Connector Industry Forecast

2023 Through 2028

Research Report F-2023-02
December 2023

Bishop & associates, inc.

Performance and Forecast of the World Connector Industry

Report No.: F-2023-02
December 2023

Bishop & Associates has just released the 2023 ***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

2023 – A Year of Worldwide Conflict and Declining Connector Sales!

After a year of strong double-digit growth, no one expected the connector industry to perform as well as it did in 2022. Although not in the double-digit range, growth in 2022 was a solid 7.8%. Entering 2022 with a robust backlog allowed for all regions, except for Japan, and market sectors to show growth, albeit at different levels.

A year marked by challenges, changes, and opportunities, 2022 was for many a year that showed us just how resilient we could be. We climbed our way out of one of the worst health pandemics ever faced. We were faced with flooding in all parts of the world and the worst drought in over 40 years in other parts. Wildfires that burned for weeks and heatwaves, earthquakes, and hurricanes that killed thousands and caused billions of dollars in damages. Yet, after each of these challenges we picked ourselves up, kept a positive attitude, and tended to business! Just like the way the connector industry responded after a devasting 2020.

Industry Sales Performance by Region

As would be expected, growth and decline were not equal across all regions in 2022 nor will they be in 2023. The North American region saw the greatest growth in 2022, growing 14.6%. With growth of 11.7%, the ROW region followed North America. This region includes Central and South America, Brazil, and South Africa. Asia Pacific, which includes Taiwan, South Korea, India, and Singapore as well as a list of others, followed ROW with growth of 7.1%, followed by Europe with growth of 6.5%. China, the largest region for electronic connector sales increased 6.1%. Japan, who continues to struggle to bring sales back to their high of $6.4 billion in 2012, showed the least growth in 2022, with sales declining -2.0%.

2021 and 2022 Connector Sales by Region
With Percent Change

Region	2022	2023F	Percent Change
North America	$18,889.0	$XX,XXX.X	Y.Y%
Europe	$17,328.5	$XX,XXX.X	Y.Y%
Japan	$5,172.8	$XX,XXX.X	Y.Y%
China	$26,494.3	$XX,XXX.X	Y.Y%
Asia-Pacific	$12,194.7	$XX,XXX.X	Y.Y%
ROW	$4,011.7	$XX,XXX.X	Y.Y%
Total World	**$84,091.0**	**$XX,XXX.X**	**Y.Y%**

$ Millions

Like 2022, where the region with the greatest percentage increase in sales was the same region that exhibited the greatest increase in total dollars, in 2023, Europe will also represent the region with the greatest overall growth in sales dollars. Europe will see sales dollars increase $XXX million, followed by North America, where sales dollars will increase $XXX million, and

ROW where sales dollars will increase $XX.X million. All other regions will see a decrease in sales dollars. Although not the greatest decrease in sales from a percentage standpoint, China will have the greatest decrease in sales from a US dollars point, declining $XXX million. For Japan this will be the second consecutive year of sales decline.

In addition to connector sales results varying by region in 2023, electronic connector sales will also vary remarkably by market sector. As the table below and on the following page show, in 2022, the telecom/datacom market, which encompasses a variety of equipment types including carrier network, enterprise network, wireless infrastructure, subscriber equipment (cell phones), and cable equipment saw the greatest percentage growth, at 9.4%. Naturally this growth was driven by the increase in internet activity and the continuing drive towards 5G. In 2023, although nowhere near the growth in 2022, the telecom/datacom market will once again show the greatest growth, expanding by 0.8%. In 2022, the telecom/datacom market was followed by the automotive, transportation, industrial and military/aerospace market, all growing 8.1%. It is important to note that although the percentage increase for all four market sectors is the same, because the value of each market is so different, the change in sales dollars varied tremendously. In 2023, the telecom/datacom market will be followed by the military/aerospace market, with growth of 0.6%. It has not been since 2019, that the military/aerospace market out preformed key markets like automotive and industrial, but unfortunately worldwide turmoil has put military/aerospace expenditures in the spotlight.

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

Equipment Sector	2022	2023F	YOY Change
Computers & Peripherals	$10,758.2	XX,XXX	Y.Y%
Business/Office Equipment	$922.3	X,XXX	Y.Y%
Instrumentation	$2,424.8	X,XXX	Y.Y%
Medical	$2,690.7	X,XXX	Y.Y%
Industrial	$10,788.1	XX,XXX	Y.Y%
Automotive	$18,435.4	XX,XXX	Y.Y%
Transportation	$5,873.4	X,XXX	Y.Y%
Military/Aerospace	$5,050.0	X,XXX	Y.Y%
Telecom/Datacom	$20,022.8	XX,XXX	Y.Y%
Consumer	$3,967.0	X,XXX	Y.Y%
Other Equipment	$3,158.3	X,XXX	Y.Y%
Total World	**$84,091.0**	**XX,XXX**	**Y.Y**

$ Millions

2023 and 2024 Outlook

With industry backlog declining steadily, Bishop is forecasting 2023 sales to decline -Y.Y% to $XX,X16 million. We anticipate the greatest percentage decrease will occur in Japan, where sales will decrease -Y.Y%, followed by the China region where sales are anticipated to decline -X.X%. When looking at growth in US dollars, although not the greatest decline percentage

wise, the smallest growth will be seen in the Chinese region, where connector sales will decrease by $XXX.X million. The Chinese region will be followed by the Asia Pacific region, where sales in US dollars will decline $XXX million.

2023F and 2024F Sales by Region
With Percent Change

Region	2023F	2024F	Percent Change
North America	$1X,9XX.8	$XX,XXX.X	Y.Y%
Europe	$1X,X68.1	$XX,XXX.X	Y.Y%
Japan	$4,728.7	$XX,XXX.X	Y.Y%
China	$2X,756.1	$XX,XXX.X	Y.Y%
Asia-Pacific	$X1,4X4.X	$XX,XXX.X	Y.Y%
ROW	$XX,XXX.X	$XX,XXX.X	Y.Y%
Total World	**$81,XXX.3**	**$XX,XXX.X**	**Y.Y%**

$ Millions

2023F and 2024F Sales by Market Sector
With Percent Change

Equipment Sector	2023F	2024F	Percent Change
Computers & Peripherals	$X,96X.X	$XX,XXX.X	Y.Y%
Business/Office Equipment	$873.7	$895.2	Y.Y%
Instrumentation	$X,XXX.5	$X,441.X	Y.Y%
Medical	$2,641.3	$X,73X.X	Y.Y%
Industrial	$X0,68X.X	$X1,19X.X	Y.Y%
Automotive	$1X,XXX.X	$XX,XXX.X	Y.Y%
Transportation	$X,XXX.X	$X,XXX.X	Y.Y%
Military/Aerospace	$X,120.X	$X,X81.X	Y.Y%
Telecom/Datacom	$XX,XXX.X	$2X,XXX.X	Y.Y%
Consumer	$X,726.X	$X,84X.X	Y.Y%
Other Equipment	$3,X45.X	$3,XXX.X	Y.Y%
Total World	**$81,XXX.3**	**$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.

- Economic markets are still unstable. Although the Federal Reserve announced in early November that they would hold rates steady as they evaluate progress on taming inflation, they did leave the door open to future increases. This contrasts with their announcement in September that one more increase in rates was likely to occur in 2023 to keep inflation at bay. This is important because US interest rates tend to drive global rates and strengthen the US dollar, which causes many other currencies to depreciate.

- World GDPs are slowing in all economies. According to The Conference Board, "global real GDP is forecasted to grow by 2.9% in 2023, down from 3.3% in 2022", with a further decline to 2.5% in 2024. "Growth forecasts for 2024 are generally strongest in emerging Asian economies and weakest in Europe and the US."

- Although global supply chain issues have improved drastically, with ocean and truck freight capacities improving, we still are faced with several obstacles driven by issues such as labor shortages and global conflicts. In the latest CNBC Supply Chain Survey, conducted in October among logistics executives from companies like DHL Global Forwarding Americas, ITS Logistics, SEKO Logistics, C.H. Robinson, and Kuehne + Nagel, it was determined that the freight market will remain stagnant through the balance of 2023, and that "little to no growth will occur during the first half of 2024".

- Continued fluctuation in petroleum prices. Although at the present time, prices seem to have dropped about $0.30 per gallon when compared to this time last year, there is no guarantee how long these prices will remain in effect. The fact that Saudia Arabia the world's second-largest oil supplier, decided to slash production by one million barrels a day since July, means less oil available and in turn potentially higher prices. The fact we are now entering the time of year where demand drops for gasoline is good for the consumer, but demand for diesel by farmers and truckers, as well as jet fuel for the rebounding travel industry, will add to the price of goods.

- Low unemployment rates, driven by the ongoing labor shortage, with studies still showing that by 2030, we will be an estimated 85 million workers short globally! Continued low unemployment rates worldwide, driving a continued and prolonged shortage of workers in key areas like transportation and service industries. Through September 2023, unemployment in the US stood at 3.8% and in China at 5.0%. In the Euro area through August, it was 6.4%.

- Increasing political tensions: Israeli-Palestinian conflict over land and who controls it, a war between Russia and Ukraine that has gone on for over a year, with no end in sight, deepening friction between China and Taiwan with the US trying to maintain dominance in Asia Pacific, possible repeated confrontation between Armenia and Azerbaijan, stalled nuclear talks with Iran, political gridlock and rampant gang violence in Haiti, with cholera spreading and governmental services collapsing. China's continued military buildup, which includes rapid development of its nuclear, space and cyberspace capabilities. According to Defense.gov, "DOD officials estimate that the Chinese had more than 500 operational nuclear warheads as of May 2023." "China has also focused on expanding its naval capabilities to project power by sea. It has the largest navy in the world, in terms of number of ships and submarines, with a total battle force of 370 ships and submarines. That includes 140 major surface combatants, according to the report."

- A global housing shortage is causing home prices and rents to climb substantially, drastically affecting the percentage of income devoted to housing. In some countries like Germany, this has reached disastrous proportions. Earlier in 2023, a study by the Eduard Pestel Research Institute "found there to be a shortage of more than 700,000 apartments in Germany, especially in the affordable segment". Germany is not the only country where rentals are a scare commodity, many other European countries are facing the same dilemma, and even those that have found housing, in many countries like the United Kingdom, this housing is substandard, with many in a state of dangerous disrepair. The United States is also facing a housing shortage, due to rising material costs, labor shortages, and supply chain issues. Although this problem existed long before COVID, rising interest rates have caused buyers to watch their purchasing power plummet, as well as their ability to own a home.

There are also some interesting projections as to why we will see connector growth in 2024 and beyond and what that growth will be. See the markets where Bishop anticipates growth and which subsectors will drive that growth. Look at projections over the next five years. Will we continue to grow, or will some years not be as strong as others? All this and more revealed in the December 2023 *Connector Industry Forecast*.

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

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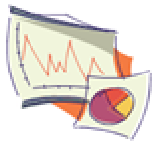
To Order *Connector Industry Forecast*



Research Report F-2023-02, ***Connector Industry Forecast*** is available for $5,285. If you would like additional information about this report, or would like to place an order, please complete the following information, and e-mail, or mail it to Bishop & Associates, Inc. To place your order on our website: **http://store.bishopinc.com/**.

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Connector Industry Forecast

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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 F-2023-02 — Connector Industry Forecast (December 2023) NEW
- ☐ Report P-606-23 — Connector Types and Technologies Poised for Growth (October 2023) NEW
- ☐ Report M-121-23 — 2023 Top 100 Connector Manufacturers (August 2023) NEW
- ☐ Report M-720-23 — European Connector Market 2021, 2022, 2023F and 2028F (June 2023) NEW
- ☐ Report C-122-23 — 2023 Connector Industry Yearbook (June 2023) NEW
- ☐ Report P-430-23 — World Circular Connector Market 2023 (May 2023) NEW
- ☐ Report M-700-23 — World Connector Market Handbook (March 2023) NEW
- ☐ Report P-780-23 — World RF Coax Connector Market (January 2023)
- ☐ Report M-1200-22 — Military Ground Vehicle Market for Connectors (October 2022)
- ☐ Report P-799-22 — World Cable Assembly Market (September 2022)
- ☐ Report P-675-22 — Copper and Fiber Connectivity in the Data Center (July 2022)
- ☐ Report T-800-22 — 2022 North American Cable Assembly Manufacturers (May 2022)
- ☐ Report M-1010-22 — World Automotive Connector Market (April 2022)
- ☐ Report P-420-22 — IC Sockets – Systems & Connector Forecast 2020-2030 (January 2022)
- ☐ Report P-520-21 — The World I/O Rectangular Connector Market 2021 (October 2021)
- ☐ Report M-310-21 — Instrumentation Market for Connectors (June 2021)
- ☐ Report P-410-21 — Computer Server Market Trends and Connector Use 2020 – 2030 (May 2021)

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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