

[CLICK TO VIEW](#)

[Table of Contents 2](#)

[List of Tables & Charts 3](#)

[Study Overview 4](#)

[Sample Text, Table
& Chart 5](#)

[Sample Profile, Table &
Forecast 6](#)

[Order Form 7](#)

[About Freedonia, Custom
Research, Related Studies,
Corporate Use License 8](#)



Silicones

US Industry Study with Forecasts for **2014 & 2019**

Study #2665 | July 2010 | \$4700 | 246 pages

www.freedoniagroup.com



The Freedonia Group

767 Beta Drive

Cleveland, OH • 44143-2326 • USA

Toll Free US Tel: 800.927.5900 or +1 440.684.9600

Fax: +1 440.646.0484

E-mail: info@freedoniagroup.com

Table of Contents

EXECUTIVE SUMMARY

MARKET ENVIRONMENT

General	4
Macroeconomic Overview.....	5
Consumer Spending Patterns.....	8
Demographic Trends	10
Manufacturing Outlook.....	13
Historical Market Trends.....	16
Technology	19
Basic Silicone Synthesis	20
Silicone Products.....	20
Environmental & Regulatory Trends...	23
Occupational Safety & Health Administration.....	23
Environmental Protection Agency...	24
Food & Drug Administration.....	25
Pricing Trends	26
Foreign Trade	28
International Activity	31

PRODUCTS

General	34
Fluids.....	37
Applications	40
Markets	43
Elastomers	46
Applications	50
Markets	52
Resins.....	56
Applications	57
Markets	59
Gels	63
Other Silicone Products.....	66

MARKETS

General	69
Industrial	71
Electronics	73
Industry Outlook	73
Silicone Demand.....	75
Machinery	78
Industry Outlook	79
Silicone Demand.....	81

Aerospace & Other Transportation ..	83
Industry Outlook	84
Silicone Demand.....	85
Motor Vehicles	88
Industry Overview.....	88
Silicone Demand.....	91
Other Industrial	94
Electrical/Power Generation	94
Plastic Processing.....	96
Textile Products.....	97
Oil & Gas.....	98
All Other	99
Consumer.....	100
Cosmetics & Toiletries	101
Industry Overview.....	102
Silicone Demand.....	104
Motor Vehicle Polishes	109
Other Consumer	110
Construction	113
Industry Outlook.....	113
Silicone Demand	116
Medical	118
Industry Outlook.....	119
Silicone Demand	121
Elastomeric Components.....	123
Adhesives.....	124
Implants	125
Other.....	127

APPLICATIONS

General	128
Vehicles & Binders	130
Adhesives, Sealants & Caulks.....	131
Paints & Coatings.....	133
Other	134
Elastomeric Components	135
Surfactants	137
Polishes.....	140
Lubricants & Greases	141
Conditioning Agents.....	144
Emollients.....	145
Defoamers.....	147
Other Applications	150

INDUSTRY STRUCTURE

General	153
Market Share	155
Mergers & Acquisitions.....	159
Marketing Strategies.....	161
Channels of Distribution.....	161
Technology & Manufacturing.....	163
Research & Development.....	164

COMPANY PROFILES

Allergan Incorporated.....	166
Ashland Incorporated	168
BASF SE.....	170
Bentec Medical.....	172
Caledonia Investments.....	174
Chase Corporation	177
China National Bluestar.....	179
Clariant International	182
Dow Chemical.....	184
Dow Corning	186
Evonik Industries	190
Gelest Incorporated.....	193
Hallmark Cards.....	195
Henkel AG.....	196
Johnson & Johnson.....	199
Kaneka Corporation	201
Kemira Oyj.....	202
Lion Copolymer.....	203
Momentive Performance Materials	204
MTI Global.....	208
NuSil Technology	210
Rhodia SA.....	213
Rogers Corporation.....	215
RPM International.....	217
Saint-Gobain	220
Sherwin-Williams	224
Shin-Etsu Chemical.....	227
Silchem Silicone Chemicals.....	231
SiliconeZone.....	234
Specialty Silicone Products.....	235
3M Company	237
Total SA.....	240
Wacker Chemie	243
Wausau Paper	246

List of Tables/Charts

EXECUTIVE SUMMARY

1 Summary Table..... 3

MARKET ENVIRONMENT

1 Macroeconomic Indicators..... 8
 2 Personal Consumption Expenditures..... 10
 3 Population & Households..... 13
 4 Manufacturers' Shipments 16
 5 Silicone Market Trends, 1999-2009..... 18
 Cht Silicone Demand, 1999-2009 19
 6 Silicone Pricing 28
 7 Silicone Supply & Demand..... 30
 Cht Silicone Exports by Destination, 2009 30
 Cht Silicone Imports by Source, 2009 31
 Cht World Silicone Demand, 2009 33

PRODUCTS

1 Silicone Demand by Product 36
 Cht Silicone Demand by Product, 2009 37
 2 Silicone Fluid Demand 40
 3 Silicone Fluid Demand by Application..... 43
 4 Silicone Fluid Demand by Market. 45
 Cht Silicone Fluid Demand by Market, 2009 46
 5 Silicone Elastomer Demand 50
 6 Silicone Elastomer Demand by Application..... 52
 7 Silicone Elastomer Demand by Market 55
 Cht Silicone Elastomer Demand by Market, 2009 55
 8 Silicone Resin Demand 57
 9 Silicone Resin Demand by Application..... 59
 10 Silicone Resin Demand by Market 62

Cht Silicone Resin Demand by Market, 2009 62
 11 Silicone Gel Demand 65
 12 Other Silicone Product Demand by Type & Market..... 68

MARKETS

1 Silicone Demand by Market 70
 Cht Silicone Demand by Market, 1999-2019..... 71
 2 Industrial Markets for Silicones... 72
 Cht Industrial Markets for Silicones, 2009..... 73
 3 Electrical & Electronic Product Shipments..... 75
 4 Electronics Market for Silicones by Application..... 78
 5 Machinery Manufacturing Shipments 81
 6 Machinery Market for Silicones by Application..... 83
 7 Aerospace & Other Transportation Equipment Shipments..... 85
 8 Aerospace & Other Transportation Equipment Market for Silicones by Application..... 87
 9 Motor Vehicle Indicators..... 91
 10 Motor Vehicle Market for Silicones by Application..... 93
 11 Other Industrial Markets for Silicones..... 94
 12 Consumer Markets for Silicones..100
 Cht Consumer Markets for Silicones, 2009..... 101
 13 Cosmetics & Toiletries Supply & Demand 104
 14 Cosmetic & Toiletry Market for Silicones by Application.... 106
 15 Motor Vehicle Polish Market for Silicones..... 110

16 Other Consumer Markets for Silicones..... 112
 17 Construction Expenditures..... 116
 18 Construction Market for Silicones..... 118
 19 Medical Products & Equipment Demand 121
 20 Medical Product Market for Silicones..... 123

APPLICATIONS

1 Silicone Demand by Application . 129
 Cht Silicone Demand by Application, 2009 130
 2 Silicone Vehicle & Binder Demand by Application..... 131
 3 Silicone Elastomeric Component Demand by Application..... 137
 4 Silicone Surfactant Demand by Market 139
 5 Silicone Polish Demand by Market 141
 6 Silicone Lubricant & Grease Demand by Application..... 143
 7 Silicone Conditioning Agent Demand..... 145
 8 Silicone Emollient Demand 147
 9 Silicone Defoamer Demand by Market 150
 10 Other Silicone Applications Demand 152

INDUSTRY STRUCTURE

1 US Silicone Sales by Company, 2009 155
 Cht US Silicone Market Share by Company, 2009 156
 2 Selected Acquisitions & Divestitures 160

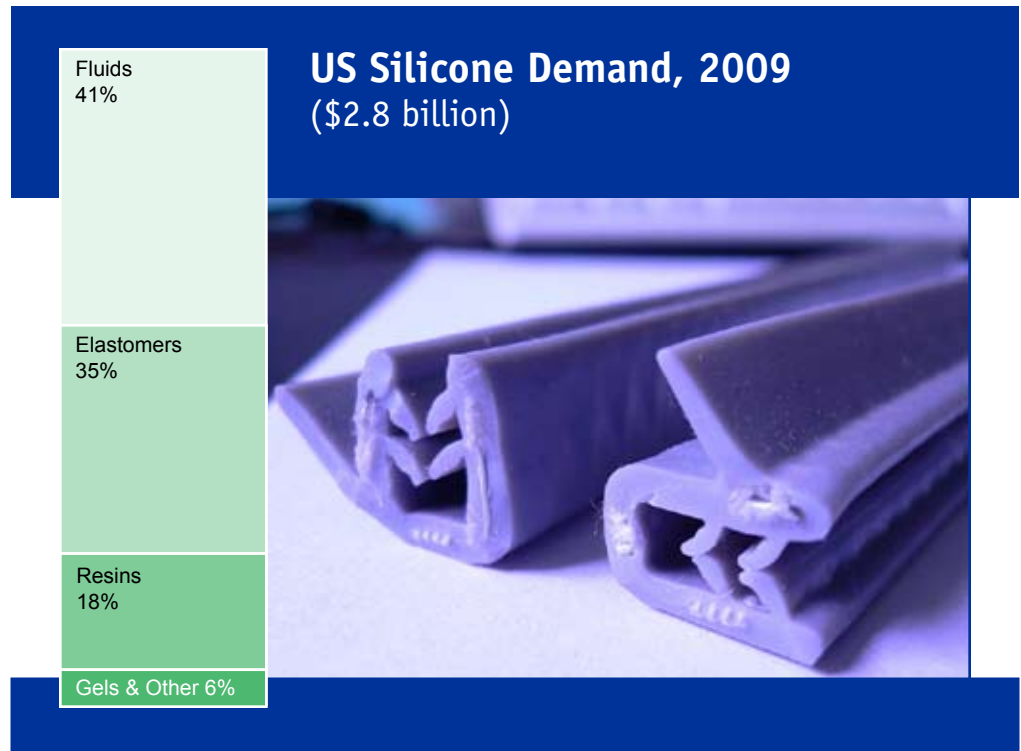
As silicones become an increasingly mature product, and competition with other materials intensifies, new products and technologies will become essential to grow the application base.

US demand to rise 5.3% annually through 2014

US demand for silicones is forecast to advance 5.3 percent per year to \$3.6 billion in 2014. Gains will represent a strong acceleration from the 2004-2009 period, fueled by a rebound in manufacturing activity and construction spending, which will rise from a 2009 base depressed by an economic recession. Consumer goods such as cosmetics and toiletries will remain a fast-growing market for silicones, as will medical products. However, more sluggish growth in areas such as automotive polishes and textile coatings will limit further gains in demand. As silicones become an increasingly mature product, and competition with other materials intensifies, technological advancements and product innovation will become essential to grow the application base. In volume terms, silicone demand will rise 4.9 percent per year to 955 million pounds in 2014. The average price of silicones will increase only modestly through 2014, limited by intense price competition among major suppliers and a rising influx of low cost imports.

Silicone gels, elastomers, resins to grow the fastest

Silicone fluids were the leading product type in 2009, accounting for over 40 percent of the market. However, demand for silicone fluids will rise at a below-average pace through 2014, limited by slow growth in applications such as



vehicle polishes, pulp and paper de-foamers and urethane additives. Stronger gains are expected for elastomers and resins, buoyed by a turnaround in key markets, including motor vehicles, machinery and construction. The fastest gains, however, are expected for silicone gels, driven by robust growth in demand for gel encapsulants in LED and photovoltaic applications.

Construction, medical markets to lead gains

Industrial markets will remain the dominant outlet for silicones through 2014, accounting for a majority of total demand. After an overall decline in silicone sales between 1999 and 2009, a

rebound in manufacturing activity will spur healthy increases in industrial markets for silicone. Motor vehicles -- rising from a severely depressed 2009 base -- and machinery will be the fastest-growing industrial outlets. Among other markets, construction and medical products will also see strong increases in demand. Medical markets have historically been a growth area for silicone, and the increased use of silicone gel-filled breast implants will stimulate even stronger gains. The construction market will benefit from a bounceback in construction activity and the rising use of high-performance silicone-based adhesives, sealants and coatings. Gains in consumer markets will modestly lag the overall average.

Copyright 2010 The Freedonia Group, Inc.

[Click here to purchase online](#)

Sample Text, Table & Chart

APPLICATIONS

Polishes

Demand for silicones in polishes is forecast to expand 1.5% per annum through 2014. In volume terms, demand is forecast to rise 1.5% per annum through 2014. Below-average demand is expected in 2014. Advances in vehicle polishes, such as water-based polishes, and in paint and coating technologies, such as water-based or polishes, will continue to drive demand. Additional advantages to competing products, such as the tendency to penetrate primer when used as a motor vehicle polish, making it difficult to remove, will drive demand for new paint at a later time if desired.

Silicones are utilized in polish applications primarily due to their low surface tension, which imparts good penetrating properties and maximum coverage. Silicones are used in the formulation of numerous products for these purposes, such as liquids, pastes, glazes and aerosols that are designed to provide a protective barrier with an enhanced shine to various surfaces. Silicone-based polishes are compatible with a variety of substrates, including metal, wood, vinyl and rubber. Dimethyl silicone fluids, such as polydimethylsiloxanes, are the most commonly used silicones in polish applications.

Demand for motor vehicle polishes is projected to rise 1.5% per year through 2014 to \$175 million, accounting for over 70% of the silicone polish market. Other markets for polishes are expected to exhibit modestly faster gains. The market for polishes in machinery will benefit from a rebound in industry production in 2014. However, demand for silicone polishes in the non-motor vehicle transportation sector is expected to grow at a slower pace. Demand for silicone furniture polishes will see healthy gains, although it may be limited by silicone's tendency to deeply penetrate the surface of types of furniture, making it difficult to remove for refinishing.

140

Copyright 2010

**SAMPLE
TEXT**

TABLE III-5

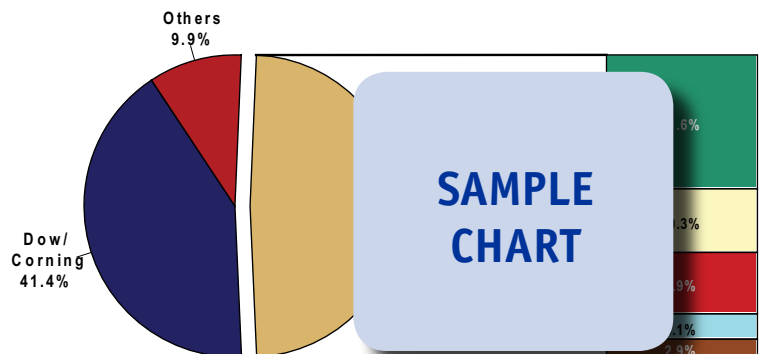
SILICONE ELASTOMER DEMAND
(million dollars)

Item	1999	2004	2009	2014	2019
Durable Goods Shipments (bil 2005\$)	1,055	1,150	1,250	1,350	1,450
lb silicone/mil \$ durables	0.000000	0.000000	0.000000	0.000000	0.000000
Silicone Elastomer Demand (mil lb)	0.000000	0.000000	0.000000	0.000000	0.000000
\$/lb	0.000000	0.000000	0.000000	0.000000	0.000000
Silicone Elastomer Demand	0.000000	0.000000	0.000000	0.000000	0.000000
High-Temperature	0.000000	0.000000	0.000000	0.000000	0.000000
Liquid	0.000000	0.000000	0.000000	0.000000	0.000000
Room Temperature	0.000000	0.000000	0.000000	0.000000	0.000000
% elastomers	0.000000	0.000000	0.000000	0.000000	0.000000
Silicone Demand	0.000000	0.000000	0.000000	0.000000	0.000000

**SAMPLE
TABLE**

CHART VI-1

US SILICONE MARKET SHARE BY COMPANY, 2009
(\$2.8 billion)



**SAMPLE
CHART**

Sample Profile, Table & Forecast

TABLE IV-14
COSMETIC & TOILETRY MARKET FOR SILICONES BY APPLICATION
 (million dollars)

Item	1999	2004	2009	2014	2019
Cosmetic & Toiletry Shipments	2,000	2,200	2,400	2,600	2,800
\$ silicone/000\$ cosmetics	100	110	120	130	140
Cosmetic & Toiletry Silicone Demand	35	40	45	50	55
Conditioning Agents	5	6	7	8	9
Emollients	10	11	12	13	14
Surfactants	15	16	17	18	19
Other Applications	5	6	7	8	9
% cosmetics & toiletries	8	8	8	8	8
Consumer Silicone Demand	90	95	100	105	110

**SAMPLE
TABLE**

COMPANY PROFILES

Lion Copolymer LLC
 5955 Scenic Highway
 Baton Rouge, LA 70805
 225-267-3400
<http://www.lioncopolymer.com>

Annual Sales:
 Employment:

Key Products: ethylene monomer products

**SAMPLE
PROFILE**

Lion Copolymer is a privately held manufacturer of synthetic rubber. The Company is a portfolio company of Lion Chemical Capital LLC, a private equity firm focused on the chemical industry.

The Company competes in the US silicone industry through the production of silicone-modified ethylene-propylene diene monomer (EPDM) products, which are marketed under the ROYALTHERM brand name. ROYALTHERM is engineered to provide higher heat and weather resistance than standard EPDM, as well as to have higher tensile strength, flex fatigue resistance and mechanical properties than silicone. Lion Coploymer makes ROYALTHERM in 1411 and 1721 types. ROYALTHERM 1411 can be vulcanized with peroxides or sulfur/accelerator systems and is designed for applications that require low tensile strength. ROYALTHERM 1721 can also be vulcanized with peroxides or sulfur/accelerator systems. These silicone-modified EPDMs are engineered for high tensile strength end uses. The Company manufactures ROYALTHERM products at a facility in Geismar, Louisiana. Lion Copolymer also has a site in Baton Rouge, Louisiana that houses a technology center, research and development operations, and a compound applications development laboratory.

203 Copyright 2010 The Freedonia Group, Inc.

“Demand for silicone emollients is forecast to grow 4.9 percent per annum through 2014 to \$210 million. Lotions formulated with silicone emollients are easy to spread and enable the skin to feel soft and smooth without being sticky or oily, supporting demand in this application. Silicone emollients also lock moisture into the skin, thereby improving its feel and texture. In addition, these materials enhance the performance of lipstick, eyeshadow and foundation by increasing their suppleness and spreadability. Product demand will be somewhat restrained, however, by ...” --Section IV, pg. 107

ONLINE: www.freedoniagroup.com

MAIL: Print out and complete the order form and send to The Freedonia Group (see address at the bottom of this form)

PHONE: Call toll free, 800.927.5900 (US) or + 1 440.684.9600

FAX: + 1 440.646.0484 (US)

EMAIL: info@freedoniagroup.com

Free Handling & Shipping

There is NO charge for handling or UPS shipping in the US. Expect delivery in 3 to 5 business days. Outside the US, Freedonia provides free airmail service. Express delivery is available at cost.

Credit Card Orders

For convenience, Freedonia accepts American Express, MasterCard or Visa. Credit card purchases must include account number, expiration date and authorized signature.

Orders Outside of the US

Checks must be made payable in US funds, drawn against a US bank and mailed directly to The Freedonia Group. For wire transfers please contact our customer service department at info@freedoniagroup.com. Credit cards accepted.

Save 15%

If you order three (3) different titles at the same time, you can receive a 15% discount. If your order is accompanied by a check or wire transfer, you may take a 5% cash discount (discounts do not apply to Corporate Use Licenses).

Corporate Use License

Now every decision maker in your organization can act on the key intelligence found in all Freedonia studies. For an additional \$2600, companies receive unlimited use of an electronic version (PDF) of the study. Place it on your intranet, e-mail it to coworkers around the world, or print it as many times as you like,

[Click here to learn more about the Corporate Use License](#)

ORDER FORM

F-WEB.2665

Silicones \$4700

Corporate Use License (add to study price) * + \$2600
 ___ Additional Print Copies @ \$600 each *
 Total (including selected option) \$_____

Enclosed is my check (5% discount) drawn on a US bank and payable to The Freedonia Group, Inc., in US funds (Ohio residents add 7.75% sales tax)

Bill my company American Express MasterCard Visa

--	--	--	--

Credit Card #

MM	YY

Expiration

Signature _____

Name _____

Title _____

Company _____

Division _____

Street _____
(No PO Box please)

City/State/Zip _____

Country _____

Phone _____ Fax _____

Email _____

* Please check appropriate option and sign below to order an electronic version of the study.

Corporate Use License Agreement

The above captioned study may be stored on the company's intranet or shared directory, available to company employees. Copies of the study may be made, but the undersigned represents that distribution of the study will be limited to employees of the company.

Signature _____

Individual Use License Agreement

The undersigned hereby represents that the above captioned study will be used by only ___ individual(s) who are employees of the company and that the study will not be loaded on a network for multiple users. In the event that usage of the study changes, the Company will promptly notify Freedonia of such change and will pay to Freedonia the appropriate fee based on Freedonia's standard fee schedule then in effect. Note: Entire company corporate use license, add \$2600; one additional user, add \$600; two additional users, add \$1200; three additional users, add \$1800.

Signature _____

OTHER STUDIES

Thermoplastic Compounding by Independents

US demand for independently compounded thermoplastics is forecast to rise 2.7% yearly through 2013. Value gains will be fueled by shifts toward more highly tailored resin formulations. Best opportunities are expected for TPEs and polypropylene, while PVC remains the largest segment. This study analyzes the 6.6 billion pound US independently compounded TP industry, with forecasts for 2013 and 2018 by resin and market. It also evaluates company market share and profiles industry players.

#2577 02/2010..... \$4700

Extruded Plastics

US demand for extruded plastics is forecast to expand 2.6% yearly through 2013, supported by a turnaround in the housing market. PVC will remain the largest segment, and will be one of the fastest growing. Slower advances for LDPE will reflect saturated film and sheet applications in packaging. Extruded polypropylene will grow the fastest. This study analyzes the 30 billion pound US extruded plastics industry, with forecasts for 2013 and 2018 by resin and market. It also evaluates company market share and profiles industry players.

#2566 12/2009..... \$4700

World Thermoplastic Elastomers

Global TPE demand will rise 6% yearly through 2013, with China making up 42% of new demand. Excluding China, TPE sales will remain concentrated in the developed markets of the US, Western Europe and Japan, especially for higher performance materials such as TPVs and copolyester elastomers (COPEs). This study analyzes the 3.1 million metric ton world TPE industry, with forecasts for 2013 and 2018 by market, type, world region and for 13 countries. It also evaluates market share and profiles industry players.

#2551 10/2009..... \$5800

Fluoropolymers

US demand for fluoropolymers will rise 4.5% annually through 2013. Gains will be driven in part by a turnaround in key markets such as motor vehicles and wire and cable, and rising demand in fast-growing emerging markets such as advanced batteries, fuel cells and photovoltaic modules. PTFE will remain the largest type while fluoroelastomers will grow the fastest. This study analyzes the \$1.4 billion US fluoropolymer industry, with forecasts for 2013 and 2018. It also evaluates company market share and profiles industry players.

#2496 05/2009..... \$4600

Medical Plastics

US demand for medical plastics will reach \$6.55 billion in 2012, based in part on heightened concerns over infection control and increased use of disposable medical products and supplies. Smaller-volume engineering plastics will outpace commodity plastics. Packaging will remain the largest and fastest growing market. This study analyzes the 4.4 billion pound US medical plastics industry, with forecasts for 2012 and 2017 by resin and market. It also evaluates company market share and profiles industry players.

#2467 02/2009..... \$4700

About The Freedonia Group

The Freedonia Group, Inc., is a leading international industry market research company that provides its clients with information and analysis needed to make informed strategic decisions for their businesses. Studies help clients identify business opportunities, develop strategies, make investment decisions and evaluate opportunities and threats. Freedonia research is designed to deliver unbiased views and reliable outlooks to assist clients in making the right decisions. Freedonia capitalizes on the resources of its proprietary in-house research team of experienced economists, professional analysts, industry researchers and editorial groups. Freedonia covers a diverse group of industries throughout the United States, the emerging China market, and other world markets. Industries analyzed by Freedonia include:

- Chemicals • Plastics • Life Sciences • Packaging • Building Materials • Security & Electronics • Industrial Components & Equipment • Automotive & Transportation Equipment • Household Goods • Energy/Power Equipment

[Click here to learn more about Freedonia](#)

Freedonia Custom Research

Freedonia Custom Research delivers the same high quality, thorough and unbiased assessment of an industry or market as an industry study. Since the research initiative is based upon a company's specific needs, companies harness Freedonia's research capabilities and resources to answer unique questions. When you leverage the results of a Freedonia Custom Research engagement, you are able to obtain important answers to specific questions and issues associated with: mergers and acquisitions, new product launches/development, geographic expansion, entry into new markets, strategic business planning, and investment and funding decisions.

Freedonia Custom Research is ideal for companies seeking to make a strategic difference in the status quo and focus on future business growth. Working side by side with clients, Freedonia's team is able to define a research project that is custom-tailored to answer specific questions and provide the basis from which a company can make informed business decisions.

[Click here to learn more about Custom Research](#)



[Click here for complete title list](#)



[Click here to visit freedoniagroup.com](http://www.freedoniagroup.com)