

A Softening in Connector Bookings May Signal a Weakening of the Economy July Bookings up Only +1.7% and Sales up +4.7%

Regional Performance:

YTD, all regions except Europe and Japan are showing growth, with the greatest growth in Asia Pacific, where YTD billings have increased +13.6%, followed by China where sales increased +9.1%. Japan and Europe, the only regions exhibiting a decline, have YTD billings of -1.8% and -20.0% respectively. See page 5.

Industry Backlog:

July backlog was \$21,017 million (12.7 weeks). See page 13.

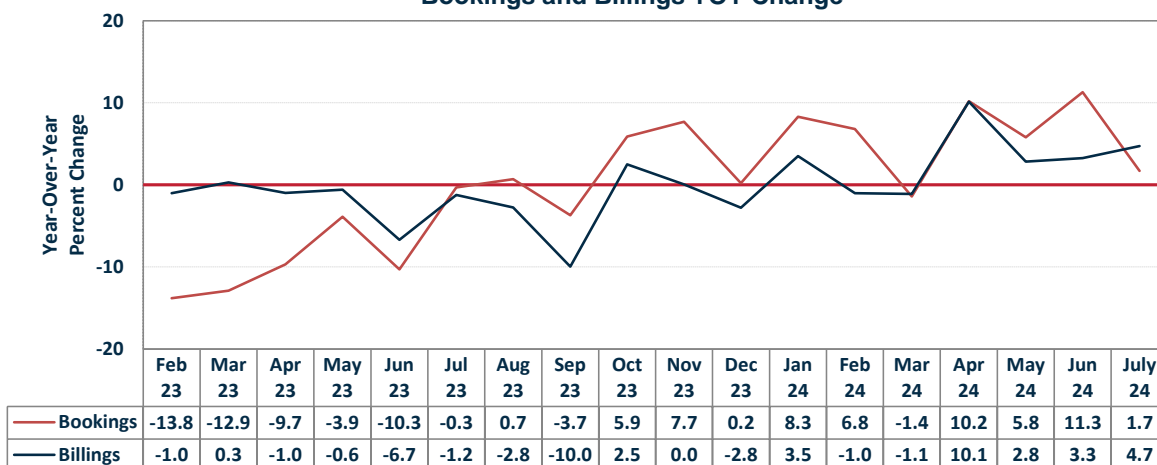
2024 Currency Impact:

The industry registered a YOY decrease in sales in July 2024, of -1.1% in local currency and an increase in sales of +4.7% in USD.



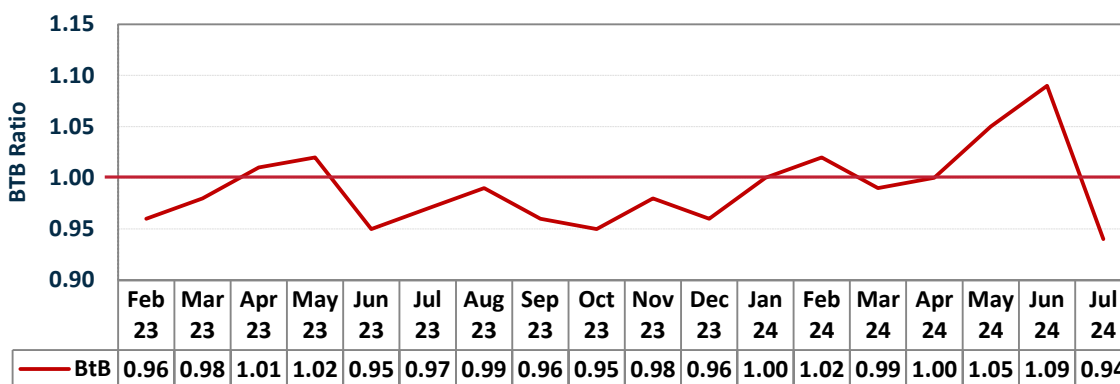
July bookings increased +1.7% year-over-year and 6.0% year-to-date, while billings increased +4.7% year-over-year and 3.1% year-to-date.

Bookings and Billings YOY Change



The book-to-bill ratio in July was .94, down from up from 1.09 in June.

Connector Industry Book-to-Bill

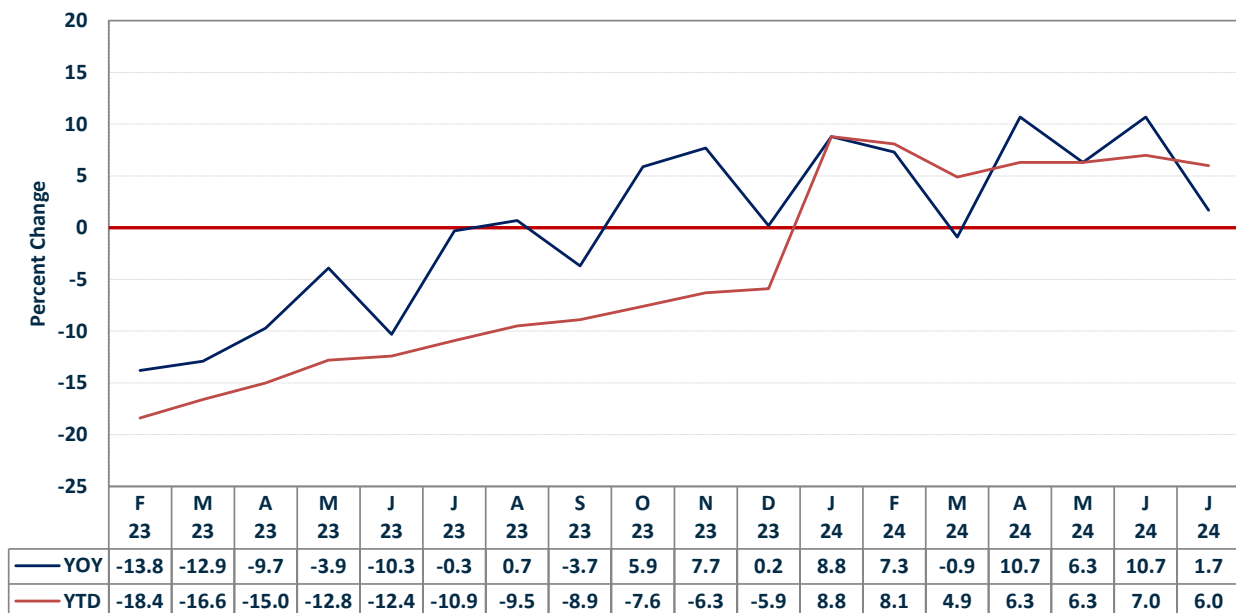


Booking Highlights and Conclusions

Sequential, Year-Over-Year, and Year-To-Date Bookings Percentage Change – 2022/2023/2024

Month	Sequential			Year-Over-Year			Year-To-Date		
	2022	2023	2024	2022	2023	2024	2022	2023	2024
Jan	1.6%	-1.3%	9.6%	14.8%	-18.4%	8.8%	14.8%	-18.4%	8.8%
Feb	10.0%	10.1%	5.1%	7.3%	-13.8%	7.3%	10.8%	-18.4%	8.1%
Mar	-5.1%	1.2%	-2.9%	7.1%	-12.9%	-0.9%	9.1%	-16.6%	4.9%
Apr	-8.5%	-5.1%	3.2%	-6.4%	-9.7%	10.7%	5.1%	-15.0%	6.3%
May	6.6%	13.5%	9.1%	-5.1%	-3.9%	6.3%	2.9%	-12.8%	6.3%
Jun	-6.5%	-12.7%	-6.8%	-3.2%	-10.3%	11.3%	1.9%	-12.4%	6.7%
Jul	-9.7%	0.3%	-8.3%	-9.9%	-0.3%	1.7%	1.1%	-10.9%	6.0%
Aug	8.2%	9.2%		-9.6%	0.7%		-1.2%	-9.5%	
Sep	-1.1%	-5.4%		1.6%	-3.7%		-0.9%	-8.9%	
Oct	-12.0%	-3.2%		-16.3%	5.9%		-2.4%	-7.6%	
Nov	10.0%	11.8%		-15.9%	7.7%		-3.7%	-6.3%	
Dec	-7.2%	-13.7%		-16.1%	0.2%		-4.7%	-5.9%	

Bookings - YOY and YTD



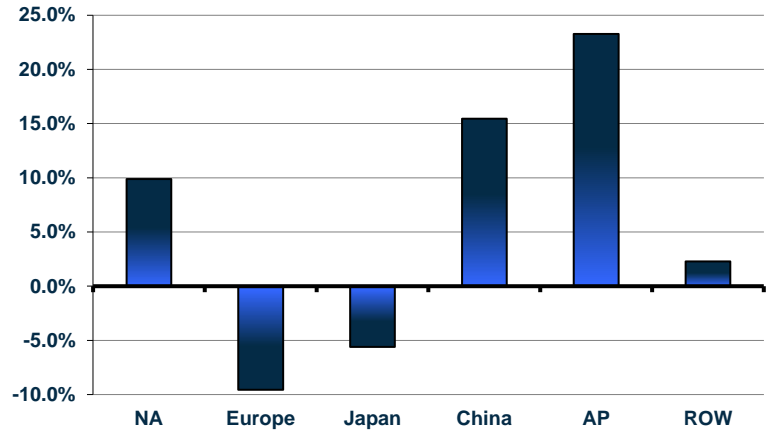
- July bookings increased +1.7% year-over-year.
- Orders decreased -8.3% on a sequential basis in July.
- The book-to-bill ratio for July was 0.94. This is the first time since March that the book-to-bill has been below 1.0.

Regional Performance: BOOKINGS

July 2024 Bookings

Year-To-Date Bookings by Region

Region	Sequential	YOY	YTD
NA	-7.0%	4.1%	9.9%
Europe	-17.5%	-19.5%	-9.6%
Japan	-3.1%	-2.4%	-5.6%
China	-3.4%	7.3%	15.5%
AP	-3.6%	41.9%	23.3%
ROW	-22.8%	-19.4%	2.3%
Total	-8.3%	1.7%	6.0%



- Year-to-date, July bookings increased by +6.0%.
- Year-over-year orders in July rose in three of the six regions. North America, China, and Asia Pacific saw increases with Asia Pacific showing the most growth at +41.9%, followed by China where bookings increased +7.3 YOY. Europe, Japan, and the ROW region showed a year-over-year decrease, with Japan declining the most at -19.5%, followed by the ROW region where orders declined -19.4%.
- YTD, all regions increased but Europe and Japan, where orders declined -9.6% and -5.6% respectively.

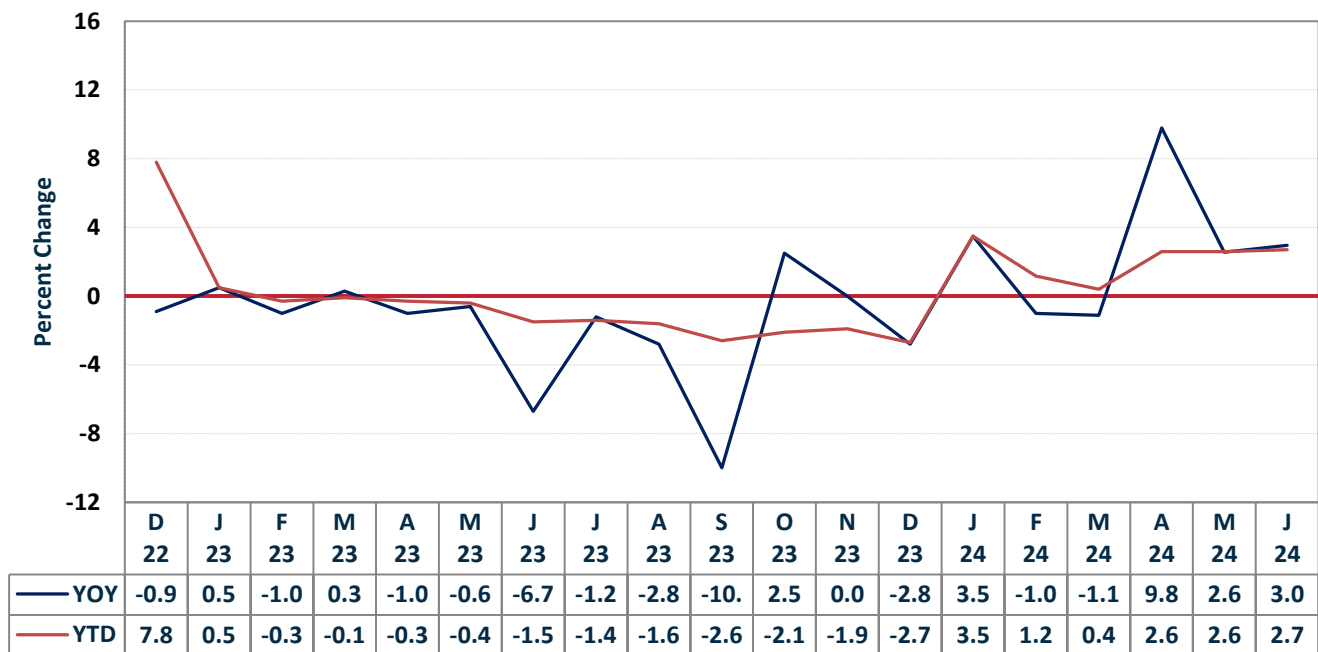
Note: Additional companies agreed to share their bookings with Bishop. As a result, the January through July 2024 monthly percentages may have changed slightly.

Billing Highlights and Conclusions

Sequential, Year-Over-Year, and Year-To-Date Billings Percentage Change – 2022/2023/2024

Month	Sequential			Year-Over-Year			Year-To-Date		
	2022	2023	2024	2022	2023	2024	2022	2023	2024
Jan	-5.1%	-3.1%	5.8%	11.4%	0.5%	3.5%	11.4%	0.5%	3.5%
Feb	11.4%	9.7%	2.8%	10.2%	-1.0%	-1.0%	10.8%	-0.3%	1.2%
Mar	-2.2%	-0.9%	0.4%	9.1%	0.3%	-1.1%	10.2%	-0.1%	0.4%
Apr	-6.7%	-7.9%	1.4%	3.0%	-1.0%	9.8%	8.4%	-0.3%	2.6%
May	11.6%	12.1%	4.4%	7.4%	-0.6%	2.6%	8.2%	-0.4%	2.6%
Jun	0.2%	-6.0%	-4.9%	11.9%	-6.7%	3.3%	8.8%	-1.5%	2.8%
Jul	-7.1%	-1.7%	-0.5%	6.1%	-1.2%	4.7%	8.4%	-1.4%	3.1%
Aug	8.9%	7.2%		6.3%	-2.8%		8.1%	-1.6%	
Sep	5.1%	-2.7%		14.4%	-10.0%		8.9%	-2.6%	
Oct	-14.0%	-2.1%		1.9%	2.5%		8.2%	-2.1%	
Nov	10.6%	7.9%		3.0%	0.0%		7.6%	-1.9%	
Dec	-9.8%	-12.4%		-1.6%	-2.8%		7.8%	-2.7%	

Billings - YOY and YTD

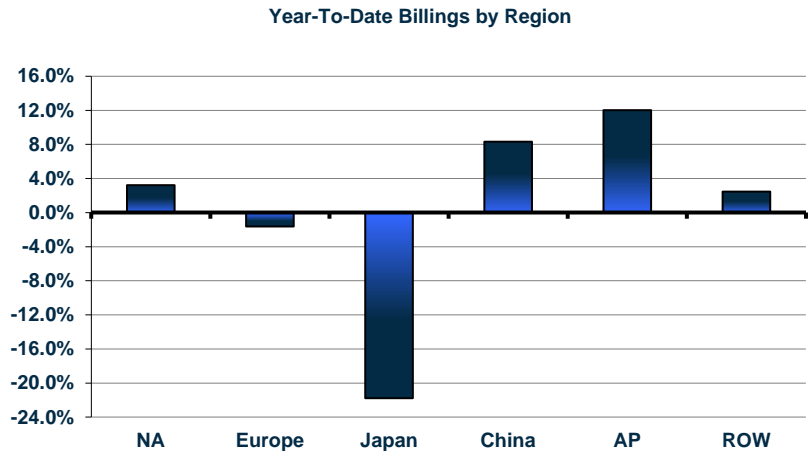


- July billings grew +3.1% year-to-date and +4.7% year-over-year.
- Sequentially, July billings decreased -0.5%.

Regional Performance: BILLINGS

July 2024 Billings

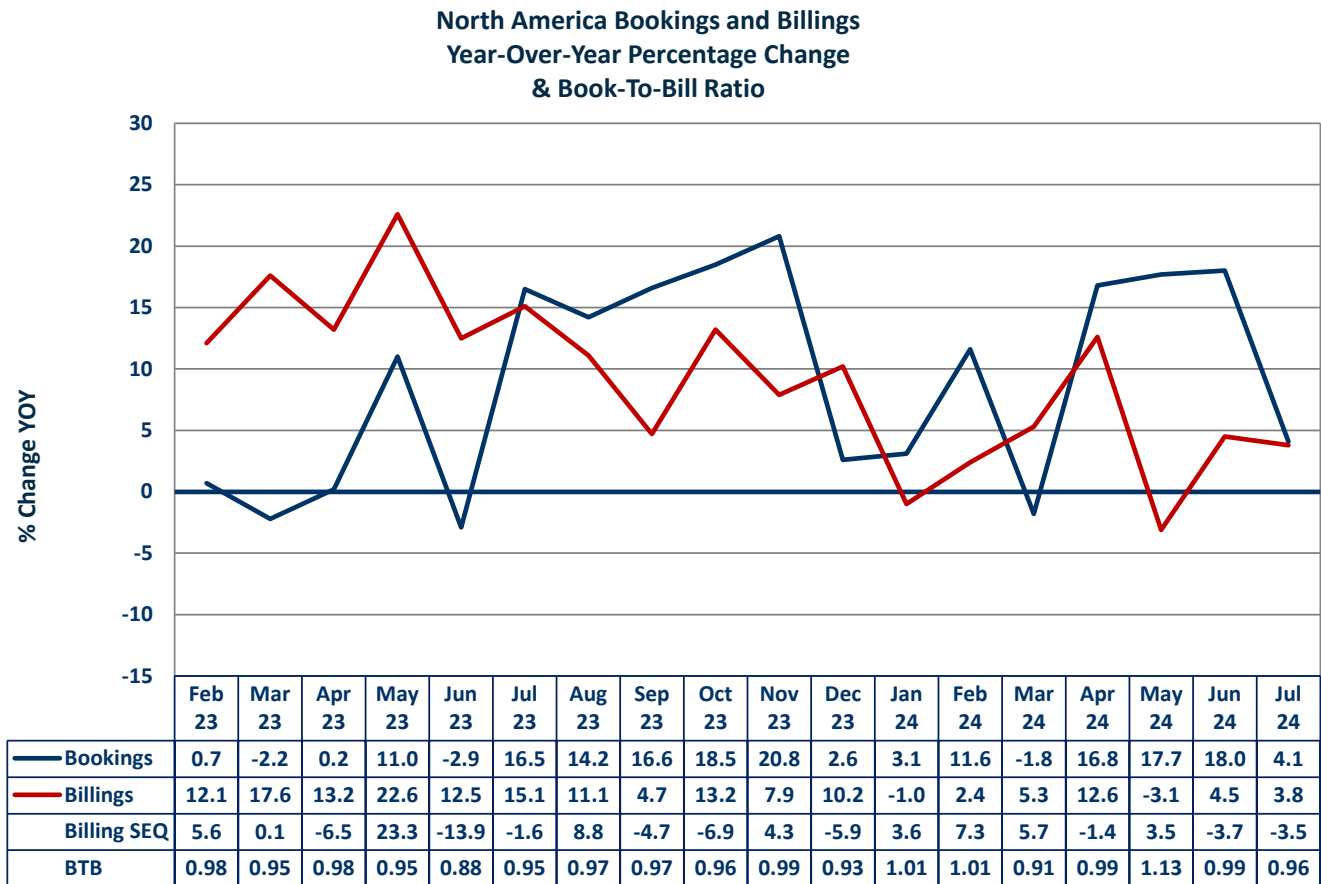
Region	Sequential	YOY	YTD
NA	-3.5%	3.8%	3.3%
Europe	-1.4%	-2.9%	-1.8%
Japan	-1.3%	-12.5%	-20.0%
China	4.6%	12.0%	9.1%
AP	1.6%	20.2%	13.6%
ROW	-6.1%	-6.6%	1.2%
Total	-0.5%	4.7%	3.1%



- July connector sales increased by +4.7% compared to the same period last year.
- Only two regions saw a sequential increase, China and Asia Pacific, increasing +4.6% and +1.6% respectively. All other regions saw a decline, with the ROW region declining the most with a decrease of -6.1%, followed by North America with a decline of -3.5%.
- Year-over-year, half the regions, North America, China, and Asia Pacific saw an increase, with the greatest increase in the Asia Pacific region at +20.2%, followed by China with YOY growth of +12.0%. Japan saw the greatest decrease, declining -12.5%, while ROW saw a decline of -6.6%.
- YTD, all regions but Europe and Japan saw an increase, declining -1.8% and -20.0% respectively. The greatest growth YTD was in the Asia Pacific region, where sales grew +13.6%, followed by China, where sales grew +9.1%.

Note: Additional companies agreed to share their billings with Bishop. As a result, the January through July 2024 monthly percentages may have changed slightly.

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.

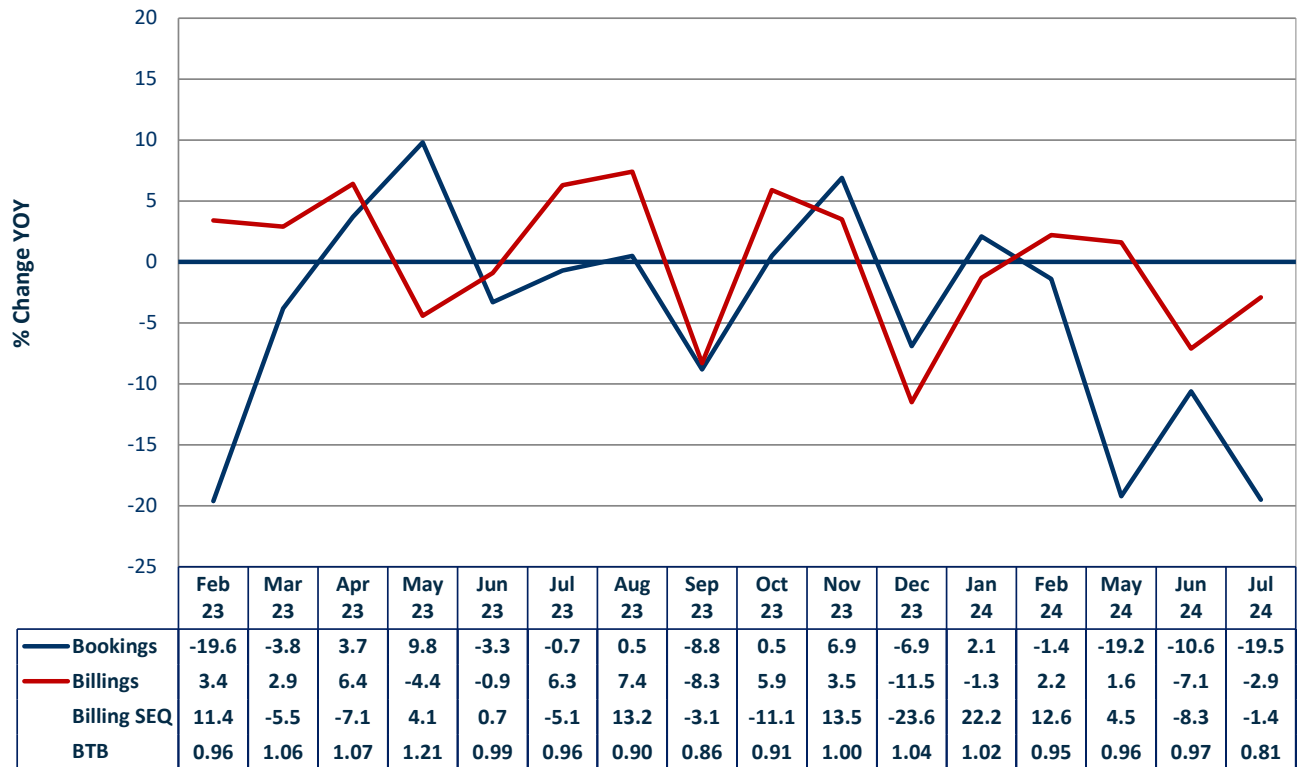


North America Performance

- Sales increased +3.8% year-over-year in North America in June, while orders grew +4.1%. Sequentially, North American billings decreased -3.5%. The book-to-bill ratio was 0.96.
- According to the US Bureau of Labor Statistics, the US inflation rate for July was 2.9%, down from the June rate of 3.0%. This was the lowest yearly growth rate since March of 2021.
- Industrial production in the United States decreased 0.20% in July of 2024 after advancing 0.6% in June 2024 and 0.9% in May 2024.
- Manufacturing PMI decreased to 49.6 points in July from 51.6 points in June 2024 and 48.7 in May 2024.
- The unemployment rate rose to 4.3% in July, inching up from 4.1% reported in June.
- July retail sales were up 1% after sliding down 0.1% in June.
- According to TD Economics' "In July 2024, US vehicle sales were 15.8 million units, which was a 4.2% increase from the previous month and in line with consensus forecasts. This was also a 2% increase from July 2023, when there were 25 selling days, the same as in July 2024. The average daily selling rate (DSR) was 50,925, which was down from 51,971 in July 2023."

- **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.

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



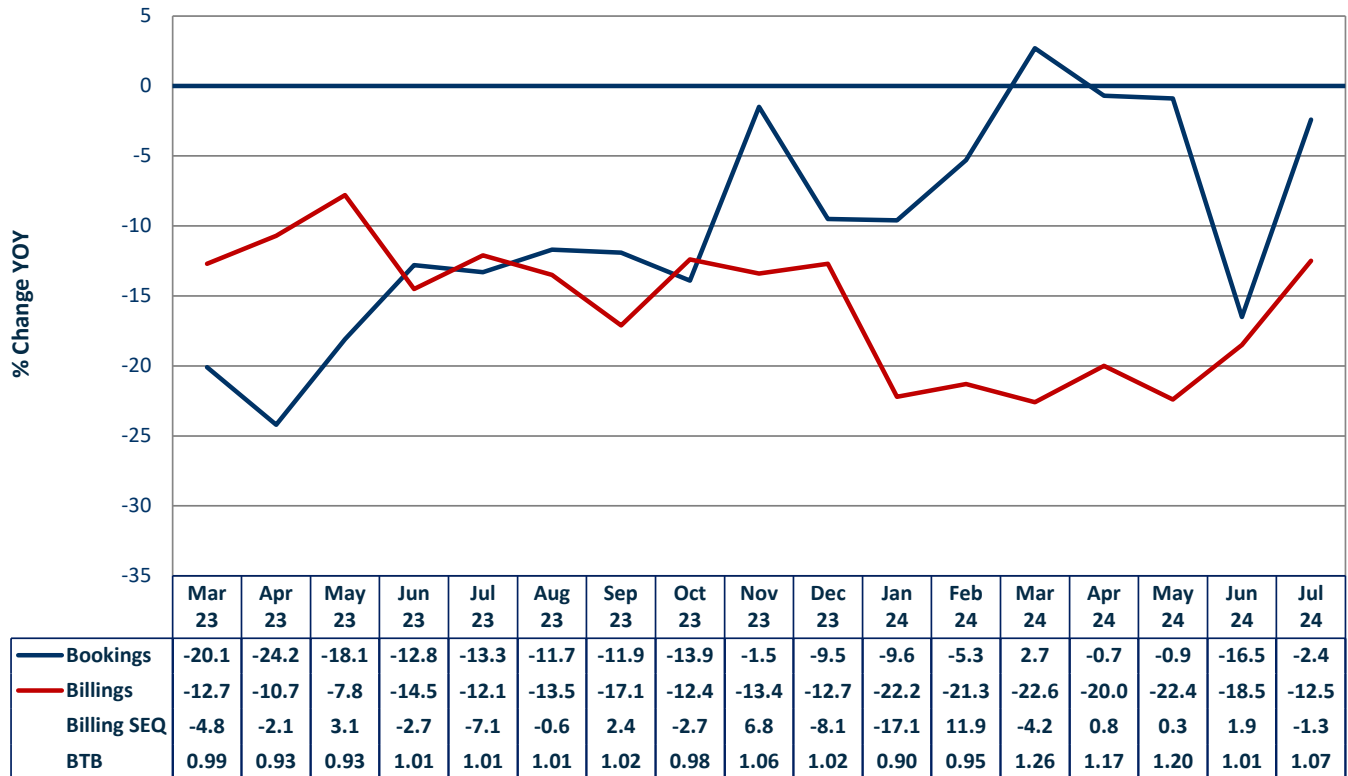
Europe Performance

- Bookings decreased -19.5% year-over-year in July, while billings decreased -2.9%. Sequentially, sales decreased -1.4%. The book-to-bill ratio was 0.81.
- According to Eurostat, the EU's statistical office, the euro area's industrial production decreased by 0.1% in July 2024 compared to June 2024. This was after a 0.9% decrease in May 2024. Production was also down by 3.2% in the EU compared with June 2023.
- The annual inflation rate in the eurozone climbed to 2.6% in July, up from 2.5% in June. CPI declined to zero, down from 0.2%. Global Economy reports the Euro area PMI value is 45.8 as of July 2024, the same as June 2024.
- In June 2024*, compared with May 2024, the seasonally adjusted retail trade volume decreased by 0.3% in the euro area and by 0.1% in the EU, according to Eurostat.
- As of July 2, 2024, the eurozone unemployment rate was 6.4%, which was a record low and unchanged from April 2024.
- In July 2024, the (ESI) remained broadly stable in both the EU (+0.1 points to 96.4) and the euro area (-0.1 points to 95.8).

*July readings not published at the time of this reporting.

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.

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



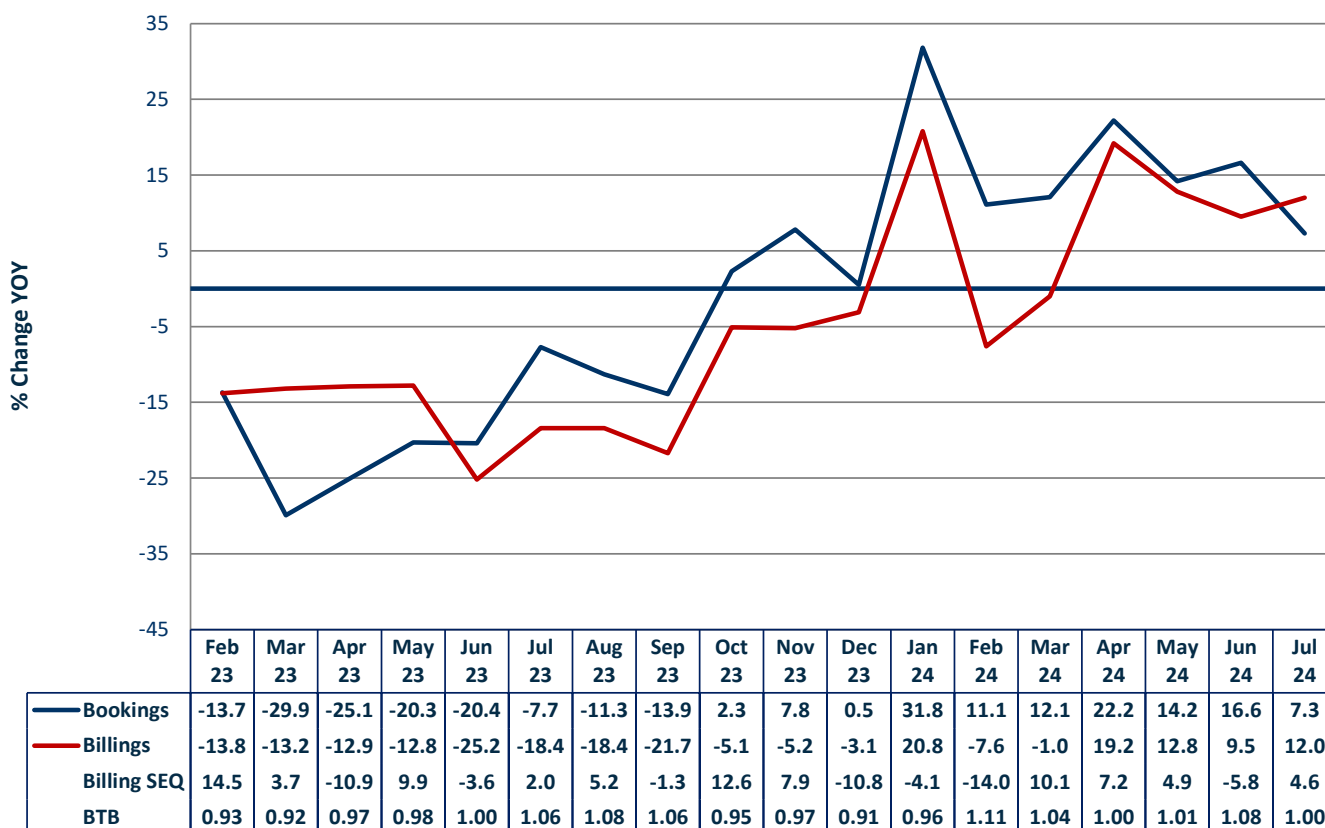
Japan Performance

- July, year-over-year bookings declined -2.4%, while sales dropped -12.5%. Sequentially, sales decreased -1.3%. Japan's book-to-bill ratio was 1.07, up from 1.01 in June.
- In July 2024, the core consumer price index (CPI) in Tokyo, Japan increased 2.2% year-on-year, which was a four-month high and the third consecutive month of increase.
- Industrial production in Japan declined by 4.2% month-over-month in June 2024*, compared with flash data of a 3.6% all and a 3.6% growth in the prior month. It was the fourth time there has been a contraction in industrial output so far this year and the steepest pace since the start of the year.
- In July 2024, the year-on-year growth rate of the core Consumer Price Index (CPI) in Tokyo Prefecture stood at 2.2%. The monthly core inflation in Tokyo increased from 2.1% in June 2024. Japan's core inflation rate has now stood at or above 2% for over two years.
- According to MarkLine, Japanese passenger car OEM data, July 2024 new vehicle sales increased 6.9% year-to-year to 405,174 units.

**June readings not published at the time of this reporting.*

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.

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

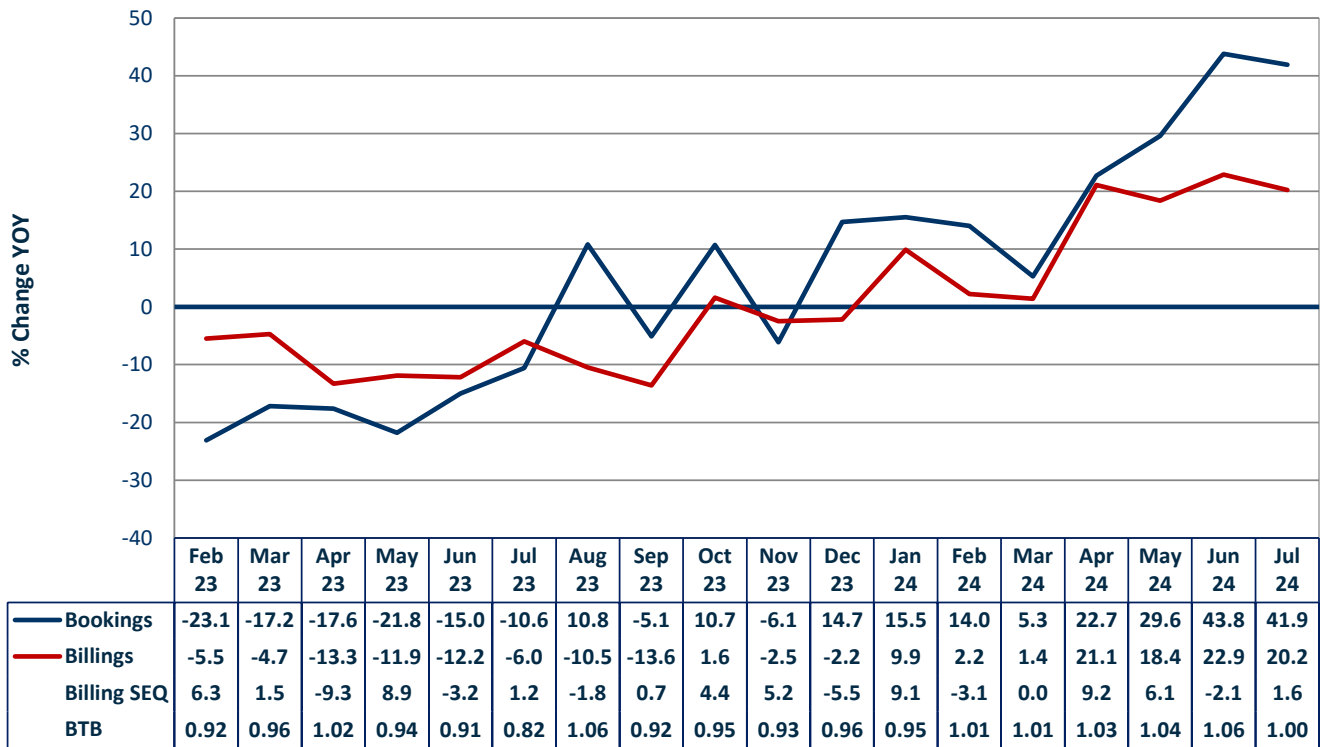


China Performance

- China's July sales grew +12.0% on a year-over-year basis, while orders grew +7.3%. Sequentially, sales increased by +4.6%. The BTB dropped to 1.0, after rising to 1.08 in June.
- According to CNBC "China's imports in July were up 24% y-o-y, while exports were lower than forecasts at 7%, missing expectations of a 9.7% increase.
- In July 2024, the monthly inflation rate in China ranged at 0.5% compared to the same month in the previous year. Inflation peaked at 2.8% in September 2022. In July 2024, the national consumer price index (CPI) increased by 0.5% y-o-y as well as 0.5% month-on-month.
- According to Beijing's National Bureau of Statistics, "in July, the total retail sales of consumer goods went up by 2.7% YoY. Industrial production rose by 5.1% in July from a year ago, below the forecast of 5.2%.
- According to MarkLines, "China's vehicle production and sales volumes in July 2024 were 2.286 and 2.262 million units, respectively, which is a 4.8% and 5.2% decrease YoY. However, YTD production and sales volumes were 16.179 and 16.31 million units, which is a 3.4% and 4.4% increase y/y, respectively."
- China's surveyed unemployment rate increased to 5.2% in July 2024 from 5% in each of the previous three months and slightly above market forecasts of 5.1%.

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.

Asia Pacific Bookings and Billings
Year-Over-Year Percentage Change
& Book-To-Bill Ratio

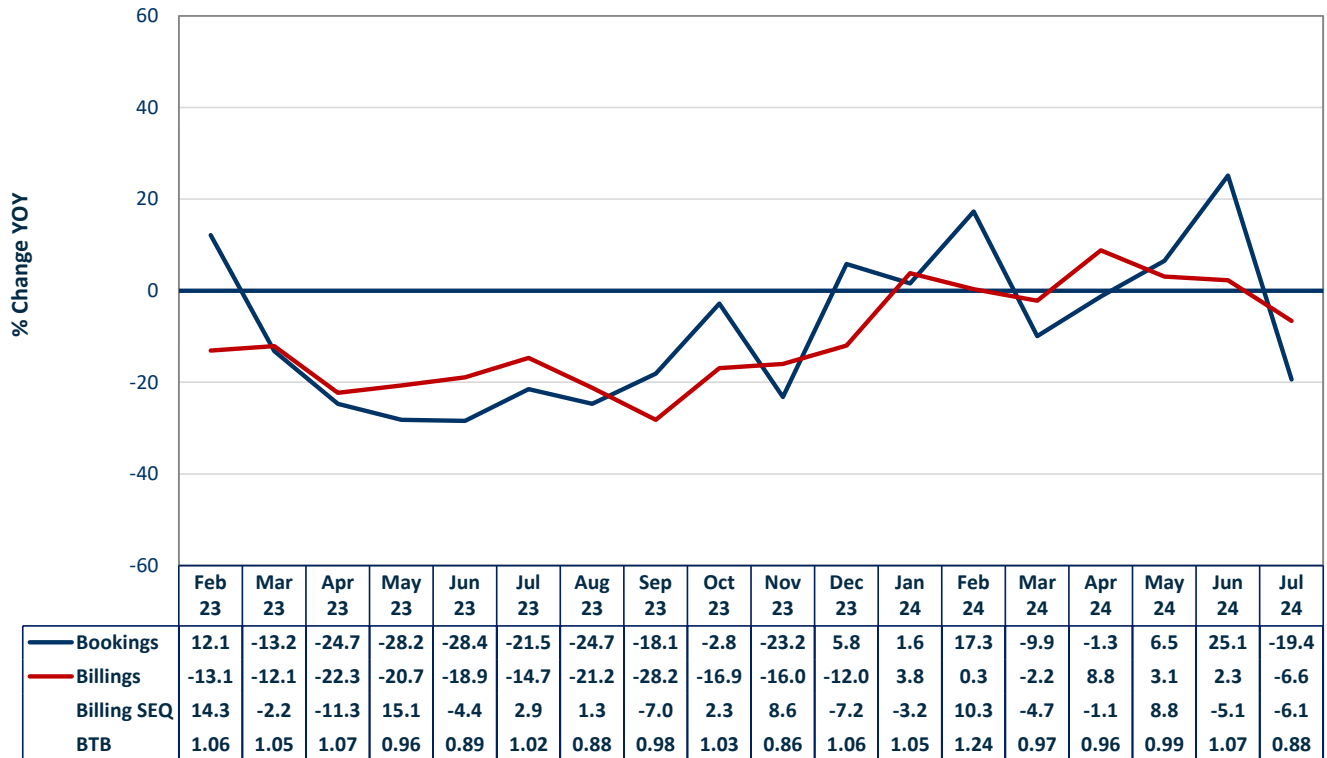


Asia Pacific Performance

- Year-over-year, July orders were up a whopping +41.9%, while billings increased +20.2%. Sequentially, sales increased +1.6%. The book-to-bill ratio was 1.00, down from 1.06 in June.
- According to Trading Economics, “The HSBC India Manufacturing PMI edged down to 58.1 in July 2024 from 58.3 in June, revised from the initial estimate of 58.5 and below the market forecast of 59.”
- India’s retail inflation eased to 3.54% in July, from 5.08% in June and 4.75% in May 2024, according to the latest Ministry of Statistics and Programme Implementation data. It is the first time in nearly five years that India’s CPI inflation fell below RBI’s target of 4%.
- According to Reuters, “The consumer price index (CPI) in July rose 2.6% from the same month a year earlier, after hitting an 11-month low of 2.4% in June.”
- According to Trading Economics, the S&P Global South Korea Manufacturing PMI fell slightly to 51.4 in July 2024 from 52 in June, showing improvement in the sector for the third straight month.
- Statistics Korea data showed South Korea's unemployment rate decreased to 2.5% in July on a seasonally adjusted basis, from 2.8% in June.

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.

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



Rest of World Performance

- Orders decreased -19.4% while billings decreased -6.6% year-over-year in July. Sequentially, sales decreased by -6.1%. The book-to-bill ratio was 0.88 down from a 14-month high of 1.07 in June.
- According to Trading Economics, “In July 2024, Brazil's annual inflation rate increased to 4.5%, which was the third consecutive month of rising inflation and the highest since February.
- According to Trading Economics, “The S&P Global Brazil Manufacturing PMI rose to 54.0 in July 2024, up from 52.5 in June, signaling a strong start to the second half of the year and marking the seventh consecutive month of growth.
- According to Trading Economics, “Brazil's unemployment rate averaged 6.9% in the three months leading to June of 2024, in line with market estimates, and dropping from the 7.1% rate in the three months to May.”

**July readings not published at the time of this reporting.*

The Bishop Report

The following table shows a snapshot of the performance of each region. The table displays the latest metric available, and the trend of the metric compared to prior months/quarters.

	North America	Europe	Japan	China	Asia Pacific	ROW
GDP Growth YOY	2.3% Declining	0.3% Steady	0.9% Steady	5.0% Growing	N/A	N/A
Industrial Production Growth	-0.2% Down	-0.1% Down	-4.2% Down	5.1% Down	N/A	N/A
Manufacturing PMI*	49.6 Down	45.8 Steady	49.1 Down	49.4 Down	N/A	N/A
Inflation Rate	2.9% Down	2.6% Up	2.2% Up	0.5% Up	N/A	N/A
Unemployment Rate	4.3% Up	6.4% Steady	2.5% Down	5.2% Up	N/A	N/A
Retail Sales Growth YOY	1.0% Up	-0.3% Up	3.7% Up	2.7% Up	N/A	N/A
July Connector Sales	3.8%	-2.9%	-12.5%	12.0%	20.2%	-6.6%
YTD Connector Sales	3.3%	-1.8%	-20.0%	9.1%	13.6%	1.2%
July Connector Orders	4.1%	-19.5%	-2.4%	7.3%	41.9%	-19.4%
YTD Connector Orders	3.3%	-9.6%	-5.6%	15.5%	23.3%	2.3%

* Purchasing Manager Index - Below 50 is contracting factory activity

The Industry Backlog Is 12.7 Weeks

The industry shipped \$1,712 million per week in July. As the table below displays, in July the ending backlog is \$21,659. Assuming the industry's weekly sales of \$1,712 million remain constant, the backlog represents 12.7 weeks of sales.

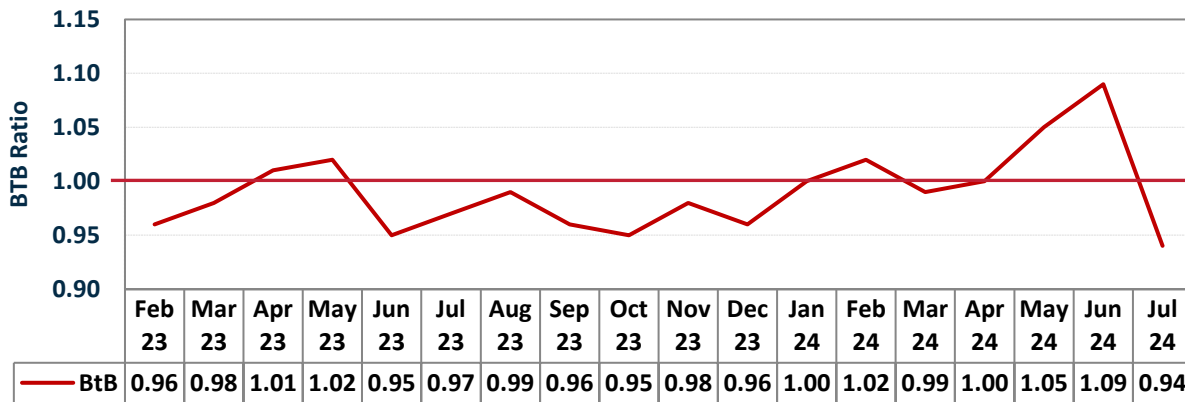
The following table shows the world connector backlog of orders ending July 2024.

Industry Backlog

	2023	YTD July 2024
BtB Ratio	0.98	0.94
Beginning Backlog	\$22,983	\$21,017
Bookings	\$79,888	\$49,753
Billings	\$81,854	\$49,111
Ending Backlog	\$21,017	\$21,659
Backlog in Weeks	13.4	12.7

The book-to-bill ratio in July was 0.94. The following displays the trend of BTB ratios since February of 2023.

Connector Industry Book-to-Bill



The July 2024 ending backlog of \$21,659 million is \$642 million more than the 2023 ending backlog of \$21,017 million.

Change in Backlog

2023 Ending Backlog	\$21,017
2024 July Ending Backlog	\$21,659
Backlog Growth	\$642

\$ Millions

Currency Fluctuations Reduce Performance between USD and Local Currency

The dollar has been fluctuating against the euro, the yen, and the yuan. The following table measures the impact for July 2023 versus July 2024 and shows results for these three currencies.

Local Currency to One USD 2023 YTD versus 2024 YTD

Currency	2023	2024	% Change
Euro	0.9047	0.9216	-1.8%
Yuan	7.1921	7.2625	-1.0%
Yen	141.2410	157.9109	-10.6%

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

The following table shows June YOY performance by region in US dollars and local currencies.

Industry Sales Performance July 2024 USD-vs-Local Currencies

Region	U.S.\$	Local Currency
North America	3.8%	3.8%
Europe	-2.9%	-1.8%
Japan	-12.5%	-10.6%
China	12.0%	-1.0%
Asia Pacific	20.2%	20.2%
ROW	-6.6%	-6.6%
World	4.7%	-1.1%

Connector sales in July of 2024 decreased -1.1% when measured in local currencies, versus an increase of +4.7% in US dollars.

2024 Outlook: YTD July

Over the past decade, sales through July average 57.0% of full year sales. Since industry sales are now \$49,111 million, 2024 sales should be \$86,160 million. This would lead to sales growth of +5.3% over 2023 sales of \$81,854 million.

The least the first half represented of full year sales was 53.3%. The most 59.5%. Using a decade of sales history, we can project a range of possible outcomes for 2024.

2024 Historical Analysis Through June 2024

	Historical Percentage	Sales YTD July	2024 Forecast	Percent Growth
Low	53.3%	\$49,111	\$92,141	12.6%
Medium	57.0%	\$49,111	\$86,160	5.3%
High	59.5%	\$49,111	\$82,539	0.8%

\$ Millions

The following table shows the range of possible outcomes for 2024 using the historical perspective methodology. The Bishop forecast is also shown in the table.

2024 Forecast Range

	2024 Forecast	2023 Actual	Percent Growth
Low	\$92,041	\$81,854	12.6%
Medium	\$86,110	\$81,854	5.3%
Bishop	\$86,602	\$81,854	5.8%
High	\$82,539	\$81,854	0.8%

\$ Millions

The Bishop forecast of 5.8% is slightly higher than the historical average. We will maintain this forecast for now. However, July bookings were not strong, causing us to feel less confident. We will continue to closely watch order demand and report our findings monthly.

The following table provides Bishop & Associates' 2024 forecast by geographic region.

2024 Bishop Forecast

Region	2023	2024F	Percent Change
North America	\$18,840.8	\$20,313.5	7.8%
Europe	\$17,992.7	\$18,582.6	3.3%
Japan	\$4,683.7	\$4,822.2	3.0%
China	\$24,977.1	\$26,606.2	6.5%
Asia-Pacific	\$11,310.0	\$12,113.2	7.1%
ROW	\$4,049.8	\$4,164.1	2.8%
Total World	\$81,854.1	\$86,601.8	5.8%

\$ Millions

You will notice we project North America to achieve better growth than China or Asia.

Significant Events

August 2024 News

Industry News

Waytek Announces CEO Retirement

Electrical components distributor Waytek, Inc. announced today that Charlie Kanan, CEO and Board Chair, has notified the Board of Directors of his intention to retire from Waytek on December 31, 2026. Kanan will work with the Board on a smooth leadership transition.

Kanan, who has been Board Chair and CEO at Waytek since 2012, has presided over company milestones including revenue increase from \$32 million to \$87 million, doubling the number of employees, and winning a Minnesota Family Business Award in 2020. He also helped steer Waytek through the pandemic years and world supply chain disruptions, avoiding employee layoffs and overseeing rapid business growth during turbulent economic times.

Kanan will continue to lead the company and assist with the transition with the goal of hiring a new CEO by the end of Q1, 2025. Once the transition to a new CEO is complete, Kanan will continue in his role as Board Chair until December 31, 2026.

Manufacturing Activity Hits 8-Month Low

A measure of U.S. manufacturing activity dropped to an 8-month low in July as demand remained soft, production declined, and headcounts were reduced. The Institute for Supply Management's factory index, the PMI, dropped by 1.7 percent from June to a level of 46.8. Any reading below 50.0 indicates industry contraction.

The one bright spot in an otherwise pessimistic report is pricing, which has remained fairly stable. Prices rose by 0.8 percent to a level of 52.9 in July. "Prices are relatively low outside of a few issues and have been pretty well managed," said Tim Fiore, chair of the ISM's manufacturing survey committee. "That's less than 2 percent price growth."

The ISM's employment index declined by 5.9 percent to 43.4 percent in July — the lowest index reading since June 2020. Companies are continuing to reduce headcounts through layoffs, attrition and hiring freezes. ISM panelists in July indicated a notable increase in staff reductions compared to June, said Fiore.

Eighty-six percent of manufacturing gross domestic product (GDP) contracted in July, the ISM reported, up from 62 percent in June. More concerning, said Fiore is the share of sector GDP registering a composite PMI calculation at or below 45 percent (a good barometer of overall manufacturing weakness) was 53 percent in July, 39 percentage points higher than the 14 percent reported in June.

North American EMS Industry Down 2.4 Percent in June

IPC announced the June 2024 findings from its North American Electronics Manufacturing Services (EMS) Statistical Program. The book-to-bill ratio stands at 1.32.

Total North American EMS shipments in June 2024 were down 2.4 percent compared to the same month last year. Compared to the preceding month, June shipments decreased 3.3 percent.

EMS bookings in June decreased 3.5 percent year-over-year and decreased 2.8 percent from the previous month.

North American PCB Industry Sales Up 1.0 Percent in June

IPC announced the June 2024 findings from its North American Printed Circuit Board (PCB) Statistical Program. The book-to-bill ratio stands at 0.95.

Total North American PCB shipments in June 2024 were up 1.0 percent compared to the same month last year. Compared to the preceding month, June shipments were up 9.1 percent.

PCB bookings in June were down 2.7 percent compared to the same month last year. June bookings were up 3.2 percent compared to the preceding month.

Tablet Market Finally Moves Past the Pandemic Era with Solid Growth in Q2 2024

Worldwide tablet shipments recorded year-over-year growth of 22.1% in the second quarter of 2024 (2Q24), totaling 34.4 million units, according to preliminary data from the International Data Corporation (IDC) Worldwide Quarterly Personal Computing Device Tracker. The results benefited from a favorable comparison to the prior year's quarter and were driven by product refreshes from many top vendors and a replacement cycle combined with inventory replenishment. However, volumes are comparable only to pre-pandemic shipment levels and not to the unprecedented sales witnessed during the pandemic. The 2Q24 results compare favorably with 2Q19 when 32.5 million units were shipped, aided by a product refresh from Apple and the growing popularity of detachable tablets from Samsung and Huawei.

Global Server Shipments Up Both 2Q24 and 3Q24 Thanks to Major CSPs in US

DigiTimes Research report shows global server shipments grew by 7.3% sequentially in the second quarter of 2024, surpassing previous forecasts. The main reasons are the initiation of general-purpose server updates by more large US cloud service providers and the continuous increase in procurement and shipments of high-end AI servers by cloud service providers and brand vendors, according to DIGITIMES Research's latest server report covering the second quarter and second half of 2024.

The report's figures also show that global server shipments will likely grow by 1.6% sequentially in the third quarter, with the main contribution still coming from large cloud service providers.

The four major North American cloud service providers will all see shipment growth, and the demand recovery seen in Chinese cloud service providers in the second quarter will likely continue into the third quarter. However, brand vendors may see shipment declines compared to the previous quarter.

Due to the high base established in the previous two quarters and increased economic uncertainty, a slight decline compared to the prior quarter is expected in the fourth quarter of 2024. Full-year server shipments in 2024 will likely reach around 14.73 million units, a 2% increase from 2023.

Global Notebook Shipments to Experience Only Minor Quarterly Growth in 3Q24 and 4Q24

With transportation costs rising, notebook brand vendors and channels had suppliers advance shipments ahead of schedule to meet growing demand in the second quarter of 2024, with the education market in North America seeing stronger-than-expected seasonal growth and China's market recovery picking up pace. As a result, global notebook shipments (excluding detachable models) were better than expected in the second quarter, rising 7.8% sequentially, according to DIGITIMES Research's latest notebook report covering the second quarter and second half of 2024.

However, brand vendors will still be quite conservative about placing orders in the third quarter, while new notebook models for the peak season will carry higher average selling prices (ASP). Global notebook shipments will grow only 0.9% in the third quarter compared with the relatively high base of the second quarter. Seasonal demand will be weaker than usual.

The fourth quarter is expected to see the arrival of more AI notebooks and brand vendors will also step up shipments to reach full-year targets. Global notebook shipment growth is expected to accelerate. Global notebook shipments are expected to reach 173 million units in 2024, an increase of 4.6% compared with 2023, the report's figures show.

India's Wearable Device Market Declines for the First Time Ever

According to International Data Corporation's India Monthly Wearable Device Tracker, India's wearable device market declined for the first time ever, by 10.0% year-over-year (YoY) to 29.5 million units. The first half of 2024 declined by 4.7%, shipping 55.1 million units. Cautious inventory stocking by the vendors with a focus on clearing the old stock before the festive season begins and fewer new launches were the key reasons for this decline. The average selling price (ASP) for the overall wearables also hit a record low, declining by 10.3% from US\$21.0 to US\$18.8 in 2Q24.

Electronics Industry Sentiment Slips in July

Sentiment among electronics manufacturers slipped in July, dropping to the lowest level in a year. Despite the decline, sentiment remains above its long-term average according to IPC's July Sentiment of the Global Electronics Manufacturing Supply Chain Report.

Regarding outlook for the next six months, electronics manufacturers expect both labor and material costs to come down slightly. Although profit margins, backlogs and ease of recruitment are likely to remain challenging, manufacturers expect capacity utilization to rise significantly.

Foxconn to Invest \$138 Million for New Business Headquarters in China

Taiwan's Foxconn, the world's largest contract electronics maker and Apple's biggest iPhone assembler, said it plans to invest 1 billion yuan (\$137.5 million) to construct a new business headquarters in Zhengzhou, China.

Foxconn, formally called Hon Hai Precision Industry Co Ltd, signed a contract with the Henan provincial government for the proposed project, which will have a construction area of about 700 acres (283 hectares), the company said.

Personal Computing Sales Through Distribution Return to Growth

The Personal Computing product group moved back into the number one spot for sales at \$3.9 billion in 2Q24 with healthy year-over-year growth of 9.9%. AI PCs generated 17.8% of second quarter PC revenues and grew 33% compared to 1Q24. Apple and Microsoft have experienced successful adoption of AI PCs with their revenue mixes at 75% and 32% respectively. But Lenovo and HP still held the first and second spots for total PC sales even with lower AI PC product mixes for the quarter. AI PCs featuring Neural Processing Unit (NPU) technologies are expected to continue ramping up over the coming quarters.

Apple's New iPads Help It Retain Top Tablet Maker Crown Amid Record Global Shipment Growth

Worldwide tablet shipments reached 34.4 million in Q2 2024, up from 28.2 million during the same period a year earlier. That marks a record yearly growth rate of 34.4%, according to IDC.

The analyst firm attributes the excellent quarter to product refreshes, a replacement cycle, and inventory replenishment. Apple was a big factor here, having launched its first iPad with an OLED display and the all-new M4 chip in May. It also announced a new iPad Air that features the M2 chip and, for the first time, is available in a 13-inch form factor.

While the overall tablet shipment numbers were the highest we've seen in a while, they can't compete with the enormous figures from the pandemic – many industries exploded at the time as most of the world was locked indoors. However, IDC points out that the tablet volumes are comparable to pre-pandemic levels: 32.5 million units were shipped in Q2 2019.

As always, Apple remains the top tablet vendor thanks to the 12.3 million iPad shipments in Q2 2024. The new iPad Pro and Air models helped its yearly growth reach 18.2% as it holds on to a massive 35.8% of the market.

US Slams the Door on Chinese EVs; EU Leaves a Crack Open Despite Stringent Taxes and Tariffs

China's EV entrance into international markets has hit a bump with the trade barriers from Europe and the US, casting a dark cloud above their expansion.

Despite that, current conditions still suggest Europe is more conducive to the development of Chinese EVs due to fewer uncertainties. According to PwC research, Chinese-brand EV exports to Europe are projected to surpass European-brand EV exports to China in 2024, marking a significant shift. Chinese EVs show greater potential in Europe compared to the US.

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Taxes of two worlds

Firstly, tax rates differ significantly. The highest provisional total tax rate for Chinese EVs imported into Europe is below 50%. The final decision will be made in November, involving EU investigations and consultations with various governments and car manufacturers.

In contrast, US President Joe Biden has increased the tax rate on Chinese EVs from 25% to 100% starting in August. If the Democratic Party wins the next presidential election, a continuity of Biden's strategy is expected.

US Expected to Propose Barring Chinese Software in Autonomous Vehicles

The U.S. Commerce Department is expected to propose barring Chinese software in autonomous and connected vehicles in the coming weeks, according to sources briefed on the matter.

The Biden administration plans to issue a proposed rule that would bar Chinese software in vehicles in the United States with Level 3 automation and above, which would have the effect of also banning testing on U.S. roads of autonomous vehicles produced by Chinese companies.

The administration, in plans first reported by Reuters, will also propose barring vehicles with Chinese-developed advanced wireless communications abilities modules from U.S. roads, the sources added.

Under the proposal, automakers and suppliers would need to verify that none of their connected vehicle or advanced autonomous vehicle software was developed in a "foreign entity of concern" like China, the sources said.

Driverless Vehicles to Lift Battery Swapping

A boom in autonomous vehicles is expected to usher in fresh development opportunities for the battery swapping sector in China, throwing open a billion-dollar market in energy storage.

In May, Baidu unveiled its sixth-generation robotaxi services in Wuhan, Hubei province, with the autonomous vehicles operating using a battery swapping system, utilizing standardized battery packs and smart battery swapping stations from a subsidiary of GCL Energy Technology Co Ltd.

Each vehicle autonomously schedules visits to these stations based on service status, location data, and battery levels, completing a rapid battery swap upon arrival to maximize operational efficiency.

The rapid commercialization and deployment of autonomous ride-hailing and taxi services are expected to drive demand for battery swapping, CITIC Securities said in a report.

This method offers advantages such as unmanned operation, high efficiency and lower costs from reduced human workforce, and is particularly suited for fixed routes and scenarios without human intervention.

CITIC Securities has forecast that the number of battery swapping stations will reach 27,500 by 2026, with a compound annual growth rate of 93 percent from 2022 to 2026, and the market size for battery swapping equipment is expected to reach 30.5 billion yuan (\$4.2 billion).

Apple's No Longer Among Top 5 Smartphone Vendors in China

Apple was edged out of the top five smartphone vendors' list in China in the second quarter, as competition from domestic brands such as Huawei intensifies, according to a Canalys report.

Apple's market share in China shrank to 14% in the second quarter from 15% in the first quarter and 16% in the same period a year ago.

The iPhone maker, which was the third-largest smartphone vendor in the second quarter last year, dropped to the sixth spot with about 9.7 million in shipments, according to CNBC calculations.

iPhone 16 Pro Models to be Built in India as Apple Diversifies Supply Chain

To diversify the supply chain out of China and reduce its reliance on the Asian country, Apple is reportedly planning to make an iPhone Pro outside there for the first time. According to *MoneyControl*, Cupertino will start manufacturing the iPhone 16 Pro and iPhone 16 Pro Max in India right after their release.

According to the publication, Foxconn's facility in Sriperumbudur, Tamil Nadu, will soon start the pro models' NPI process and enter the mass production stage once the iPhone 16 models are released.

The iPhone 16 Plus May Be Apple's Last Plus Model

Apple is reportedly planning to cut the larger-screened flavor of its standard iPhone from its lineup next year and will instead introduce a new ultra-thin premium iPhone said to be called the iPhone 17 Slim according to reports from two analysts known for their Apple predictions: TF International Securities' Ming-Chi Kuo and Haitong International Securities' Jeff Pu (as 9to5Mac reported).

If true, that would leave the iPhone Plus in the same boat as the iPhone Mini, which Apple introduced in 2020 with the iPhone 12 family and axed after the iPhone 13 Mini's release in 2021.

According to Kuo, who has a solid track record of reporting on upcoming Apple products, the iPhone Plus accounts for only 5% to 10% of new iPhone shipments.

The iPhone Plus' problem is that the \$100 price difference between it and the \$1,000 iPhone Pro isn't significant enough to compel consumers, said Chiew and Josh Lowitz, an analyst with Consumer Intelligence Research Partners. Shoppers would rather spend the extra \$100 to get the benefits that come with the Pro, such as a more sophisticated camera and now the upcoming suite of new Apple Intelligence software features. That's especially true now that consumers are holding onto their phones for longer periods of time, Lowitz said.

Wearable Devices to Operate Robotic Exoskeletons

Another new study published in Science Advances, explains how engineers from Korea and the United States are making real life "Iron Man technology" possible. They have developed a wearable, stretchy patch about the size of a BandAid, which sticks to your skin and picks up tiny signals coming from human muscles. In lab experiments, the researchers showed that humans could use these devices to operate robotic exoskeletons more efficiently.

Meta Agrees to Pay \$1.4 billion in Texas Lawsuit

Meta attempted to use Facebook as a giant surveillance service to profit from users' personal data. The company ultimately failed in the endeavor and is now facing significant financial penalties as a result, which includes a massive settlement due to the state of Texas over the next five years.

Texas Attorney General Ken Paxton collected a \$1.4 billion settlement from Meta over Facebook's misuse of facial recognition algorithms. Meta had collected and used the personal biometric data of millions of Texans without prior authorization. According to Paxton's official statement, this settlement is the largest ever obtained from legal action initiated by a single US state.

US is Considering Breaking Up Google, Targeting Android and Chrome

Sources say the Department of Justice is considering an attempt to break up Google's corporate empire following a landmark court decision that found the search giant guilty of illegally monopolizing the online search market. Such a move would be on a similar scale as the government's attempt to break up Microsoft about two decades ago in the infamous antitrust case.

The Microsoft antitrust case didn't lead to the company being dismantled, but the DOJ seems intent on not letting Google off so easily after Judge Amit Mehta's August 5 ruling.

According to a Bloomberg report, forcing a divestment of Android and Chrome is among the DOJ's top options on the table right now. Android powers over 2.5 billion devices globally, while Chrome is the world's dominant

web browser. By bundling these products with requirements for device makers, Mehta found Google unfairly shuts out competition in search.

A full breakup taking those key pieces away from Google isn't a done deal yet, though. The sources who spoke to the publication also revealed that the DOJ is weighing other potential remedies, such as making Google share more data with rivals or putting guardrails around how it can leverage its search dominance in emerging areas like AI.

DOJ lawyers are worried that Google's control over these ads, combined with its reams of user data from dominating search traffic, gives it an unfair advantage as the tech titans race to develop advanced AI systems. They may ask the court to force Google to stop requiring sites to hand over content data to appear in search results, which could handicap its AI efforts.

Even if the breakup doesn't go according to plan, at minimum, we can likely expect the feds to try banning the kind of exclusionary contracts that were central to this antitrust case.



Bishop & Associates has just released the 2024 **Connector Industry Forecast** update. This eight-chapter report provides an in-depth, and detailed forecast of the worldwide connector industry. In addition to the detailed forecasts for each region of the world (North America, Europe, Japan, China, Asia Pacific, and ROW), an industry overview is included which provides current market trends, currency fluctuation effects, and industry sales performance, as well as an outlook narrative.

Worldwide and each regional forecast includes:

Computers & Peripherals

- Mobile Computers
- Desktops
- Servers
- Storage Equipment
- Input/Output Equipment
- Communication LAN Devices
- Other Computer Equipment

Business/Office Equipment

- Retail/POS Equipment
- Imaging Systems
- Other Business/Office Equipment

Instrumentation

- Automatic Test Equipment
- Analytical/Scientific Instruments
- Other Instrumentation

Medical Equipment

- Diagnostic & Imaging Equipment
- Therapeutic Equipment
- Other Medical Equipment

Industrial

- Factory Automation and Machinery
- Construction and Civil Engineering
- Energy Markets
- Other Industrial Equipment

Automotive

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

Transportation (non-auto)

- Commercial Vehicles
- RVs & Power Sports
- Commercial Air
- Marine
- Rail
- Construction
- Farm & Garden

Military/Aerospace

Telecom/Datacom

- Carrier Network
- Enterprise Network
- Wireless Infrastructure
- Subscriber Equipment
- Other Telecommunications

Consumer

- Personal/Portable Consumer
- Home Video Equipment
- Home Audio Equipment
- Consumer White Goods
- Other Consumer

2024 – Climbing Our Way Back to the Top!

After a year of strong single-digit growth, no one seemed surprised that the industry would decline in 2023. With industry sales performance based strongly on location and market sector, the European region grew 3.8%, while the Asia Pacific and Chinese regions declined, -7.3% and -5.7% respectively, 2023 offered several surprises. Considering that year-over-year bookings did not turn positive until the fourth quarter and year-to-date bookings remained negative throughout all of 2023, it is remarkable that the industry performed as well as it did overall.

2023 was a year marked by national, regional, and local conflicts and disasters. Even as material, overhead and labor prices rose, the industry managed to push on, showing remarkable resilience. Raging wildfires, drought, cyclones, storms, earthquakes, and massive flooding marked just a few of the natural disasters the world contended with.

Industry Sales Performance by Region

As indicated by the charts on the following page, growth and decline were not equal across all regions in 2023, nor will they be in 2024. The European region saw the greatest growth in 2023, growing +3.8%. With growth of +0.9%, the ROW region followed Europe. All other regions declined in 2023, with the greatest decline in Japan, where sales in US dollars decreased -9.5%, followed by Asia-Pacific with a decline of -7.3%. China, the largest region for electronic connector sales decreased -5.7%, while North America, the second largest region experienced a sales decline of -0.3%.

**2022 and 2023 Connector Industry Sale by Region
With Percent Change**

Region	2022	2023	Percent Change
North America	\$18,889.0	\$18,840.8	-0.3%
Europe	\$17,328.5	\$17,992.7	3.8%
Japan	\$5,172.8	\$4,683.7	-9.5%
China	\$26,494.3	\$24,977.1	-5.7%
Asia-Pacific	\$12,194.7	\$11,310.0	-7.3%
ROW	\$4,011.7	\$4,049.8	0.9%
Total World	\$84,091.0	\$81,854.1	-2.7%

\$ Millions

Connector Industry Forecast

2022 and 2023F Connector Sales by Market Sector With Percent Change

Equipment Sector	2022	2023	YOY Change
Computers & Peripherals	\$10,758.2	\$9,979.5	-7.2%
Business/Office Equipment	\$922.3	\$875.4	-5.1%
Instrumentation	\$2,424.8	\$2,364.8	-2.5%
Medical	\$2,690.7	\$2,659.7	-1.2%
Industrial	\$10,788.1	\$10,742.3	-0.4%
Automotive	\$18,435.4	\$18,502.7	0.4%
Transportation	\$5,873.4	\$5,857.4	-0.3%
Military/Aerospace	\$5,050.0	\$5,092.7	0.8%
Telecom/Datacom	\$20,022.8	\$18,991.4	-5.2%
Consumer	\$3,967.0	\$3,744.4	-5.6%
Other Equipment	\$3,158.3	\$3,043.8	-3.6%
Total World	\$84,091.0	\$81,854.1	-2.7%

\$ Millions

2024 and Beyond Outlook

With industry backlog remaining strong, Bishop is forecasting 2024 sales to increase +Y.Y% to \$XX,XX2 million. We anticipate the greatest percentage increase will occur in North America, where sales will increase +Y.Y%, followed by the Asia Pacific region where sales are anticipated to increase +Y.Y%. When looking at growth in US dollars, although not the greatest increase percentage wise, the largest increase in sales will be seen in the Chinese region, where connector sales will increase by \$X,XXX.X million. This will be only approximately \$XXX million more than sales in 2022. The Chinese region will be followed by the North American region, where sales in US dollars will increase \$X,XXX.X million.

2024F Connector Forecast by Geographic Region With Percent Change

Region	2023	2024F	Percent Change
North America	\$18,840.8	\$XX,XXX.X	Y.Y%
Europe	\$17,992.7	\$XX,XXX.X	Y.Y%
Japan	\$4,683.7	\$XX,XXX.X	Y.Y%
China	\$24,977.1	\$XX,XXX.X	Y.Y%
Asia-Pacific	\$11,310.0	\$XX,XXX.X	Y.Y%
ROW	\$4,049.8	\$XX,XXX.X	Y.Y%
Total World	\$81,854.1	\$XX,XXX.X	Y.Y%

\$ Millions

Connector Industry Forecast

2023 and 2024F Connector Forecast by Market Sector With Percent Change

Equipment Sector	2023F	2024F	Percent Change
Computers & Peripherals	\$9,979.5	\$XX,XXX.X	Y.Y%
Business/Office Equipment	\$875.4	\$89X.X	Y.Y%
Instrumentation	\$2,364.8	\$X,X45.X	Y.Y%
Medical	\$2,659.7	\$X,76X.X	Y.Y%
Industrial	\$10,742.3	\$X1,X0X.X	Y.Y%
Automotive	\$18,502.7	\$XX,XXX.X	Y.Y%
Transportation	\$5,857.4	\$X,XXX.X	Y.Y%
Military/Aerospace	\$5,092.7	\$X,XXX.X	Y.Y%
Telecom/Datacom	\$18,991.4	\$2X,XXX.X	Y.Y%
Consumer	\$3,744.4	\$X,X4X.X	Y.Y%
Other Equipment	\$3,043.8	\$3,XXX.X	Y.Y%
Total World	\$81,854.1	\$XX,XXX.X	Y.Y%

\$ Millions

Forecast Assumptions

Forecasting is always difficult, especially during times of financial and geopolitical uncertainty. Projecting future business conditions in this environment is almost impossible. Consider the following economic headwinds, political challenges, and uncertainties.

- Although still considered unstable, the economy has shown it is amazingly resilient. Driven by surprisingly strong, steady growth, many countries have seen inflation slowing, almost as quickly as it came upon us. According to the International Monetary Fund, “The baseline forecast is for the world economy to continue growing at 3.2 percent during 2024 and 2025, at the same pace as in 2023. A slight acceleration for advanced economies—where growth is expected to rise from 1.6 percent in 2023 to 1.7 percent in 2024 and 1.8 percent in 2025—will be offset by a modest slowdown in emerging market and developing economies from 4.3 percent in 2023 to 4.2 percent in both 2024 and 2025.”
- Highly unlikely that the Federal Reserve will cut interest rates anytime soon. According to Thomson Reuters, “the US Federal Reserve signaled it is still leaning toward eventual reductions in borrowing costs, but that cuts could be delayed as recent inflation numbers have strayed further from its two percent target.” “Investors are now betting that the U.S. central bank will start cutting rates in November and that it will deliver at least one reduction in borrowing costs this year.”
- Although global supply chain issues have improved drastically, as quoted by Border States, “Ocean freight rates are on the rise based on strong demand and longer sailings driven by environmental and geopolitical issues in the Panama and Suez Canals.” This, coupled with volatile fuel rates because of instability in OPEC+ countries, has affected shipping rates. Other issues like the collapse of the Francis Scott Key bridge (Baltimore, Maryland, US) in March has had some impact on the US supply chain, although near normal operations” resumed in late May.

Connector Industry Forecast

- Prompted by geopolitical worries and supply constraints, the price of gasoline has continued to rise and may potentially hinder efforts to tame inflation. After declining earlier in the year, oil prices have climbed in recent weeks, spurred by concerns over supplies and geopolitical risks, including wars in Ukraine and the Middle East. It is also important to remember that higher oil prices drive up not only transportation and production costs, but eventually pass through to the prices of other core products like food and energy.
- A shortage of labor, in particular skilled laborers, such as electricians, plumbers, carpenters, machinists, welders, pipefitters, and steelworkers, even doctors, nurses, and pharmacists. A number of reasons are cited for this shortage including a decline in apprenticeship programs and shop classes, an increase in employees retiring, particularly Baby Boomers (generally classified by those born between 1946 and 1964 – according to Annuity.org, from 2021 to 2019, the number of retired workers increased from 45.1 million to 69.8 million) and not being replaced by younger workers, and a major shift in workers expectations, covering pay, hours, working location, and flexibility. In the US alone, according to the U.S. Chamber of Commerce, “right now we have 8.5 million job openings in the U.S. but only 6.5 million unemployed workers.”
- Increasing and prolonged political tensions: Israeli-Palestinian conflict over land and who controls it, a war between Russia and Ukraine that has gone on for two years, with no end in sight and that has increased already high tensions between NATO and Russia, heightened friction between China and Taiwan with the US bound by law to provide Taiwan with defensive weapons and US President Joe Biden announcing the US would defend Taiwan militarily - breaking with a stance known as strategic ambiguity and a major humanitarian crisis in Haiti as gangs have cut off relief efforts from the rest of the world, making it impossible to reach thousands of people suffering from malnutrition. China's continued military buildup, which includes rapid development of its nuclear, space and cyberspace capabilities. According to Heritage.org, “over the last 12 months, China built 100 new nuclear weapons—making it the fastest growing nuclear power on the planet. Beijing is on track to numerically match the U.S. nuclear arsenal by 2032.”
- Increased commodity prices. While most commodity prices remained flat, rising only 0.8% in 2023, versus 12.1% in 2021 and 4.8% in 2022, the prices for oil and copper are on the rise in 2024. In April of 2024, copper prices had increased 8.92% from the previous year and 7.44% from one year ago. Like copper, oil is up 5.35% from last month and 6.73% from one year ago.
- Lack of affordable housing. As detailed by the Migration Policy Institute, “an estimated 1.6 billion people—one-fifth of humanity—lack access to adequate housing and basic services...and this number could rise to 3 billion by 2030. Over the last decade, housing prices have grown faster than incomes in most countries according to the Organization for Economic Cooperation and Development (OECD).” Although there are several reasons for the shortage, one of the most basic is the inability of the housing market to keep up with the growing population. The growth of profit-seeking investors, who purchase large numbers of houses and apartments, higher interests, and other factors such as material delays, shortages and increased material and labor costs, also impact the shortage.

There are also some interesting projections as to why we will see connector growth in 2024 and beyond, and what that growth will be. This report details the markets where Bishop anticipates growth, and which subsectors will drive that growth. This report provides projections over the next five years. Will the industry continue to grow, and which years may not be as strong as others? These answers and more are revealed in the June 2024 **Connector Industry Forecast**.

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

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Connector Industry Forecast

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Analytical & Scientific Instruments
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Medical
Diagnostic & Imaging Equipment
Therapeutic Equipment
Other Medical Equipment
Industrial
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Industrial Automation & Process Control
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Body Wiring & Power Distribution
Powertrain
Comfort, Convenience & Entertainment
Navigation & Instrumentation
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Connector Industry Forecast

Chapter 2 – World Connector Forecast (continued)

- Telecom/Datacom
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 - Enterprise Network
- Mobile & Wireless Wireless Infrastructure
 - Subscriber Equipment
 - Cable-Equipment-Infrastructure
 - Other Telecommunications
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- Other Equipment

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 - Other Office Equipment
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Chapter 3 – North American Connector Forecast (continued)

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 - Navigation & Instrumentation
 - Safety & Security
- Transportation
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 - Commercial Air
 - Marine
 - Rail
 - Construction
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 - Military
- Telecom/Datacom
 - Carrier Network
 - Enterprise Network
 - Mobile & Wireless
 - Wireless Infrastructure
 - Subscriber Equipment
 - Cable-Equipment-Infrastructure
 - Other Telecommunications
- Consumer
 - Personal/Portable Consumer Electronics
 - Home Video Equipment
 - Home Audio Equipment
 - Consumer White Goods
 - Other Consumer
- Other Equipment

Chapters 4 Thru 8 Provide the Same Detail Level as Chapter 3

Chapter 4 – European Connector Forecast

Chapter 5 – Japanese Connector Forecast

Chapter 6 – Chinese Connector Forecast

Chapter 7 – Asia Pacific Connector Forecast

Chapter 8 – ROW Connector Forecast

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Bishop & Associates Inc.
1209 Fox Glen Drive • St. Charles, IL 60174
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