Bishop and Associates, Inc. has just released a new eleven-chapter, 250-page research report providing an analysis of the expanding role and market for high-speed traditional, midplane, orthogonal, cable, ruggedized, and fiber optic backplane connectors designed to perform in the 6 to 50+ Gb/s arena. The report reviews the basic technology underlying high-speed backplane connectors and outlines current and anticipated applications that demand them. Detailed analysis compares performance of high-speed backplane connectors from leading suppliers, as well as the challenges designers face in predicting connector performance in very specific applications.

Emphasis is placed on identifying significant advances in interconnect technology, system design and designer expectations that have occurred over the past four years.

A variety of factors associated with high-speed channels have a major influence on their behavior. Sections are devoted to reviewing related system elements including driver and receiver technology, printed circuit board materials and design, as well as channel modeling, design support, second sourcing imperatives, and performance measurement systems.

A statistical analysis by region of the world provides a breakdown by high-speed backplane type for the years 2016 through 2022F.

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<td>Traditional</td>
<td>$656.8</td>
<td>$691.8</td>
<td>5.3%</td>
<td>$731.6</td>
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<td>$735.0</td>
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<td>2017F</td>
<td>$763.6</td>
<td>3.9%</td>
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<td>Orthogonal</td>
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<td>2018F</td>
<td>$158.8</td>
<td>18.1%</td>
<td>$183.3</td>
<td>15.5%</td>
<td>$189.9</td>
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<td>Ruggedized</td>
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<td>2019F</td>
<td>$44.4</td>
<td>18.2%</td>
<td>$54.0</td>
<td>21.8%</td>
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<td>Cable</td>
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<td></td>
<td>2020F</td>
<td>$56.4</td>
<td>42.1%</td>
<td>$77.1</td>
<td>36.5%</td>
<td>$96.4</td>
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<td>Fiber Optic</td>
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<td></td>
<td></td>
<td>2021F</td>
<td>$7.3</td>
<td>52.3%</td>
<td>$14.9</td>
<td>105.0%</td>
<td>$28.7</td>
<td>92.1%</td>
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<tr>
<td>Midplane</td>
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<td></td>
<td></td>
<td>2022F</td>
<td>$9.3</td>
<td>105.0%</td>
<td>$19.9</td>
<td>110.4%</td>
<td>$39.0</td>
<td>101.0%</td>
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<tr>
<td><strong>Total High-Speed Backplane</strong></td>
<td>$878.0</td>
<td>$940.7</td>
<td>7.1%</td>
<td>$1,015.1</td>
<td>7.9%</td>
<td>$1,054.5</td>
<td>3.9%</td>
<td>2017 - 2022</td>
<td>$1,126.4</td>
<td>6.8%</td>
<td>$1,173.2</td>
<td>4.2%</td>
<td>$1,186.9</td>
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*Note: Orthogonal Includes Orthogonal Direct*
Evolving High-Speed Backplane Connectors

Since our 2013 report on high-speed backplanes was published, application opportunities such as the dawn of the Internet-of-Things, and Industry 4.0 continue to stimulate demand for access to increased network capacity and speed. Improved pluggable I/O interfaces have enabled transfer of multi-terabit levels of throughput from a 1U chassis, thereby eliminating that data bottleneck. Broad adoption of PAM4 signaling is allowing system designers to remain in their comfort zone by allowing the use of existing connectors while essentially doubling system data rates. The last four years have seen the ranks of the top four high-speed backplane connectors shift as industry consolidation and cross-licensing of second sources altered the mix of key players.
The following table of contents shows the detail provided in this new report.

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- Introduction to System Packaging

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  - VHDM H Series
  - VHDM RAM
  - e-HSD
  - GbX
  - GbX E / U Series
  - Ventura
  - Crossbow
  - XCede HD / LC / Orthogonal
  - Paladin / VIPER
  - SMASH

**Chapter 7 Overview of Current High-Speed Backplane Connectors (continued)**
- ERNI Components
  - ERmet Zd
  - ERmet Zd Plus / Zd Pro

- FCI Electronics
  - AirMax VS
  - AirMax VSe / VS2
  - ZipLine
  - ExaMAX

- Molex
  - GbX I–Trac
  - Impact
  - Impact zX2 / Impel / Impel Plus
  - Impulse Orthogonal Direct

- TE Connectivity
  - HS3
  - Z-PACK HM-Zd
  - Z-PACK HM-Zd Plus
  - Z-PACK HMZd+ / TinMan
  - Z Pack Slim UHD
  - STRADA Whisper
  - MultiGig RT-2R

- 3M Electronic Solutions Division
  - Ultra Hard Metric Connector

- Samtec
  - AirMax / XCede/ ExaMAX / Paladin

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- High-Speed Backplane Connector Usage by Type 2017F and 2022F
- High-Speed Backplane Connector CAGR and Sales $ by type
- High-Speed Backplane Connector Sales by Region 2016 through 2022F
Chapter 10 Market Analysis and Forecasts (continued)

High-Speed Backplane Connector Sales by Region 2017F and 2022F
High-Speed Backplane Connector Sales by Region 2016-2022F

North America
High-Speed Backplane Connector Sales and Forecast by Type 2016 through 2022F
High-Speed Backplane Connector Usage by Type 2017F and 2022F
High-Speed Backplane Connector CAGR and Sales $ by type 2017F-2022F

Europe
High-Speed Backplane Connector Sales and Forecast by Type 2016 through 2022F
High-Speed Backplane Connector Usage by Type 2017F and 2022F
High-Speed Backplane Connector CAGR and Sales $ by type

Japan
High-Speed Backplane Connector Sales and Forecast by Type 2016 through 2022F
High-Speed Backplane Connector Usage by Type 2017F and 2022F
High-Speed Backplane Connector CAGR and Sales $ by type

China
High-Speed Backplane Connector Sales and Forecast by Type 2016 through 2022F
High-Speed Backplane Connector Usage by Type 2017F and 2022F
High-Speed Backplane Connector CAGR and Sales $ by type

Asia Pacific
High-Speed Backplane Connector Sales and Forecast by Type 2016 through 2022F
High-Speed Backplane Connector Usage by Type 2017F and 2022F
High-Speed Backplane Connector CAGR and Sales $ by type

ROW
High-Speed Backplane Connector Sales and Forecast by Type 2016 through 2022F
High-Speed Backplane Connector Usage by Type 2017F and 2022F
High-Speed Backplane Connector CAGR and Sales $ by type

Chapter 11 Major Findings and Conclusions

General Observations
Backplane Connectors
Midplane and Orthogonal Midplane Connectors
Ruggedized and Cable Backplane Connectors
Fiber Optic Backplanes
To Order Evolving High-Speed Backplane Connectors

Research Report P-881-17, *Evolving High-Speed Backplane Connectors* is available for $4,500. Additional print copies of this report are available for $450. If you would like additional information about this report, or would like to place an order, please complete the following information and e-mail, fax or mail it to Bishop & Associates, Inc. To place your order on our website: [http://store.bishopinc.com/](http://store.bishopinc.com/).

Fax No. 630-443-2704

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**Evolving High-Speed Backplane Connectors**

- [ ] Print Copy @ $4,500
- [ ] Print Copy + 1 Additional Print Copy @ $4,950
- [ ] Print Copy + CD (Multi-User Corporate License) @ $5,850

- [ ] Invoice Me
- [ ] Check Enclosed
- [ ] Visa
- [ ] Master Card
- [ ] American Express

Additional $85.00 for International Airmail
Illinois Customers Add 8.0% Sales Tax

Credit Card No. _______ _______ _______ _______

Expiration Date [ ] [ ]
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Bishop & associates, inc.
Performance and Forecast of the World Connector Industry

1209 Fox Glen Drive
St. Charles, IL 60174
Phone: 630/443-2702 Fax: 630/443-2704
E-mail: bishop@bishopinc.com
Website: [www.connectorindustry.com](http://www.connectorindustry.com) - Online Store: [http://store.bishopinc.com/](http://store.bishopinc.com/)

For Questions in Europe:
Mr. Arthur Visser
Bishop & Associates, Inc.
Phone: (32) 2.660.3696 Fax: (32) 2.675.8374
Email Arthur Visser
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 P-881-17  Evolving High-Speed Backplane Connectors (November 2017) NEW
- Report P-940-17  World Market for Connectors Used in Mobile Network Infrastructure Equipment – 2017 to 2022 (October 2017) NEW
- Report M-121-17  2017 Top 100 Connector Manufacturers (August 2017) NEW
- Report C-122-17  2017 Connector Industry Yearbook (July 2017) NEW
- Report F-2017-01  Connector Industry Forecast (June 2017)
- Report P-910-17  The High-Speed Data Communications and Connectivity Market – 2017 and Beyond (June 2017)
- Report P-799-17  2017 World Cable Assembly Market (April 2017)
- Report M-700-17  World Connector Market Handbook (March 2017)
- Report M-617-17  Digital Transformation – Industrial IoT and the Connector Market – Industrial IoT as the Driver of Connectivity – Smart Factory – Smart Grid – Smart City (February 2017)
- Report T-800-17  2017 North American Cable Assembly Manufacturers (February 2017)
- Report M-1501-17 Medical Electronics Market for Connectors (January 2017)
- Report P-780-16  World RF Coax Connector Market (November 2016)
- Report P-620-16  The World Market for Terminal Blocks (October 2016)

THE BISHOP REPORT - CONNECTOR INDUSTRY YEARBOOK

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The CONNECTOR INDUSTRY YEARBOOK is available for $1,500. However, Bishop & Associates offers a special combined price of $1,750 for THE BISHOP REPORT and the CONNECTOR INDUSTRY YEARBOOK (an annual savings of $900).

Click here to view an expanded report description, and a complete table of contents, for all Bishop & Associates’ research reports.