



**The European Connector
Industry 2007-2012**

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Contents

1 Introduction & Executive Summary	7
2 Connector Market Overview	13
2.1 Economic Overview	13
2.2 European Electronics Industry Overview	14
2.2.1 Introduction	14
2.2.2 Western Europe	14
2.2.3 Central Europe	15
2.2.4 Electronic Manufacturing Services	16
2.3 Mergers and Acquisitions	18
2.3.1 Amphenol	18
2.3.2 Belden	19
2.3.3 Deutsch	19
2.3.4 Emerson Network Power	19
2.3.5 FCI	19
2.3.6 Molex	20
2.3.7 Radiall	20
2.3.8 Souriau	20
2.4 Connector Market Data	20
2.4.1 Introduction	20
2.4.2 Market by Product	22
2.4.2.1 Circular Connectors	22
2.4.2.2 Rectangular Connectors	23
2.4.2.3 PCB Connectors	24
2.4.2.4 IDC Connectors	25
2.4.2.5 Coaxial Connectors	26
2.4.2.6 Fibre Optic Connectors	27
2.4.2.7 Automotive Connectors	29
2.4.2.8 Other Connectors	30
2.4.3 Connector Market Tables	31
3 The Top 25 European Connector Suppliers	37
4 Company Profiles	38
4.1 3M	38
4.2 Amphenol	38
4.3 Belden	39
4.4 Conec	40
4.5 Delphi Connection Systems	40
4.6 Deutsch	41
4.7 Erni	41
4.8 FCI	42
4.9 Glenair	42
4.10 HARTING	43
4.11 Hirose	44
4.12 Huber + Suhner	44
4.13 ITT Cannon	45
4.14 JST Europe	46
4.15 Kostal	47
4.16 Lear	47
4.17 Lemo	48

4.18 Lumberg	48
4.19 Molex	49
4.20 ODU Steckverbindingssysteme	50
4.21 Radiall	50
4.22 Rosenberger	51
4.23 Smiths (Hypertac)	52
4.24 Souriau	53
4.25 Tyco Electronics	53
4.26 Wieland Electric/Stocko Contact	55
4.27 Far Eastern Connector Suppliers	55
5 Major European Connector Manufacturers	57
6 Appendix	92
6.1 Exchange Rates Against the US Dollar	92

List of Tables

Table 1.1 European Connector Market by Application in 2007	8
Table 1.2 European Connector Market by Region 2007-2012	8
Table 1.3 European Connector Market by Product 2007-2012	10
Table 2.1 Breakdown of Global Electronics Production 1995-2008	14
Table 2.2 West European Electronics Equipment Production by Country 1995-2008	15
Table 2.3 West European Electronics Equipment Production by Product 1995-2008	15
Table 2.4 CEE Electronics Equipment Production by Country 1995-2008	16
Table 2.5 CEE Electronics Equipment Production by Product 1995-2008	16
Table 2.6 EMS Revenues for Western Europe and CEE 2005-2011	17
Table 2.7 The Top 20 European EMS Providers 2007	18
Table 2.8 European Connector Market by Application in 2007	21
Table 2.9 European Connector Market by Region 2007-2012	31
Table 2.10 German Connector Market 2007-2012	31
Table 2.11 French Connector Market 2007-2012	31
Table 2.12 UK Connector Market 2007-2012	32
Table 2.13 Italian Connector Market 2007-2012	32
Table 2.14 Nordic Countries Connector Market 2007-2012	32
Table 2.15 Benelux Connector Market 2007-2012	33
Table 2.16 Rest of Western Europe Connector Market 2007-2012	33
Table 2.17 Central & Eastern Europe Connector Market 2007-2012	33
Table 2.18 European Connector Market by Product 2007-2012	34
Table 2.19 European Circular Connector Market 2007-2012	34
Table 2.20 European Rectangular Connector Market 2007-2012	34
Table 2.21 European PCB Connector Market 2007-2012	35
Table 2.22 European IDC Connector Market 2007-2012	35
Table 2.23 European Coaxial Connector Market 2007-2012	35
Table 2.24 European Fibre Optic Connector Market 2007-2012	36
Table 2.25 European Automotive Connector Market 2007-2012	36
Table 2.26 European Market for Other Connectors 2007-2012	36
Table 3.1 Estimated European Connector Sales – 2007	37

List of Figures

Figure 1.1 Compound Annual Growth Rates by Product/Region 2007-2012	9
Figure 1.2 European Connector Market by Region 2007	9
Figure 1.3 European Connector Market by Product 2007	10
Figure 2.1 EMS Revenues for Western Europe and CEE 2005-2011	17
Figure 2.2 The European Circular Connector Market 2007	22
Figure 2.3 The European Rectangular Connector Market 2007	23
Figure 2.4 The European PCB Connector Market 2007	24
Figure 2.5 The European IDC Connector Market 2007	26
Figure 2.6 The European Coaxial Connector Market 2007	26
Figure 2.7 The European Fibre Optic Connector Market 2007	28
Figure 2.8 The European Automotive Connector Market 2007	29
Figure 2.9 The European Other Connector Market 2007	30

1 Introduction & Executive Summary

1.1 Introduction

Interconnection is a technology of great complexity and can range from the connection of a lead to a circuit, through the interconnection of electronic circuit boards or sub-assemblies to equipment-to-equipment connections.

In this report we deal with devices that interconnect circuit boards, sub-assemblies and equipment and have excluded lead-to-circuit connection devices, mains plugs and sockets, fuse carriers and those relating to the assembly of components onto printed circuit boards. Connectors covered are generally professional connectors relating to electronics, including applications such as automotive electronics and electronic controls in domestic appliances. Connectors associated with the electrical industry are excluded from this report.

The European Connector Industry report has been researched by personal interviews with key manufacturers, telephone interviews with other manufacturers, literature searches and desk research of trade and production statistics.

Section 2.1 of the report is an overview of the European economy. Section 2.2 provides an overview of the Western European Electronics Industry. Section 2.3 provides an update on recent mergers and acquisitions and Section 2.4 provides estimates of the connector market, with forecasts to 2012, by geographical area and connector type. The section also provides key market trends for each of the connector types covered within the report. For this report we have split the market by the following products:

- Circular connectors.
- Rectangular connectors.
- PCB connectors.
- IDC connectors.
- Coaxial connectors.
- Fibre optic connectors.
- Automotive connectors.
- Other connectors.

For each connector type market data is provided for the following countries/regions:

- Germany.
- France.
- UK.
- Italy.
- Nordic Countries.
- Benelux.
- Rest of Western Europe.
- Central and Eastern Europe.

The market figures are based on constant 2007 exchange rates.

Section 3 provides a ranking of the leading European suppliers of connector system sales for 2007.

Section 4 provides profiles for the top 25 suppliers of connector systems in Europe. Each profile provides an overview of the company, an outline of the company's European locations, recent corporate developments and the latest financial information.

SAMPLE PAGES

Section 5 provides a listing of the major connector companies with production facilities or significant operations in Europe. The aim is to provide not only contact details for the companies profiled in Section 4 but also additional information on the remaining smaller and medium sized companies serving the European market.

1.2 Executive Summary

The European Connector market in 2007 is estimated to have been worth over Euro 6.6 billion, with the Central and Eastern European countries accounting for around 16%. The Automotive connector market accounts for the largest sector with 31% of total connector sales.

Table 2.8 European Connector Market by Application in 2007

%	2007
Automotive	
Computers & peripherals	
Industrial & others	
Telecom/Datacom	
Military/Aerospace	
Consumer	
TOTAL	

The total connector market in Europe is forecast to increase at an annual average rate of 3.2% to Euro 7.8 billion by 2012, driven by the growth in Central and Eastern Europe, which will show average annual growth of 8.4%, whilst the Western European countries will only grow at an annual average rate of 2.1%. As a result the Central and Eastern European countries will account for over 20% of European sales by the end of the forecast period.

Table 1.2 European Connector Market by Region 2007-2012

Euro Millions	2007	2008	2009	2010	2012
Germany					
France					
UK					
Italy					
Nordic Countries					
Benelux					
Rest of West Europe*					
Central & East Europe†					
TOTAL					

Note: Based on constant 2007 exchange rates

** Includes Austria, Ireland, Portugal, Spain and Switzerland*

† Includes Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Lithuania, Poland, Romania, Russia, Slovakia, Slovenia and Ukraine.

rectangular connectors in CEE will benefit not only from the production of PCs and other computer products in the region but also the recent investment in flat panel TV manufacturing in the region.

2.4.2.3 PCB Connectors

Printed circuit board connectors, both one-piece and two-piece, are utilized to interconnect PCBs board-to-board or wire-to-board.

Trends

The DIN system has been widely used throughout the world, with a number of bus architecture using the system, including VMEbus, VMXbus, VSbus, Multibus II, Futurebus+, STEbus and Eurocard Microbus.

DIN connectors are made in a variety of sizes. Mixed versions are also made, which it is possible to combine coaxial, fibre optic or other contacts in the same housing, with the standard pin contacts.

Press fit contacts have taken over from solder pin types as they avoid the thermal shock on the backplanes. These press fit pins can be subdivided into solid and compliant designs.

The market for DIN 41612 is in decline with hard metric systems is taking an increasing share of the market.

In the area of high-density backplane interconnection systems the 2 mm hard metric system has been widely adopted in many networking and communication products and is now offered by all major PCB connector suppliers. The 2 mm pitch system has also taken a dominant position against its 2.5 mm rival.

Connector manufacturers have developed connector systems that are based on a modular approach that permits a high degree of customisation, while utilizing standardized building blocks. Users may mix and match connector modules that are optimised for low-speed, high-speed, and power circuits within one assembly.

Higher speeds and miniaturization has increased the demand for even smaller pitch connectors, led by 1.27mm, 1.0mm, 0.8mm, 0.5mm, 0.4mm and 0.3mm, aimed at PDAs, laptop computers and consumer electronics.

Although the first generation of products based on the Advanced Telecom Computing Architecture (ATCA) standard failed to generate the expected revenues there is growing optimism that the second generation of ATCA, MicroTCA and Advanced Mezzanine Card (AMC) products entering the market will fulfil the promise. Volume production is expected to start to ramp up in 2009 and show strong growth through to 2012 when demands for improved performance and capacity will see the introduction of third generation systems.

Leading suppliers

The leading PCB connector suppliers in Europe include:

- 3M
- Amphenol
- AVX/Elco
- Erni
- Ept
- FCI
- Harting
- ITT Cannon
- JST
- Molex
- Tyco Electronics

Manufacturing subsidiaries in Europe include:

- Amphenol Ltd, UK. The company has a manufacturing plant located in Whitstable, Kent (military, avionic and harsh environment connectors, filter/EMP products, fibre optics, cable assemblies and hermetic products) and an engineering centre in Nottingham. Plants in Port Glasgow and Nottingham were closed in 2001 and 2005, respectively. The Amphenol Ltd facility at Romsey, Hampshire, is part of the US-based Spectra-Strip Division and manufactures flat cable assemblies.
- Amphenol-Socapex has a 31,000 sq m plant at Thyez, in the Haute Savoie region of France and the main sales office is located in Courbevoie, near Paris.
- Amphenol-Tuchel Electronics based at Heilbronn, in Germany, has additional facilities at Cesky Brod in the Czech Republic and China.
- Amphenol AIR LB has facilities at Saarlois in Germany and Carignon in France.
- Amphenol ConneXus is a leading provider of cable assemblies the company having European locations in Stockholm, Sweden and Tallinn, Estonia.

In the first quarter of 2008, Amphenol announced the acquisition of a French manufacturer of value added interconnect and electronic packaging solutions for the aerospace market, with annual sales of around US\$28 million.

In 2007, Amphenol reported worldwide sales of US\$2,851 million of which interconnect products and assemblies accounted for US\$2,569 million and cable products US\$282 million. In Europe the company had estimated sales of Euro 412 million in 2007.

4.3 Belden

Belden, which was formed in July 2004 through the merger of Belden Inc and Cable Design Technologies Corporation, is one of the largest US-based manufacturers of high-speed electronic cables. During 2007, the company entered the European connector market through two major acquisitions.

In March, Belden acquired Hirschmann Automation & Control GmbH (HAC) in a deal valued at US\$260 million. With headquarters in Neckartenzlingen, the company has production facilities in Neckartenzlingen and Ettlingen, Germany and three manufacturing joint ventures in China.

HAC is a leading supplier of Industrial Ethernet solutions and industrial connectivity with 2006 revenues of approximately US\$250 million. In addition to its Industrial Ethernet and connectivity product lines, HAC has a leading position in electronic control and safety systems for cranes and other load-bearing equipment. HAC employs 750 people.

In April, the company acquired Lumberg Automation Components, headquartered in Schalksmuhle, Germany, from the Lumberg Group. Lumberg Automation was a leading supplier of industrial connectors, high performance cord-sets and field bus communication components for factory automation machinery. The company's reported 2006 revenues of approximately US\$75 million and employed around 300 people.

Belden has now grouped its subsidiaries Belden Europe (Venlo, Netherlands) and HEW-kabel (Wipperfürth, Germany) with Hirschmann Automation & Control and Lumberg Automation to form the new Belden EMEA business unit. Business activities are carried out by five divisions: Cable Infrastructure; Cable Specialty; Industrial Networking; Electronic Control Systems; and Industrial Connecting Solutions, which has been formed by merging Lumberg Automation and Hirschmann's connector division.

In 2007, Belden reported revenues of US\$2,032.8 million up from US\$1,495.8 million in the prior year. Belden EMEA reported revenues of US\$641.0 million and an operating profit of US\$48.3 million in 2007 and compared

4 MAJOR EUROPEAN CONNECTOR MANUFACTURERS

The following section provides a listing of the major connector companies with production facilities or significant operations in Europe. The aim is to provide not only contact details for the companies profiled in Section 4 but also additional information on the remaining smaller and medium sized companies serving the European market.

Company: **2E MECHATRONIC GMBH & CO KG**

Address: Borsigstr 26, D-73249 Wernau, Germany

Tel: +49 7153 3049 0

Fax: +49 7153 3049 70

Web Site: www.2e-mechatronic.de

Parent Company: Narr Group/Kirchheim GmbH

Employees: 60

Sales: Euro 10-15 million

Principal Connector Products: Rectangular - standard & miniature, sub-miniature, IDC; Printed circuit - DIN 41612, two part, IDC; Automotive connectors; Moulded Interconnect Devices (MID)

Company: **2E (UK) LTD**

Address: Technology Management Centre, White Moss Business Park, Skelmersdale, Lancashire WN8 9TN, UK

Tel: +44 1695 50300

Fax: +44 1695 50338

Web Site: www.2euk.com

Employees: 20

Sales: £2.5-5 million

Principal Connector Products: Connectors; Cable assemblies

Company: **3M UNITED KINGDOM PLC**

Address: 3M Centre, Cain Road, Bracknell, Berkshire RG12 8HT, UK

Tel: +44 8705 360036

Web Site: www.3m.com/interconnects

Parent Company: 3M Inc, St Paul, MN 55144-1000, USA

European Manufacturing Location: Stuttgart, Germany

Principal Connector Products: PCB connectors – single edge, two-part, backplane, board to board; IDC connectors; fibre optic connectors; Headers and sockets.

Company: **ABB ENTRELEC**

Address: 184 Rue Leon Blum, F-69100 Villeurbanne, France

Tel: +33 472 35 35 35

Fax: +33 472 33 79 54

Web Site: www.abb.fr/entrelec

Parent Company: ABB

Principal Connector Products: PCB connectors, Terminal blocks

Company: **AB CONNECTORS LTD**

Address: Abercynon, Mountain Ash, Rhondda Cynon Taff, Mid Glamorgan CF45 4SF, UK

Tel: +44 1443 740331

Fax: +44 1443 741676

Web Site: www.ttabconnectors.com

Parent Company: TT Electronics plc, Weybridge, Surrey KT13 9XB, UK

Principal Connector Products: Circular – standard and miniature

Company: **ADC KRONE**

Address: Beeskowdamm 3-11, D-14167 Berlin, Germany

Tel: +49 30 8453 0

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