

# COVID-2019 IMPACT: APRIL 1<sup>ST</sup> UPDATE

April 1, 2020

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TECHCET Supply-Chain Impact Summary (TSIS) provides an update on the coronavirus (COVID-19) situation. Information includes trends pertaining to the spread of the virus and the impact on economic activity.

## 1. SUMMARY

**The recent TECHCET COVID-19 survey confirmed logistic issues are emerging as a concern to CMC member companies and the semiconductor industry at large.**

**Information with regard to impact on the supply-chain from CMC Members is that there are no wide ranging shut-downs of any material or chip fabricators, however a few sites are encountering lower production levels and all non-essential personnel are required to work from home. Industry contacts indicate that materials ordering activity is also normal, and in some cases better than usual. Discussions lead us to believe that BCP protocols have been implemented by device makers (and OEMS), so these companies may be building up material supply in anticipation of future, unknown disruptions because of the COVID-19 situation.**

The global spread of the coronavirus outside of China continues to worsen as expanded availability to testing shows increasing cases in other countries and regions, especially in Europe and the U.S. As noted in last week's update, governments around the world have instituted border closures, travel restrictions, and community shutdowns. It is now recognized that the global economy experience a contraction in the first half of 2020 given the restricted economic activity caused by the response to address the COVID-19 virus pandemic.

**Industry contacts in China reaffirm the improving work situation there as more employees are returning to the office to work though employees wear facemasks at work.**

On March 26<sup>th</sup>, the New York Times reported that China was suspending practically all entry to the country by foreigners and was halting almost all international passenger flights as well. Foreign residents of China and foreigners with previously issued visas will no longer be allowed to enter the country as of midnight Friday (3/27)<sup>1</sup>.

**Korea continues to take precautions with work from home policies still in place, however industry sources indicate that in-person meetings are happening on a limited basis.**

Expansion of the COVID-19 virus is impacting business and commerce across Europe. Italy remains the European country with the largest number of cases on the continent, though the rate of increase in reported new cases has

<sup>1</sup> <https://www.nytimes.com/2020/03/26/world/asia/china-virus-travel-ban.html>

been declining over the past several days. Spain has emerged as a major hot bed for new cases and deaths. Cases are increasing in other countries including Germany, France, The Netherlands, and Switzerland.

Mandated shelter in place orders have become more prevalent in various U.S. states, with only a handful of states making it optional. The virus first appeared on the coastal areas including NY, Seattle, and San Francisco, but the number of cases has now grown to encompass every major city in the US. Testing is expanding in the US as noted by the increased in positive test. New York, Michigan, and Louisiana are burgeoning hot beds for the virus. The situation is changing day to day.

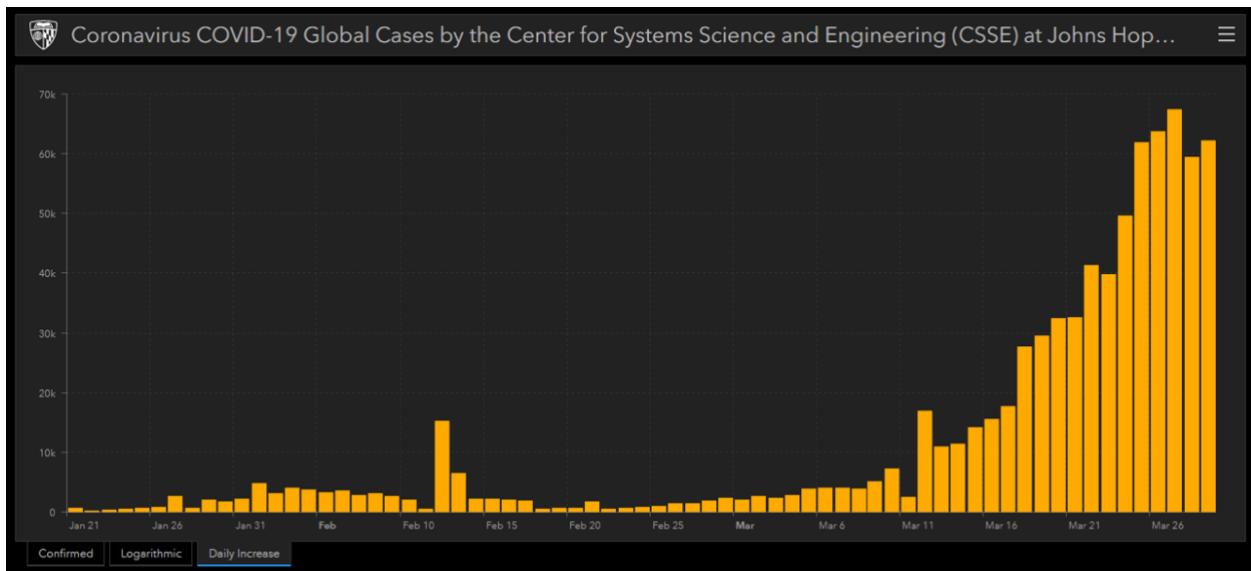
## 2. GLOBAL RATE OF INFECTION

The rate of new cases within China has slowed, though the crisis is growing in Europe and the U.S. continues to grow. Source: Johns Hopkins University.

Figure 1 shows total new cases reported each day. The observed increase over the past week is a function of

1. the spread of the COVID-19, especially outside of Asia
2. the increase availability of testing (As of March 23rd, 4PM ET U.S.)

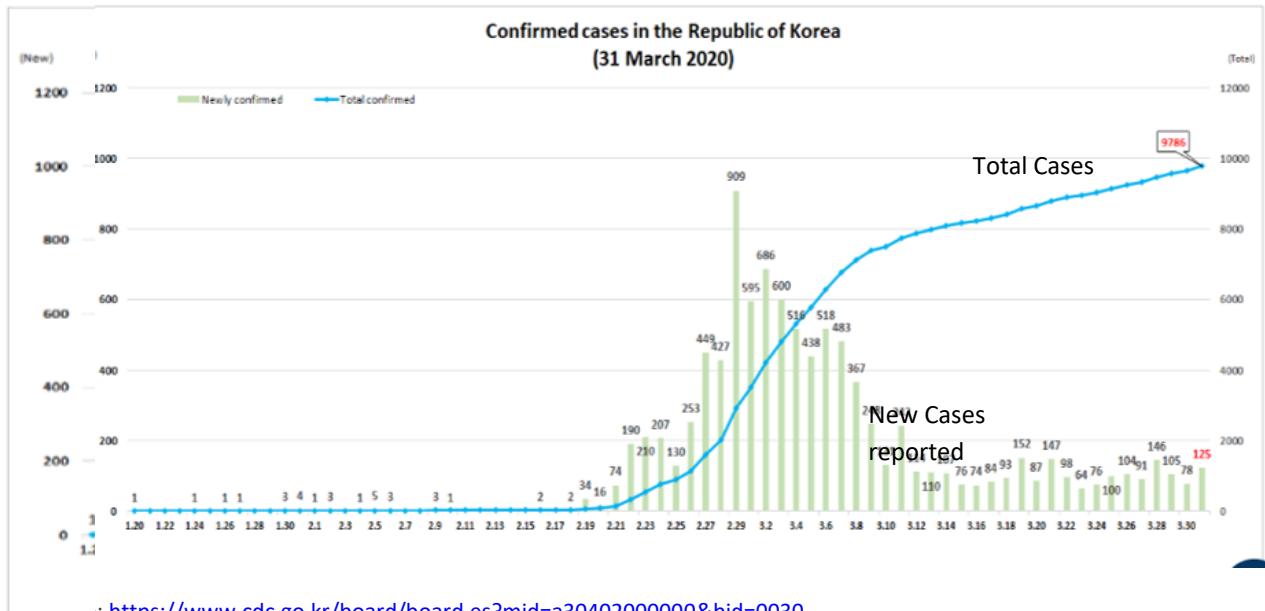
**Figure 1: Coronavirus COVID-19 Global Cases Reported**



Source: <https://gisanddata.maps.arcgis.com/apps/opsdashboard/index.html#/bda7594740fd40299423467b48e9ecf6>

Figure 2 highlights the reported new cases by the Korean CDC as of March 31<sup>st</sup>. New cases have trended below 200/day for almost three weeks. The Korean CDC officials have been acting upon an outbreak of clusters over the past ten days, and on March 25<sup>th</sup> announced South Korea will impose a 14-day self-quarantine on citizens and foreigners with long-term stay visas arriving from the United States.

**Figure 2: Coronavirus COVID-19 Daily New Cases and Daily Reported Recovery in South Korea**



Source: <https://www.cdc.go.kr/board/board.es?mid=a30402000000&bid=0030>

South Korea has implemented strict measures in screening and testing of visitors to that country. Although the cases per week are much lower than a month ago, industry sources indicate that new centers of infection have recently been identified (~3/20) which are now being addressed by healthcare workers and local government.

### 3. GLOBAL ECONOMIC INDICATORS

A typical indicator of economic trends, is the London Metals Exchange (LME) daily pricing for key metals used in manufacturing and construction. The LME is viewed as a measure of economic activity. The index declined dramatically over the past two weeks, dropping below \$5000/tonne on March 18<sup>th</sup>. LME Copper pricing has been trending in the \$4750/tonne range, reflecting the growing uncertainty because of the coronavirus and prospects for a deepening economic decline for 2020, as seen in the following figure.

Figure 3: Daily LME Copper Metal Pricing Through March 23<sup>rd</sup> 2020

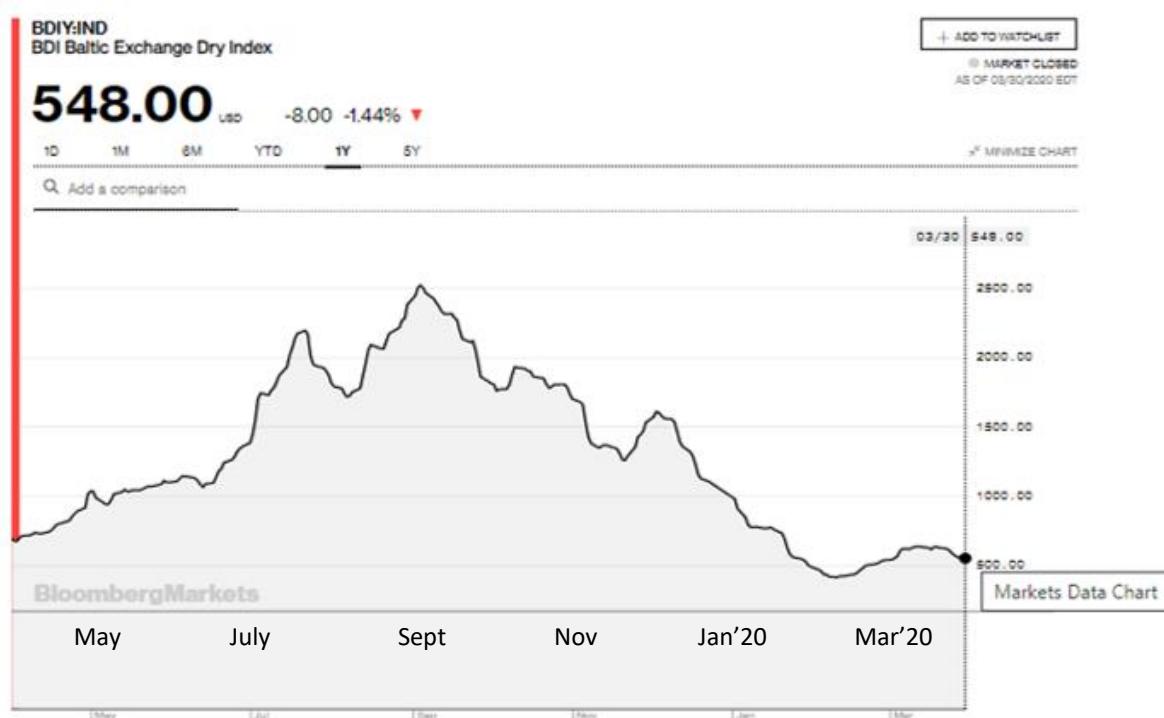


Source: <https://www.lme.com/Metals/Non-ferrous#tabIndex=0>

**The Baltic Dry Index (BDI)**, generated by the London-based Baltic Exchange, is reported as a daily bellwether of trade and economic activity. The index measures the demand for shipping capacity. The demand for shipping will vary with the amount of cargo that is being traded (supply & demand) or moved in and out of various markets. In short, the BDI measures the daily demand for shipping capacity.

The Index shows a slow recovery from the low reported on February 10<sup>th</sup>, but by March 23<sup>rd</sup> the index declined again with the spread of the COVID-19 virus to Europe, U.S. and elsewhere. Thus, demand for shipping capacity has not yet recovered to pre-January levels, and is not expanding as the COVID-19 situation spreads globally.

Figure 4: Daily Baltic Dry Index Through March 25<sup>th</sup> 2020



Source: <https://www.bloomberg.com/quote/BDIY:IND>

#### 4. CHINA FREIGHT TRANSPORT TRENDS AND METRICS

China's shipping metrics include various indexes tracked by the Ministry of Transport of the People's Republic of China and that are updated weekly. The rate of decline for indices is slowing.

##### CHINA (EXPORT) CONTAINERIZED FREIGHT INDEX (CCFI)

This index represents export containers for the ports in China. It is a metric which indicates the fluctuation in shipping price per container. The March 27<sup>th</sup> data showed a slight improved from the previous week's index. This is not surprising as we have received reports indicating China businesses are starting to resume normal operations.

Figure 5 China Export Containerized Freight Index (CCFI) Trends Chart



CCFI Export (Containerized Freight Index - Shipped from China)

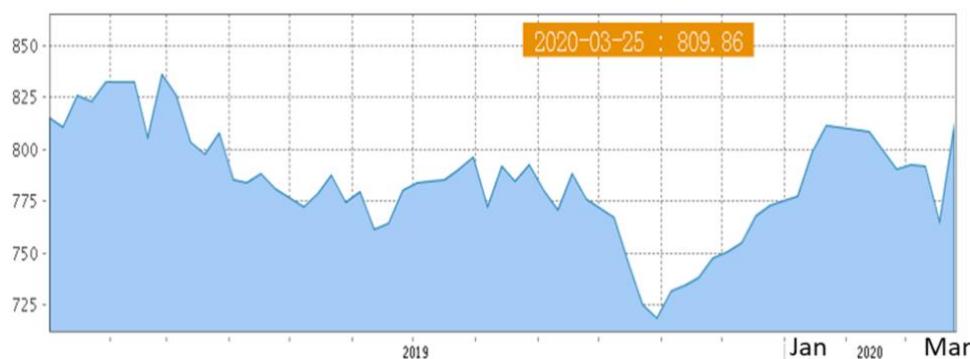
Date	Comprehensive Index	Weekly Growth (%)
3/27/20	897.69	0.4%
3/20/20	894.23	-0.5%
3/13/20	898.44	-0.6%
3/6/20	904.24	-0.1%
2/28/20	905.4	

Source: Shanghai Shipping Exchange (updated on 03/13/2020), <https://en.sse.net.cn/indices/cbfine.jsp>

## CHINA (IMPORT) CONTAINERIZED FREIGHT INDEX (CCFI)

This CCFI index is for import containers for Chinese ports. Similar to the export CCFI, this index is a relative indicator of shipping prices of containers being imported to China. There was a sharp decline in the index reported on March 18<sup>th</sup>, though by the March 25<sup>th</sup> report there was a sharp uptick in the index. The increase indicates more freight arriving into China as economic activity begins its recovery from constraints reported in February. **On a regional basis, the import index exhibited the biggest improvement, attributed to imported containers from the West Coast of the U.S.**

**Figure 6 China Import Containerized Freight Index (CCFI)**



**CCFI Import (Containerized Freight Index - Shipped to China)**

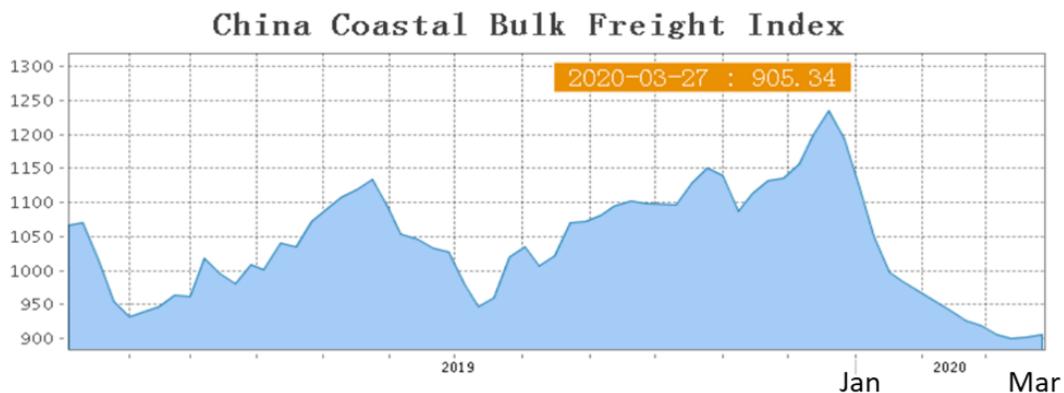
Date	Comprehensive Index	Weekly Growth (%)
3/25/20	809.86	5.8%
3/18/20	765.44	-3.3%
3/11/20	791.72	-0.1%
3/4/20	792.49	0.3%
2/26/20	790.21	

Source: Shanghai Shipping Exchange (updated on 03/11/2020): <https://www.sse.net.cn/index/singleIndex?indexType=cicfi>

## CHINA COASTAL BULK FREIGHT INDEX (CBFI)

This index is a measure of the transportation of dry bulk goods between the different ports within China. In other words, this is an intra-China shipping index, and is based on the average revenue and average price of shipping. Activity remains low compared to late 2019 activity before the Chinese New Year Holiday, though has stabilized and exhibited a slight improvement in the past week. Any improvement going forward will be an indication of growing economic activity within China.

**Figure 2: China Coastal Bulk Freight Index (CBFI) Trends Chart**



CBFI (Costal Bulk Freight Index - Intra China Port Shipping Index)		
Date	COMPOSITE INDEX	Weekly Growth (%)
3/27/20	905.34	0.4%
3/20/20	901.34	0.0%
3/13/20	901.18	-0.4%
3/6/20	905.09	-1.5%
2/28/20	918.56	

Source: Shanghai Shipping Exchange (updated on 03/20/2020), <https://en.sse.net.cn/indices/cbfine.jsp>