The Bishop Report
Performance and Forecast of the World Connector Industry

Issue No. 353 | 2nd Quarter 2022 | April 2022

Sales Up a Solid +10.2% in March And +11.2% for 1Q22

Regional Performance:
Worldwide year-to-date sales increased +11.2%.

In March, North America achieved the highest regional sales growth at +19.6% YTD.

North America also has the highest YTD growth in bookings at +18.9%.

Industry Outlook:
Industry sales for 2022 are forecast to be $82,450 million, up +5.7%. Based on our historical modeling, the increase could range from as high as a +17.6% increase down to a +6.5% increase over prior year.

Industry Backlog:
March backlog increased to $25,239 million equaling 15.5 weeks. This is an increase of $3,740 million since January 2022.

2022 Currency Impact:
The industry grew at +10.2% YTD in March in USD and 8.7% in local currencies. Sales growth is 1.5 percentage point lower when stated in local currencies.

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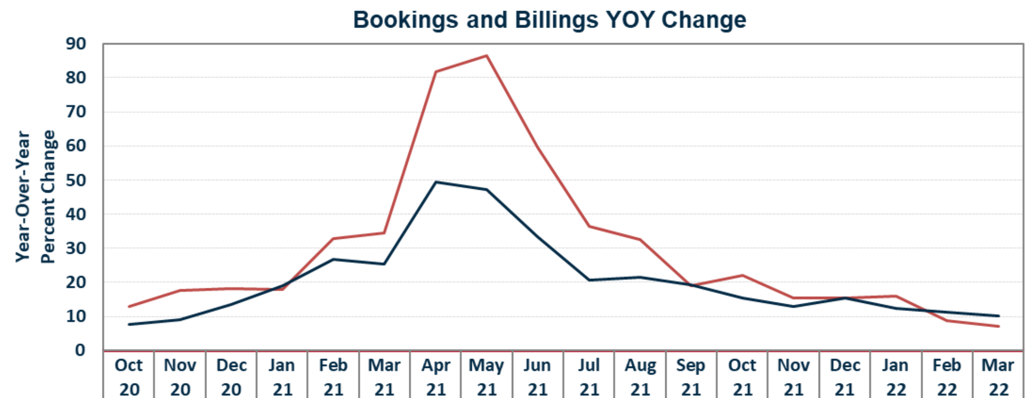
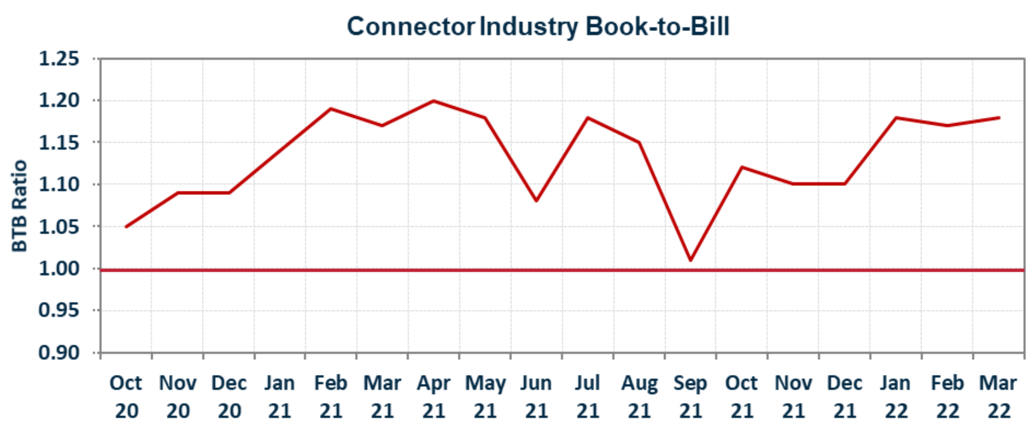
March sales and bookings were up +10.2% and +7.1% YOY, respectively. Sales have now recorded 19 consecutive months of growth, of which 16 were double-digits. Bookings have grown for 20 consecutive months.



	Oct 20	Nov 20	Dec 20	Jan 21	Feb 21	Mar 21	Apr 21	May 21	Jun 21	Jul 21	Aug 21	Sep 21	Oct 21	Nov 21	Dec 21	Jan 22	Feb 22	Mar 22
Bookings	13.0	17.5	18.3	18.0	32.8	34.5	81.9	86.4	59.7	36.4	32.5	19.1	22.1	15.3	15.5	15.9	8.7	7.1
Billings	7.6	9.1	13.4	19.0	26.7	25.5	49.5	47.1	33.5	20.6	21.5	19.4	15.3	12.8	15.5	12.4	11.2	10.2

The book-to-bill ratio in March and YTD was 1.18.

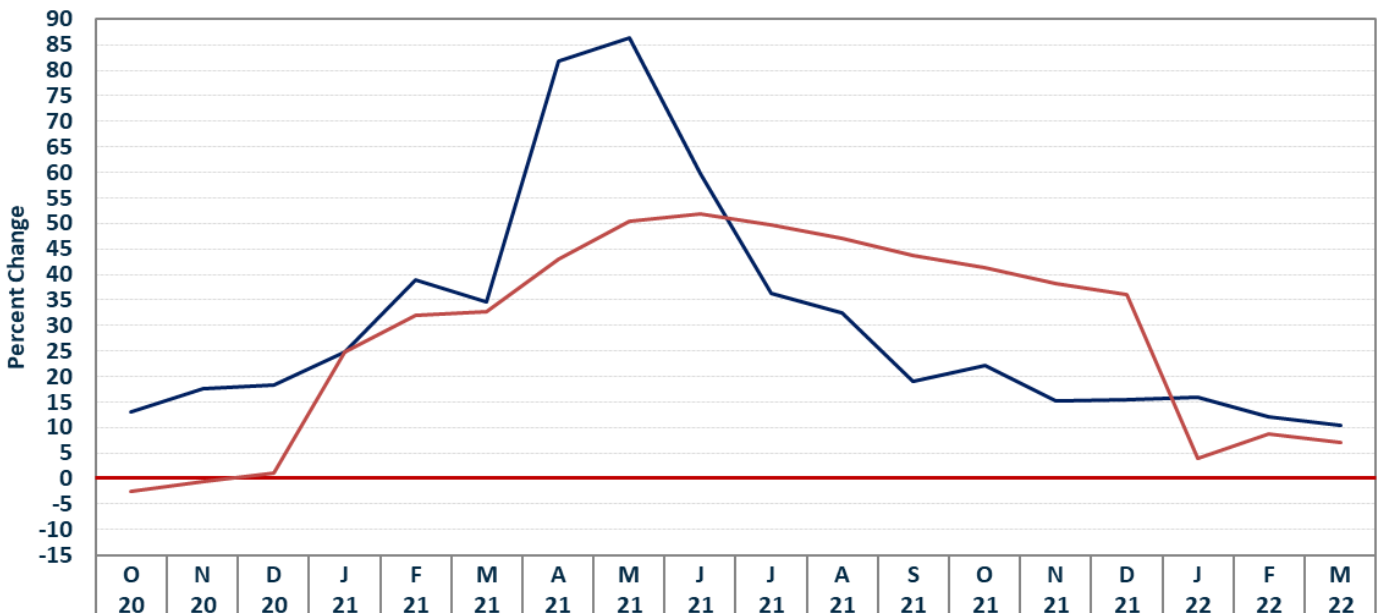


Booking Highlights and Conclusions

Sequential, Year-Over-Year, and Year-To-Date Bookings Percentage Change – 2020/2021/2022

	Sequential			Year-Over-Year			Year-To-Date		
Month	**2020**	**2021**	**2022**	**2020**	**2021**	**2022**	**2020**	**2021**	**2022**
Jan	0.2%	2.3%	2.6%	3.9%	24.7%	15.9%	3.9%	24.7%	15.9%
Feb	5.5%	17.7%	10.4%	1.8%	38.9%	8.7%	2.8%	32.0%	12.0%
Mar	-1.4%	-3.5%	-5.3%	5.0%	34.5%	7.1%	3.5%	32.8%	10.3%
Apr	-27.2%	3.2%		-21.8%	81.9%		-2.7%	42.9%	
May	2.9%	5.1%		-24.8%	86.4%		-7.3%	50.5%	
Jun	7.0%	-8.3%		-11.6%	59.7%		-8.0%	51.9%	
Jul	15.2%	-1.9%		-1.0%	36.4%		-7.0%	49.6%	
Aug	10.7%	6.6%		1.8%	32.5%		-5.8%	47.1%	
Sep	-0.9%	-11.9%		8.4%	19.1%		-4.3%	43.7%	
Oct	4.7%	6.8%		13.0%	22.1%		-2.6%	41.2%	
Nov	15.2%	9.3%		17.5%	15.3%		-0.6%	38.2%	
Dec	-7.2%	-7.0%		18.3%	15.5%		1.0%	36.0%	

Bookings - YOY and YTD



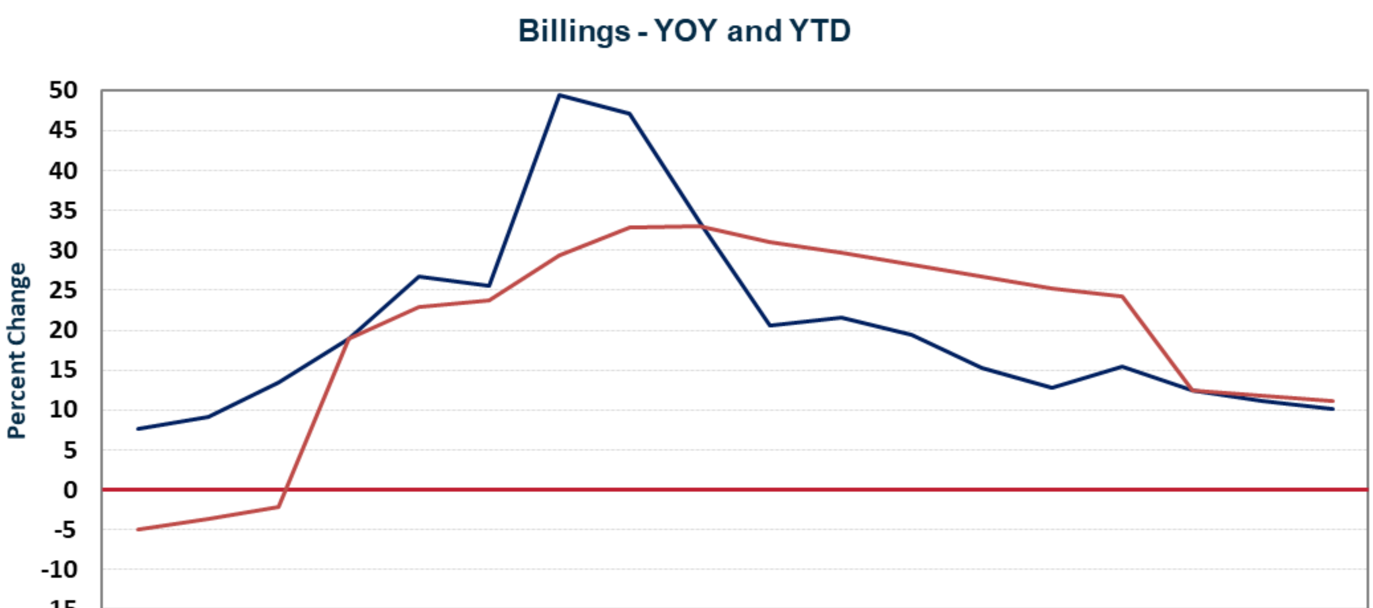
	O 20	N 20	D 20	J 21	F 21	M 21	A 21	M 21	J 21	J 21	A 21	S 21	O 21	N 21	D 21	J 22	F 22	M 22
YOY	13.0	17.5	18.3	24.7	38.9	34.5	81.9	86.4	59.7	36.4	32.5	19.1	22.1	15.3	15.5	15.9	12.0	10.3
YTD	-2.6	-0.6	1.0	24.7	32.0	32.8	42.9	50.5	51.9	49.6	47.1	43.7	41.2	38.2	36.0	3.9	8.7	7.1

- March bookings rose +7.1% YOY and +10.3% YTD.
- Orders decreased -5.3% sequentially.
- The book-to-bill ratio for March was 1.18. YTD, the ratio was 1.18.

Billing Highlights and Conclusions

Sequential, Year-Over-Year, and Year-To-Date Billings Percentage Change – 2020/2021/2022

	Sequential			Year-Over-Year			Year-To-Date		
Month	**2020**	**2021**	**2022**	**2019**	**2020**	**2022**	**2020**	**2021**	**2022**
Jan	-2.8%	-1.6%	-4.3%	-3.1%	19.0%	12.4%	-3.1%	19.0%	12.4%
Feb	5.5%	12.6%	11.4%	-4.3%	26.7%	11.2%	-3.7%	22.9%	11.8%
Mar	-0.9%	-1.1%	-2.0%	-2.0%	25.5%	10.2%	-3.1%	23.8%	11.2%
Apr	-21.2%	-1.2%		-19.9%	49.5%		-7.2%	29.4%	
May	8.8%	7.0%		-20.0%	47.1%		-9.9%	32.8%	
Jun	5.8%	-3.8%		-11.6%	33.5%		-10.2%	33.0%	
Jul	9.0%	-2.0%		-1.6%	20.6%		-9.0%	31.0%	
Aug	9.0%	8.7%		-0.3%	21.5%		-7.8%	29.7%	
Sep	1.7%	-2.3%		5.0%	19.4%		-6.3%	28.2%	
Oct	-1.0%	-3.4%		7.6%	15.3%		-4.9%	26.8%	
Nov	11.4%	9.4%		9.1%	12.8%		-3.6%	25.2%	
Dec	-7.7%	-5.6%		13.4%	15.5%		-2.2%	24.3%	



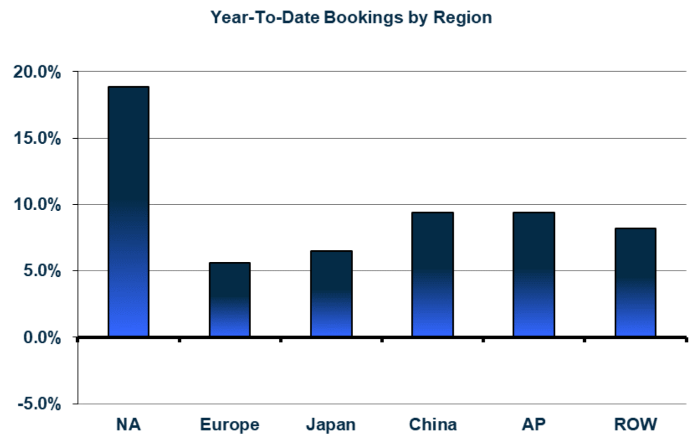
	O 20	N 20	D 20	J 21	F 21	M 21	A 21	M 21	J 21	J 21	A 21	S 21	O 21	N 21	D 21	J 22	F 22	M 22
YOY	7.6	9.1	13.4	19.0	26.7	25.5	49.5	47.1	33.5	20.6	21.5	19.4	15.3	12.8	15.5	12.4	11.2	10.2
YTD	-4.9	-3.6	-2.2	19.0	22.9	23.8	29.4	32.8	33.0	31.0	29.7	28.2	26.8	25.2	24.3	12.4	11.8	11.2

- March billings grew +10.2% YOY, making this the 19th consecutive month of growth. For the first quarter, industry revenues grew +11.2%.
- Sequentially billings decreased -2.0% in March.

Regional Performance: BOOKINGS

March 2022 Bookings

Region	Sequential	YOY	YTD
NA	-0.2%	15.8%	18.9%
Europe	-15.5%	1.5%	5.6%
Japan	-8.5%	1.0%	6.5%
China	2.9%	9.0%	9.4%
AP	-2.3%	3.4%	9.4%
ROW	-14.1%	3.5%	8.2%
Total	-5.3%	7.1%	10.3%

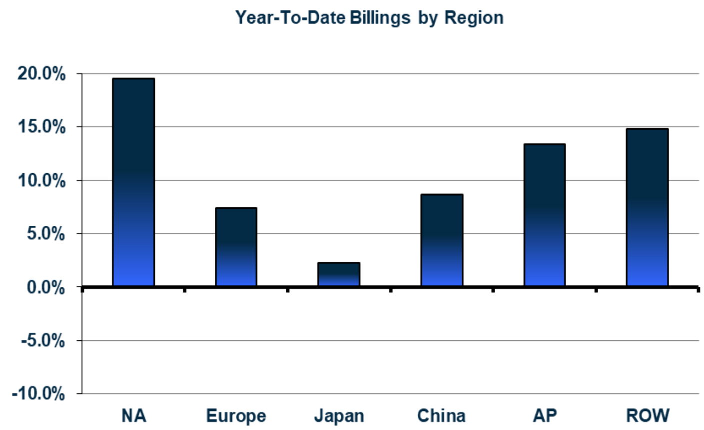


- March bookings increased +7.1% YOY, continuing 20 consecutive months of growth.
- Year-over-year, all regions experienced growth.
- Only China had sequential growth in March.

Regional Performance: BILLINGS

March 2022 Billings

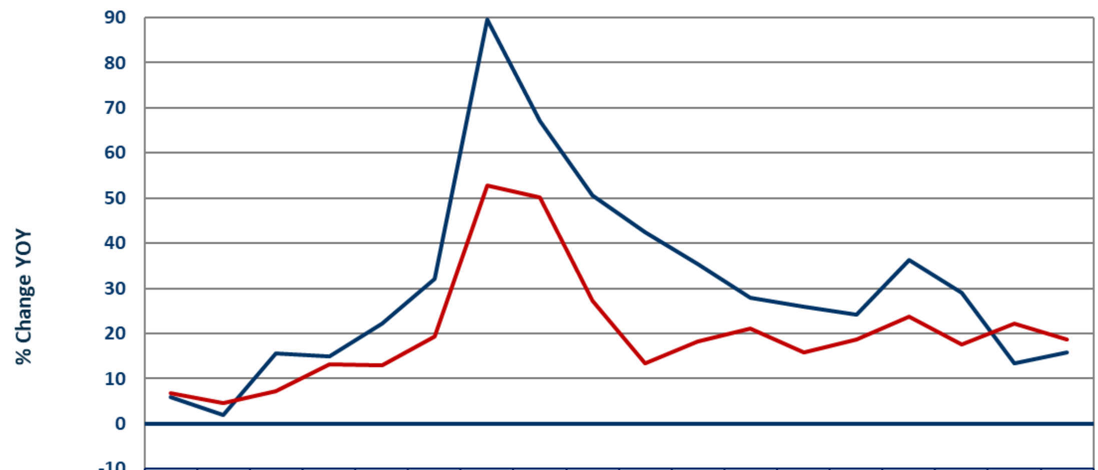
Region	Sequential	YOY	YTD
NA	-4.6%	18.6%	19.6%
Europe	-4.5%	6.2%	7.4%
Japan	-5.0%	-0.3%	2.2%
China	3.2%	7.0%	8.6%
AP	0.9%	14.7%	13.4%
ROW	-3.3%	16.2%	14.8%
Total	-2.0%	10.2%	11.2%



- March connector sales growth was +10.2% YOY and +11.2% YTD.
- Year-over-year, all regions experienced growth except Japan.
- Sequentially, sales decreased in all regions except China and Asia Pacific.
- The industry has now achieved 19 consecutive months of sales growth of which 16 months were double-digit growth.

North America: The following chart displays the year-over-year percentage change in bookings and billings for the last 18 months. The monthly book-to-bill (BTB) ratio is also displayed.

North America Bookings and Billings
Year-Over-Year Percentage Change
& Book-To-Bill Ratio



	Oct 20	Nov 20	Dec 20	Jan 21	Feb 21	Mar 21	Apr 21	May 21	Jun 21	Jul 21	Aug 21	Sep 21	Oct 21	Nov 21	Dec 21	Jan 22	Feb 22	Apr 22
Bookings	5.9	1.9	15.5	15.0	22.1	32.1	89.5	67.0	50.5	42.4	35.5	28.0	26.0	24.2	36.2	29.1	13.3	15.8
Billings	6.8	4.6	7.3	13.2	13.0	19.4	52.7	50.1	27.2	13.4	18.2	21.1	15.8	18.7	23.7	17.6	22.2	18.6
Billing SEQ	-2.4	4.9	-5.7	-2.1	14.9	-1.7	0.4	8.2	23.7	-1.2	14.9	-5.3	-4.4	7.8	-1.9	-6.9	19.1	-4.6
BTB	1.01	1.01	1.10	1.14	1.18	1.18	1.23	1.13	1.18	1.16	1.13	1.01	1.14	1.11	1.07	1.25	1.10	1.16

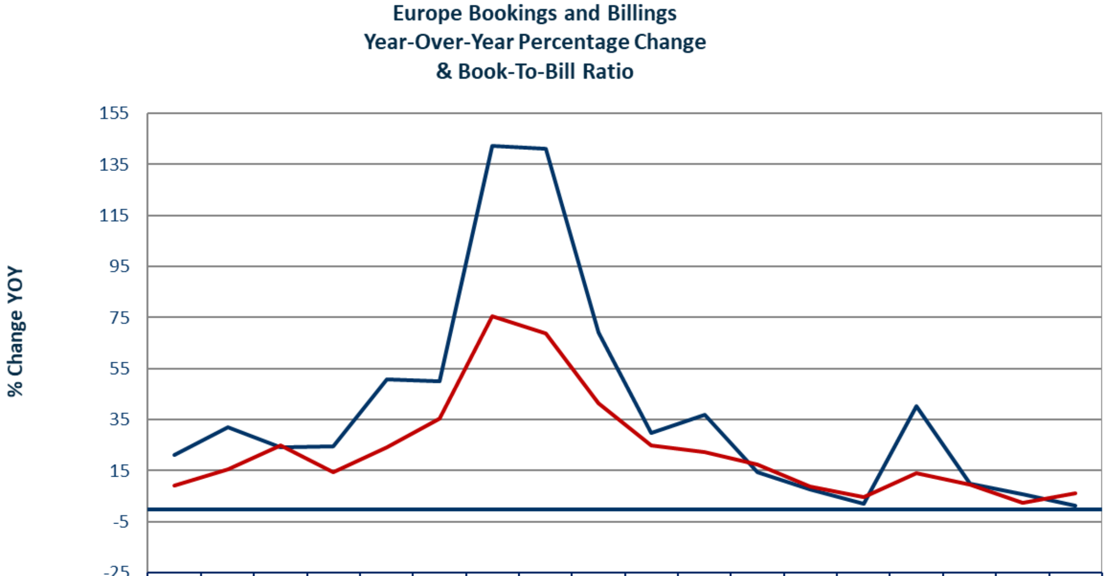
North America Performance

- Sales grew +18.6% and orders were up +15.8% YOY in March. North American billings were down sequentially -4.6%. The book-to-bill was strong at 1.16.
- US 1Q22 GDP shrank 1.4%.
- US inflation hit 8.5% in March; another four-decade high. The rate has been above 5% for ten months.
- Industrial production decreased 5.5% YOY in March.
- Manufacturing PMI was up to 59.7 in March.
- US unemployment dropped to 3.6% in March.
- US new home sales were down 8.6% in March, but pricing was up 45.7% YOY.
- Retail sales were up 6.9% YOY in March.
- US automotive sales in March decreased 22.2% YOY and were down -15.7% YTD.

Conclusions

The US economy contracted 1.4% in 1Q22. Higher prices/inflation, supply chain issues, unstable financial markets, and the situation in the Ukraine are a few of the headwinds. The production of new vehicles is still slow due to the shortage of semiconductors. The ports on the West Coast (and East Coast and Gulf) are still backed up. These issues may negatively impact the connector industry going forward.

Europe: The following chart displays the year-over-year percentage change in bookings and billings for the last 18 months. The monthly book-to-bill ratio is also displayed.



	Oct 20	Nov 20	Dec 20	Jan 21	Feb 21	Mar 21	Apr 21	May 21	Jun 21	Jul 21	Aug 21	Sep 21	Oct 21	Nov 21	Dec 21	Jan 22	Feb 22	Apr 22
Bookings	21.0	32.1	24.1	24.5	50.8	49.9	142.2	141.2	69.2	29.9	36.8	14.5	7.6	2.1	40.4	9.9	6.0	1.5
Billings	9.3	15.7	24.8	14.6	24.1	35.6	75.4	68.7	41.4	25.0	22.5	17.6	8.8	4.6	13.9	9.6	2.4	6.2
Billing SEQ	-0.2	16.4	-15.8	1.6	24.7	-3.6	-5.3	10.3	45.7	-5.5	8.6	-1.8	-7.4	12.5	-9.0	-2.3	21.7	-4.5
BTB	1.06	1.13	1.13	1.18	1.28	1.20	1.23	1.22	1.13	1.14	1.12	0.98	1.08	1.06	1.13	1.18	1.27	1.14

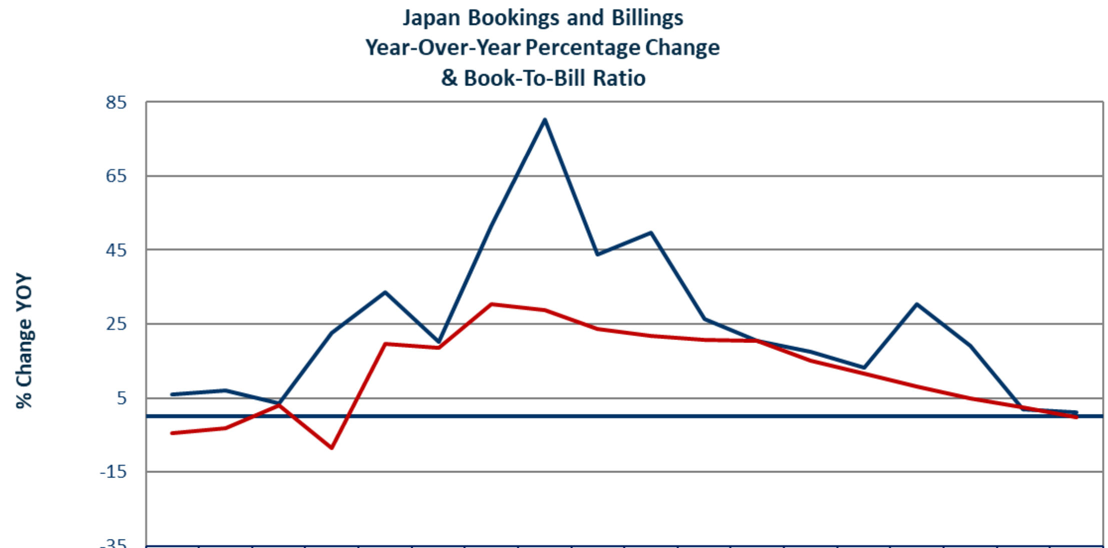
Europe Performance

- YOY billings grew +6.2% and orders were up +1.5%. The book-to-bill ratio was 1.14. Sequentially, sales were down -4.5%.
- Euro area industrial production increased 2.0% YOY in February, the largest gain in five months.
- The April manufacturing PMI was 55.3.
- February retail sales increased 5.0% YOY.
- The inflation rate was 7.4% in March, up from 5.9% in February pushed higher by fuel and natural gas.
- Year-over-year, Euro area March new car registrations contracted 20.5% due to part shortages and the war in Ukraine.
- The unemployment rate dropped to 6.8% in February from 6.9% in January.

Conclusions

European new car registrations started coming back in January but the war in Ukraine disrupted the supply chain. Ukraine has several large cable assembly manufacturers that service European car companies and there are already reports of shortages. Automotive is the largest connector market in Europe. The connector industry appears to be headed for a difficult year in Europe given the ongoing shortages, high inflation, the situation in the Ukraine and supply chain issues that will likely dampen results going forward.

Japan: The following chart displays the year-over-year percentage change in bookings and billings for the last 18 months. The monthly book-to-bill ratio is also displayed.



	Oct 20	Nov 20	Dec 20	Jan 21	Feb 21	Mar 21	Apr 21	May 21	Jun 21	Jul 21	Aug 21	Sep 21	Oct 21	Nov 21	Dec 21	Jan 22	Feb 22	Apr 22
Bookings	5.9	7.1	3.6	22.6	33.5	20.1	51.6	80.4	43.9	49.7	26.3	20.4	17.4	13.3	30.5	19.2	1.8	1.0
Billings	-4.5	-3.2	3.1	-8.5	19.6	18.5	30.3	28.7	23.6	21.8	20.8	20.4	15.0	11.6	8.0	4.9	2.4	-0.3
Billing SEQ	-5.1	12.4	-1.2	16.9	17.9	-4.3	-2.8	0.3	28.6	1.0	5.4	-3.4	-4.5	9.7	-4.5	-11.1	15.1	-5.0
BTB	1.10	1.11	1.10	1.03	1.13	1.06	1.22	1.23	1.10	1.17	1.10	1.08	1.14	1.13	1.14	1.17	1.12	1.38

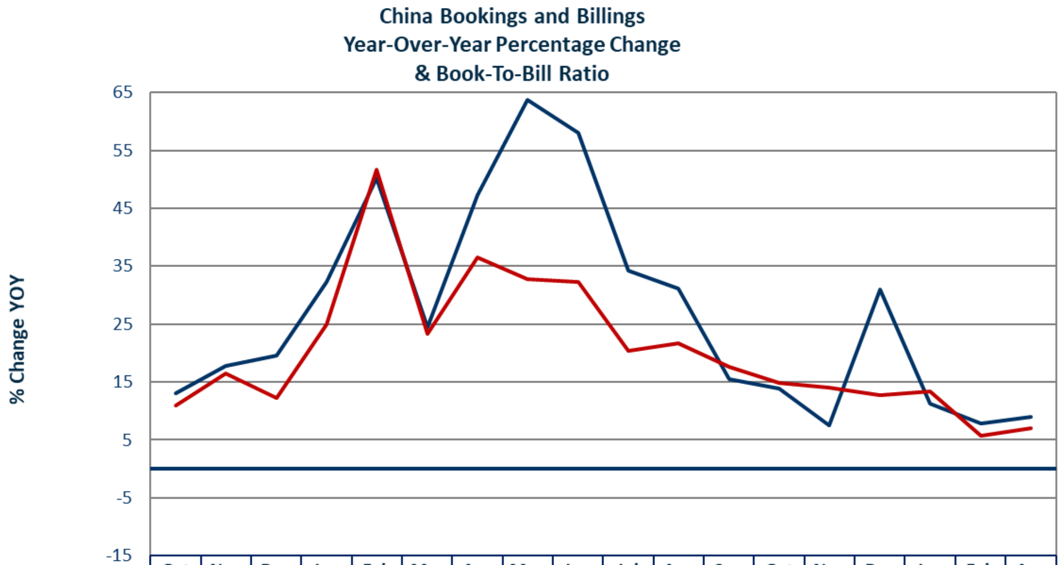
Japan Performance

- Bookings were up +1.0% in March. Sales decreased -0.3%. Sequentially, sales decreased -5.0%. Japan's book-to-bill ratio was 1.38.
- Industrial production increased 0.5% YOY in February.
- February retail sales contracted 0.8% YOY.
- The unemployment rate was 2.6% in March, a one year low.
- Exports increased 17.7% in March.
- The April manufacturing PMI decreased to 53.4 from 54.1 a month earlier.

Conclusions

The ongoing weakness of Japan's economy will weigh down their connector industry results. The shortage of semiconductors is holding back growth in their automotive industry sales. Their bookings performance, in the last 13 months, primarily reflects easy comparisons to the poor results in 2020/2021. Billings were negative for the first time since January of 2021.

China: The following chart displays the year-over-year percentage change in bookings and billings for the last 18 months. The monthly book-to-bill ratio is also displayed.



	Oct 20	Nov 20	Dec 20	Jan 21	Feb 21	Mar 21	Apr 21	May 21	Jun 21	Jul 21	Aug 21	Sep 21	Oct 21	Nov 21	Dec 21	Jan 22	Feb 22	Apr 22
Bookings	13.0	17.8	19.6	32.3	50.2	24.5	47.3	63.8	58.0	34.2	31.1	15.5	13.9	7.5	30.9	11.2	7.9	9.0
Billings	10.9	16.4	12.3	25.0	51.6	23.3	36.5	32.7	32.3	20.4	21.7	17.6	14.8	14.1	12.8	13.4	5.8	7.0
Billing SEQ	0.0	12.0	-4.2	-3.2	3.1	2.0	-0.4	4.2	28.6	0.3	5.6	0.9	-2.4	11.1	-5.2	-2.7	-3.9	3.2
BTB	1.05	1.10	1.05	1.14	1.12	1.11	1.19	1.21	1.14	1.12	1.18	1.00	1.08	1.00	1.03	1.12	1.14	1.22

China Performance

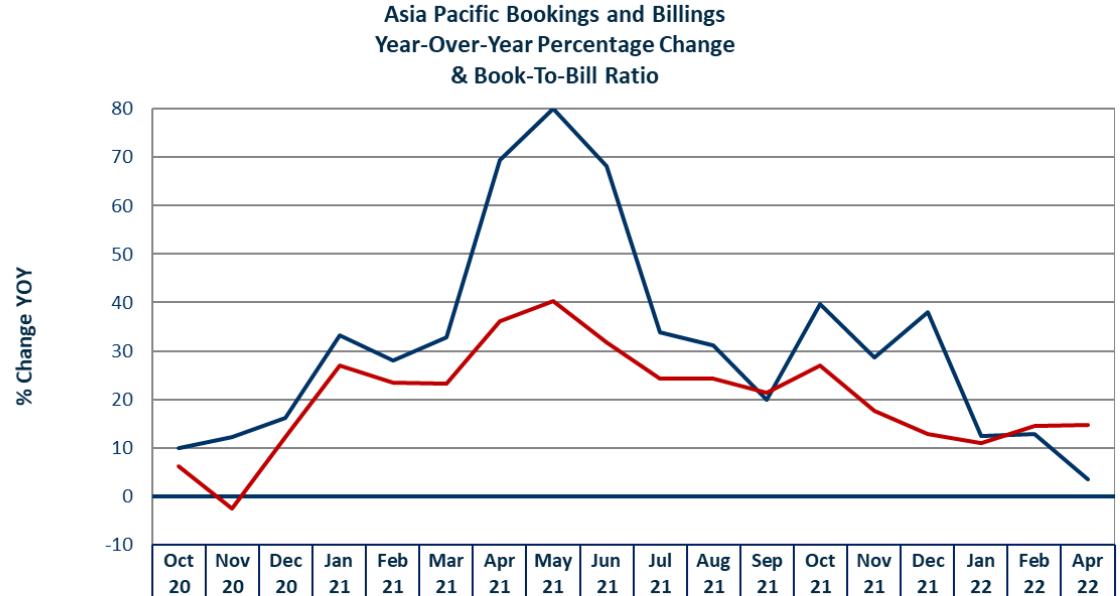
- China's sales increased +7.0% YOY and orders increased +9.0% YOY. The BTB was 1.22. Sequentially, sales increased +3.2% in March.
- 1Q22 GDP grew 4.8% YOY and 1.3% sequentially. GDP is forecasted to slow significantly in Q2.
- Industrial production increased 5.0% YOY in March.
- China's manufacturing PMI rose to 48.1 in March.
- Retail sales decreased 3.5% YOY in March, the first drop since July 2020.
- Exports from China were up 27.2% sequentially in March.
- China's auto sales were down 11% YOY in March.

Conclusions

China's economy strengthened in 4Q21. Their economy, however, faces some significant headwinds in 2022. For most of 2021, China had posted double-digit year-over-year growth in both connector sales and orders. This growth has allowed China to take connector market share from other regions of the world. In 2022, the comparisons to 2021 and their slowing economy will make it harder to show growth.

Xi Jinping is facing some opposition in the CCP for his stance against technology, real estate, and financial companies, etc. which other party leaders have criticized is hindering growth in the economy. Their targeted GDP growth in 2022 is 5.5%, the lowest they have targeted in 30 years. China's economists are calling the goal "ambitious".

Asia Pacific: The following chart displays the year-over-year percentage change in bookings and billings for the last 18 months. The monthly book-to-bill ratio is also displayed.



	Oct 20	Nov 20	Dec 20	Jan 21	Feb 21	Mar 21	Apr 21	May 21	Jun 21	Jul 21	Aug 21	Sep 21	Oct 21	Nov 21	Dec 21	Jan 22	Feb 22	Apr 22
Bookings	9.9	12.3	16.1	33.2	28.1	32.8	69.4	80.0	68.3	33.9	31.1	20.0	39.7	28.7	38.1	12.4	12.9	3.4
Billings	6.1	-2.6	12.2	27.1	23.5	23.2	36.1	40.3	31.8	24.3	24.3	21.4	27.0	17.6	12.9	11.0	14.5	14.7
Billing SEQ	0.5	11.8	-3.4	-0.5	2.0	0.7	5.6	5.7	40.6	-2.6	4.4	-3.1	4.7	4.4	-7.1	-2.2	5.2	0.9
BTB	1.07	1.09	1.08	1.14	1.17	1.24	1.23	1.24	1.09	1.09	1.09	1.06	1.23	1.50	1.04	1.16	1.15	1.21

Asia Pacific Performance

- Orders were up +3.4% in March and sales rose +14.7% YOY. The book-to-bill ratio was 1.21. Sequentially, sales increased +0.9%.
- India's industrial production grew 1.7% YOY in February. Exports were up 19.8% YOY in March driven primarily by petroleum products. The manufacturing PMI decreased to 54.0 in March. Inflation in March increased to 6.95%.
- South Korea's 1Q22 GDP grew 3.1% YOY and 0.7% sequentially. Industrial production rose 6.5% YOY in February. Exports increased 17.8% sequentially in March. The manufacturing PMI declined to 51.2 in March.

Conclusions

South Korea's GDP continues to grow YOY and sequentially. Their connector sales also have a positive outlook with strong growth anticipated in the electronics and automotive industries. India's economic growth continued its slide in 4Q21. India's economic production uses fewer connectors than South Korea, so they will have less impact on the region's connector sales.

Rest of World: The following chart displays the year-over-year percentage change in bookings and billings for the last 18 months. The monthly book-to-bill ratio is also displayed.

	Oct 20	Nov 20	Dec 20	Jan 21	Feb 21	Mar 21	Apr 21	May 21	Jun 21	Jul 21	Aug 21	Sep 21	Oct 21	Nov 21	Dec 21	Jan 22	Feb 22	Apr 22
Bookings	21.7	27.1	29.1	17.0	46.5	47.1	108.7	109.6	81.6	50.2	-0.6	18.9	12.7	-4.3	44.0	17.6	5.3	3.5
Billings	4.5	11.1	16.4	29.3	28.2	32.3	52.5	53.1	38.9	29.1	30.6	28.6	30.2	17.6	17.6	10.7	17.2	16.2
Billing SEQ	-0.9	10.5	-5.9	0.0	12.3	-2.4	-4.0	12.2	41.5	-0.5	10.9	-4.3	1.3	1.9	-7.1	-5.8	18.5	-3.3
BTB	1.09	1.15	1.16	1.09	1.33	1.20	1.17	1.20	1.23	1.29	0.74	0.93	1.01	0.85	1.89	1.16	1.20	1.07

Rest of World Performance

- Orders increased +3.5% and sales increased +16.2% YOY in March. Sequentially, sales in the region decreased -3.3%. The book-to-bill ratio was 1.07.
- Brazil's industrial production decreased -4.3% YOY in March, the seventh consecutive month of declines. The inflation rate decreased to 11.3% in March. The manufacturing PMI rose to 52.3 in March from 49.6 in February.
- Russia's economic data has been reported as unreliable at this point in time.

Conclusions

The region continues to experience growth within their connector industries. Sales have grown since September 2020.

We anticipate that slowing economic growth in both countries will adversely affect their connector growth in 2022. The black swan event for the region is Russia's invasion of Ukraine and the economic sanctions imposed by many NATO and Western countries on Russia. We anticipate a drastic contraction of the Russian economy in the coming months although they are not a large connector market due in part to the majority of their connector sales being captive.

Largest Backlog in Industry History

The industry backlog increased to $24,921 million in March. At the current weekly sales rate of $1,629 million, that converts to 15.5 weeks of backlog.

Industry Backlog

	2021	**YTD Mar 2022**
BtB Ratio	1.14	1.18
Beginning Backlog	$10,530	$21,499
Bookings	$88,910	$24,921
Billings	$77,991	$21,181
Ending Backlog	$21,499	$25,239
Backlog in Weeks	14.3	15.5

$ Millions

March 2022 is the 19th consecutive month in which orders have achieved growth. We achieved 16 consecutive months of double-digit growth from October 2020 through January 2021. February and March orders increased single-digits of +8.7% and +7.1%, respectively.

Note that 2Q22 has 13 weeks. Our backlog is 15.5 weeks. Assuming no order cancellations or push-outs, the industry will have a good 2Q22.

2022 Industry Outlook

Over the past 14 years (2008-2021), first quarter sales averaged 24.1% of full year sales. Year-to-date, sales were $21,181 million. Assuming the historical average of 24.1% repeats, the industry will achieve sales of $87,888 million. This is a 12.7% increase over 2021 sales of $77,991 million.

We continue to believe connector demand will moderate in the second half of 2022. Our forecast is for growth of +5.7%.

The following table identifies the range of full year 2022 sales based on the 14 year averages for January through March combined.

2022 Forecast Range

	Historical Range		
	High	**Avg**	**Low**
YTD Mar Sales %	23.1%	24.1%	25.5%
YTD Mar Actual Sales	$21,181	$21,181	$21,181
Full Year Forecast	$91,693	$87,888	$83,063
2021 Actual Sales	$77,991	$77,991	$77,991
% Increase	**17.6%**	**12.7%**	**6.5%**

$ Millions

The following table summarizes this forecast analysis, including the Bishop forecast.

Category	2022 Sales	% Growth
Historical High	$91,693	17.6%
Historical Average	$87,888	12.7%
Historical Low	$83,063	6.5%
Bishop Forecast	$82,463	5.7%

$ Millions

You will note that our full year forecast is the most pessimistic. The following are the headwinds that cause us concern:

- The war in Ukraine is now three months old with little progress toward a negotiated peace. Ukraine provides a large amount of the cable assemblies for the European automotive industry.
- Inflation and the anticipated interest rate hikes will dampen global economies and demand for electronics.

- China's economy is slowing because of COVID and other factors which will exacerbate shortages.
- Materials used in semiconductor manufacturing, of which some come from Russia and Ukraine, will likely aggravate semiconductor shortages.
- 1Q22 US GDP was -1.4% suggesting that we are headed for a recession. Deusche Bank is forecasting a deep global recession in 2023.
- Supply chain backlogs.
- Boycotts of Russian products - most importantly, petroleum.

2022 YTD Currency Impact on Regional Industry Growth

The dollar has been weakening against the euro, the yen, and the yuan. The following table measures the impact for March 2021 versus March 2022 and shows results for these three currencies.

Local Currency to One USD
March 2021 versus March 2022

Currency	2021	2022	% Change
Euro	0.8340	0.9083	8.9%
Yuan	6.5092	6.3444	-2.5%
Yen	108.6760	118.4608	9.0%

Europe, China, and Japan account for approximately 60% of world connector sales. Currency fluctuation to the US dollar can have a significant impact on our reporting of sales performance in US dollars.

The following table shows March YTD sales performance by region in US dollars and local currencies.

Industry Sales Performance
YTD March 2022
USD-vs-Local Currencies

Region	U.S.$	Local Currency
North America	18.6%	19.6%
Europe	6.2%	-2.1%
Japan	-0.3%	-7.0%
China	7.0%	11.3%
Asia Pacific	14.7%	13.4%
ROW	16.2%	14.8%
World	**10.2%**	**8.7%**

Connector sales are 1.5 percentage points lower when stated in local currencies rather than in US dollars, putting industry performance at +8.7% in March (versus +10.2% in US dollars). This is the result of a stronger US dollar, on average, compared to these currencies as the yaun partially offsets the yen and the euro.

Significant Events

C&K Switches to be acquired by Littelfuse

C&K Switches, an affiliated portfolio company of Sun Capital Partners, Inc., is pleased to announce that it is to be acquired by Littelfuse, Inc. (NASDAQ: LFUS), an industrial technology manufacturing company empowering a sustainable, connected, and safer world, for an enterprise value of $540 million.

Founded in 1928, C&K has been at the forefront of technological evolution in electromechanical switches. The Company is a leading global provider of critical, highly engineered electromechanical switches and interconnect technology solutions for essential applications in industrial, transportation, aerospace, datacom products, and other industries. The Company is headquartered in Waltham, Massachusetts, with operations in France, Germany, China, India and Vietnam, and annualized sales of over $200 million.

Lars Brickenkamp, Chief Executive Officer of C&K, said, “C&K and Littelfuse share a common vision, with both companies having almost 100 years’ experience in the design and manufacture of high-performance products. With many common customers, applications and focus markets, our two companies share a high level of market and cultural affinity, which will allow C&K to continue to serve our existing customers, and rapidly add new ones, with competitive, market leading solutions.”

The transaction is subject to customary closing conditions and regulatory approvals and is expected to close during the second calendar quarter of 2022.

HARTING to exhibit at the Peterson Automotive Museum

The HARTING-supported Volkswagen ID.4 will be part of the "Driving Toward Tomorrow" multimedia exhibition series at the Peterson Automotive Museum in Los Angeles until the end of the year. In 2021, the ID.4 completed its 57,000-kilometer e-mobility road trip. Professional driver Rainer Zietlow travelled across the U.S. in the ID.4 in just under 100 days to prove that electric vehicles are viable for long distances. "Driving Toward Tomorrow" opened in November 2019 and presents current automotive industry projects that represent the future of transport design. Concept vehicles developed by selected car manufacturers worldwide are on display, with a special focus on the development of Volkswagen's modular electric drive. The all-electric ID.4 EV is now in the spotlight under the title, "Building an Electric Future."

TE Connectivity Recognized as one of the Top 100 Global Innovators

TE Connectivity has been recognized for the 11th straight year by Clarivate as one of the Top 100 Global Innovators 2022, demonstrating TE's consistent ability to bring new technology to the markets it serves, even amid recent global business challenges. The annual report from Clarivate recognizes the organizations that demonstrate consistent, above-the-bar innovation excellence and which sit at the very top of the global innovation ecosystem. The Top 100 program uses informatic techniques targeting innovation excellence to compare tens of millions of ideas, across thousands of baselines, through billions of calculations, to discover the 100 innovators at the pinnacle. Throughout the company's history, TE engineers and inventors have earned or applied for more than 15,000 patents that enable electric and autonomous vehicles, faster data centers, smarter factories, cleaner energy, and life-saving medical devices. The Clarivate Top 100 Global Innovators 2022 come from 12 countries and regions.

Fischer Connectors Group appoints New General Manager of Fischer Connectors Inc.

The Fischer Connectors Group is pleased to announce that Xavier Fustagueras has been appointed General Manager of Fischer Connectors Inc. based in Atlanta, to pursue the group’s growth in North and South Americas. The technology group provides high-performance connectivity solutions that manage power and data flows across sensors, devices, and the cloud – from end-to-end electrical and optical interconnectivity for devices, to IoT solutions for connected workers – in various markets such as defense and security, medical, industrial, instrumentation, audio visual, transportation, and energy. Fustagueras holds a master's degree in telecommunications engineering from the Universitat Politècnica de Catalunya, Barcelona, Spain. He started his career in the broadcast industry and worked for more than 15 years in the media and entertainment industry in PayTV at NAGRA (Kudelski Group), where he managed business development for Spain and Portugal, then held different positions in key accounts, and pre-sales and sales enablement in the Kudelski Group's headquarters in Switzerland, until 2017, when he moved to Phoenix, for the position of SVP General Manager Americas.

HEICO Corporation acquires Pioneer Industries LLC
HEICO Corporation's Flight Support Group acquired Farmingdale, New York-based Pioneer Industries, LLC., a leading specialty distributor of spares for military aviation, marine, and ground platforms. Its customers include the U.S. Department of Defense and companies that support the defense sector. Pioneer adds new products and capabilities to HEICO's rapidly-growing and highly successful Defense Sustainment and Distribution operations which are dedicated to supporting the defense aftermarket's specialized and niche needs, along with sales to new defense equipment production. Pioneer's owners and leaders, Robert and David Yormack, brothers whose family founded Pioneer in 1945, will retain 26% of Pioneer's equity and continue in their current roles with the company. HEICO stated that it does not expect any staff turnover to result from the acquisition. Additionally, HEICO's Lucix subsidiary acquired 100% of the stock of Flight Microwave Corporation. Founded in 2004, Flight Microwave is a leading designer and manufacturer of world class custom high power filters and filter assemblies used in space and defense applications.

Foxconn March and Quarterly Results
Revenue in March 2022 was up by 15.00% YoY, with double digit growth across four major products. The growth momentum is in order: Computing Products, Smart Consumer Electronics Products, Components and Other Products, and Cloud and Networking Products.

Overall quarterly revenue in the first quarter of 2022 was NT$ 1,408.2 billion, up by 4.83% YoY, but down by 25.5% QoQ. The revenue hit record high for the same period. Better than expected performance was due to better components supply.

North American PCB Sales Down 11.7 percent in March
IPC announced the March 2022 findings from its North American Printed Circuit Board (PCB) Statistical Program. The book-to-bill ratio stands at 1.05.

Total North American PCB shipments in March 2022 were down 11.7 percent compared to the same month last year. Compared to the preceding month, March shipments rose 5.6 percent.

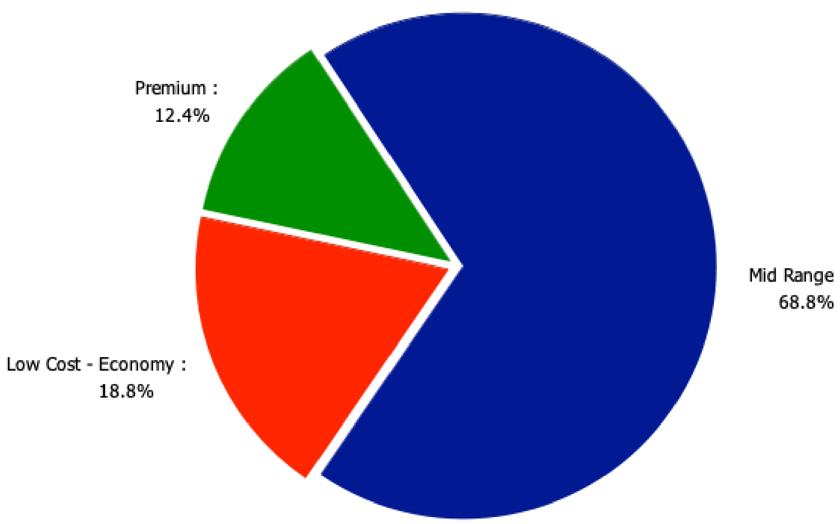
PCB year-to-date bookings in March were down 25.9 percent compared to last year. Bookings in March fell 1.3 percent from the previous month.

"Stronger shipments suggest marginal improvement in supply chain dynamics but a drop in orders alludes to slowing demand across a number of downstream sectors," said Shawn DuBravac, IPC's chief economist.

World Automotive Connector Market

Bishop & Associates, Inc. announces the release of a new 16-chapter, 197-page research report providing an in-depth analysis of the worldwide automotive connector market. Covering the period 2020, 2021, and 2026F, as well as a summary for the period 2020 through 2026F, this report focuses on interconnects used in light vehicle production. Connector usage is broken down by vehicle type; low-cost/economy, mid-range, and premium, as well as by key electronic system, connector type, and region.

2021 Worldwide Light Vehicle Production by Vehicle Type Percent Market Share



The automotive industry represents the second largest market for connectors with a 21.9% market share. The automotive market has also been one of the fastest growing markets for connectors until the recent semiconductor shortage dampened growth. This upsurge in automotives sales of passenger vehicles, both conventional and electric, has been primarily driven by consumer demand for updated infotainment and advanced driver assistance (ADAS).

The report breaks down the automotive connector market into five main systems:

- Powertrain
- Comfort, Convenience & Entertainment
- Safety and Security
- Navigation and Instrumentation
- Body Wiring and Power Distribution

Specific sub-systems are discussed within each of these systems, providing connector usage by connector type and region for each of the systems as well as their sub-systems. In addition, an entire chapter is devoted to advanced driver assisted systems and the connectors used in those applications.

Examples of the more than 200 graphs and tables provided include:

Connector Sales by Electrical System

Electrical System	2020	2021	2022	2023	2024	2025	2026	2021-2026 CAGR
Powertrain	$XXX.X	$XXX.X	$XXX.X	$XXX.X	$XXX.X	$XXX.X	$XXX.X	Y.Y%
Body Wiring & Power Distribution	$XXX.X	$XXX.X	$XXX.X	$XXX.X	$XXX.X	$XXX.X	$XXX.X	Y.Y%
Comfort, Conven. & Entertainment	$XXX.X	$XXX.X	$XXX.X	$XXX.X	$XXX.X	$XXX.X	$XXX.X	Y.Y%
Safety & Security	$XXX.X	$XXX.X	$XXX.X	$XXX.X	$XXX.X	$XXX.X	$XXX.X	Y.Y%
Navigation and Instrumentation	$XXX.X	$XXX.X	$XXX.X	$XXX.X	$XXX.X	$XXX.X	$XXX.X	Y.Y%
Total	**$XX,XXX.X**	**$XX,XXX.X**	**$XX,XXX.X**	**XX,XXX.X**	**XX,XXX.X**	**XX,XXX.X**	**XX,XXX.X**	**Y.Y%**

$ Millions

Production Values by Vehicle Type
2020, 2021, and 2026F

Vehicle Segment	2020	2021	2026	2021-2026 CAGR
Low Cost-Economy	X,XXX	X,XXX	X,XXX	Y.Y%
Mid Range	X,XXX	X,XXX	X,XXX	Y.Y%
Premium	X,XXX	X,XXX	X,XXX	Y.Y%
Total	**X,XXX**	**X,XXX**	**X,XXX**	**Y.Y%**

Units Thousands

Production Values by Powertrain Type
2020, 2021, and 2026F

Vehicle Powertrain	2020	2021	2026	2021-2026 CAGR
ICE	X,XXX	X,XXX	X,XXX	Y.Y%
BEV	X,XXX	X,XXX	X,XXX	Y.Y%
HEV	X,XXX	X,XXX	X,XXX	Y.Y%
PHEV	X,XXX	X,XXX	X,XXX	Y.Y%
MHEV	X,XXX	X,XXX	X,XXX	Y.Y%
Total	**X,XXX**	**X,XXX**	**X,XXX**	**Y.Y%**

Units Thousands

Connector Sales by Connector Type
2020 through 2026F

Total Connectors	2020	2021	2022	2023	2024	2025	2026	2021-2026 CAGR
HCT	$XXX.X	$XXX.X	$XXX.X	$XXX.X	$XXX.X	$XXX.X	$XXX.X	Y.Y%
In Line	$XXX.X	$XXX.X	$XXX.X	$XXX.X	$XXX.X	$XXX.X	$XXX.X	Y.Y%
PCB	$XXX.X	$XXX.X	$XXX.X	$XXX.X	$XXX.X	$XXX.X	$XXX.X	Y.Y%
RF	$XXX.X	$XXX.X	$XXX.X	$XXX.X	$XXX.X	$XXX.X	$XXX.X	Y.Y%
FO	$XXX.X	$XXX.X	$XXX.X	$XXX.X	$XXX.X	$XXX.X	$XXX.X	Y.Y%
Terminals	$XXX.X	$XXX.X	$XXX.X	$XXX.X	$XXX.X	$XXX.X	$XXX.X	Y.Y%
HV-HC	$XXX.X	$XXX.X	$XXX.X	$XXX.X	$XXX.X	$XXX.X	$XXX.X	Y.Y%
Total	**$XX,XXX.X**	**$XX,XXX.X**	**$XX,XXX.X**	**$XX,XXX.X**	**$XX,XXX.X**	**$XX,XXX.X**	**$XX,XXX.X**	**Y.Y%**

$ Millions

As a market sector that has experienced significant growth and change over the past ten years, the report will highlight some of the more interesting aspects of that growth and change:

- The XXXX market accounts for the largest automotive connector expenditures, followed by XXXXX.
- Electric Vehicle Powertrains (BEV and HEV) will account for XX.6% of total production in 2026, up from XX.7% in 2021.
- The worldwide market for high voltage connectors will grow from XX.5% of the total automotive connector market in 2021 to XX.4% in 2026.

World Automotive Connector Market

The following table of contents shows the detail provided in this new report.

Table of Contents

Chapter 7 – Safety and Security Systems (continued)

Chapter 8 – Navigation and Instrumentation Systems

Chapter 8 – Navigation and Instrumentation Systems (continued)

Chapter 9 – Advanced Driver Assistance Systems (ADAS)

Chapter 10 – North America

Chapter 16 – World Automotive Connector Market Summary (continued)

To Order the World Automotive Connector Market

Research Report M-1010-22, ***World Automotive Connector Market*** is available for $5,135. If you would like additional information about this report, or would like to place an order, please complete the following information and email or mail it to Bishop & Associates, Inc. You may also place your order on our website click here.

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What's New ?

Bishop & Associates has recently completed several new research reports about the worldwide connector industry. A table of contents for each report can be found at **https://store.bishopinc.com**.

- ☐ **Report M-1010-22** **World Automotive Connector Market (April 2022) NEW**
- ☐ **Report M-700-22** **World Connector Market Handbook (March 2022) NEW**
- ☐ **Report P-420-22** **IC Sockets – Systems & Connector Forecast 2020-2030 (January 2022) NEW**
- ☐ **Report F-2021-02** **Connector Industry Forecast (November 2021) NEW**
- ☐ **Report P-520-21** **The World I/O Rectangular Connector Market 2021 (October 2021) NEW**
- ☐ **Report P-430-21** **World Circular Connector Market 2021 (September 2021) NEW**
- ☐ **Report M-121-21** **2021 Top 100 Connector Manufacturers (August 2021) NEW**
- ☐ **Report C-122-21** **2021 Connector Industry Yearbook (July 2021) NEW**
- ☐ **Report M-310-21** **Instrumentation Market for Connectors (June 2021)**
- ☐ **Report P-799-21** **World Cable Assembly Market (May 2021)**
- ☐ **Report P-410-21** **Computer Server Market Trends and Connector Use 2020 – 2030 (May 2021)**
- ☐ **Report M-607-21** **World Industrial Market for Connectors (April 2021)**
- ☐ **Report M-510-21** **World Telecom Connector Market 2020-2025 (January 2021)**
- ☐ **Report M-1601-20** **Top 50 Medical Interconnect Solutions Companies (December 2020)**
- ☐ **Report P-675-20** **High-Speed Copper & Fiber Optic Connectors (November 2020)**
- ☐ **Report M-980-20** **5G Infrastructure – How 5G is Impacting Infrastructure Hardware and Connector Buying Trends (September 2020)**
- ☐ **Report M-1501-20** **Medical Electronics Market for Interconnect Solutions (July 2020)**

THE BISHOP REPORT - CONNECTOR INDUSTRY YEARBOOK

An annual corporate subscription to *THE BISHOP REPORT* (12 issues) is available for $2,950, which includes an unlimited number of subscribers and one PDF version of the ***Connector Industry Yearbook*** report (normally $1,500). ***The Bishop Report*** subscription includes access, through ***Bishopinc.com***, to prior issues of The Bishop Report, 30-40 yearly News Briefs, Industry Financial Benchmarks, and various connector industry indices.

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