

A composite image featuring a green-tinted F-35 fighter jet in the center, with a pilot's profile on the right side. The background is filled with glowing green circuit board patterns.

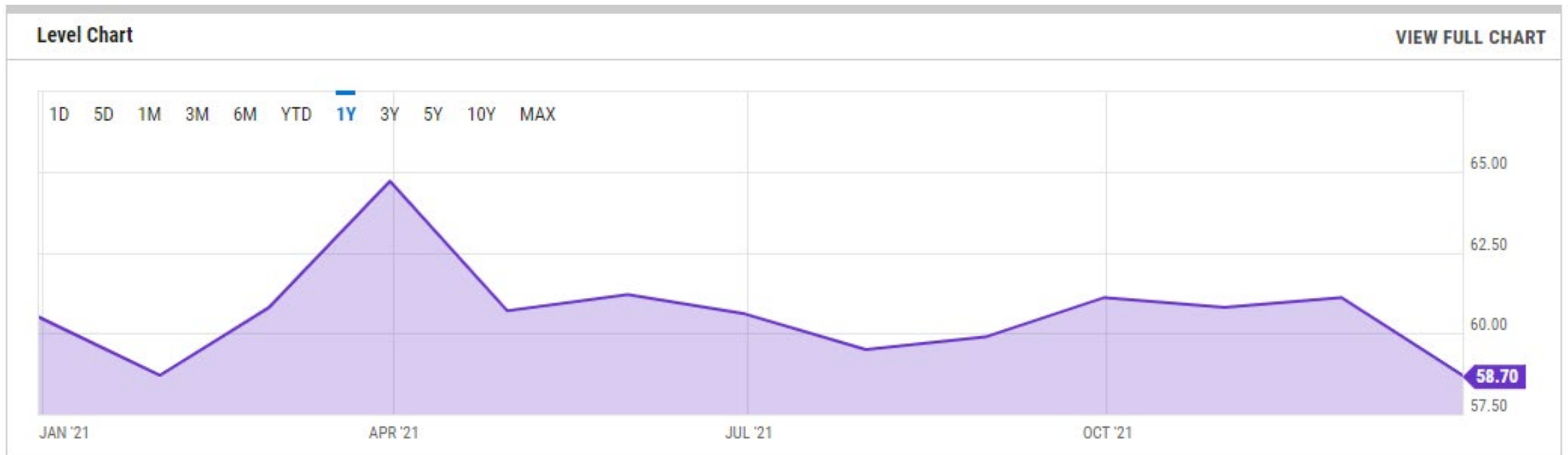
Date

Market Conditions Q1 2022

creation
TECHNOLOGIES



The ISM Manufacturing PMI in the US fell to 58.7 in December of 2021 from 61.1 in November, below market forecasts of 60. The reading pointed to the weakest growth in factory activity since January, amid a slowdown in new orders (60.4 vs 61.5) while employment grew the most since April (54.2 vs 53.3) and prices paid eased the most since March 2020 (68.2, the lowest reading since November 2020, vs 82.4). The U.S. manufacturing sector remains in a demand-driven, supply chain-constrained environment, with some indications of slight labor and supplier delivery improvement. "All segments of the manufacturing economy are impacted by record-long raw materials and capital equipment lead times, continued shortages of critical lowest-tier materials, high commodity prices and difficulties in transporting products. Coronavirus pandemic-related global issues continue to limit manufacturing growth potential. However, panel sentiment remains strongly optimistic", Timothy Fiore, Chair of the ISM said. source: [Institute for Supply Management](#)



World economy in 2022: the Big Factors to Watch Closely

One complicating factor is that most of the latest major forecasts were published in the weeks before the omicron variant swept the world. At that time, the mood was that recovery was indeed around the corner, with the IMF projecting 4.9% growth in 2022 and the OECD projecting 4.5%. These numbers are lower than the circa 5% to 6% global growth expected to have been achieved in 2021, but that represents the inevitable rebound from reopening after the pandemic lows of 2020.

THE INFLATION QUESTION

One other big unknown is inflation. In 2021 we saw a sudden and sharp surge in inflation resulting from the restoration of global economic activity and bottlenecks in the global supply chain. There has been much debate about whether this inflation will prove temporary, and central banks have been coming under pressure to ensure it doesn't spiral.

Morgan Stanley Real GDP Forecasts (Year/Year)

GDP (%Y)	2021E	2022E		2023E	
	MS	MS	Consensus	MS	Consensus
Global	6.1	4.7	4.3	3.8	3.6
G10	5.0	4.4	4.0	2.9	2.2
U.S.	5.5	4.6	4.0	3.7	2.4
Euro Area	5.2	4.6	4.3	2.5	2.1
Japan	1.9	2.9	2.6	1.6	1.3
UK	6.9	4.6	5.0	1.6	2.0
EM*	6.9	4.9	4.6	4.5	4.7
China	7.8	5.5	5.0	4.8	5.4
India	8.9	7.5	6.8	7.3	7.2
Brazil	4.8	0.5	1.0	1.8	2.0
Russia	4.4	2.7	2.5	2.5	2.1

Source: Bloomberg, Haver Analytics, IMF, Morgan Stanley Research forecasts. Note: Aggregates are PPP-weighted. Brazil consensus number taken from BCB market expectations survey. China consensus reflects a subset of peers.

Whatever happens politically, it is clear that Asia will be very important for growth prospects in 2022. Major economies such as the UK, Japan and the eurozone were all still smaller than before the pandemic as recently as the third quarter of 2021, the latest data available. The only major developed economy that has already recovered its losses and regained its pre-COVID size is the United States..

Q1 & Q2 Concerns

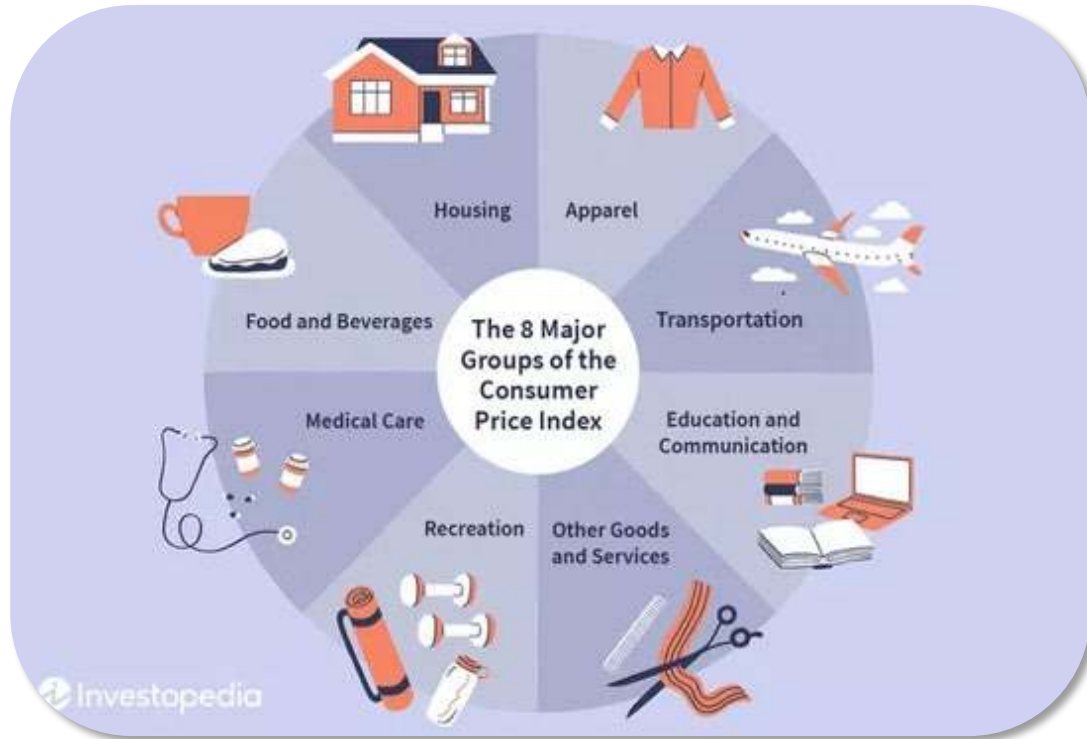


Inflation- Consumer Price Index

“The **Consumer Price Index (CPI)** is a measure of the average change over time in the prices paid by urban consumers for a market basket of consumer goods and services. “

(Source: <https://www.bls.gov/cpi/>).

The 8 major CPI categories are listed below.



Source: <https://www.investopedia.com/terms/c/consumerpriceindex.asp>

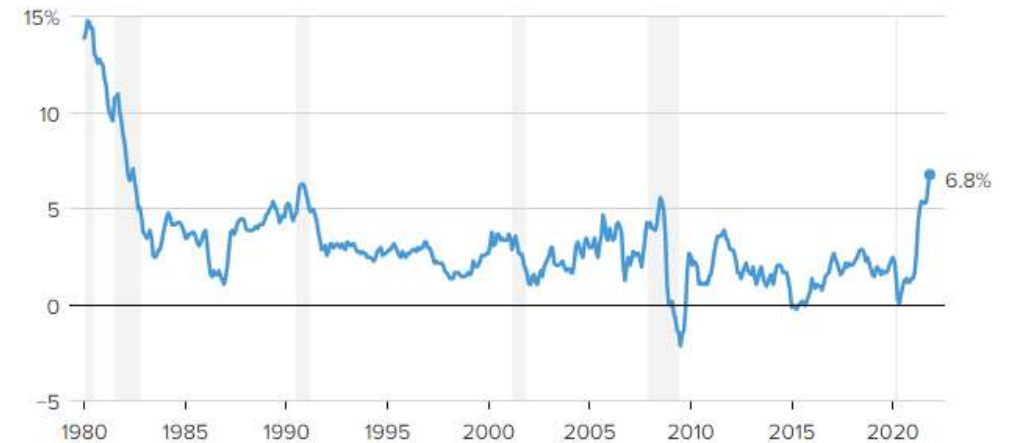
“The All Items index rose 6.8 percent for the 12 months ending November, the largest 12-month increase since the period ending June 1982.” (Source:

<https://www.bls.gov/news.release/cpi.nr0.htm>)

Historical CPI index data can be found below.

Consumer price index, percent change from a year ago

All items in U.S. city average



Note: Shaded areas indicate U.S. recessions.

Source: Bureau of Labor Statistics. As of Nov. '21.

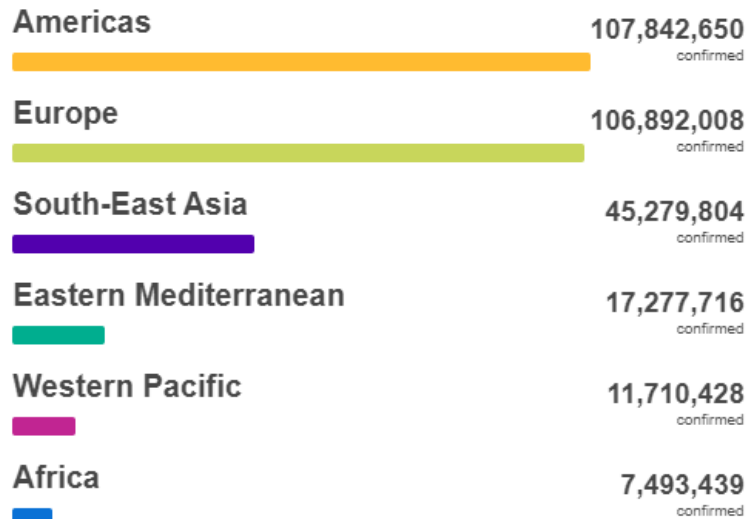


Source: <https://www.cnbc.com/2021/12/10/consumer-price-index-november-2021.html>

COVID-19 2022 Impact

Worldwide cases of Coronavirus (COVID-19) have been increasing significantly in early 2022. New cases are developing at record levels. Supply chain continuity will continue to be impacted as cases increase. Manufacturing capacities and transportation times are expected to be impacted in early 2022.

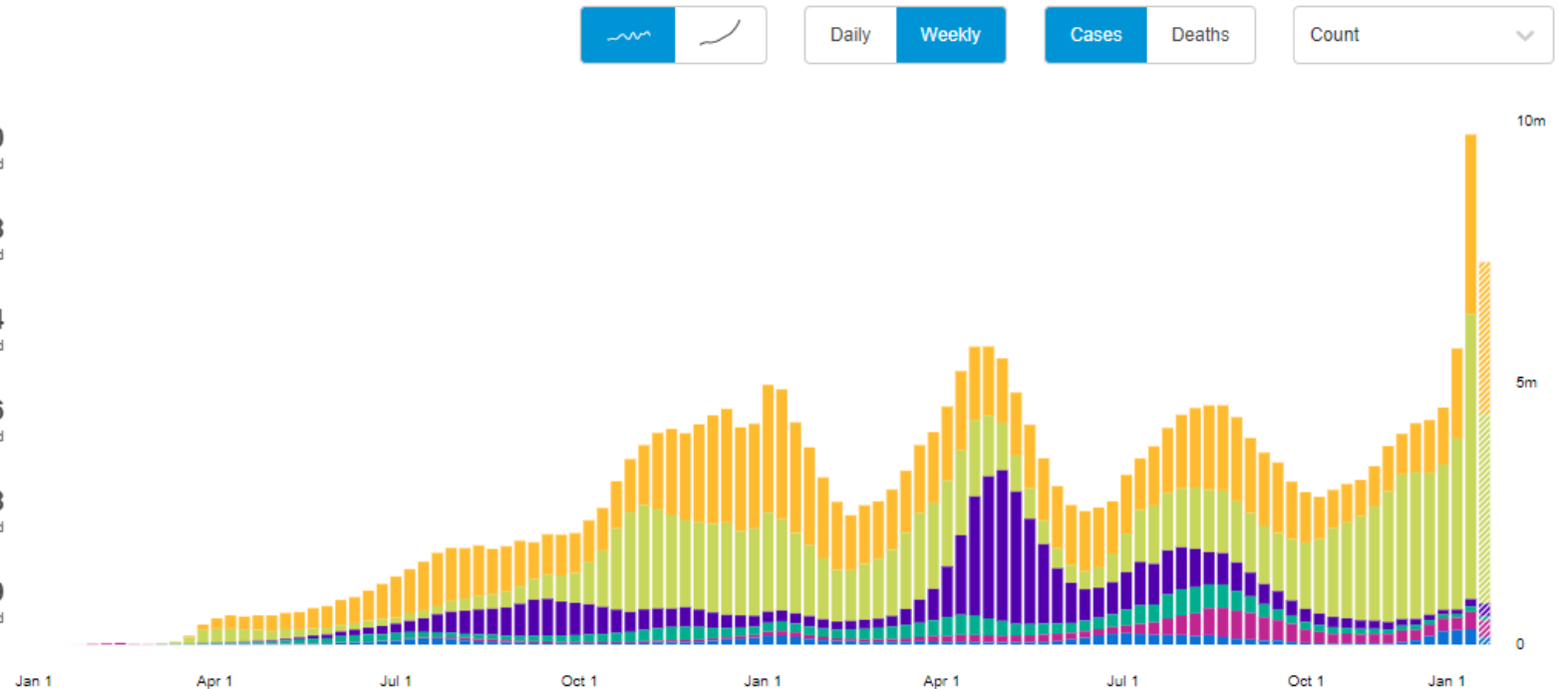
Situation by WHO Region



Source: World Health Organization

▨ Data may be incomplete for the current day or week.

Source: <https://covid19.who.int/>



Most Recent Concerns

ASML Holding, which supplies a vital technology used in computer chips, has reported a fire at a manufacturing plant, but the extent of the damage isn't yet known.

The government-mandated lockdown in the city of Xi'an, China is impacting production at Micron Technology and Samsung Electronics.

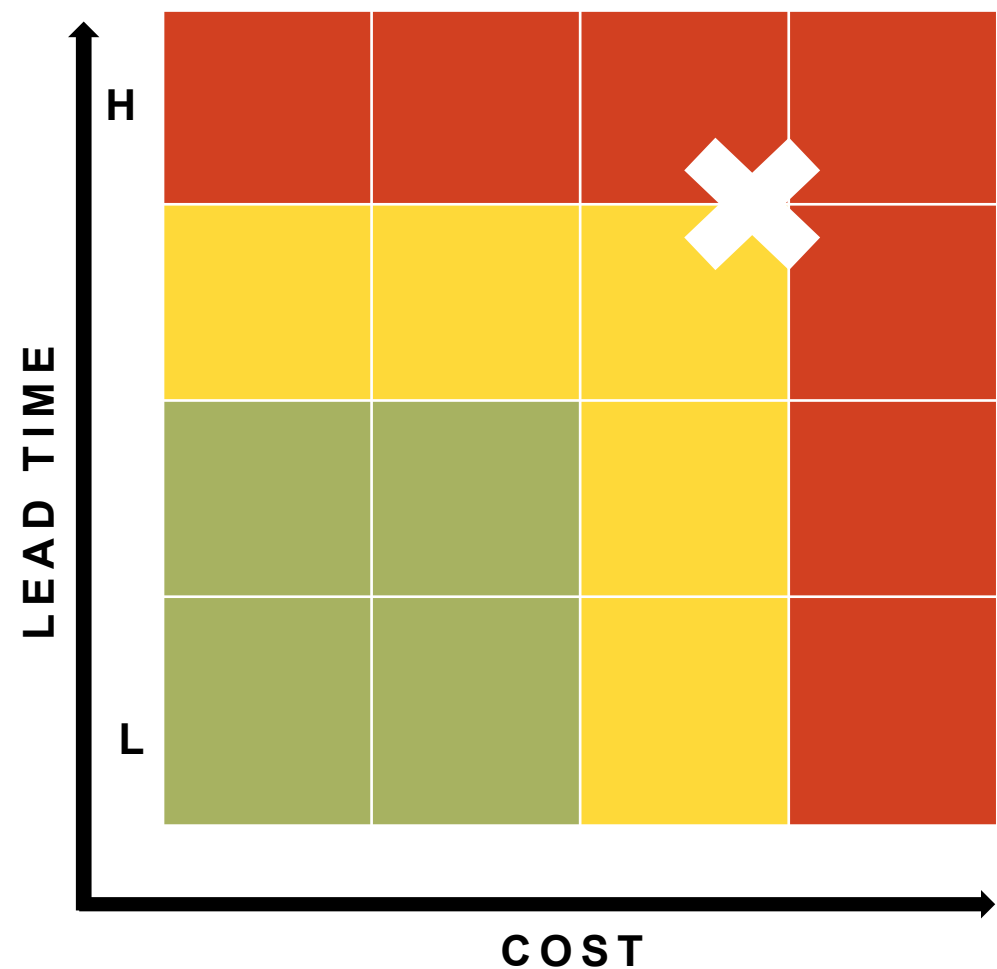
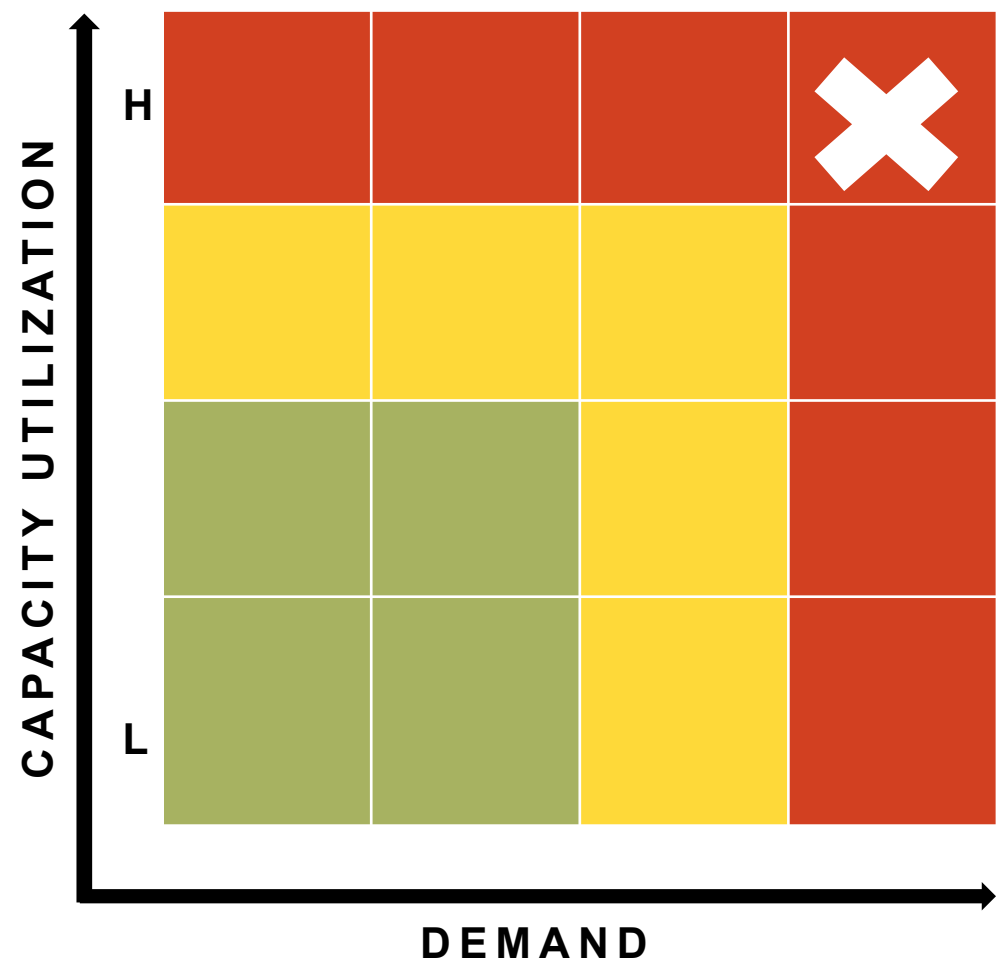
Severe flooding in Malaysia is also affecting chipmakers in the region, including NDK and STMicro.



Semiconductor Q1 2022 Outlook

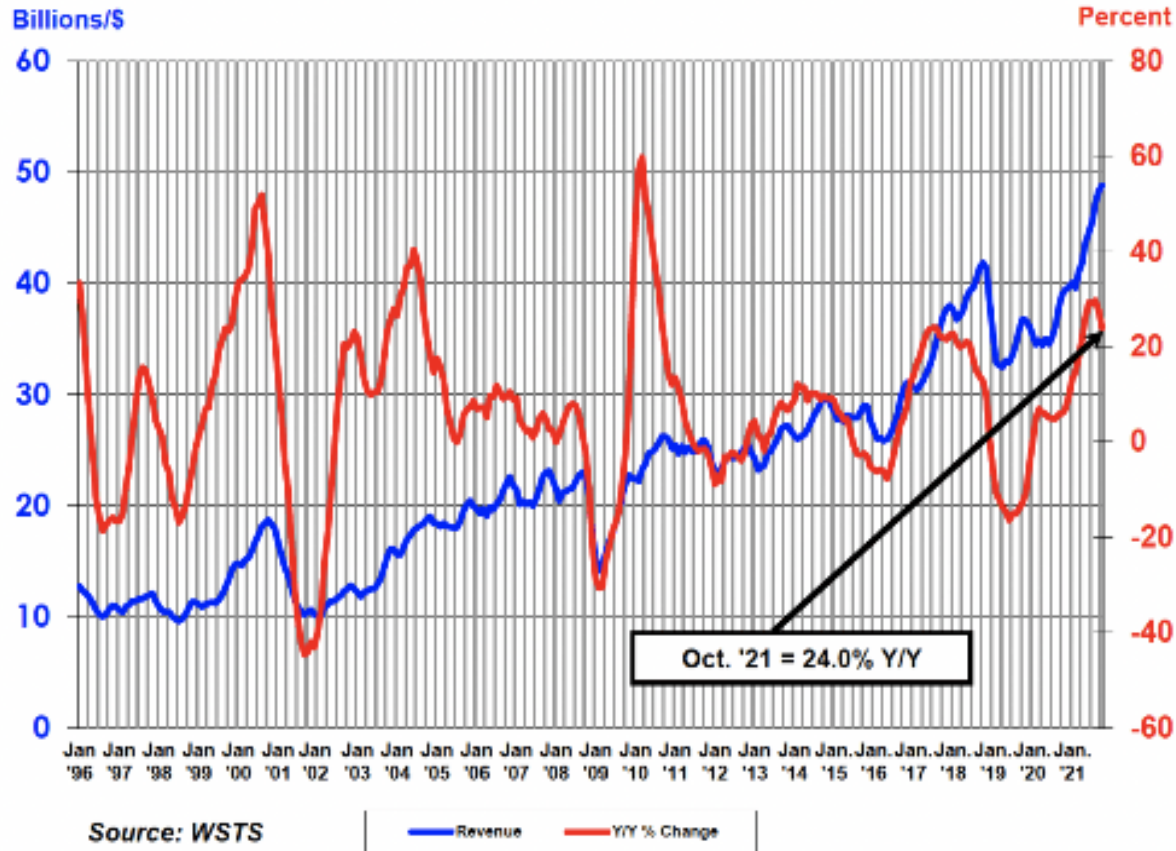


Semiconductor Market Conditions Outlook



Worldwide Semiconductor Revenues

Year-to-Year Percent Change



Global Semiconductor Sales Increase 24% Year-to-Year in October; Annual Sales Projected to Increase 26% in 2021, Exceed \$600 Billion in 2022
SEMICONDUCTOR INDUSTRY ASSOCIATION, Dec 3, 2021

Global Semiconductor Sales Increase

- Dec. 2, 2021—The Semiconductor Industry Association (SIA) today announced worldwide sales of semiconductors were \$48.8 billion in October 2021, an increase of 24.0% from the October 2020 total of \$39.4 billion and 1.1% more than the September 2021 total of \$48.3 billion. Monthly sales are compiled by the World Semiconductor Trade Statistics (WSTS) organization and represent a three-month moving average.
- A newly released WSTS industry forecast projects annual global sales will increase 25.6% in 2021 and 8.8% in 2022. SIA represents 98% of the U.S. semiconductor industry by revenue and nearly two-thirds of non-U.S. chip firms
- Global semiconductor demand remained high in October, with year-to-year sales increasing substantially across all major regional markets,” said John Neuffer, SIA president and CEO. “Annual chip sales and units shipped are projected to reach all-time highs in 2021, with moderate annual growth expected in 2022
- Regionally, year-to-year and month-to-month sales increased across all major regional markets: the Americas (29.2% year-to-year, 2.6% month-to-month), Europe (27.3%, 2.8%), Japan (23.7%, 1.1%), Asia Pacific/All Other (22.6%, 0.2%), and China (21.1%, 0.3%).

Predictions for 2022 Global Semiconductor Sector

The global semiconductor industry is in a difficult place

The field has been coping with a chip shortage since late 2020 that has disrupted end-market manufacturing operations across dozens of segments. Market analysts estimate the bottleneck will cost the automotive sector alone \$210 billion this year. Moreover, leading chipmaking executives and insiders believe the component crunch will persist throughout 2023.

Accordingly, the electronic components supply chain will grapple with lead time delays, availability issues, and pricing fluctuations throughout the coming year.

Samsung “expects its component shipments to increase by the middle of 2022. The outlook is positive due to a recent change in supply chain management.”

ELECTRONIC COMPONENT SHORTAGES: CAN SUPPLY CHAINS THRIVE POST-COVID?

The COVID-19 pandemic certainly threw everyone for a loop, but electronics manufacturers especially suffered thanks to supply chain disruptions and component shortages. The pandemic shut down a lot of avenues for raw materials and bulk electronic components, leaving manufacturers with half-finished products and idle capacity. Many components come from supply chains in Asia, and since China was ground zero for the coronavirus, the shortages started to affect U.S. manufacturers before the virus hit American soil.

In an April 2021 report, JJS Manufacturing detailed how the chip shortage is affecting more than just the auto industry. Shortages are now reaching across all manufacturers, industries, and products. Shortages aren't the only problem -- so are rising prices. As demand for electronic components rises, the supply dwindles, and costs increase. Thanks to the U.S. stimulus package, many electronics manufacturers were able to stay on their feet and even begin retooling to produce much-needed electronics like ventilators or thermometers.

Arm Holdings “the semiconductor industry’s multibillion-dollar investments in building new fabs and production lines in response to the crisis would bolster availability near 2023. It is also worth noting that 19 plants with mass production capability began construction in 2021

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JP Morgan “manufacturers, foundries, and IDM’s bringing new facilities online will partially relieve the bottleneck ahead of Q3 2022

AMD forecasts “that supplies of the company’s products will remain tight in the first half of 2022. But the widespread unavailability would become less severe in 2H22.

The Chip Crunch Should Ease Up in 2H22

The consensus among leading chipmakers is that the global parts shortage will continue undercutting their output until 2023. Because interest in electronic devices and equipment skyrocketed in the aftermath of the coronavirus pandemic, the current level of production capacity is insufficient. That said, multiple component company executives believe that the bottleneck will ease up in the second half of 2022.

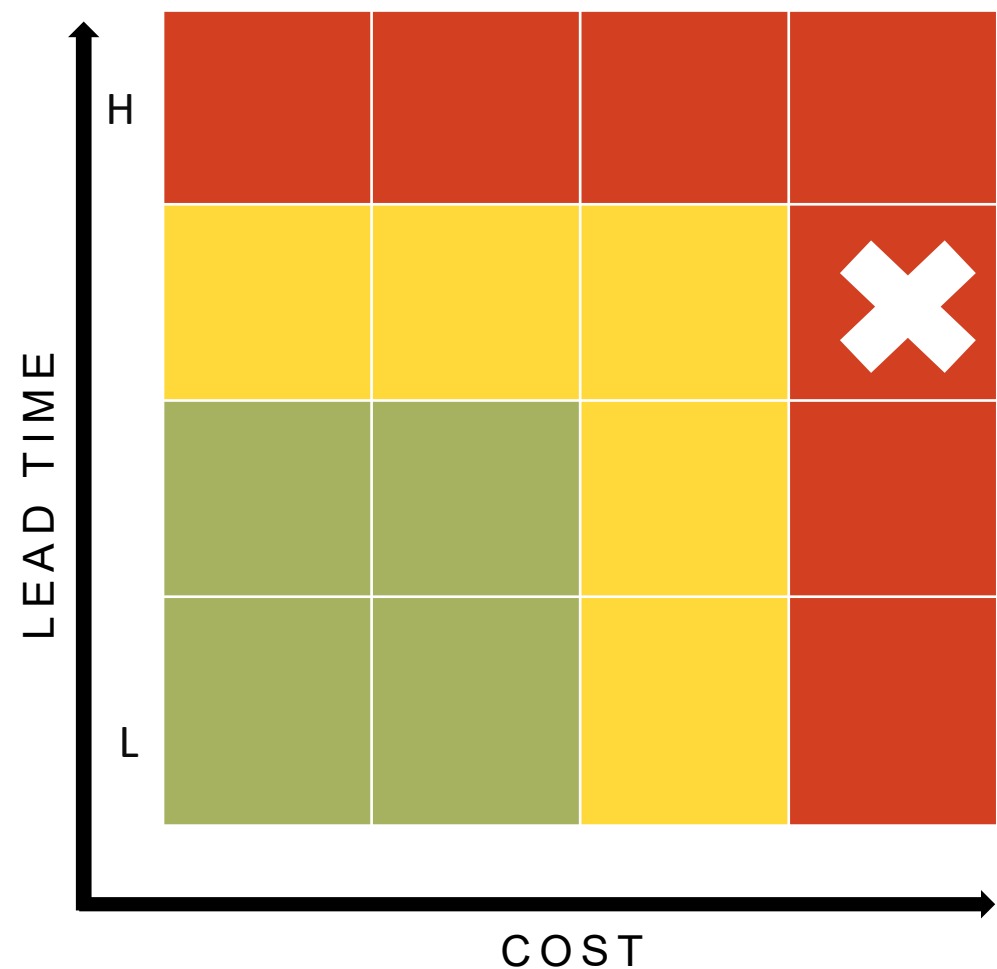
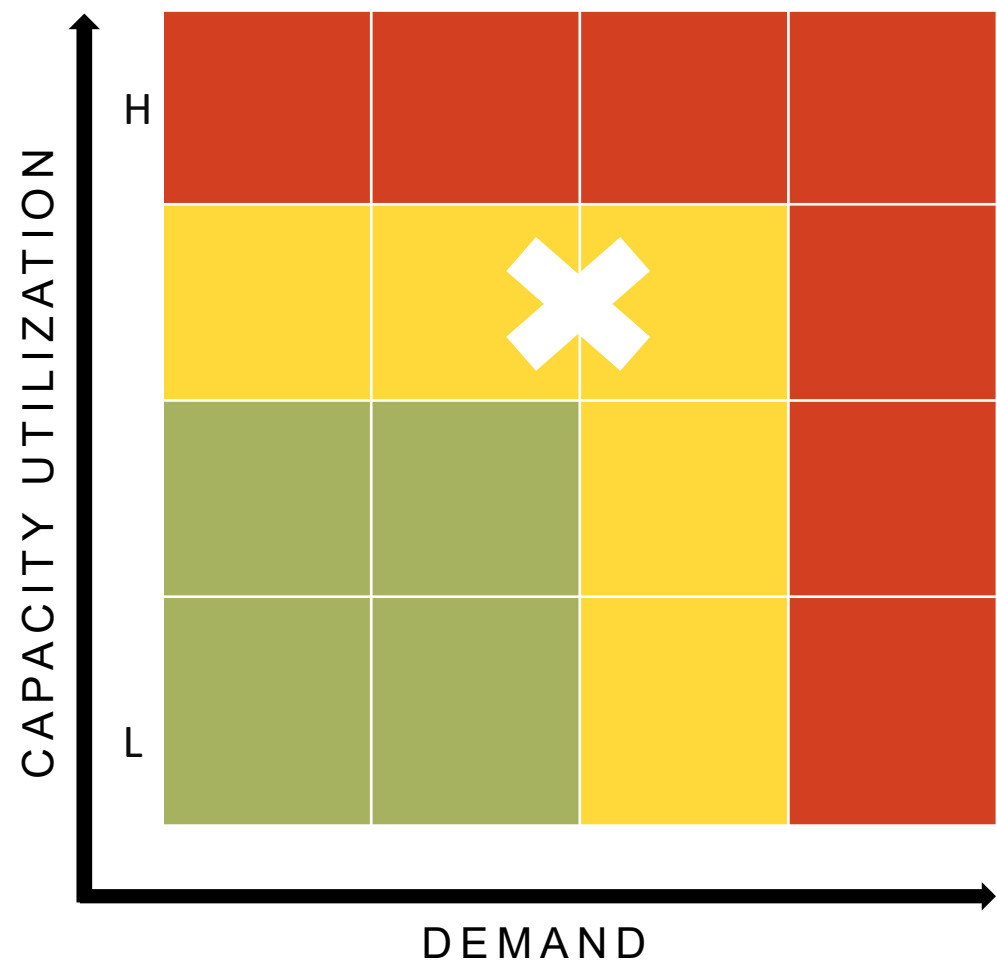
Although the chip shortage is far from over, it should be much less severe by next summer.

Qualcomm “should meaningfully resolve its supply chain problems in late December and have sufficient capacity to meet demand in the last six months of next year

Interconnect Market Q1 2022 Outlook



Interconnect Market Conditions Outlook



More stable lead times & record sales:

LEAD TIMES:

Average lead times for interconnect components remain higher than the average in this industry in 2019. However, lead time increases seems to be less common than previous quarters, this could be an indication that lead times will be more stable at the beginning of 2022.

In their last financial report, TE Connectivity one of the main Interconnect manufacturers in the industry, reported a decrease on the book to bill ratio from 1.18 in FYQ3 2021 to 1.08 in FYQ4 2021.

<u>Reported</u>	FY20	FY21	FY21	Q4 Growth	
	Q4	Q3	Q4	Y/Y	Q/Q
Transportation	2,124	2,562	2,349	11%	(8)%
Industrial	799	1,218	1,140	43%	(6)%
Communications	425	755	647	52%	(14)%
Total TE	3,348	4,535	4,136	24%	(9)%
Book to Bill	1.03	1.18	1.08		

- \$ = In Millions of USD => Source = TE Connectivity Financial report Oct 2021

INTERCONNECT RECORD SALES IN 2021:

Industry sales increased 20.7% year-over-year in Q3 2021 to \$20,150 million. This is a record sales amount for the industry in a single quarter. According to the Bishop Interconnect report, the sales projection for all 2021 is anticipated to be around \$77,841 million USD a 24.1% YOY increase.

Connector Industry Quarterly Sales Results/Forecast
2019, 2020, and 2021

Quarter	2019 Actual	2020 Actual	YOY Change	2021 Forecast	YOY Change
1Q	\$15,890	\$15,397	-3.1%	\$19,061	23.8%
2Q	\$16,097	\$13,333	-17.2%	\$19,000	42.5%
3Q	\$16,475	\$16,689	1.3%	\$20,150	20.7%
4Q	\$15,707	\$17,308	10.2%	\$19,630	13.4%
Total	\$64,169	\$62,727	-2.2%	\$77,841	24.1%

\$ Million, Bishop ©2021 Red=Forecast

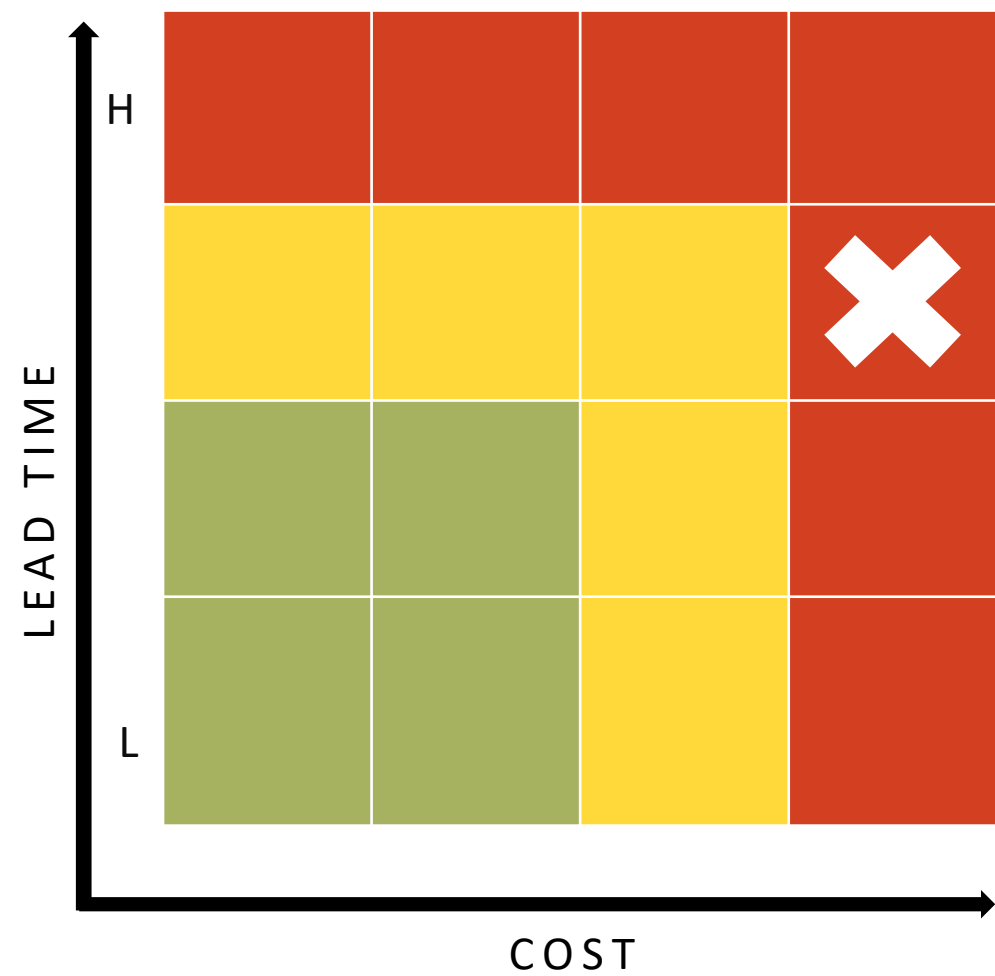
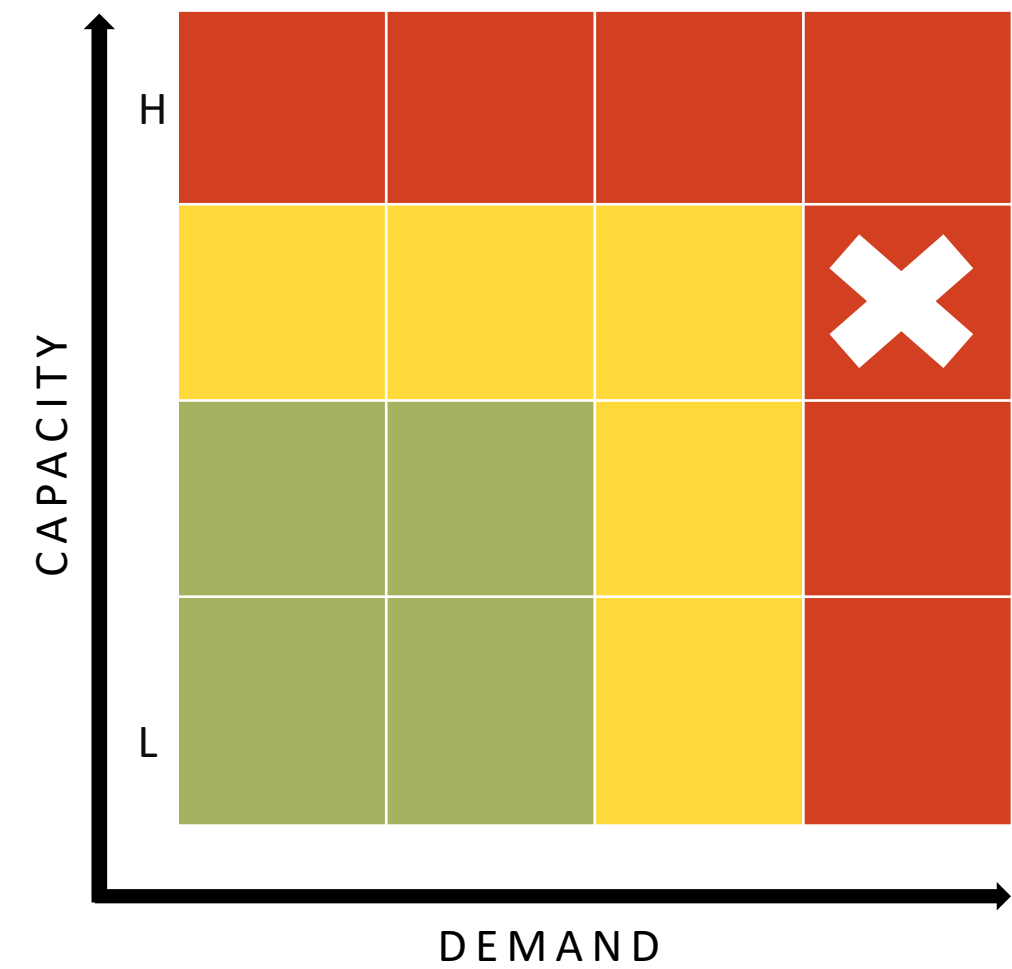


- Source = TTI / Bishop Report

Plastic Market Q1 2022 Outlook



Plastics Market Conditions Outlook



Plastics Market Conditions Outlook

- Materials and resin production will continue at a higher rate in 2022.
- Prices for Q1-2022 and Q2-2022, will remain high, however the expectations is that they flatten out by Q3-2022 and Q4-2022 once 4 new production facilities (2 in Texas, 1 in Pennsylvania and 1 in Canada) come on board and offshore supply starts hitting the west cost ports.
- Product output is likely to have increased 3.3% in 2021 and will increase 1.8% next year.

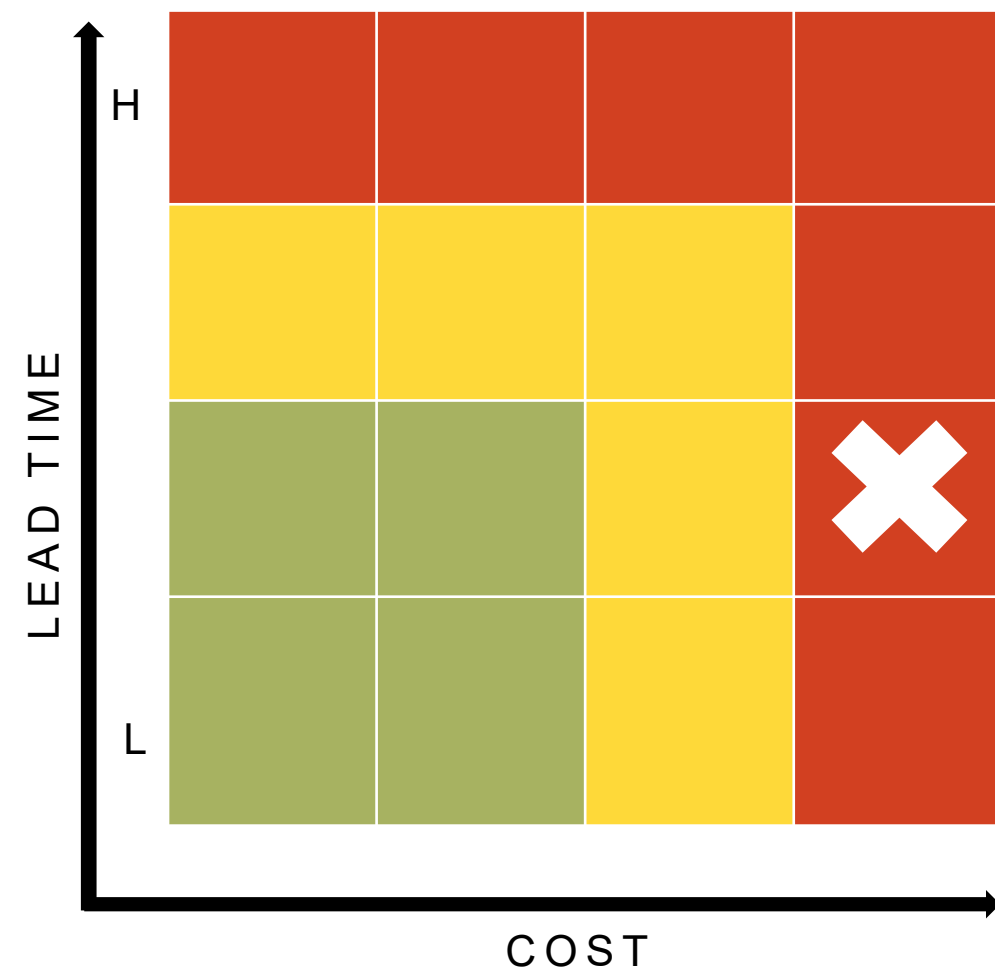
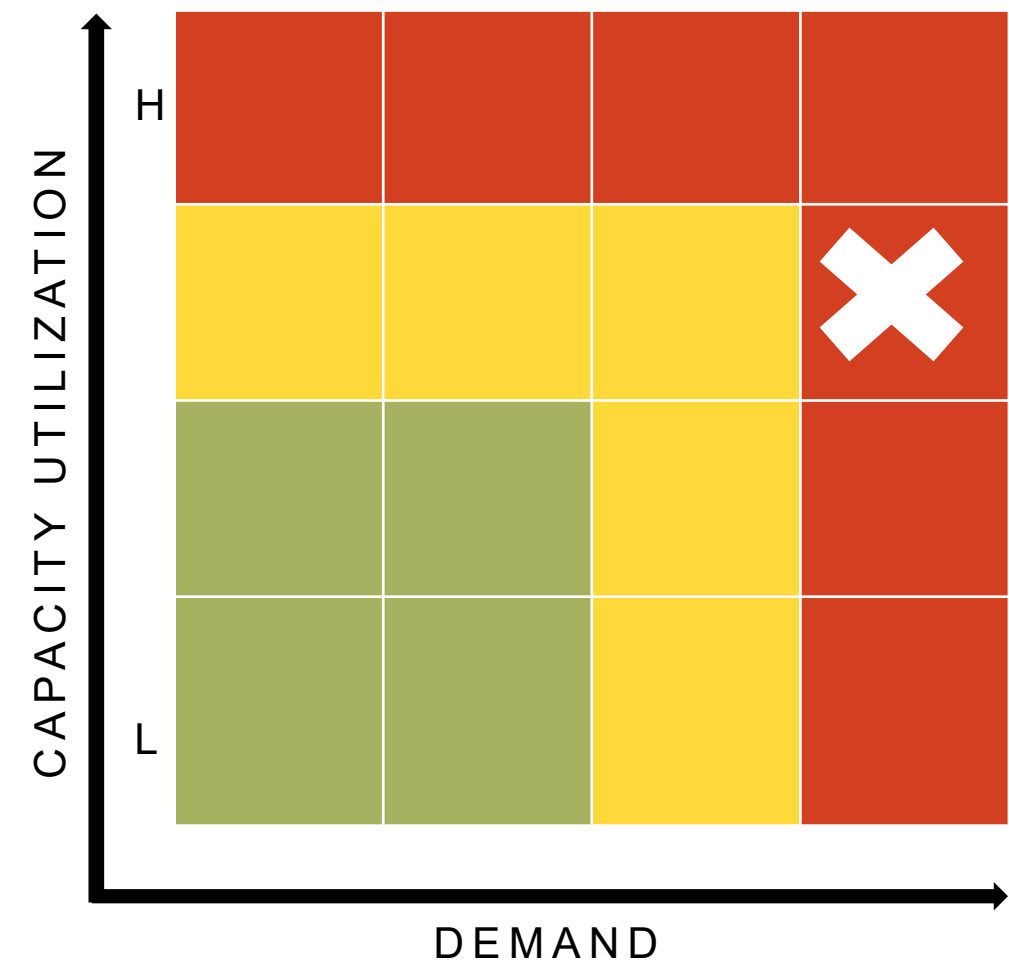
TYPE	PRICING	SUPPLY	DETAIL
Polyethylene (PE)	Prices settling and remaining flat.	Supply continues to improve with only a few issues with some additives. Still strong domestic demand, but inventories now climbing due to reduced exports and plants running after shutdowns and turnarounds.	HDPE – improved LLDPE C4 available, C6 & C8 grades remain snug LDPE – some branded material remains under sales control.
Polypropylene (PP)	Prices settling.	Imports hitting US market at double 2020 average. Plant operating rates improved and inventory building partially due to September sales decline.	Potential limitations on key materials: Peroxide shortage impacts high melt products. Additives for resin stabilizers imported from China seeing delivery delays.
ABS	Volatile and increasing	Ocean freight increasing exponentially, sometimes doubling in one month. Ports overloaded with peak season surcharges being assessed to Ocean Freight.	Strong demand, continued raw material shortage and unprecedented logistics issues continue for this import.
PVC	Slightly up but flattening.	Most suppliers have lifted Force Majeure but maintain order limitations.	There are still sourcing constraints on additives and plasticizers limiting some availability, driving prices up and extending lead times.
TPE	Steady	Materials available	
Polycarbonate (PC)	Pricing up	Several Covestro suppliers are still on Force Majeure or sales allocation. Additives (especially FR): ABS and Polyester are very challenging.	Makrolon and Bayblend remain on sales allocation with 11–13-week lead times. Makroblend (polycarbonate / Polyester) remains on Force Majeure with a 13-week lead time. Polycarbonate is not the issue.
Acetal	Expect price increases to continue.	The market is short due to strong demand, import shipping issues and force majeures. Lead times extended on imports.	Shipping costs are sharply rising, and Methanol prices are higher.

Source: <https://www.plasticsnews.com/news>, <https://www.plasticstoday.com/>

PCB Q1 2022 Outlook

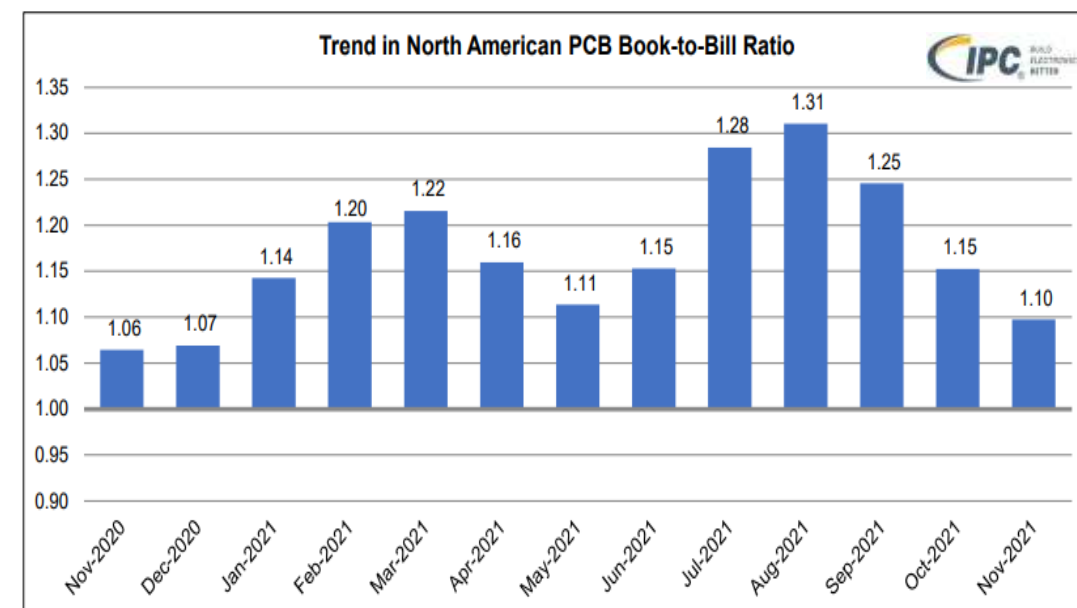
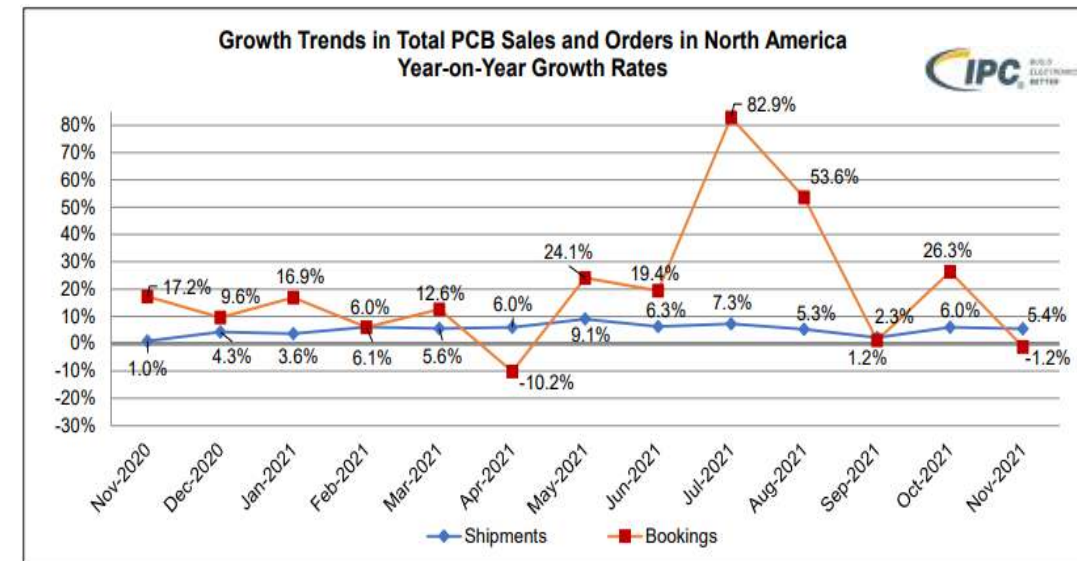


PCB Market Conditions Outlook



“Lower than normal utilization rates and other supply chain struggles continue to restrain PCB shipments,” said Shawn DuBravac, IPC’s chief economist. “Year-to-date books are up nearly 18% while shipments are up 5.7% over the same time period.”

- 13 consecutive months PCB Book-to-Bill Ratio >1.00.
- Inflationary pressure, labor shortage, and material constraint continue to drive volatility.
- Demand for High-speed laminate and Heavy Cu continue to increase, creating pressure pockets.
- Raw material lead-time have decreased slightly
- Current outlook suggests lead-time continue to stabilize however increased booking and capacity utilization will be a key metric for further reduction.
- China and Taiwan Copper Clad Laminate (CCL) Manufactures slated for capacity expansion.
- Factory Expansion continue in Asian PCB manufactures

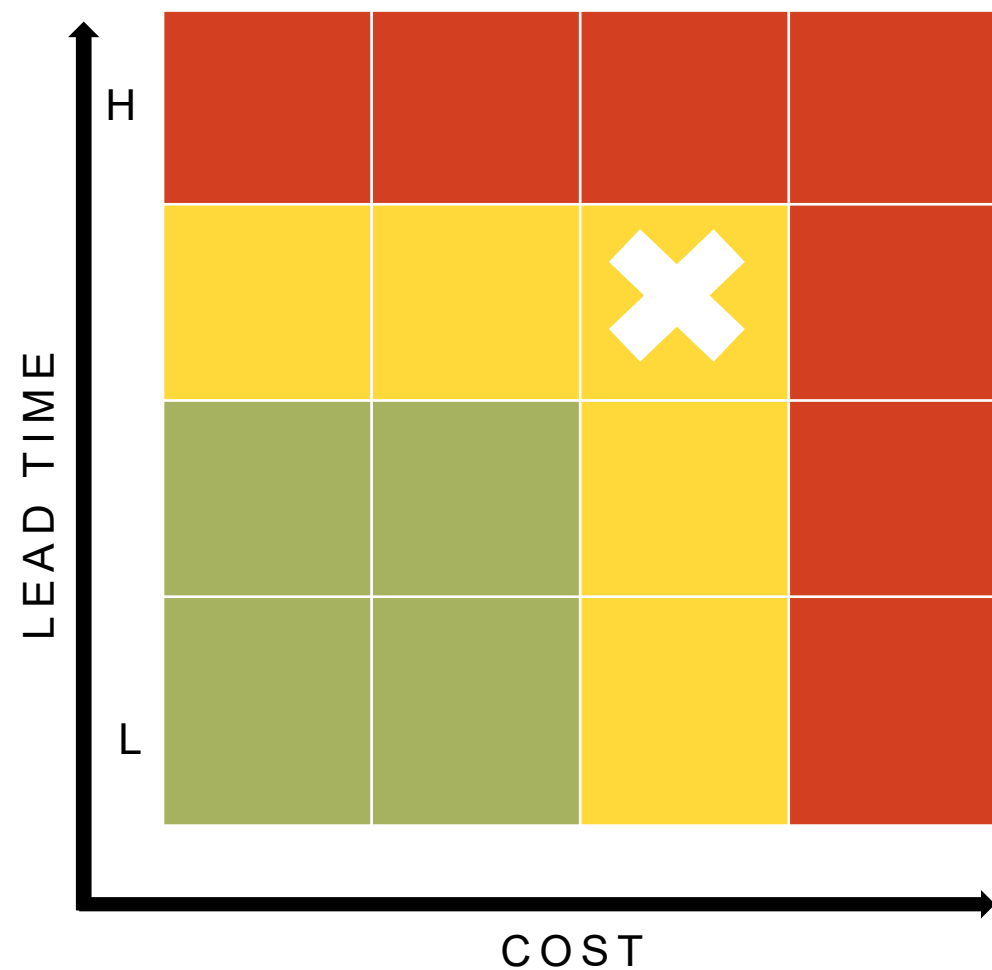
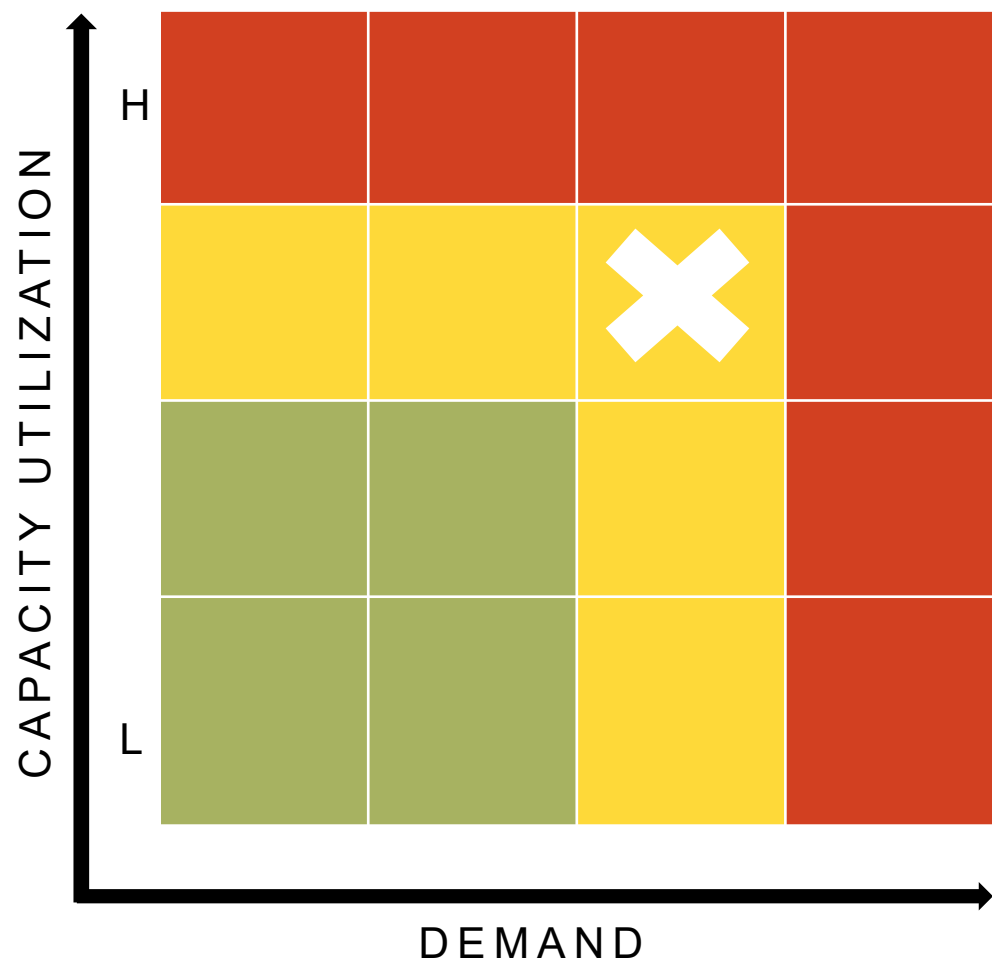


IPC, North American PCB Industry Sales Up 5.4% in November '21
December 22nd, 2021

Capacitor Q1 2022 Outlook



Capacitor Market Conditions Outlook



Capacitor Trends Differ by Technology

• CONSTRAINTS IN ALUMINUM ELECTROLYTIC CAPACITORS

- Panasonic and Nichicon are experiencing most significant shortages of this technology within Creation Technologies.
- Malaysia had Covid lockdowns in July and August that caused a disruption in supply from Nichicon, Rubycon and Chemicon. After returning from lockdown, production is still only about 60% and could even decrease due to additional Covid restrictions.
- In general Aluminum Electrolytic Caps have higher demand because they are used in **Electric Vehicles for high-density power delivery**. They are preferred for high efficiency. **Miniaturization of electronic devices** contributes to demand for these caps as well because they provide a higher level of capacitance for a specific size.

• OVERALL CAPACITOR PRICING AND LEAD TIMES

- Creation Technologies experienced an average capacitor pricing increase across 2021 of 42%.
- Mixed outlook depending on technology
- As more capacity comes online throughout 2022, Lead Times will start to recover.

Technology	LT	LT Trend	Pricing Trend
Ceramic (Greater than 1uf)	26-38	Stable	Stable
Ceramic (Less than 1uf)	18-24	Decreasing	Stable
Electrolytic	30-50	Increasing	Increasing
Film	20-40	Increasing	Increasing
Leaded - Ceramic	24-30	Stable	Stable
Specialty	26-33	Stable	Stable
Supercapacitors	16-34	Increasing	Increasing
Tantalum Conformals	23-52	Stable	Stable
Tantalum Molded	23-33	Decreasing	Increasing
Tantalum Polymer	20-29	Stable	Stable

• MANUFACTURERS ADDING CAPACITY

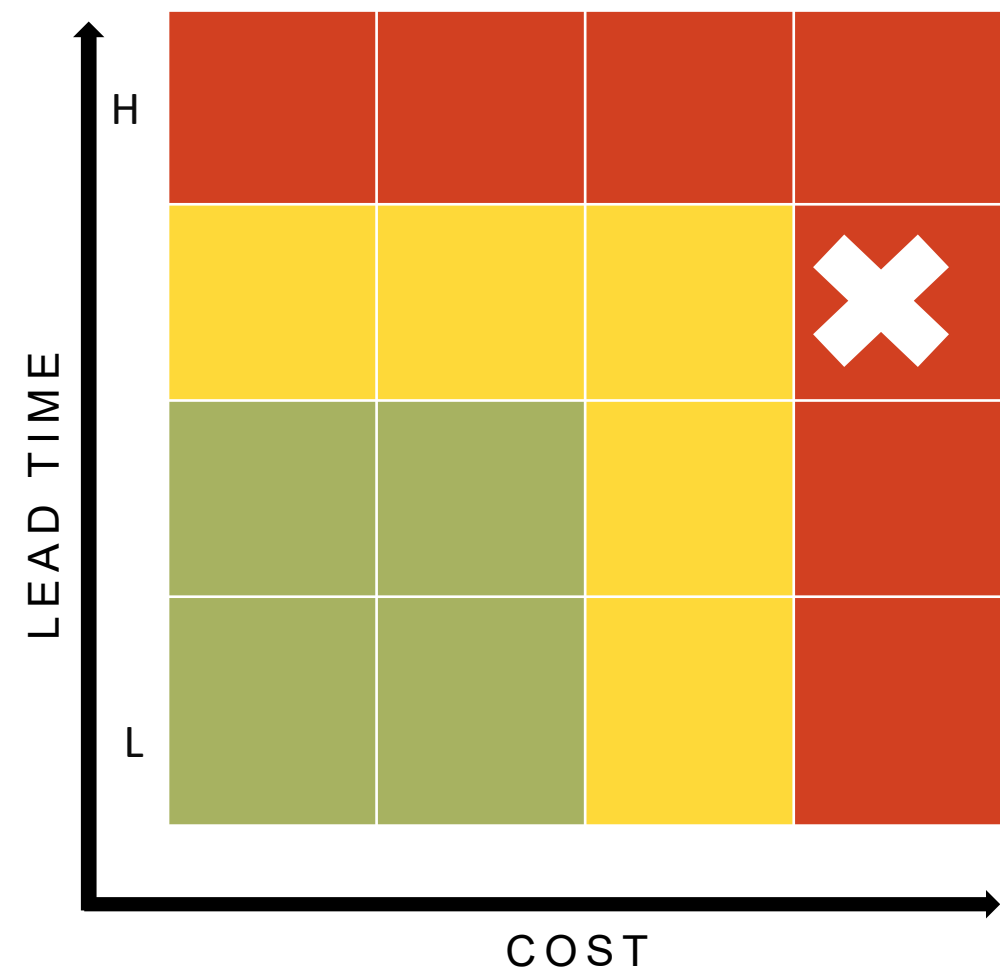
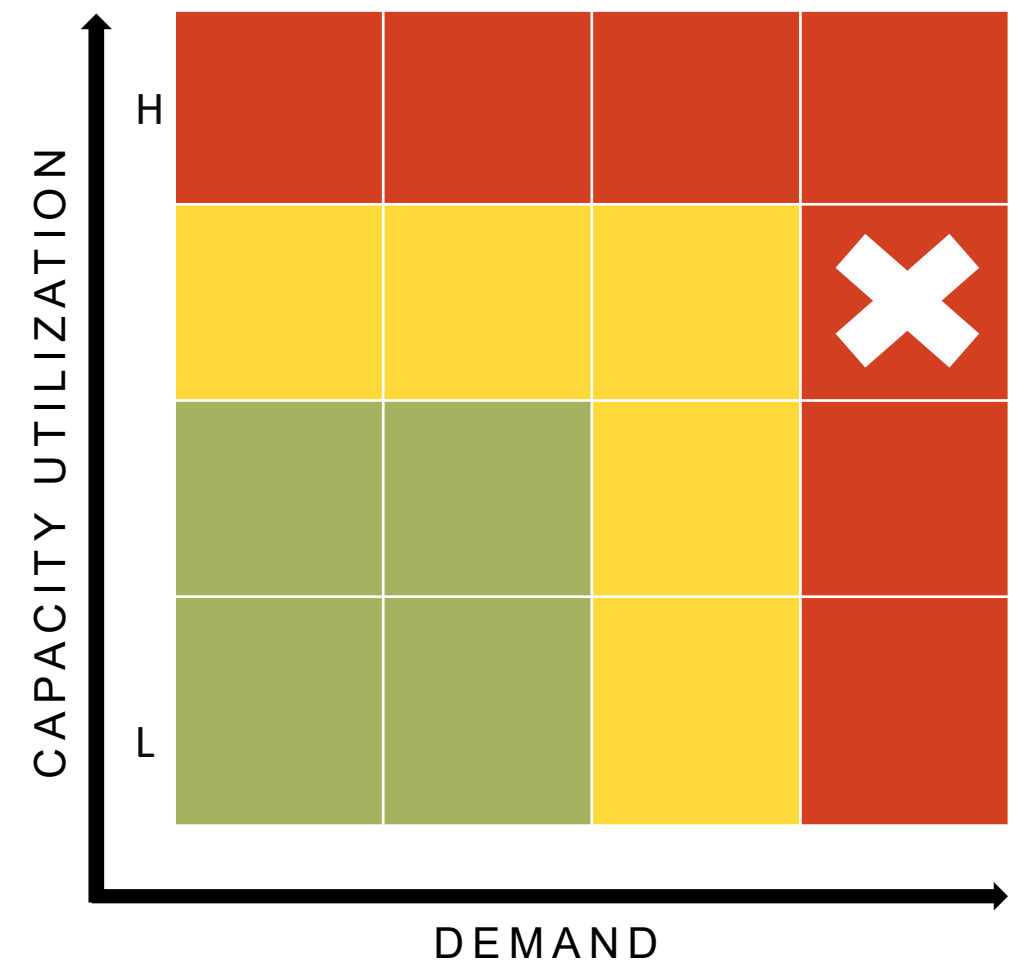
- 2021 revenue and volume numbers for capacitors, resistors, inductors and circuit protection components are reaching all-time highs. A significant amount of these revenues are being converted into excess capacity, especially in areas of technological sophistication where the market needs more competition – areas such as high voltage, high frequency, high temperature and robust mechanical passive component designs.

- <https://www.tti.com/content/ttiinc/en/resources/marketeye/categories/passives/me-zogbi-20211206.html> High-Reliability Markets for Passive Components

Metals Q1 2022 Outlook



Metals Market Conditions Outlook



Market Drivers- Overview

CAPACITY

- - Omnicron variant of COVID-19 causing increase restrictions and shutdowns across the globe.
- - Christmas/New Year shutdowns & Upcoming Lunar New Year.
- - Focus on cleaner steel & aluminum production
- + Chinese government intervention mitigating coal shortages for power production.
- + US steel production up almost 10% year over year

DEMAND

- - Automobile, white goods, electronics, and overall manufacturing demand being curbed by microchip shortage
- - Chinese housing market impacted by Evergrande situation
- + Green energy initiatives
- + EV Automobile sector undergoing rapid growth
- + Aerospace & machinery industries increasing demand
- + Oil and gas industry rebounding

LEAD TIME

- + Continued container shortages
- + Container ships waiting at port due to congestion
- + Extended lead times on non-standard materials.
- + Continued shutdowns at ports due to COVID-19 Omnicron variant

PRICE

- + Section 232 tariffs continue to impact metal pricing
- + Russia's Decree #988 started imposing a 15% export duty on metals expected to be extended into 2022
- + Wage increases averaging between 2.5-6% in 2021
- + Ocean freight Baltic Index up 269% from 2021 to 2022
- + Strong demand continues

Steel and Aluminum Pricing

LME Steel HRC N America (Platts) Closing Prices graph



STEEL:

- Price up 41.2% from 2021 to 2022
- Current price at 74% of 2021 all time high.

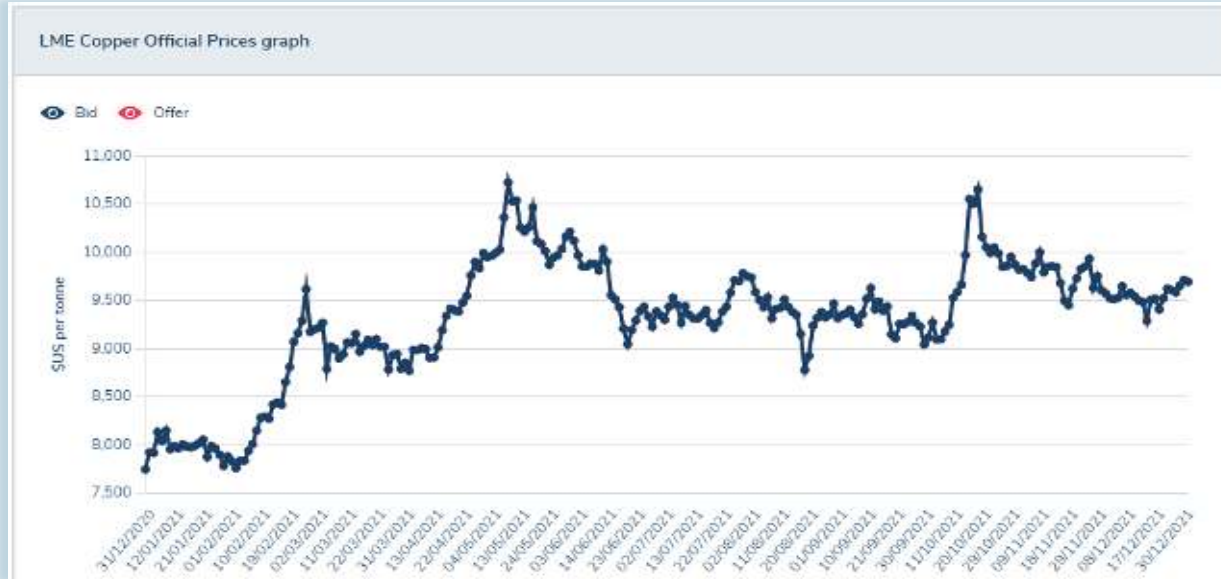
LME Aluminium Official Prices graph



ALUMINUM

- Price up 41.7% from 2021 to 2022
- Current price at 88% of 2021 all time high.

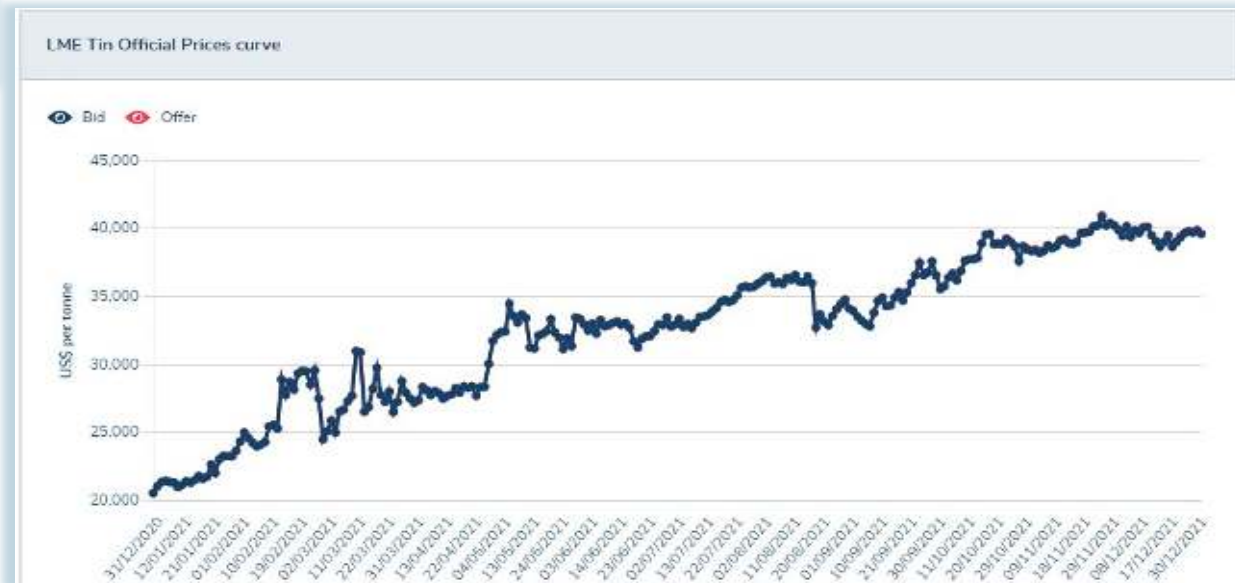
Copper, and Tin -Overview



Source: <https://www.lme.com/en/Metals/Non-ferrous/LME-Copper#Price+graphs>

COPPER:

- Prices up 25% year over year
- Ended 2021 at 90% of 2021 high



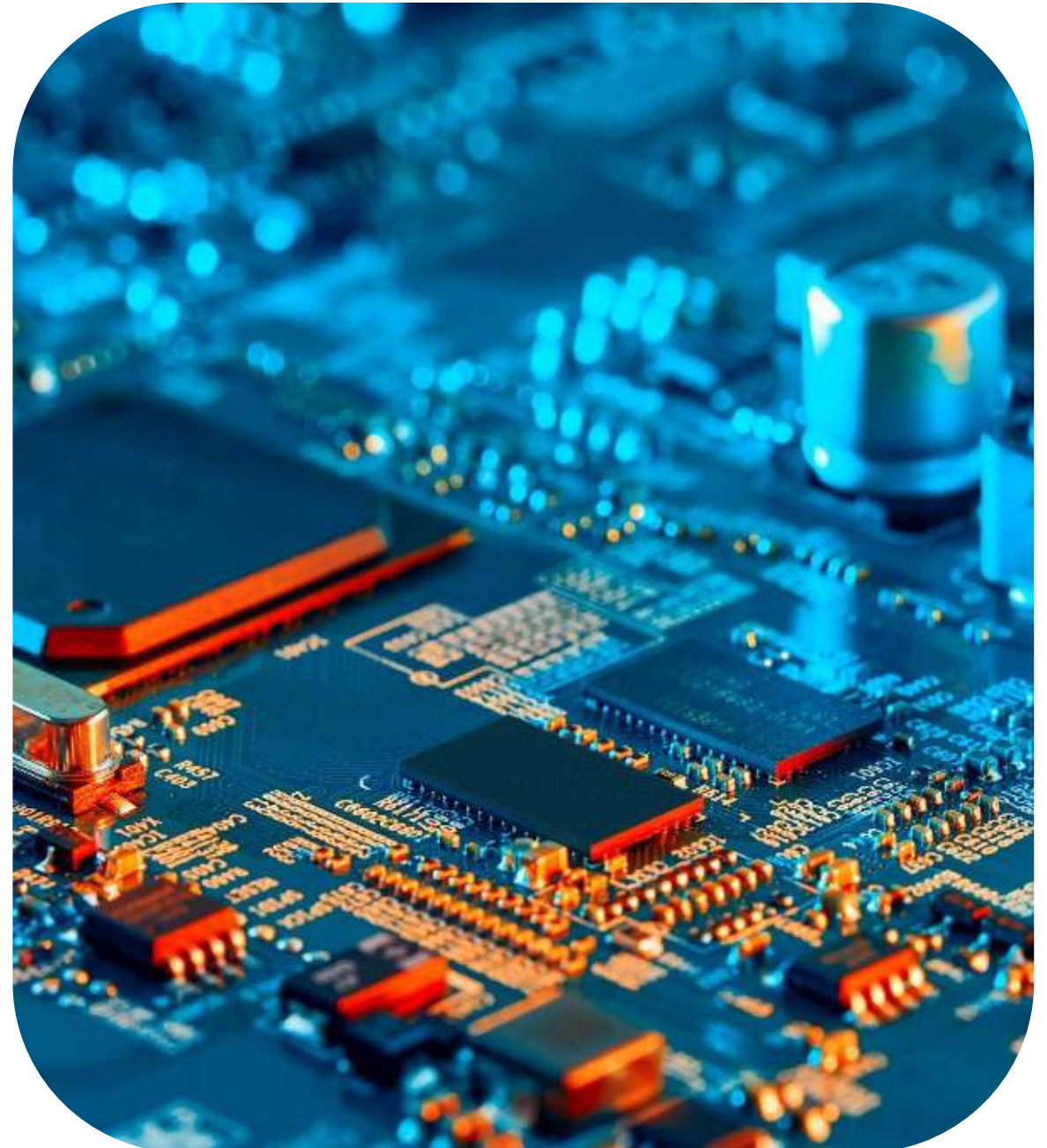
Source: <https://www.lme.com/en/Metals/Non-ferrous/LME-Tin#Price+graphs>

TIN:

Price up 92% year over year
Ended 2021 at 97% of 2021 high

2022 Outlook

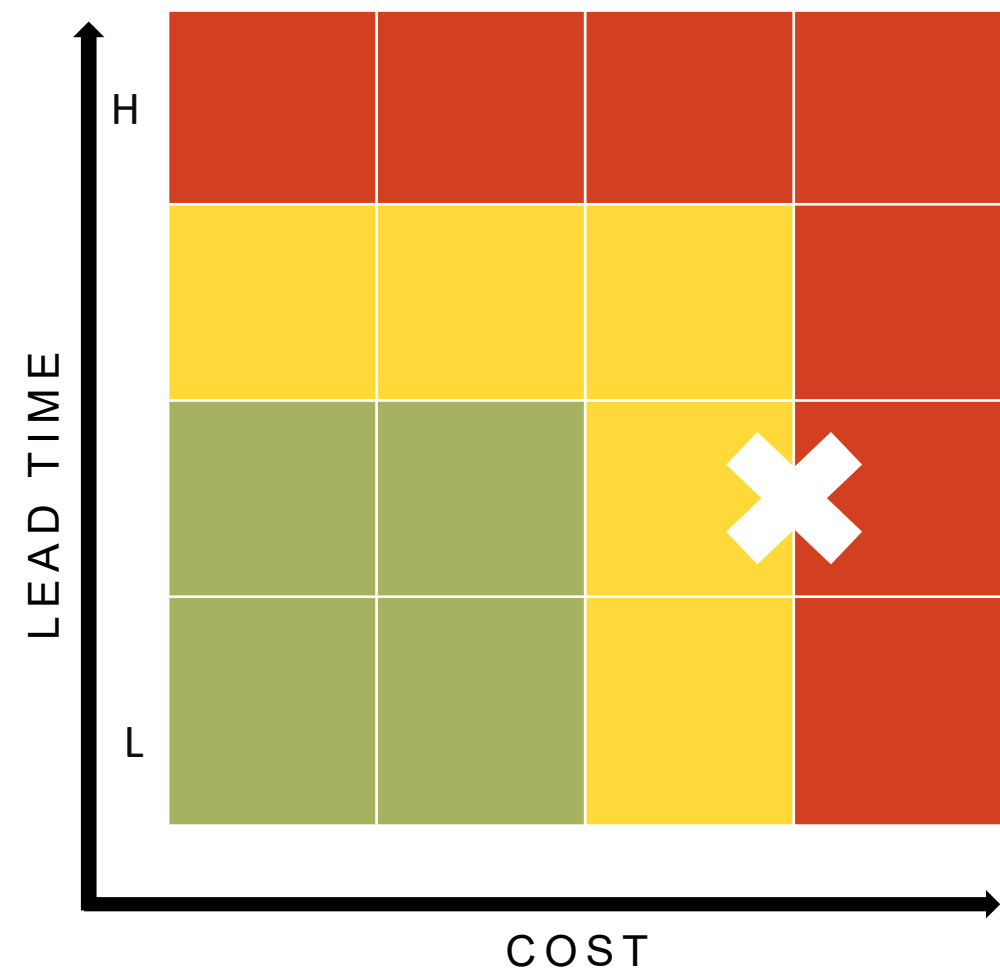
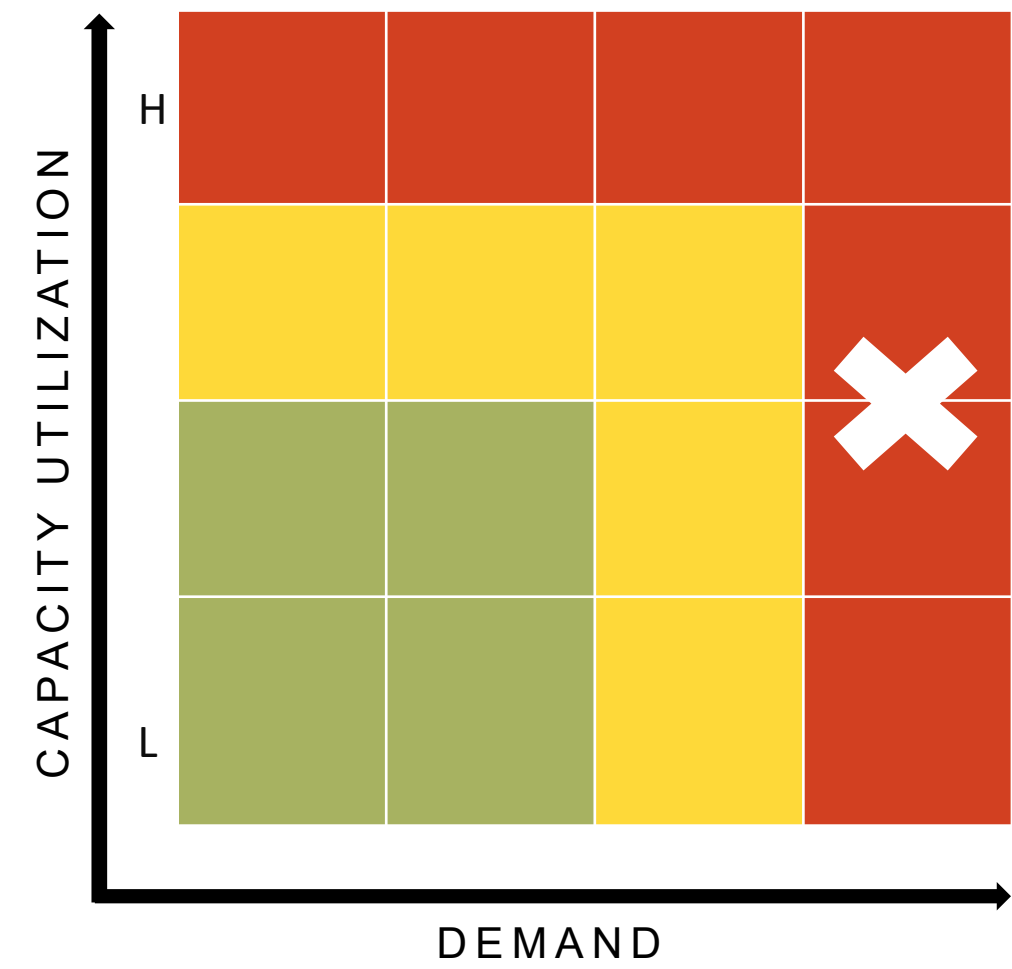
Overall metal pricing peaked around the end of Q3 and beginning of Q4. Steel, Aluminum, and copper have been trending down through most of Q4. However, this pricing relief may be short-lived. COVID-19 cases continue to trend upward at rates not seen before. The Omnicron variant could have a significant impact on metal production through Q1.



MRO: Solder Q1&Q2 Outlook



MRO: Solder Market Conditions Outlook



MRO: Solder Market Conditions Outlook

ALPHA & KESTER

Unwilling to provide specific 2022 guidance except to note that the primary raw material components: Tin [Sn], Silver [Ag], and Copper [Cu] aka SAC, are at or near all time high costs and continue to trade at a volatile and unpredictable rate. Additionally, demand from automotive and consumer electronic segments continues to outpace supply. Alpha notes there is new capacity coming online; however, they are reluctant to prognosticate as to the impact on the marketplace.

INDIUM

Unable to provide any market analysis.

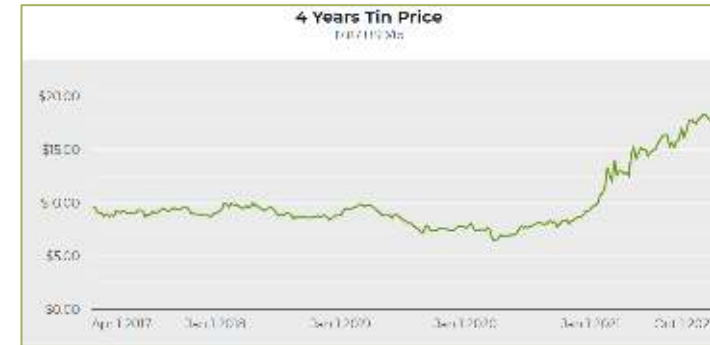
METALLIC RESOURCES

TBD.

RESEARCHANDMARKETS.COM

Confirms the demand growth expectation over the next 8 years: “The North America solder materials market is expected to grow from US\$ 341.90 million in 2019 to US\$ 527.74 million by 2030.”

Source: <https://www.prnewswire.com/news-releases/north-america-solder-materials-market-forecast-2020-2030-increasing-use-of-automatic-solder-over-manual-solder-a-major-trend-301183552.html>



Source: Mining.com 05-Jan-2022

Logistics Q1 2022 Outlook



Shipping and Logistics Costs Are Expected to Keep Rising in 2022

GENERAL

- Transportation and logistics providers are seeking big boosts in prices for contracts for the coming year, signaling that the inflationary pressure driven by strong demand and tight capacity in freight markets is likely to persist.
- With high shipping demand still far outweighing tight capacity across the freight sector, industry experts say transport operators have leverage to raise prices when negotiating new contracts. Ocean-shipping executives say they expect the rates set in many annual contracts will double compared with agreements struck earlier this year, before supply-chain bottlenecks squeezed capacity. Some trucking companies project double-digit growth in contract rates for 2022.
- Prices have been rising across the freight sector, including in parcel delivery, trucking, ocean shipping and warehousing. Most freight-transportation contracts are negotiated annually, although many large shippers may have multiyear agreements with a variety of carriers.

ASIA - EU/NA

- Prices to ship sea containers are likely to reach records under annual contracts that are usually negotiated early in the year for the peak shipping season
- The spot price to ship a 40-foot container from Shanghai to Los Angeles earlier this month was 75% higher than the same time last year.

STORAGE & WAREHOUSING

- The cost of storing goods is also set to rise more quickly as warehouse labor costs are increasing and facility owners seek price increases to replace expiring leases. Prices to lease industrial properties have jumped 25% on average nationwide over rates tenants paid at the end of five-year leases that expired in the third quarter.
- Third-party logistics operators that provide outsourced distribution and fulfillment services are also passing higher labor costs on to their customers as competition for warehouse workers boosts wages.

Market Updates : General Outlook & Recommendations

GENERAL

- Significant increase in PSS Freighters (charters) account for more air freight than passenger flights, cargo in passenger flights are subsidized by the passenger flight tickets, therefore cost less.
- Expect longer transit times due to reduced capacity in the air market
- Cancelled flights due to lock downs and restrictions globally
- PPE and vaccines will take priority over commercial freight
- Current Outlook is that the Air Freight market will continue to be unpredictable with higher rates/transit times Internationally until mid-2022. International passenger flights are not expected to increase to levels required to significantly improve rates/transit times.

ASIA - EU/NA

- PVG airport operation is still keeping around 60-70% Zhengzhou Airport (CGO), which had temporarily stopped accepting import cargo last week, has reopened to scheduled flights as of September 3.
- One confirmed case in HK terminal in the HKG International Airport. As a result, over 90 ramp side staffs were immediately required to go through mandatory quarantine (21 days). Est. to impact 25% of HATCL's ramp side staff for the next 3 weeks. .
- The overall situation at all other Chinese airports remains challenging due to the additional re-routed tonnages.
- Based on the current market status, it is expected that restricted capacity will continue through Q1. The rates, therefore, are likely to stay at a high level for the coming weeks.
- Export capacity remains tight due to continued lack of belly capacity. It still takes several days from booking to uplift into EU/Asia key destinations.
- Due to the COVID impacts on Ocean ports in SE China there is expected increased rates ex Hong Kong including longer transit times until that region stabilizes.

Market Updates : Ocean Lane Capacity

IMPACTED TRADE LANES

Origin region	Dest. Region	Status	Specifics
N. America	All Trades	●	Equipment Shortages at IPI locations are affecting all exports out of North America
LATAM	All Trades	●	Space is tight and equipment shortages persist. 5 to 6 weeks advance bookings are recommended for exports to the USEC, and 4 weeks to Europe, out of Brazil.
Europe	All Trades	●	Space and equipment continue to be a challenge, increasing difficulties in booking cargo to North America.
MAIR	All Trades	●	Equipment issues remain across the region, and space is very tight due to increased demand, especially for exports out of the Indian Subcontinent.
North Asia	N. America LATAM Europe MAIR South Asia	●	Space and equipment continue to be a challenge due to increased demand. Bookings are 6 to 8 out on the North Asia to North America lane.
North Asia	North Asia	●	Space is tight but manageable.
South Asia	All Trades	●	Equipment availability continues to be a concern in South Asia, in addition to the congestion in main transshipment hubs. Space remains tight.

Market Updates : Air Lane Capacity

The shortage of ocean freight containers is causing constraints in global air freight capacity while passenger aircraft belly-space remains off the market.

		DESTINATION					
ORIGIN	WEEK 41	N. America	LATAM	Europe	MAIR	N. Asia	S. Asia
	N. America	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>
	LATAM	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>
	Europe	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>
	MAIR	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>
	N. Asia	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>
	S. Asia	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>

● **RED:** Demand has exceeded available Capacity

● **YELLOW:** Demand is higher and/or Capacity is limited

● **GREEN:** Demand and Capacity at normal levels



Thank You



Resources

- https://ycharts.com/indicators/us_pmi
- https://www.supplychain247.com/article/predictions_for_the_2022_global_semiconductor_sector/sourcengine
- <https://blog.matric.com/electronic-component-shortages-update>
- <https://theconversation.com/world-economy-in-2022-the-big-factors-to-watch-closely-174350>
- <https://www.worldometers.info/coronavirus/>
- <https://exteltechnologies.com/component-shortage-expected-to-worsen-in-2022/>
- <https://www.tti.com/content/ttiinc/en/resources/marketeye.html#>
- <https://www2.deloitte.com/us/en/insights/economy/global-economic-outlook/weekly-update.html/#the-great-debate-about-inflation>
- <https://epsnews.com/2021/09/23/electronics-component-shortage-a-tale-of-two-decades/>
- <https://www.semiconductors.org/global-semiconductor-sales-increase-29-7-year-to-year-3-3-month-to-month-in-august/>