

# Connector Industry Forecast

Research Report F-2013-02  
November 2013



# Connector Industry Forecast

Report No: F2013-02  
November 2013

Bishop & Associates publishes two connector forecasts each year. Each 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, ROW), an industry overview is included which provides current market trends, industry book-to-bill ratios, and 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

- Heavy Equipment
- Industrial Auto & Process Control
- Building & Civil Engineering
- Energy Markets
- Machine Tools, Machinery & Robotics
- Other Equipment

## Automotive

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

## Transportation (non-auto)

- Commercial Air
- Commercial Vehicles
- Rail
- Heavy Equipment
- Recreation
- Commercial Marine

## 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



2016  
2015  
2014  
2013  
2012

## Historical Sales Performance

Since 1980 the connector industry has experienced four growth business cycles, meaning consecutive years of increases in year-over-year sales. The average growth business cycle in the connector industry is five years. The longest (years without a decline in sales) is eight years (1993-2000).

The downturn of 2011/2012 has somewhat broken the industry mold. The period of growth lasted only 23 months before sales began declining in 4Q11. The downturn, which was over in October 2012, lasted only 12 months. The decline was only -2.6% which is the smallest measured since 1980.

The following chart displays the business cycles the industry has experience since 1980.

**Connector Industry Business Cycles  
Growth Cycles Highlighted**

Time Frame	Number of Years	CAGR During Time Frame
1980-1984	4	10.0%
1985	1	-2.5%
1986-1991	6	5.6%
1992	1	-2.2%
1993-2000	8	9.4%
2001-2002	2	-6.9%
2003-2008	6	9.7%
2009	1	-21.9%
2010-2011	2	6.6%
2012-2013	1	2.7%
<b>Totals</b>	<b>32</b>	<b>5.6%</b>

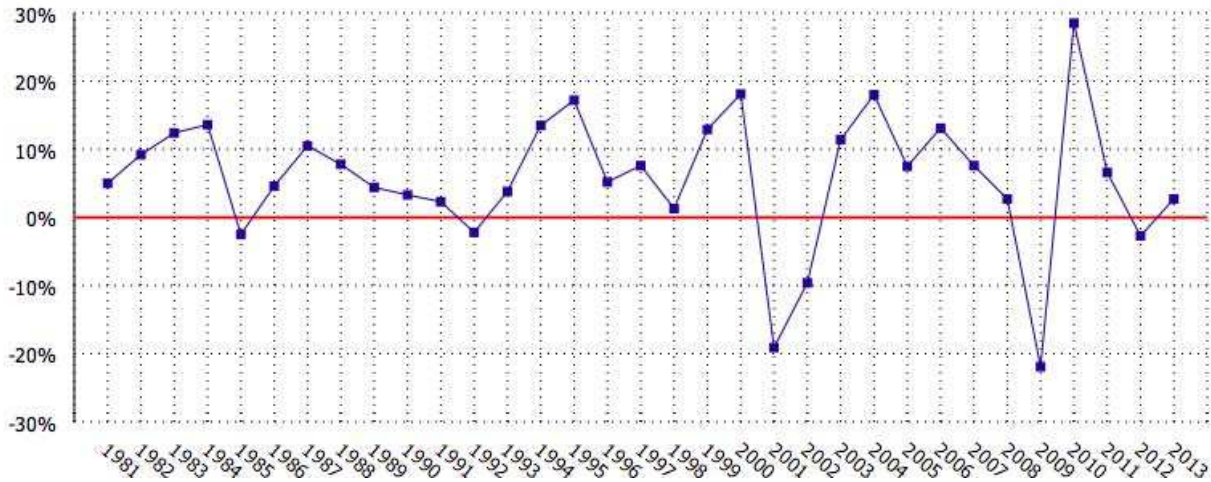
Since 1980, we have achieved twenty-six years of sales increases and six years of sales declines. The average growth cycle lasts five years with two years being the shortest growth cycle and eight years the longest. The industry's thirty-two year compound annual growth (CAGR) is +5.5%. Only once in thirty-two years have we had two consecutive years of sales declining.

In the three industry declines prior to 2001, the years of growth in between the downturns was four, six, and eight years. From the end of the 2001/2 downturn to the beginning of the 2008/9 downturn was 75 months (6.3 years). From the end of the 2008/9 downturn to the beginning of the 2011/12 downturn was 23 months (1.9 years). The decreasing cycle rate may be the result of the increasing inter-dependencies of the world's economies and our 24/7 processing of the news of all types.

# Connector Industry Forecast

The growth business cycles are clearly visible in the following graph.

**Historical Percentage Change in Connector Demand**



Historically we are at the beginning of a fifth growth business cycle that will last another five years on average. Although nothing is certain, it is likely that the next downturn is three or more years down the road, given no unforeseen regional or worldwide calamities. The economies of the world and their governments have gone (and are going) through a major fiscal correction, which should lead to relatively stable times where the growth rates will, in all likelihood, be more modest than they have been after past industry downturns.

Year-over-year sales growth in the next five years is expected to hit a high in 2018, with growth forecasted at +9.5%.

## 2014 Outlook

We are forecasting 2014 sales to grow +6.7%. This projection for moderate growth is in line with GDP growth projections by the IMF for the various regions of the world.

### 2014 Connector Forecast by Geographic Region With Percent Change

Region	2013	2014F	Percent Change
North America	\$X,XXX.X	\$XX,XXX.X	X.X%
Europe	\$XX,XXX.X	\$XX,XXX.X	X.X%
Japan	\$X,XXX.X	\$X,XXX.X	X.X%
China	\$XX,XXX.X	\$XX,XXX.X	X.X%
Asia-Pacific	\$X,XXX.X	\$X,XXX.X	X.X%
ROW	\$X,XXX.X	\$X,XXX.X	X.X%
<b>Total World</b>	<b>\$XX,XXX.X</b>	<b>\$XX,XXX.X</b>	<b>X.X%</b>

\$ Millions

There are some headwinds facing the industry in 2014.

- The economic malaise in Europe is improving, but not over. The austerity budgets in Europe to fix the deficit spending have generally slowed several economies and thrown others into shallow recessions. Although the European Union is working together to sort through the issues, it is uncertain how long it will take to re-establish healthy economic growth in the region.
- Although modest year-over-year GDP growth has been achieved in the United States for the last 15 quarters, it has not been sufficient to bring total unemployment down to pre-recession numbers and consumer confidence has been wavering. If federal budget battles, debt-ceiling battles and Obamacare battles drag out through the year, the economic growth will be impacted adversely. Economic growth can also be softened by the Federal Reserve edging out of their qualitative easing policy.
- China's GDP growth trend has been slowing for the last 14 quarters from 11.9% YOY to 7.8% YOY in 3Q13. Although they have recently shown signs of recovery, additional problems in Europe or the United States would further slow their growth rate.
- China's growth in their internal markets has been fueled by rising wages and easily available credit. The Chinese consumers may have taken on too much credit which could lead to reduced consumption if the cost of credit increases or the source of income is lost. Higher wages can make the Chinese less competitive in the worldwide market.
- Continued unrest in the Middle East could destabilize worldwide financial markets and economies.

## Connector Industry Forecast

There are some tailwinds that could help the connector industry in 2014:

- The housing market in the United States has continued to grow and housing prices continue to climb. This is always a good indication for growth in the connector industry.
- Although volatile, the financial markets worldwide have performed well in 2013. The Dow hit a record high of 16,000 in November. In the US, the rebound of the financial markets have returned many individuals' retirement funds to their pre-recession values making them more confident and more likely to spend money which will help spur economic growth.
- Consumer credit remains relatively inexpensive which should help keep consumer spending up in 2014.
- The automotive markets in North America, China and Asia Pacific continue to show strong sales performance. The European automotive market is expected to return to growth in 2014. Automotive sales are a key economic driver for many sectors of the world economy.
- The IMF is expecting worldwide GDP growth of 3.6% YOY in 2014 and continued growth through the forecast period to a level of 4.1% in 2018. (See the graph on the following page.)

The bottom line:

Industry sales growth in the range of +6.7% is a likely result for 2014 given the relatively easy comparison of the very modest growth in 2013. Growth significantly above this level is unlikely as the events needed to drive the higher growth would already need to have begun unfolding to significantly impact the coming year.

The only opening for a significant downside is the unforeseen event, either manmade or from nature, that could substantially disrupt the worldwide economy.

# Connector Industry Forecast

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

## Table of Contents

### Chapter 1 – Forecast Overview

- Overview
- Historical Sales Performance
- 2014 Outlook
- 2014 Connector Forecast by Region
- GDP Growth by Region (YOY)
- 2013 and 2014 Forecast by Equipment Sector
- Five-Year Outlook (2013-2018)
- Market Outlook and Comments
- Computers-Peripherals Sector
  - The Market
  - Focus on Servers Facing Multiple Paradigms
  - Focus on Mobile
  - 2012 through 2017 World Tablet, Smartphone, Laptop and Desktop Units
  - The Notebook Market
  - Notebook Connector Content Trends
  - 2013 World Computer and Peripheral Connector Forecast – Market Share by Region
- Business/Office Equipment Sector
  - Introduction
  - Mass-Merchant Office Equipment Products
  - Detailed List of Office Equipment
  - Market Diversity
  - Key Points in This Market
  - Connector Applications
  - Some Current Developments
  - Future
  - 2013 World Business/Office Equipment Connector Forecast - Market Share by Region
- Instrumentation Sector
  - Global Market Conditions
  - Market and Technology Trends
  - ATE/Semiconductor Test
  - Analytical and Scientific Instruments
  - Other Instruments
  - Regional View
  - North America
  - Europe
  - Japan
  - China
  - Asia Pacific
  - ROW
  - 2013 World Instrumentation Connector Forecast - Market Share by Region
- Medical Equipment Sector
  - Global Market Conditions
  - Diagnostic and Imaging Equipment
  - Therapeutic Equipment
  - Other Medical Equipment
  - Market and Technology Trends
  - Digital Health
  - Telehealth and “mHealth”
  - Miniaturization
  - Prosthetics
  - Nanotechnology and Biomedical Electronics
  - Emerging Markets
  - Medical Market Outlook
  - Regional View
  - North America
  - Europe

### Chapter 1 – Forecast Overview (cont.)

- Japan
- China
- Asia Pacific
- ROW
- 2013 World Medical Connector Forecast - Market Share by Region
- Industrial Equipment Sector
  - Market Definitions
  - Main Market Segments
  - Detailed Market Segments
  - World View
  - YoY Industrial Production Growth by Region 2010 - 2012
  - Industrial Production by Region 2012 - 2013
  - World Industrial Production 3 Months Average over Previous 3 Months 2000 – 2013
  - World Industrial Production 3 Months Average over Same 3 Months Previous Year 2001 – 2013
  - GDP Growth and Forecast by Country-Region 2013-2018F
  - Industrial Sales Top 3 Connector Manufacturers
  - Industrial Sales Top 3 Connector Manufacturers 2Q2013
  - Regional View
  - North America
  - US Industrial Production Growth % Year over Year 2011 – 2013
  - Europe
  - Euro Zone Industrial Production Growth % Year over Year 2011 – 2013
  - Industrial Market for Connectors by Region – 2011 and 2012
  - Machine Tools Orders and Shipments Germany 2005 – September 2014F
- Japan
  - Monthly Machine Tools Orders Japan 2012-2013 – Year-on-Year Comparison
  - Japanese Industrial Production Growth % Year-over-Year 2011 – 2013
- China
  - Industrial Market for Connectors 2018
  - Chinese Industrial Production Growth % Year-over-Year 2011 – 2013
- Asia Pacific
  - GDP Growth and Forecast India 2009 – 2018F
- ROW
  - Industrial Market for Connectors – Market Outlook 2013-2018
  - 2013-2018 CAGR by Region for the Industrial Market for Connectors
  - 2013 World Industrial Connector Forecast - Market Share by Region
- Automotive Sector
  - World Automotive Connector Market
  - 2013 Total World Automotive Connector Sales versus All Other Connector Sales
  - 2018 Total World Automotive Connector Sales versus All Other Connector Sales
  - Automotive Connector Sales by Region
  - 2013 and 2018 Automotive Connector Sales by Region
  - Automotive Connector Sales by Vehicle Electrical System
  - Summary and Comments
  - 2013 World Automotive Connector Forecast - Market Share by Region

# Connector Industry Forecast

## Chapter 1 – Forecast Overview (cont.)

- Transportation – Non Automotive Sector
  - Commercial Aviation
  - Rail
  - Commercial Vehicles
  - Industrial Vehicles
  - 2013 World Transportation – Non Automotive Connector Forecast - Market Share by Region
- Military/Aerospace Sector
  - Global Market Conditions
  - Market Outlook
  - Regional View
    - North America
    - Europe
    - Japan
    - China
    - Asia-Pacific
    - ROW
  - 2013 World Military/Aerospace Connector Forecast - Market Share by Region
- Telecom Equipment Sector
  - World View
  - Telecom/Datacom Connector Sales 2013 – 2018
  - Internet Users
  - The Mobile Network
  - Data Centers
  - Summary of the Telecom Connector Market
  - Technology and Market Trends
  - Telecom/Datacom Connector Sales by Equipment Category 2012 to 2017 Comparison
  - Regional View
  - Telecom/Datacom Connector Sales by Region of the World 2012 to 2017 Comparison
    - North America
    - Europe
    - Japan
    - China
    - Asia Pacific
    - ROW
  - 2013 World Telecom/Datacom Connector Forecast - Market Share by Region
- Consumer Electronics Sector
  - Market Performance
  - Insourcing of CE Products
  - CE Industry Review
  - Summary
  - 2013 World Consumer Connector Forecast - Market Share by Region

## Chapter 2 – World Connector Forecast

- World Connector Forecast
- World Connector Market Forecast – Year-to-Year Dollar Change
- World Connector Market Forecast – Year-to-Year Percent Change
- World Connector Market Forecast by Region
- Year-to-Year Change by Region
- Top Six End-Use Equipment Categories
- World End-Use Equipment Forecast - Summary
- 2012-2013 Percent Change & Five-Year CAGR
- 2013 & 2018 Market Share by Equipment Sector
- World End-Use Equipment Forecast - Detail
  - Computers & Peripherals
    - Mobile Computers
    - Desktops
    - Servers
    - Storage Equipment
    - Input/Output Equipment

## Chapter 2 – World Connector Forecast (cont.)

- Communication LAN Devices
- Other Computer Equipment
- Business/Office Equipment
  - Retail/POS Equipment
  - Imaging Systems
  - Other Office Equipment
- Instrumentation
  - Automatic Test Equipment
  - Analytical & Scientific Instruments
  - Other Instruments
- Medical
  - Diagnostic & Imaging Equipment
  - Therapeutic Equipment
  - Other Medical Equipment
- Industrial
  - Heavy Equipment
  - Industrial Automation & Process Control
  - Building & Civil Engineering
  - Energy Markets
  - Machine Tools, Machinery & Robotics
  - Other Equipment
- Automotive
  - Body Wiring & Power Distribution
  - Powertrain
  - Comfort, Convenience & Entertainment
  - Navigation & Instrumentation
  - Safety & Security
- Transportation
  - Commercial Air
  - Commercial Vehicles
  - Rail
  - Heavy Equipment
  - Recreation
  - Commercial Marine
- 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
- World End-Use Equipment Forecast by Region
  - Computers & Peripherals
  - Business/Retail/Education Equipment
  - Instrumentation Equipment
  - Medical Equipment
  - Industrial Equipment
  - Automotive
  - Transportation Equipment
  - Military/Aerospace Equipment
  - Telecom/Datacom Equipment
  - Consumer Equipment
  - Other Equipment



# Connector Industry Forecast

## Chapter 3 – North American Connector Forecast

North American Connector Market Forecast – Year-to-Year Dollar Change  
North American Connector Market Forecast – Year-to-Year Percent Change  
Top Six End-Use Equipment Categories  
North American End-Use Equipment Forecast - Summary  
2012-2013 Percent Change & 2012-2017 Five-Year CAGR  
2013 & 2018 Market Share by Equipment Sector  
North American End-Use Equipment Forecast - Detail

- 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 Office Equipment
- Instrumentation
  - Automatic Test Equipment
  - Analytical & Scientific Instruments
  - Other Instruments
- Medical
  - Diagnostic & Imaging Equipment
  - Therapeutic Equipment
  - Other Medical Equipment
- Industrial
  - Heavy Equipment
  - Industrial Automation & Process Control
  - Building & Civil Engineering
  - Energy Markets
  - Machine Tools, Machinery & Robotics
  - Other Equipment

## Chapter 3 – North American Connector Forecast (cont.)

- Automotive
  - Body Wiring & Power Distribution
  - Powertrain
  - Comfort, Convenience & Entertainment
  - Navigation & Instrumentation
  - Safety & Security
- Transportation
  - Commercial Air
  - Commercial Vehicles
  - Rail
  - Heavy Equipment
  - Recreation
  - Commercial Marine
- 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**



## 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 <http://store.bishopinc.com>.

- **Report F-2013-02**      **Connector Industry Forecast (November 2013) NEW**
- **Report F-2013-02**      **Heavy Equipment Market for Connectors (November 2013) NEW**
- **Report F-2013-02**      **North American Cable Assembly Market (October 2013) NEW**
- **Report P-980-13**      **Mobile Backhaul Network Technologies and Connectivity Market (October 2013) NEW**
- **Report P-610-13**      **World Market for Terminal Blocks (September 2013) NEW**
- **Report C-122-13**      **2013 Connector Industry Yearbook (September 2013) NEW**
- **Report P-799-13**      **2013 World Cable Assembly Market (August 2013) NEW**
- **Report M-121-13**      **2013 Top 100 Connector Manufacturers (July 2013)**
- **Report C-303-13**      **2013 European Customer Survey of the Electronic Connector Industry (July 2013)**
- **Report P-881-13**      **Evolving High-Speed Backplane Connectors (June 2013)**
- **Report M-1501-13**      **Medical Electronics Market for Connectors (May 2013)**
- **Report M-700-13**      **Connector Market Handbook (April 2013)**
- **Report D-200-13**      **The North American Distributor Market for Connectors (April 2013)**
- **Report M-4100-13**      **Commercial Aviation Market for Connectors (March 2013)**
- **Report M-850-13**      **Mobile and Desktop Computing Market Analysis and Forecast: 2010-2020 (February 2013)**

### ***THE BISHOP REPORT - CONNECTOR INDUSTRY YEARBOOK***

An annual subscription to [THE BISHOP REPORT](#) (12 issues) is available for \$950. As part of your Bishop Report subscription, you have admission to BishopReport.com, a website that provides quick access to prior issues of The Bishop Report, News Briefs, connector industry news, the connector industry forecast, and various industry statistics.

The [CONNECTOR INDUSTRY YEARBOOK](#) is available for \$1,250. However, Bishop & Associates offers a special combined price of \$1,450 for [THE BISHOP REPORT](#) and the [CONNECTOR INDUSTRY YEARBOOK](#) (an annual savings of \$750).

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



**Bishop & Associates Inc.**

1209 Fox Glen Drive • St. Charles, IL 60174

Phone: 630.443.2702 • Fax: 630.443.2704 •

[bishop@bishopinc.com](mailto:bishop@bishopinc.com) • [www.ConnectorIndustry.com](http://www.ConnectorIndustry.com) • Online Ordering: <http://store.bishopinc.com>