricing will take effect for orders placed after April 4th 2021.
- **Microchip** issued a price increase notice (from 15th Jan 2021) stating that lead times are extending (some from 18 weeks to 54 weeks). They also announced a 90-day NCNR notification effective Jan 1st 2021.
- **Cypress** CY7C/CY8C CYUSBxxx CYPD5xxx now on allocation
- **Altera** announced that Arria GX, Stratix II, Stratix II GX, MAX 7000A, MAX II (including G/Z) will be made obsolete without replacement due to low volumes and declining demand. LTB start June 4th 2021
- **Memory:** DRAM; NAND Flash; SRAM & NOR Flash The combination of steady consumer spending on tablets and the highly anticipated introduction of 5G compatible smartphones has led to strong demand for LPDDR4. We have seen a steady rise in pricing which will continue. Graphic Memory (GDDR5 and GDDR4) pricing is still elevated by 30-40% above the norm. **STM** moving towards allocation in MCU.
- **Microcontrollers** Availability has worsened in recent weeks. Supplies are very limited with availability and pricing from suppliers fluctuating daily. Lead times are well over 30 weeks and trending upwards. The most impacted manufacturers are STM, NXP and Renesas all with lead times of 40+ weeks.
- **Standard Logic** Big range in lead times depending on device from 8 – 36 weeks
- **Discretes** (**Nexperia**, **Diodes**) seeing wafer issues (8") and leadless package demand growth
- Rutronik loses **ST** to Avnet
- Future gains **Maxim** (acquired by AD) and **Infineon**

PEMCO by segment

- **Panasonic** have written a letter detailing the risk of delayed shipments – and recommending that orders are placed with some buffer lead time. They are recommending a 2-3 week safety buffer. Ocean ports are severely congested as a result of massively increased exports and also due to the lack of staff (Covid-19 implications).
- The global leaders in MLCC (**Murata** and **Taiyo Yuden**) have recently notified customers to extend the delivery period to 1 month and if possible, plan for the next 6 months, highlighting the serious shortage of supply. The supplies of **Yageo** and **Walsin** are also low and MLCC quotations are fluctuating.
- **MLCC** The market is starting to see an uptick in demand for the larger case-size MLCC's used in automotive applications, most notably for **Murata** and **TDK**. Lead times are between 16-24 Weeks and it is anticipated that we will have constrained supply for the rest of the year.
- **Tantalum Caps** There continues to be heightened demand for consumer-grade tantalum capacitors, specifically for **AVX**, **Murata** and **Kemet**. Lead times range between 20-30 Weeks. Pricing has slightly elevated over the last month.
- **Batteries** cost increase announced averaging 3-5%
- **Connectors**
 - **TE** - Lead times are increasing across their general portfolio. New cost book is expected this month largely due to raw material increases – average 3-5%
 - **Adamtech** – cost increase with immediate effect from 1st January
 - **Hirose** – new cost book with increases due February 2021 due to increase in raw materials
 - **WAGO** – Costs increases announced and will be reflected in their upcoming new cost book in March
 - **MillMax** – they have already increased prices for all products that have gold in them
- **Displays** – prices already increased – almost 30% in some cases
- **Crystals** – The AKM facility produces wafers used in the manufacturing of crystal oscillators. Suppliers are very tight in the market, causing severe shortages – most notably for **Epson**, **Abracon**, **TXC** and **KDS**. Lead times are extended to between 18-30 Weeks and are increasing.
- Farnell signed a distribution agreement with **ECS** (Frequency control and power management products)

Lead Times (1)

Manufacturer	Lead Time
Allegro Microsystems	16+ Weeks
Bourns	16-20 Weeks
Broadcom	6 Months
Chilisin	8-12 Weeks
Cypress	26-28 Weeks
Cypress (Spansion)	12-14 Weeks
Diodes Incorporated	17-19 Weeks
Everlight	13-15 Weeks
Intel (Altera)	8-12 Weeks
Infineon	22-39 Weeks
ISSI	6-8 Weeks
Kingbright	8-10 Weeks
Lattice	16-18 Weeks
Littelfuse	12-14 Weeks
Macronix	14-16 Weeks
Marvell	24-26 Weeks
Maxim	10-14 Weeks
Microchip	16-20 Weeks



Lead Times (2)

Manufacturer	Lead Time
Micron	10-14 Weeks
Molex	15-17 Weeks
Nexperia	14+ Weeks
Nuvoton	8-10 Weeks
NXP (Freescale)	20+ Weeks
On Semi	17+ Weeks
On Semi (Fairchild)	8-12 Weeks
Renesas	16-18 Weeks
Renesas (Intersil)	9-12 Weeks
Rohm	30+ Weeks
Silicon Labs	20-24 Weeks
STM	16+ Weeks
STM (MCU)	30+ Weeks > towards allocation
TE	12-20 Weeks
TI	16-20 Weeks
Toshiba	24-26 Weeks
Vishay	16-24 Weeks
Xilinx	12-14 Weeks



PCBs

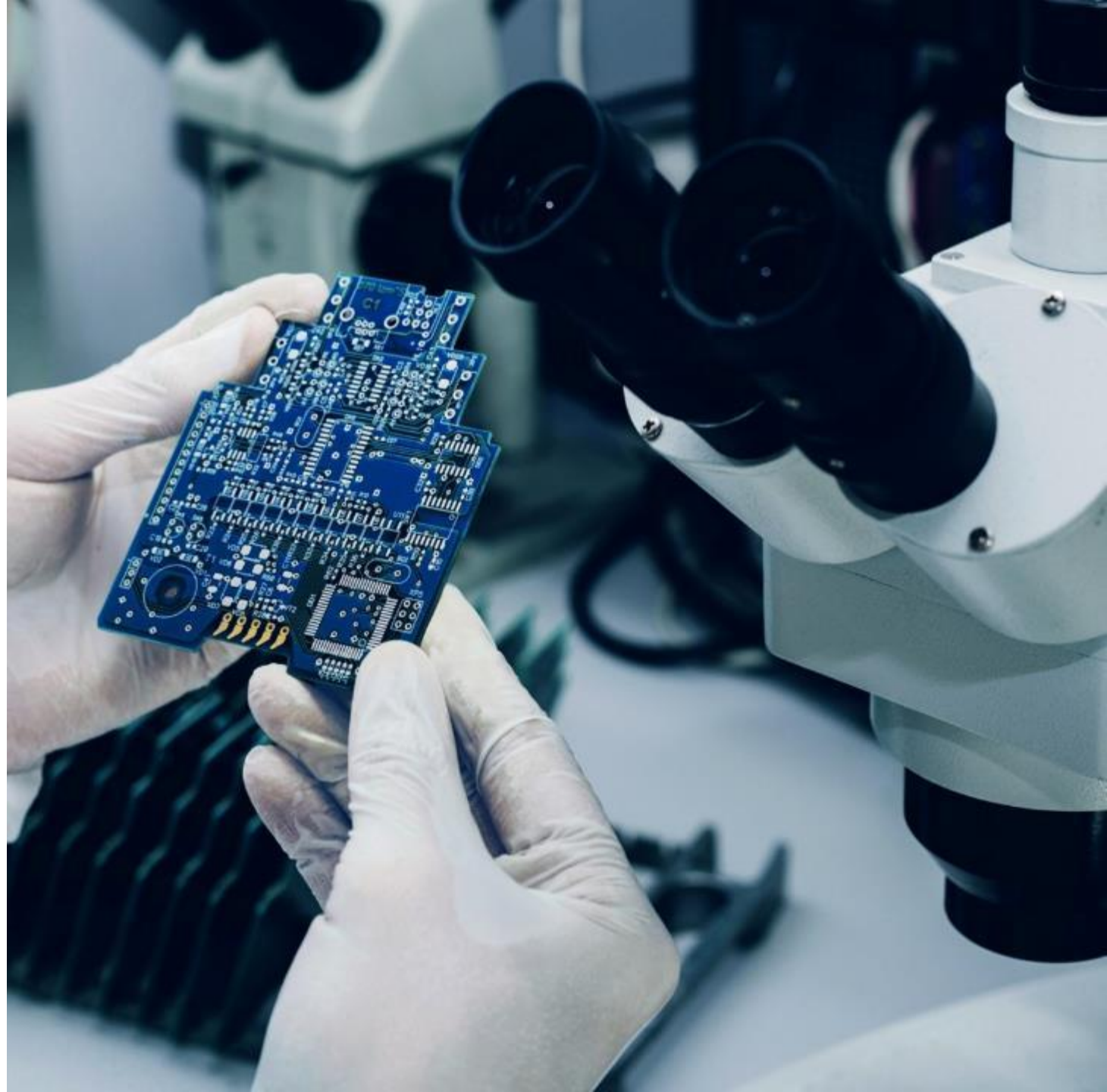
Potential Price Increases:

- General 6%
- Low tech volume 8%
- HiTech volume 6-9%
- Special tech (Flex etc) on case by case

Lead-times:

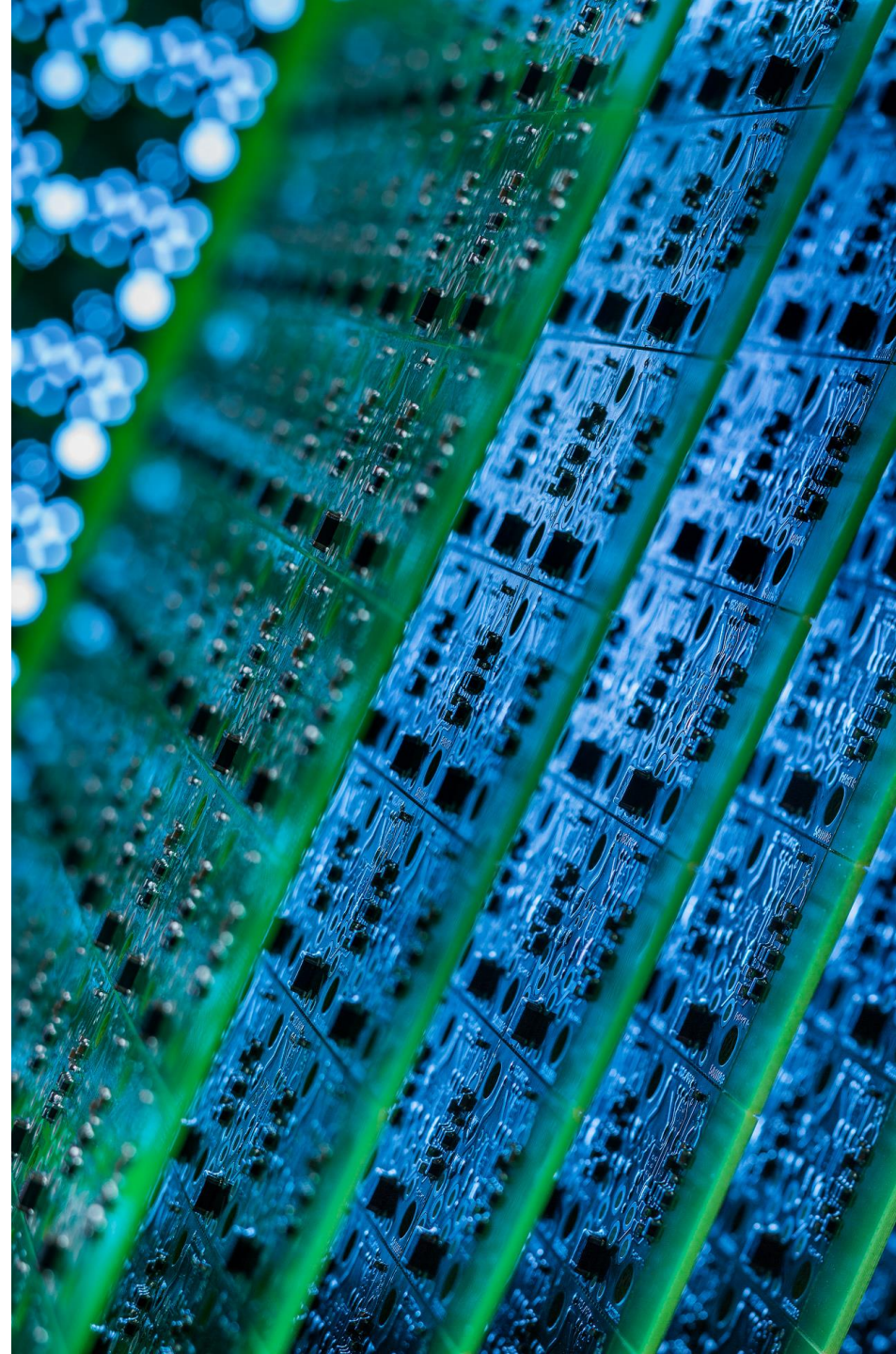
- Std materials: Not noticeable hit yet,
- Currently no change. Projection is successive prolongment.
- Special materials, Hi-Tg, Halogen free materials are already hit but seems to be under control.
- There are certain specific laminates that are troublesome.

- Chinese New Year Celebrations are:
11th February – 17th February 21



Transportation & Covid19 Impact

- **Air freight** - After a spike in December, the demand for air freight remains high. The transportation of Covid-19 vaccines and the increased need for PPE are adding further pressure on the market. With the exception of the Trans-Pacific trade lane, global air cargo capacity is not back at pre-COVID levels. It remains below 20% for the same period in 2020. The overall capacity situation remains critical, especially for the Asian markets. The shortage of ocean freight containers is causing constraints in global air freight capacity while passenger aircraft belly-space remains off the market. Prices are still high and this situation will hopefully improve after Chinese New Year.
- **Sea freight**- The restart of manufacturing in China followed the early spring slump in global shipping that left millions of 40-foot containers stranded or out of position in countries that import from Asia. Container availability has been further impacted by soaring demand because of the approaching holiday season, ongoing demand for Personal Protective Equipment (PPE), a reduction in global air freight capacity, changing ecommerce trade-flows, and anticipated demand for refrigerated containers for COVID-19 vaccine logistics. The current scramble for containers has contributed to a spike in ocean rates, particularly along Transpacific lanes. In some cases, ocean carriers have been unable to fulfil bookings because of the shortage of containers in Asia.
- **Rail freight**-Train freight is also suffering the space and container availability because of increased demand. Due to that, prices are still high and availability is filling up fast. Prices may decrease after Chinese New Year celebrations.





Summary

- Component Supply is becoming constrained – all technology lead times are extending, and price increases are expected. NOTE Central Sourcing is continuously monitoring the market and can regularly update you with changing conditions in these challenging times, including price changes; lead times information and manufacturer Covid-19 specific statements.
- NOTE Components and its sites have fantastic relationships with distributors. In fact, we call them our partners. We nurture long term partnerships with our suppliers and they in turn support us with our requirements. If you can provide us with long term visibility, to enable us to communicate through to our strategic supply base, the more likely it is that we will have continuity of supply.



THANK YOU