

## October Sales Up +10.7% Industry Backlog at Record Level!

October bookings were up +18.3% and sales were up +10.7% YOY. Year-to-date sales are up +26.2%. Orders have achieved 13 consecutive months of double-digit increases and sales achieved 11 consecutive months.

### Regional Performance:

Worldwide year-to-date sales increased +26.2%.

At +33.7% YTD, ROW is exhibiting the highest sales growth.

Europe has the highest YTD growth in bookings at +48.7% in September.

### Industry Outlook:

Industry sales totaled \$64,304 million through October. If we continue to grow at these historical averages, sales will be \$77,568 million for the year, up +23.7%.

### Industry Backlog:

October backlog increased to \$19,533 million.

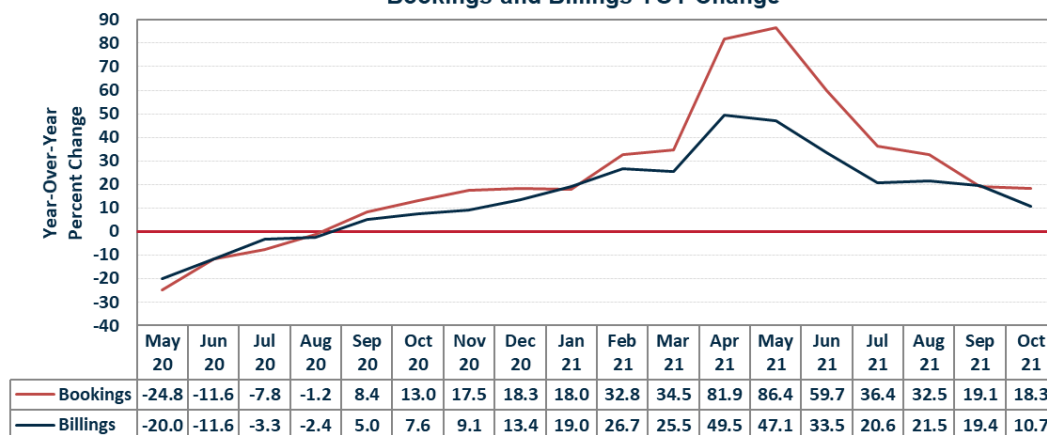
### 2021 Currency Impact:

The industry grew at +29.6% YTD in October in local currencies versus +26.2% in USD, a 3.4-point difference.

### Merger and Acquisition Services Buy & Sell-Side

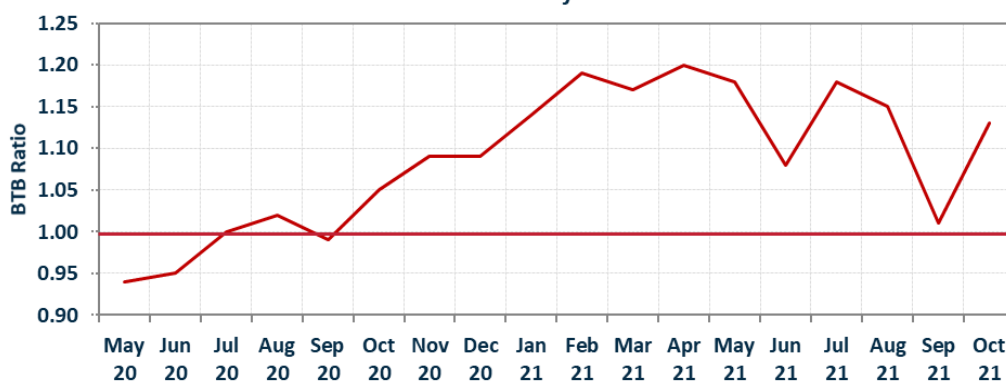
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Bookings and Billings YOY Change



The book-to-bill ratio in October was 1.13 as orders and billings began to normalize a bit, with harder comparisons. YTD, the book-to-bill ratio is 1.14.

Connector Industry Book-to-Bill

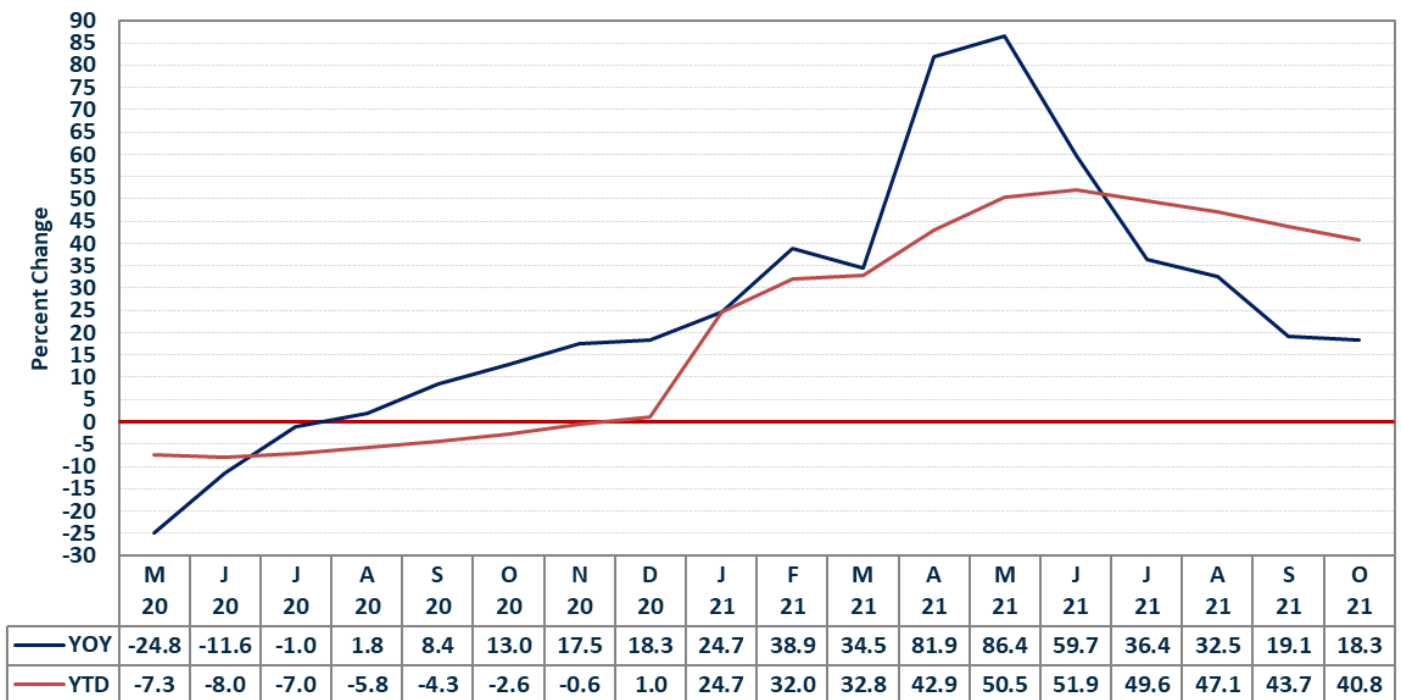


## Booking Highlights and Conclusions

### Sequential, Year-Over-Year, and Year-To-Date Bookings Percentage Change – 2019/2020/2021

Month	Sequential			Year-Over-Year			Year-To-Date		
	2019	2020	2021	2019	2020	2021	2019	2020	2021
Jan	1.0%	0.2%	2.3%	-3.7%	3.9%	24.7%	-3.7%	3.9%	24.7%
Feb	7.7%	5.5%	17.7%	-6.2%	1.8%	38.9%	-5.0%	2.8%	32.0%
Mar	-4.5%	-1.4%	-3.5%	-6.8%	5.0%	34.5%	-5.6%	3.5%	32.8%
Apr	-2.2%	-27.2%	3.2%	-8.8%	-21.8%	81.9%	-6.4%	-2.7%	42.9%
May	6.9%	2.9%	5.1%	-7.0%	-24.8%	86.4%	-6.5%	-7.3%	50.5%
Jun	-8.9%	7.0%	-8.3%	-8.3%	-11.6%	59.7%	-6.9%	-8.0%	51.9%
Jul	2.8%	15.2%	-1.9%	-8.4%	-1.0%	36.4%	-6.9%	-7.0%	49.6%
Aug	7.8%	10.7%	6.6%	-5.2%	1.8%	32.5%	-6.6%	-5.8%	47.1%
Sep	-7.1%	-0.9%	-11.9%	-4.3%	8.4%	19.1%	-6.4%	-4.3%	43.7%
Oct	0.6%	4.7%	3.6%	-6.6%	13.0%	18.3%	-6.4%	-2.6%	40.8%
Nov	10.8%	15.2%		-1.9%	17.5%		-6.0%	-0.6%	
Dec	-7.8%	-7.2%		4.6%	18.3%		-5.2%	1.0%	

### Bookings - YOY and YTD



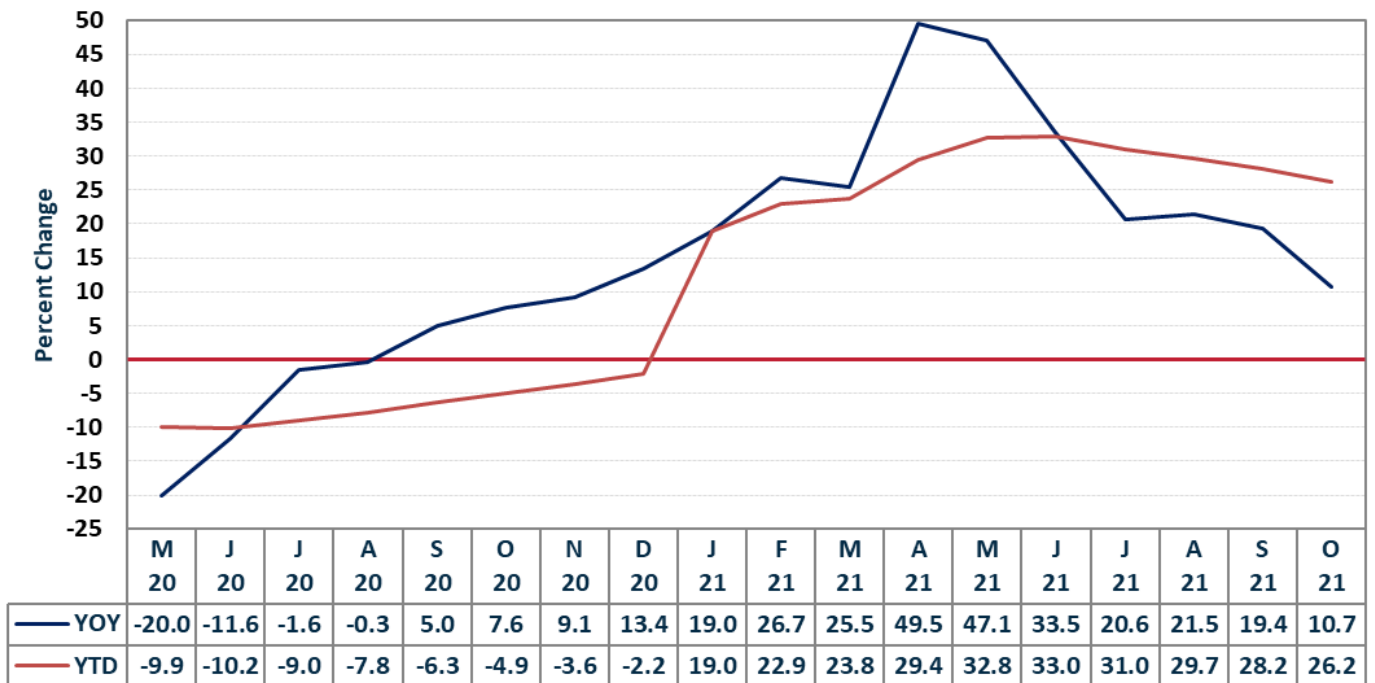
- October bookings rose +18.3% YOY and +40.8% YTD.
- Orders increased +3.6% sequentially.
- The book-to-bill ratio for October was 1.13 and 1.14 YTD.

## Billing Highlights and Conclusions

### Sequential, Year-Over-Year, and Year-To-Date Billings Percentage Change – 2019/2020/2021

Month	Sequential			Year-Over-Year			Year-To-Date		
	2019	2020	2021	2019	2020	2021	2019	2020	2021
Jan	0.3%	-2.8%	-1.6%	-1.0%	-3.1%	19.0%	-1.0%	-3.1%	19.0%
Feb	6.8%	5.5%	12.6%	-2.5%	-4.3%	26.7%	-1.8%	-3.7%	22.9%
Mar	-3.2%	-0.9%	-1.1%	-2.4%	-2.0%	25.5%	-2.0%	-3.1%	23.8%
Apr	-3.7%	-21.2%	-1.2%	-5.4%	-19.9%	49.5%	-2.8%	-7.2%	29.4%
May	9.0%	8.8%	7.0%	-4.3%	-20.0%	47.1%	-3.1%	-9.9%	32.8%
Jun	-4.2%	5.8%	-3.8%	-4.2%	-11.6%	33.5%	-3.3%	-10.2%	33.0%
Jul	-2.0%	9.0%	-2.0%	-3.1%	-1.6%	20.6%	-3.3%	-9.0%	31.0%
Aug	7.0%	9.0%	8.7%	-4.9%	-0.3%	21.5%	-3.5%	-7.8%	29.7%
Sep	-2.9%	1.7%	-2.3%	-3.7%	5.0%	19.4%	-3.4%	-6.3%	28.2%
Oct	-4.1%	-1.0%	-7.3%	-6.9%	7.6%	10.7%	-3.7%	-4.9%	26.2%
Nov	9.8%	11.4%		-3.4%	9.1%		-3.7%	-3.6%	
Dec	-11.2%	-7.7%		-0.1%	13.4%		-3.8%	-2.2%	

### Billings - YOY and YTD

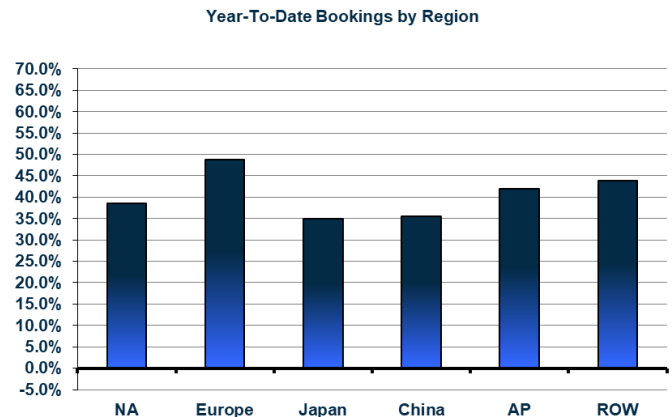


- October billings grew +10.7% YOY, making this the 11th consecutive month of double-digit increases.
- Billings are up +26.2% for the year.
- Sequentially billings decreased -7.3%.

## Regional Performance: BOOKINGS

### October 2021 Bookings

Region	Sequential	YOY	YTD
NA	3.7%	26.0%	38.6%
Europe	-0.3%	7.6%	48.7%
Japan	0.2%	17.4%	35.0%
China	1.1%	13.9%	35.6%
AP	18.0%	39.7%	42.0%
ROW	5.1%	12.7%	43.8%
Total	3.6%	18.3%	40.8%

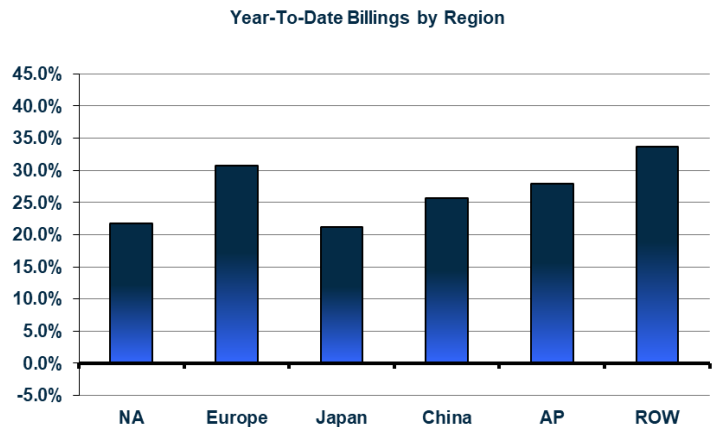


- October bookings increased +18.3% YOY and increased +40.8% YTD.
- Year-over-year, all regions experienced double-digit growth except Europe.
- Year-over-year comparisons through September have been relatively easy because COVID-19 was still impacting orders at this time last year. Bookings will continue to grow, but the rate of growth will slow in the fourth quarter.

## Regional Performance: BILLINGS

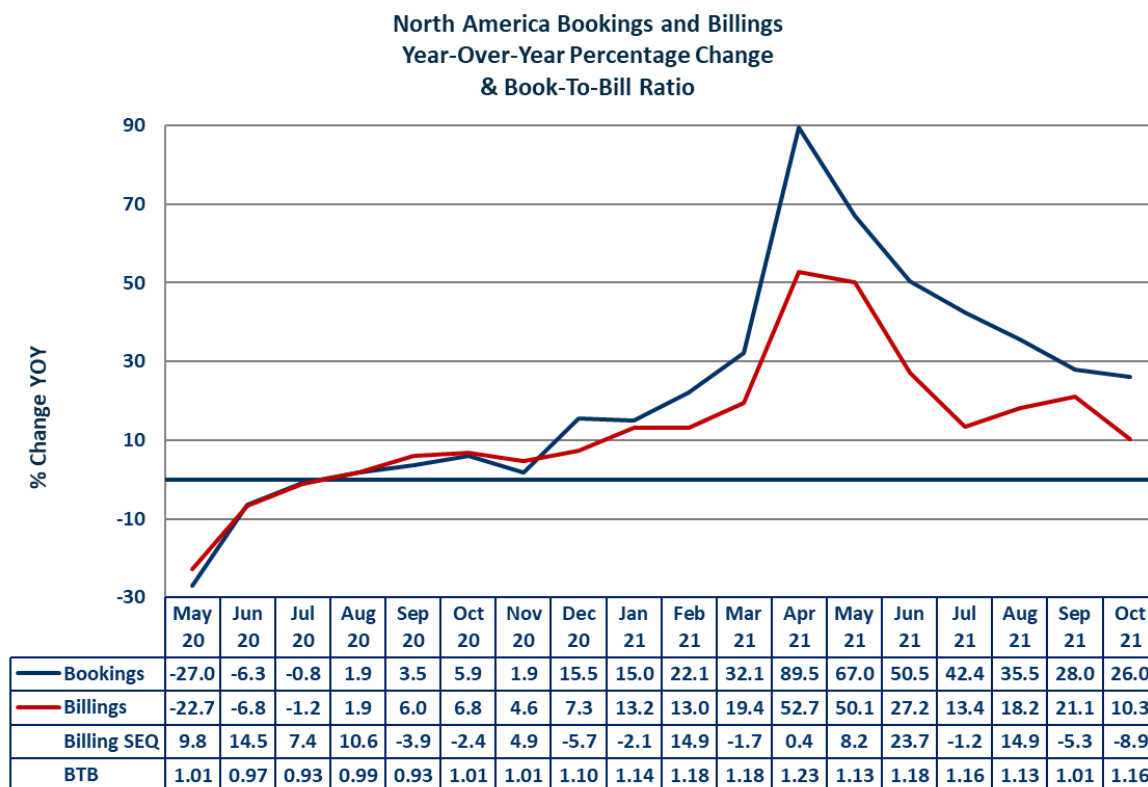
### October 2021 Billings

Region	Sequential	YOY	YTD
NA	-8.9%	10.3%	21.8%
Europe	-10.4%	5.3%	30.8%
Japan	-5.6%	13.7%	21.1%
China	-6.7%	9.8%	25.7%
AP	0.1%	21.5%	27.9%
ROW	-4.4%	22.9%	33.7%
Total	-7.3%	10.7%	26.2%



- October connector sales growth was +10.7% YOY as demand for electronic products remains strong.
- Year-over-year, all regions experienced double-digit growth, except Europe and China.
- Sequentially, sales decreased in all regions except Asia Pacific.
- The fourth quarters sales will face the challenge of harder comparisons as the connector industry rebounded strongly in the fourth quarter of 2020. We are already seeing this impact.

**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

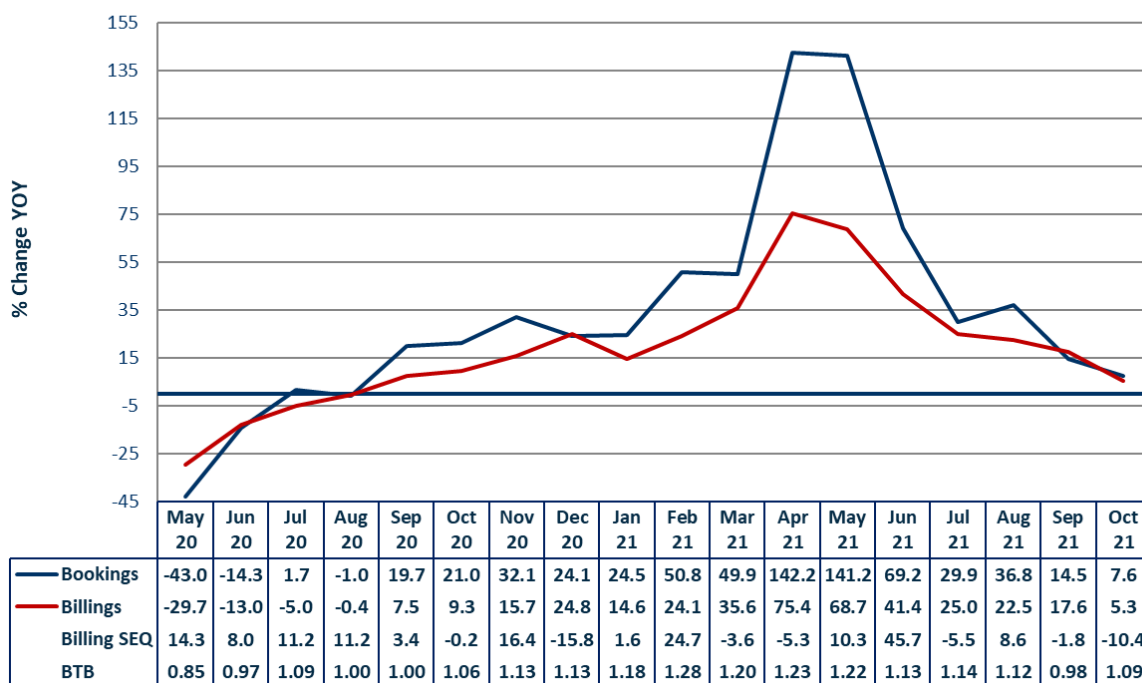
- Sales grew +10.3% and orders were up +26.0% YOY in October. North American billings were down sequentially -8.9%. The book-to-bill remained strong at 1.16.
- Industrial production increased to 5.1% YOY in October.
- Manufacturing PMI fell to 60.8 in October from 61.1 in September.
- US unemployment fell to 4.6% in October, the lowest rate since March 2020.
- US housing starts unexpectedly declined 0.7% in October.
- Retail sales were up 16.3% YOY in October and 1.7% sequentially despite high inflation.
- The annual inflation rate in the US in September increased to 6.2%, the highest since November 1990. According to the CPI data, the price increases occurred mainly for the cost of energy, up 30%, driven by gasoline which was up 49.6%.
- US automotive sales in October increased 6.5% from September and were down 23% YOY.

## Conclusions

The US economy slowed in Q3. Higher prices, supply chain issues, and resurging COVID-19 are part of the headwinds. The production of new vehicles slowed due to the lack of semiconductors. The ports on the West Coast (and East Coast and Gulf) are still backed up. These issues will negatively impact the connector industry in Q4.

**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



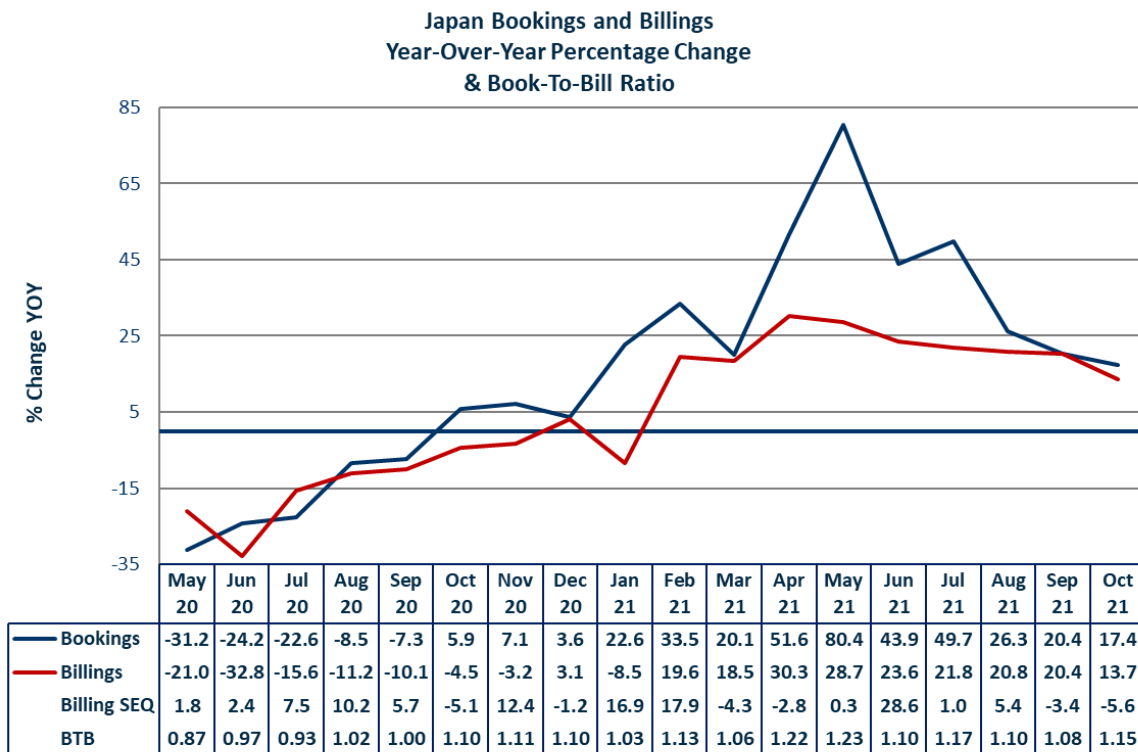
## Europe Performance

- YOY billings grew +5.3% and orders were up +7.6% breaking the long string of double-digit increases. The book-to-bill ratio was to 1.09. Sequentially, sales were down -10.4%.
- Euro area industrial production increased 5.2% YOY in September.
- The October manufacturing PMI was revised lower to 58.3 from 58.5.
- September retail sales increased 2.5% YOY and decreased 0.3% sequentially.
- Year-over-year, Euro area new car registrations were down 28% due to the semiconductor shortages.
- Business confidence improved to 1.76 in October from 1.72 in September.

## Conclusions

European new car registrations were down significantly again in October as a result of the semiconductor shortages. Automotive is the largest connector market in Europe. The connector industry appears to be performing better than the overall economies, but the ongoing shortages will likely mute results in Q4.

**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 Performance

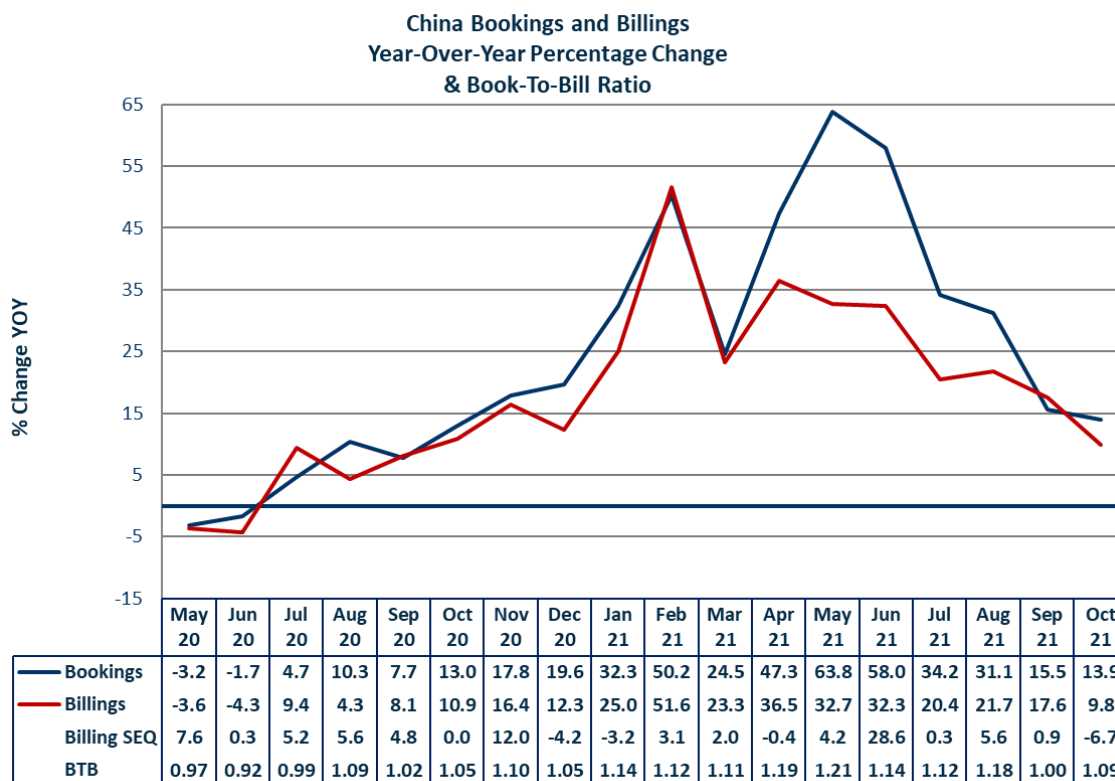
- Bookings were up +17.4% in October. Sales also increased +13.7%. Sequentially, sales declined -5.6%. Japan's book-to-bill ratio was 1.15.
- 3Q21 GDP grew 1.4% YOY and declined -0.8% sequentially.
- Industrial production decreased 2.3% YOY in September.
- September retail sales were down 0.6% YOY.
- The unemployment rate remained at 2.8% in September.
- Exports increased 9.4% YOY in October. Exports to the US rose shrank 0.4%. Exports of semiconductor machinery was up 45.1%. Export of cars shrank 40.9%.
- The October manufacturing PMI increased to 53.2 (revised) from 51.5 in September.

## Conclusions

The ongoing weakness of Japan's economy will weigh down their connector industry results. The lack of semiconductors is holding back growth in their automotive industry sales. Their booking and sales performance, in the last eight months, primarily reflects easy comparisons to the poor results in 2020.



**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 Performance

- Sales and orders, year-over-year, increased +9.8% and +13.9%, respectively. The BTB was 1.09. Sequentially, sales decreased -6.7%.
- Industrial production increased 3.5% YOY in October, despite curbs to slow COVID-19 and control supply chain shortages.
- China's manufacturing PMI rose to 50.6 in October from 50.0 in September.
- Retail sales rose to 4.9% YOY in October.
- China's auto sales were down 9.4% YOY in October for the sixth consecutive month of declines. Semiconductor shortages are the main culprit.
- Exports from China were up 27.1% YOY in October. YTD exports have already exceeded all of 2020.

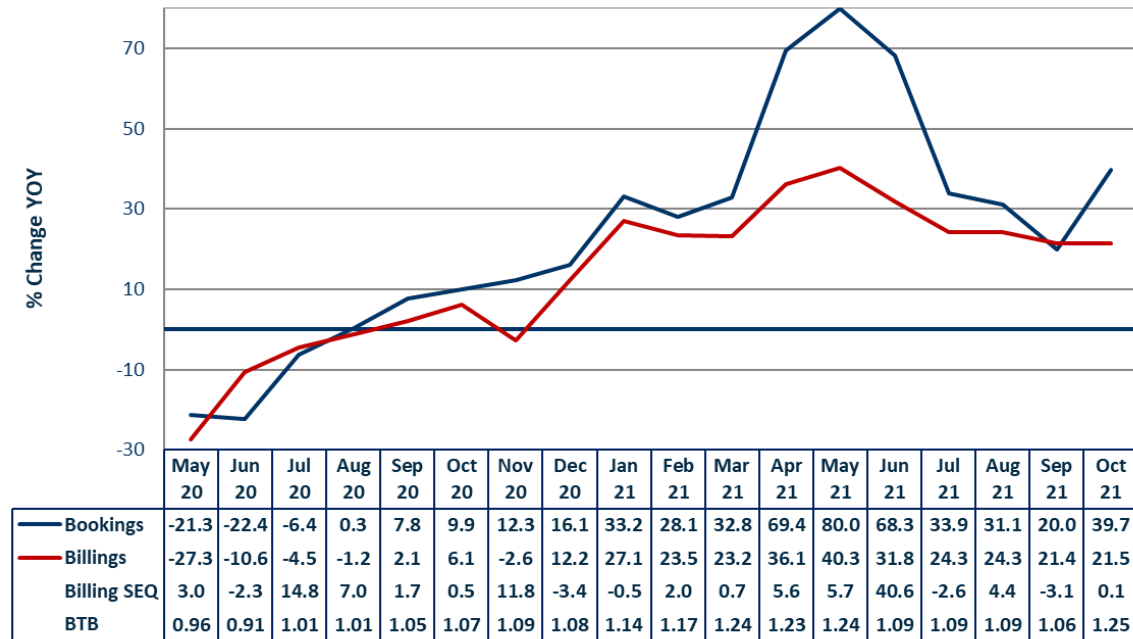
## Conclusions

China's industrial production and retail sales continue to slow. Their economy, though still growing YOY, is slowing on a quarter-to-quarter basis.

For the last 12 months, China has posted double-digit year-over-year growth in both connectors sales and orders. This growth has allowed China to continue to take connector market share from other regions of the world. Sales, however, broke into the single-digit category for the first time since September 2020.

**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

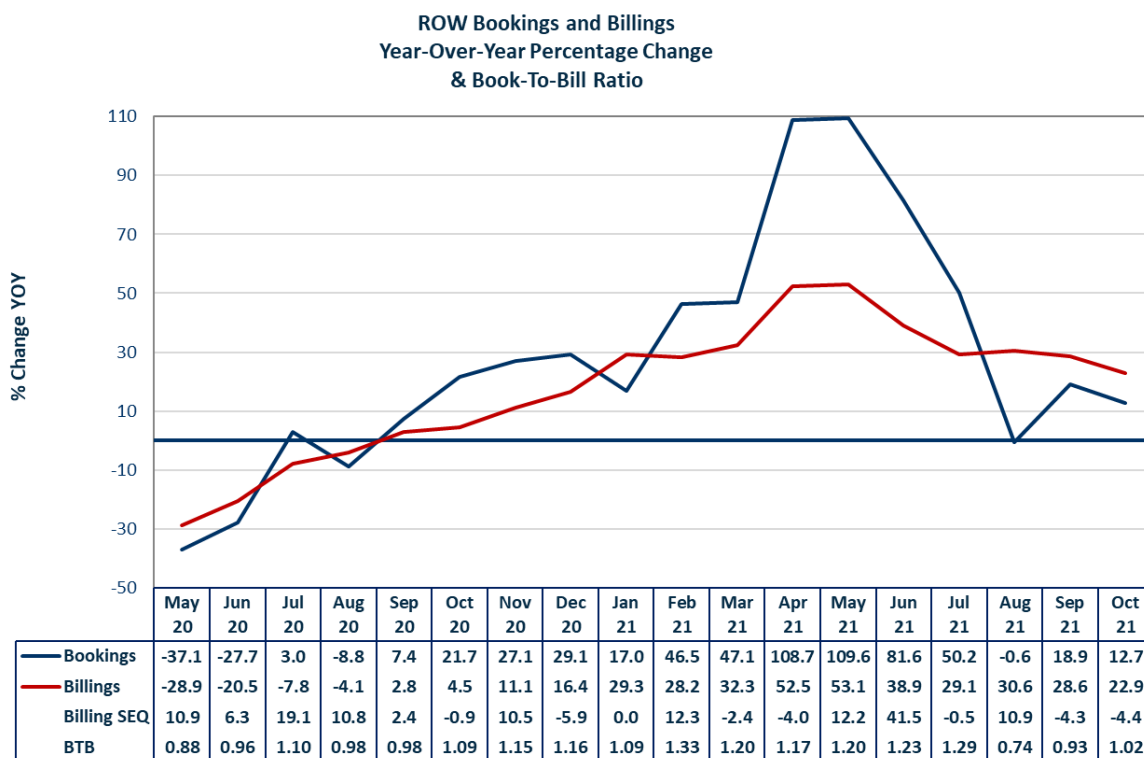
- Orders were up +39.7% in October and sales rose +21.5% YOY. The book-to-bill ratio was 1.25. Sequentially, sales increased +0.1%.
- India's industrial production grew 3.1% YOY in September. Exports were up 5.5% YOY in October. The manufacturing PMI rose to 55.9 in October from 53.7 in September. Inflation in October was 4.48%.
- South Korea's industrial production declined 1.8% YOY in September. Exports decreased 0.1% sequentially in October. The manufacturing PMI declined to 50.2 in October from 52.4 in September.

## Conclusions

In spite of a recent surge in COVID-19 cases, industrial production and exports in India continue to increase. South Korea's GDP continues to grow sequentially. Their connector sales also have a positive outlook with a strong economy.

From the Wall Street Journal, "The recent surge in Covid-19 cases in Southeast Asia has throttled ports and locked down plantations and processors, sparking extended disruptions of raw materials such as palm oil, coffee, and tin."

**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.



## Rest of World Performance

- Orders and sales increased +12.7% and +22.9% YOY, respectively, in October. Sequentially, sales in the region decreased -4.4%. The book-to-bill ratio was 1.02.
- Brazil's industrial production decreased 3.9% YOY in September. The inflation rate rose to 10.67% in October accelerating for the 17<sup>th</sup> consecutive month. The manufacturing PMI decreased to 51.7 in October from 54.4 in the prior month.
- Russia's 3Q21 GDP grew 4.3% YOY and increased 3.5% sequentially. Industrial production increased 6.8% YOY in September. Exports increased 5.6% sequentially in September. The inflation rate increased to 8.13% YOY in October. The unemployment rate declined to 4.3% in September from 4.4% in August.

## Conclusions

Both Brazil and Russia continue to have growth in their connector industries, which are outperforming their national economies. Both countries will achieve connector industry growth in 2021.

Since November of 2020, the ROW region has had double-digit growth in connector industry sales except in August 2021. After the negative booking number in August, it appears they are back on course.

## **Industry Outlook – 2021**

Industry sales through October 2021 are \$64,304 million, up +26.2%. This excellent growth is the result of an increase in world GDP as businesses began to open up after the pandemic. The large increase in connector sales is also a function of easy comparisons to abysmal results in the second and third quarters of 2020.

Sales in October were \$6,093 million, up +10.7%. The lower growth was expected because we are now comparing results to October 2020 when sales started to rebound.

Bishop & Associates projects full year sales in 2021 to be up +24.1%. Historical sales suggest sales growth will be +23.7%. See the following analysis:

YTD October Sales	\$64,304
Historical % of Sales*	82.9%
2021 Sales Forecast	\$77,568
2020 Actual Sales	\$62,727
Sales Increase	\$14,841
% Change	23.7%

\$ Millions

\* Historical sales average from 2008 - 2020

This will be the connector industry's second-best year of growth.

Year	% Change
2010	28.2%
2021	23.7%
2004	18.0%
2000	19.0%

## **Connector Backlog Increases Again**

Industry backlog was \$19,262 million (12.9 weeks) at the end of September. The backlog increased \$271 million in October and is now \$19,533 million (13.1 weeks).

	<b>2020</b>	<b>YTD Oct 2021</b>
BtB Ratio	1.04	1.14
Beginning Backlog	\$8,021	\$10,530
Bookings	\$65,236	\$73,307
Billings	\$62,727	\$64,303
Ending Backlog	\$10,530	\$19,533
Backlog in Weeks	8.7	13.1

**\$ Millions**

The book-to-bill ratio has been above 1.0 since July of 2020. The sixteen consecutive months of orders exceeding sales has resulted in the backlog increasing from \$8,021 million, at the beginning of 2020, to \$19,533 million now (8.7 weeks to 13.1 weeks). This is an increase in backlog of \$11,512 million or 144%.

We speculate that some of the orders were placed as a hedge against future price increases and product shortages. It will be interesting to watch how the backlog changes in the future. Will orders get shipped, pushed out, or cancelled?

**2021 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 October 2020 versus October 2021 and shows results for these three currencies.

**Local Currency to One USD  
October 2020 versus October 2021**

Currency	2020	2021	% Change
Euro	0.8497	0.8622	1.5%
Yuan	6.7276	6.4242	-4.5%
Yen	105.2426	113.0600	7.4%

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 October year-over-year sales performance by region in US dollars and local currencies.

**Industry Sales Performance  
October 2021  
USD-vs-Local Currencies**

Region	U.S.\$	Local Currency
North America	21.8%	23.2%
Europe	30.8%	33.9%
Japan	21.1%	16.9%
China	25.7%	34.6%
Asia Pacific	27.9%	28.7%
ROW	33.7%	35.0%
<b>World</b>	<b>26.2%</b>	<b>29.6%</b>

World connector sales are 3.4 percentage points higher when stated in local currencies rather than in US dollars, putting industry performance at +29.6% in October. (versus +26.2% in US dollars). This is the result of a stronger US dollar, on average, compared to these currencies.

## **Significant Events**

### **TPC Wire & Cable Has Formed Trexon Brand**

TPC Wire & Cable announced the formation of the Trexon brand, which encompasses the brand portfolio of TPC, Pittsburgh Wire and Cable, and MilRail in its Industrial Products division, and EZ Form Cable, CiCoil, Hydro Group, Integrated Cable Systems (ICS), and The First Electronics Corporation (FEC) in its Engineered Products division. Industrial Products are manufactured to provide top performance in the most demanding environments, and Engineered Products are designed into exacting and mission-critical applications. Trexon, a leading provider of unique connectivity solutions built to withstand the toughest environments and the most exacting applications, is headquartered in Macedonia, Ohio. The existing TPC leadership will take the helm at Trexon, with Jeff Crane as president and CEO, Todd Spaulding managing the Industrial Products business, and Nildeep Patel leading the Engineered Products business.

### **Leoni AG Sells Majority of its Industrial Business to Strategic Investor BizLink Holding Inc.**

Leoni has sold its Business Group Industrial Solutions, which belongs to the WCS division (Wire & Cable Solutions) and represents significant parts of its industrial business, to BizLink. This marks another important milestone on Leoni's path towards the long-term stabilization of the company.

"With this step, we are once again proving that we are consistently continuing to implement our announced and already advanced focus on the Wiring System Division," Aldo Kamper, CEO of Leoni AG, explained. As is well known, the company intends to strategically focus on consolidating its leading position as a supplier of wiring systems for the automotive industry. Against this backdrop, Leoni has already sold two units of the WCS division (Leoni Schweiz AG and the data communication and compound divisions of Leoni Kerpen GmbH) in recent months.

BizLink is an international provider of high-quality solutions for cable connections and connectivity services. BizLink's acquisition of LEONI's Industrial Solutions will expand its market presence, especially in Europe, and there is a clear perspective for future development and growth. The sale includes around 20 international locations of the Leoni Industrial Solutions business in ten countries with around 3,000 employees. The activities of these locations among others include the areas of healthcare, robotics, and automation.

The sold activities generated sales of approximately € 430 million in fiscal year 2020 and are valued with an enterprise value of around € 450 million

### **New Yorker Electronics Co Announced the Acquisition of Omni Pro Electronics**

New Yorker Electronics Co. Inc. announced the acquisition of Omni Pro Electronics Inc., a leading electronic component distributor, located in Addison, Texas. Omni Pro maintains a deep inventory of industrial control and board-level components used in a broad array of industrial, commercial, and aerospace/defense applications.

### **Hon Hai Revenue Dips 5.95 Percent**

Hon Hai Precision Industry Co posted a 5.95 percent monthly decline in consolidated revenue to NT\$550.89 billion (US\$19.76 billion) for last month, as industry-wide component shortages caused a slowdown in production. However, demand remains healthy, Hon Hai said. Last month's revenue was down 10.07 percent from a year earlier.



## **China's Smartphone Market Dropped 4.7% in 3Q21 as Soft Demand Remained a Headwind, IDC Reports**

According to the IDC Worldwide Quarterly Mobile Phone Tracker, 80.8 million smartphones were shipped in China in 3Q21, down 4.7% year-on-year (YoY). The decline was the result of higher average selling prices and a continued lack of products that dramatically stimulated demand. Nevertheless, the top five smartphone companies all managed to achieve double-digit share amid a consolidating market.

### **Apple Shines Despite Supply Constraints**

Apple's sales hit a record even as overall smartphone shipments fell during the third quarter of this year amid supply shortages. Apple CEO Tim Cook said robust demand fueled record sales totaling \$83.4 billion during the iPhone maker's most recent financial quarter. Revenue soared 29 percent from the same period a year ago despite worsening supply disruptions. Apple's slowdown comes as previous double-digit growth in global smartphone shipments reversed during the third quarter, declining 6.7 percent from a year ago, according to IDC. The supply situation is likely to get worse before it improves. Apple expects the impact on its sales from supply constraints to be larger during the current quarter. Cook said Apple's chip supply from companies like Taiwan Semiconductor Manufacturing Co. (TSMC) and others is growing dramatically, but still falls short of demand. Declines in smartphone shipments vary among regions, IDC said. Central and Eastern Europe as well as Asia (excluding Japan and China) saw the largest declines, down 23.2 percent and minus-11.6 percent year over year. In the U.S., western Europe, and China, the declines were a smaller as phone vendors typically give priority to upscale markets.

### **Foxconn's Overseas Projects in 2022**

Viewing that North America-based clients' demand for automotive electronic components has exceeded the production capacity available, Foxconn will expand such production capacity at its factory in Mexico in first-half 2022. Foxconn has signed with US-based Lordstown Motors to purchase the latter's electric pickup truck assembly equipment at a factory in Ohio, and will begin to use the equipment for OEM production of such electric vehicles (EVs) as soon as third-quarter 2022, nearly one year ahead of the original schedule. In second-half 2022, Foxconn will begin to set up EV assembly lines, EV component factories and an EV supply chain management center on a BOL (build-operate-localize) basis in Thailand via partnership with Thai government-run Petroleum Authority Thailand (PTT). Based on the experience in Thailand, Foxconn plans to duplicate the BOL model to set up EV ecosystems in India and Europe. Also in second-half 2022, Foxconn will begin to sell electric buses in the Taiwan market and start cooperation with Gogoro, a Taiwan-based electric scooter vendor, to produce battery modules and set up battery swap stations in China. Besides, Foxconn will begin to implement EV projects in the Middle East in second-half 2022. Among product lines, consumer electronics and smart devices accounted for about 50% of Foxconn's third-quarter 2021 consolidated revenues of NT\$1,405.768 billion (US\$50.34 billion), cloud computing and networking devices for about 23%, PCs and terminal devices for 21%, and components and others for 6%. Foxconn expects fourth-quarter 2021 consolidated revenues to increase sequentially but decrease slightly year-on-year. Foxconn has reported consolidated revenues of NT\$550.891 billion for October, slipping 5.95% sequentially and 10.07% year-on-year, and those of NT\$4,655.156 billion for January-October increased 17.53% year-on-year.



## **Hon Hai to Invest NT\$20 billion in '3 plus 3' Initiative Next Year**

Taiwan-based manufacturer Hon Hai Precision Industry Co. said it plans to invest NT\$20 billion (US\$719 million) in its "3 plus 3" initiative next year as part of efforts to diversify its product portfolio. The initiative refers to the three emerging industries -- electric vehicles, robots and digital healthcare -- that are being developed through the application of artificial intelligence, semiconductors and communications technologies. A financial executive of iPhone assembler Hon Hai, also known as Foxconn on the global market, said capital expenditure for the "3 plus 3" initiative will hit about NT\$10 billion this year and investments are expected to double next year. In recent years, Hon Hai has promoted the initiative to diversify from its contract manufacturing business into hardware and software integration. The development of electric vehicles is central to the initiative, as is building an EV supply chain.

## **Ford plans to increase EV production to 600,000 vehicles by 2023**

Ford Motor plans to increase its production capacity of electric vehicles to 600,000 units globally by 2023, which CEO Jim Farley expects would make the company the second-largest U.S.-based producer of EVs, behind Tesla.

Farley said the increase would double the number of EVs the company had initially expected to produce over the next 24 months, according to a report Thursday from Automotive News. That production is expected to be spread across Ford's first three new EVs: the Mustang Mach-E, F-150 Lightning and E-Transit. It would come before production is expected to begin at a newly announced EV assembly plant in Tennessee, according to the Detroit-based publication.

"The demand is so much higher than we expected," Farley said. "It's a really new experience for this big company, trying to be agile. We had to approach it very differently than we've done capacity planning."

It's unclear if 600,000 would place it second behind Tesla. General Motors plans to sell 1 million electric vehicles globally by 2025. Tesla said in its third-quarter investor update that the installed annual capacity at its Fremont, California, vehicle assembly plant stands at 600,000, and in Shanghai at more than 450,000 cars per year. The company is also building new factories near Austin, Texas, and Berlin.

A GM spokesman said the automaker was approaching 300,000 EV sales globally through the first nine months of this year, largely in China. GM also plans to convert at least four North American plants currently producing vehicles with internal combustion engines to be capable of producing EVs in the coming years, in addition to plants in China and Michigan that already produce such vehicles.

In connection with the increase in EV capacity, Farley said Ford plans to convert more than 80% of reservation holders for its upcoming F-150 Lightning EV into owners. Ford says more than 160,000 reservations that require a \$100 fully refundable deposit have been placed for the vehicle ahead of its arrival in dealerships by mid-2022.

# Connector Industry Forecast

Bishop & Associates has just released the **Connector Industry Forecast**. 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, including connector confidence level, 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

## Other Equipment

## 2021 – Proving to be a Year Even More Surprising Than 2020!

After what we thought would be one of the most challenging years ever, 2021 is showing to be even more surprising than 2020. Declining a mere -2.2%, 2020 started off with sales anticipated to grow 3.5%. As the pandemic exploded, affecting key economies like China and the US, we revisited our original forecast and sent the forecast spiraling downward \$20 billion, reflecting a decrease of -30.8%.

By third quarter once again things had changed directions and sales moved from declining double-digits to positive year-over-year growth. This would allow 2020 to close with connector sales only declining -2.2%.

As we moved into 2021, we anticipated growth due to easy comparisons to 2020, but no one anticipated 11 straight months of double-digit growth and a year-to-date book-to-bill ratio of 1.14!

### Industry Sales Performance by Region

As the following charts indicate, growth and decline were not equal across all regions in 2020 or will they be in 2021. China, who came out of lockdown the earliest was the only region to see connector sales grow in 2020, increasing 3.6%. North America, who proved to the world that they could rapidly divert manufacturing capacity from one industry to another, saw connector sales drop 2.8%. The greatest decline was seen in Japan, where connector industry sales dropped 9.4% or over \$460 million dollars.

**2019 and 2020 Connector Sales by Region  
With Percent Change**

Region	2019	2020	Percent Change
North America	\$13,887.0	\$13,491.5	-2.8%
Europe	\$13,544.2	\$12,837.5	-5.2%
Japan	\$4,891.4	\$4,430.9	-9.4%
China	\$19,477.4	\$20,184.3	3.6%
Asia-Pacific	\$9,435.4	\$9,045.0	-4.1%
ROW	\$2,933.7	\$2,737.5	-6.7%
<b>Total World</b>	<b>\$64,169.1</b>	<b>\$62,726.7</b>	<b>-2.2%</b>

\$ Millions

Growth in 2021 is also going to vary drastically based on region. Although the ROW region is anticipated to show the greatest year-over-year growth from a percentage standpoint, from a US dollar standpoint, the greatest growth is anticipated to be seen in China, where sales dollars will increase by over \$X.7 billion.

## Connector Industry Forecast

In addition to connector sales results varying by region, sales also varied remarkably by market sector in 2020. As the table below shows, the telecom/datacom market grew 1.5%, spurred by increased Internet activity and the drive towards 5G. In line with this growth, was the very slight decline in computers & peripherals. This market sector, which saw sales decline 7.2% from 2018 to 2019, showed a strong rebound linked directly to telecommuting of both business professionals and students.

The market sector showing the greatest decline was the automotive sector, where sales dropped a steep 7.0%. This was primarily due to auto plants being shuttered and most dealers being forced to close showrooms. In fact, in the US, 2020 was the fourth-largest annual decline in automotive sales since 1980. What is surprising is that the industrial market, tied heavily to automotive production, saw connector sales decline only 2.3% due to the repurposing of many off these factories. Also showing a steep decline was the transportation sector, where sales dropped 3.0%. What is unique about this decline is that not only was it spurred by travel restrictions placed worldwide, but also due to the unique problems facing the commercial aerospace industry in 2019 that rolled over into 2020.

**2019 and 2020 Connector Sales by Market Sector  
With Percent Change**

Equipment Sector	2019	2020	YOY Change
Computers & Peripherals	\$8,380.2	\$8,355.0	-0.3%
Business/Office Equipment	\$754.0	\$724.2	-4.0%
Instrumentation	\$1,836.1	\$1,811.7	-1.3%
Medical	\$1,985.8	\$1,966.6	-1.0%
Industrial	\$7,901.6	\$7,721.8	-2.3%
Automotive	\$15,209.7	\$14,145.8	-7.0%
Transportation	\$4,479.2	\$4,344.6	-3.0%
Military/Aerospace	\$3,796.6	\$3,770.6	-0.7%
Telecom/Datacom	\$14,269.2	\$14,479.4	1.5%
Consumer	\$3,108.8	\$3,038.4	-2.3%
Other Equipment	\$2,447.8	\$2,368.6	-3.2%
<b>Total World</b>	<b>\$64,169.1</b>	<b>\$62,726.7</b>	<b>-2.2%</b>

\$ Millions

### 2021 Outlook

Due to outstanding performance through the first nine months of 2021, Bishop is forecasting 2021 sales to grow by Y.Y% to \$7X,XXX million. We anticipate the greatest percentage increase will occur in ROW, where sales will increase Y.Y%, followed by Europe where sales will increase Y.Y%. In US dollars, the smallest growth will be seen in the Japanese region, where connector sales will increase by \$X11.8 million or Y.Y%. The Japanese region will be followed by ROW, where sales will only grow \$8XX.3 million or Y.Y%.

# Connector Industry Forecast

## 2021F Connector Forecast by Geographic Region With Percent Change

Region	2020	2021F	YOY Change
North America	\$13,491.5	\$XX,XXX.X	X.X%
Europe	\$12,837.5	\$XX,XXX.X	X.X%
Japan	\$4,430.9	\$X,XXX.X	X.X%
China	\$20,184.3	\$XX,XXX.X	X.X%
Asia-Pacific	\$9,045.0	\$X,XXX.X	X.X%
ROW	\$2,737.5	\$X,XXX.X	X.X%
<b>Total World</b>	<b>\$62,726.7</b>	<b>\$7X,XXX.X</b>	<b>X.X%</b>

\$ Millions

### Forecast Assumptions

Forecasting is always difficult. Projecting future business conditions in this environment is almost impossible. The following are the assumptions we are using to develop the connector industry forecast.

- We are in the middle of a global pandemic, with efforts continuing to vaccinate much of the population in hope of achieving herd immunity in key societies.
- Inflation is increasing, as are interest rates, causing consumers to hold off on large purchases such as recreational vehicles, second homes, and personal watercraft.
- World GDPs are slowing, particularly in the two largest economies (China and the US).
- We have a semiconductor shortage that is predicted to last through most of 2022. This has already affected the automotive and consumer electronics/appliances industry extensively.
- We have a global supply chain backlog, with shipping containers gridlocked, a global shortage of truck and crane operators, and rising transportation costs (fuel and maintenance).
- There is a shortage of oil and gas in the US.
- China has launched a supersonic missile and is threatening Taiwan.
- North Korea is once again launching missiles.
- Iran is ramping up its nuclear program.
- Afghanistan is being led by the Taliban, an organization that is notorious for cruelty and aggression.

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

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# Connector Industry Forecast

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- Other Equipment

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

- Chapter 4 – European Connector Forecast
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- Chapter 7 – Asia Pacific Connector Forecast
- Chapter 8 – ROW Connector Forecast



## To Order *Connector Industry Forecast*



Research Report F-2021-02, *Connector Industry Forecast* 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 e-mail, or mail it to Bishop & Associates, Inc. To place your order on our website: <https://store.bishopinc.com/>.

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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-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) NEW**
- ❑ **Report P-799-21**      **World Cable Assembly Market (May 2021) NEW**
- ❑ **Report P-410-21**      **Computer Server Market Trends and Connector Use 2020 – 2030 (May 2021) NEW**
- ❑ **Report M-607-21**      **World Industrial Market for Connectors (April 2021)**
- ❑ **Report M-700-21**      **World Connector Market Handbook (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)**
- ❑ **Report P-780-20**      **World RF Coax Connector Market 2020 (June 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](https://Bishopinc.com), to prior issues of The Bishop Report, 30-40 yearly News Briefs, Industry Financial Benchmarks, and various connector industry indices.

[Click here](#) to view an expanded report description, and a complete table of contents, for all Bishop & Associates' research reports.

  
*Performance and Forecast of the World Connector Industry*  
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