



[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](#)

Gears

US Industry Study with Forecasts for **2013 & 2018**

Study #2593 | January 2010 | \$4700 | 229 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 Environment.....	5
Manufacturing Outlook.....	10
Nonresidential Fixed Investment Outlook.....	13
Historical Market Trends.....	16
Pricing Trends	19
Technological Innovations.....	23
World Gear Market.....	25
US Foreign Trade.....	28
US Imports.....	29
US Exports	32

MATERIALS

General	35
Metals.....	37
Ferrous Metals	38
Nonferrous Metals	41
Plastic.....	43

PRODUCTS

General	46
Vehicular Gear Assemblies	49
Powertrain Gear Assemblies.....	52
Steering Gear Assemblies.....	56
Other Gear Assemblies	59
Speed Reducers & Changers.....	62
Helical.....	64
Bevel.....	65
Spur	65
Other.....	65
Gearmotors & Other Assemblies	66
Helical.....	68
Bevel.....	68
Spur	68
Worm & Other	69
Individual Gears.....	69
Helical.....	72
Bevel	75

Spur.....	77
Other	80

MARKETS

General	82
Demand by Market.....	83
Demand by Source.....	85
Motor Vehicles.....	87
Industry Outlook.....	88
Gear Demand by Application & Vehicle Type.....	91
Transmissions	95
Driveline Components	100
Steering Equipment	103
Accessories & Other Gear Applications	106
Gear Demand by Source.....	109
OEM	110
Aftermarket	113
Aerospace Equipment.....	114
Industry Outlook.....	115
Gear Demand	116
Machinery.....	119
Industry Outlook.....	120
Gear Demand by Machinery Type ...	122
Agricultural Equipment.....	124
Construction Equipment.....	126
Industrial Trucks & Tractors.....	128
Process Manufacturing Machinery	129
Material Handling Equipment.....	131
Mining Equipment	132
Other Machinery.....	133
Demand by Source.....	134
Marine Equipment	136
Industry Outlook.....	136
Gear Demand	137
Other Markets.....	139

INDUSTRY STRUCTURE

General	141
Industry Composition	142
Market Share	145
Financial Issues	150

Product Development & Manufacturing	152
Marketing & Distribution	153
Cooperative Agreements.....	155
Mergers & Acquisitions.....	157

COMPANY PROFILES

Aisin Seiki	161
Allison Transmission	164
Altra Industrial Motion	165
American Axle & Manufacturing.....	168
ArvinMeritor Incorporated	170
Baldor Electric.....	172
BorgWarner Incorporated.....	174
Bosch (Robert)	175
Caterpillar Incorporated	177
Chrysler Group	179
Clyde Blowers	181
Daimler AG.....	183
Dana Holding	185
Deere & Company.....	188
Delphi Corporation	190
Eaton Corporation	191
Emerson Electric	193
Ford Motor.....	195
General Motors	196
Honda Motor	198
Horsburgh & Scott	200
Joy Global	201
Linamar Corporation	202
Magna International.....	203
Northrop Grumman.....	205
OC Oerlikon	206
Regal-Beloit Corporation	208
Rexnord LLC	212
Sypris Solutions.....	214
Textron Incorporated	215
Toyota Motor.....	216
TRW Automotive	217
Visteon Corporation.....	219
Xtek Incorporated	220
ZF Friedrichshafen	222
Additional Companies	226

List of Tables

EXECUTIVE SUMMARY

1 Summary Table..... 3

MARKET ENVIRONMENT

1 Macroeconomic Indicators..... 10
2 Manufacturers' Shipments 13
3 Nonresidential Fixed Investment. 16
4 Gear Market, 1998-2008 18
5 Gear Price Deflators 22
6 World Gear Demand by Region 27
7 US Foreign Trade in Gears 29
8 US Gear Imports by Source..... 31
9 US Gear Exports by Destination... 34

MATERIALS

1 Gear Demand by Material 36
2 Ferrous Metal Gear
Demand by Product 41
3 Nonferrous Metal Gear
Demand by Product 43
4 Plastic Gear Demand by Product.. 45

PRODUCTS

1 Gear Supply & Demand 48
2 Vehicular Gear Assembly
Supply & Demand 52
3 Powertrain Gear
Assembly Demand 56
4 Steering Gear Assembly Demand . 59
5 Other Gear Assembly
Supply & Demand 62
6 Speed Reducer/Changer Demand . 64
7 Gearmotor & Other
Assembly Demand 67
8 Individual Gear Supply & Demand 71
9 Individual Helical Gear Demand .. 75
10 Individual Bevel Gear Demand 77
11 Individual Spur Gear Demand..... 80
12 Other Individual Gear Demand 81

MARKETS

1 Gear Demand by Market & Source 83
2 Motor Vehicle Industry Outlook... 90
3 Motor Vehicle Gear Demand by
Application & Vehicle Type 94
4 Motor Vehicle Transmission
Gear Demand 100
5 Motor Vehicle Driveline
Gear Demand 103
6 Motor Vehicle Steering
Gear Demand 106
7 Motor Vehicle Accessory &
Other Gear Demand 108
8 Motor Vehicle Gear Demand
by Source 110
9 Motor Vehicle OEM Gear Demand
by Supplier & Vehicle Type 112
10 Motor Vehicle Aftermarket Gear
Demand by Vehicle Type..... 114
11 Aerospace Equipment Shipments 116
12 Aerospace Gear Demand..... 119
13 Machinery Shipments by Type 122
14 Gear Demand by Machinery Type 124
15 Agricultural Equipment
Gear Demand 126
16 Construction Equipment
Gear Demand 128
17 Industrial Truck & Tractor
Gear Demand 129
18 Process Manufacturing
Machinery Gear Demand..... 130
19 Material Handling Equipment
Gear Demand 132
20 Mining Equipment Gear Demand. 133
21 Other Machinery Gear Demand ... 134
22 Machinery Gear Demand
by Source 135
23 Marine Equipment Shipments..... 137
24 Marine Gear Demand 138
25 Other Markets Gear Demand..... 140

INDUSTRY STRUCTURE

1 Gear Sales by Company, 2008 144

2 Composite Financial Ratios:
Selected Gear Manufacturers... 151
3 Selected Cooperative
Agreements 157
4 Selected Acquisitions
& Divestitures 159

List of Charts

MARKET ENVIRONMENT

1 Gear Market, 1999-2008 19
2 Gear Pricing, 1998-2018..... 22
3 World Gear Demand, 2008 27
4 US Gear Imports by Source, 2008 32
5 US Gear Exports by
Destination, 2008 34

MATERIALS

1 Gear Demand by Material, 2008 .. 37

PRODUCTS

1 Gear Shipments by Product
Type, 1998-2018..... 49
2 Individual Gear Demand
by Product, 2008 72

MARKETS

1 Gear Demand by Market, 2008 85
2 Gear Demand by Source, 2008 87
3 Motor Vehicle Gear Demand
by Application, 2008..... 95

INDUSTRY STRUCTURE

1 US Gear Market Share
by Company, 2008 145

Gains will primarily be supported by rebounding levels of motor vehicle production, which is forecast to exhibit a notable turnaround from the declines registered from 2003 through 2009.

US demand to increase 3.9% yearly through 2013

US demand for gears and gear assemblies is forecast to increase 3.9 percent per year to \$30.1 billion in 2013. This will be a considerable improvement from the less than one percent yearly growth posted during the 2003-2008 period. Gains will primarily be supported by rebounding levels of motor vehicle production, which is forecast to advance 3.4 percent per year through 2013, a notable turnaround from the declines registered from 2003 through 2009. Gear manufacturers will also benefit from value gains derived from product improvements and upgrades, such as transmissions with higher numbers of speeds. Increased sales opportunities will also present themselves in the relatively small but rapidly expanding wind turbine market, in which large, high-value gearboxes are required. Output in the aerospace equipment and machinery industries is expected to advance modestly from its level a decade earlier, which will restrain gear demand in those markets to some degree.

Motor vehicle market to record the fastest gains

The motor vehicle market for gears and gear assemblies is forecast to record the fastest gains of any market through 2013, advancing 4.7 percent per year to \$23.8 billion. Gains will be supported by an expected rebound in production of all



vehicle types, although output of light trucks and vans will be slower to recover as consumers continue to opt for smaller vehicles. Trends within the automotive industry will also support increased sales of higher-value gear products, as transmissions will generally feature more speeds, power accessories will require more gearmotors, and more cars will feature four-wheel-drive systems which require the use of differentials. Transfer case sales will also be boosted by strong growth in medium and heavy vehicle production. However, several emerging trends in the motor vehicle industry will limit gear demand increases. Continuously variable transmissions, which do not require gears, are rapidly gaining a

foothold in the automobile segment of the industry. Furthermore, while not an immediate threat, steer-by-wire technology could eventually limit the use of gears in steering assemblies.

Helical, bevel gears to pace individual gear segment

Within the individual gear category, helical and bevel gears will register the strongest gains. Helical gears will continue to displace spur gears in a number of applications, while bevel gear manufacturers will take advantage of high-value sales opportunities in the aerospace market.

Copyright 2010 The Freedonia Group, Inc.

[Click here to purchase online](#)

Sample Text, Table & Chart

MARKETS

Gear Demand by Application & Vehicle Type

Gear sales in the motor vehicle market are forecast to reach \$1.5 billion in 2010, up from \$1.4 billion in 2009. Gear sales are forecast to grow at a rate of 1.5 percent per year through 2018, outpace the overall motor vehicle market, and will represent 1.5 percent of total vehicle production from 2003 to 2009. The primary application for gear demand is in heavy vehicle production, which is forecast to grow at a rate of 1.5 percent per year, contrast to the 0.5 percent decline registered in light vehicle production in 2009.

In addition to increased production, gear manufacturers are forecast to increase spending on gears per vehicle by automakers (OEMs). However, per vehicle gear demand will not increase as during the 1998-2008 period, as consumers opt for smaller transmissions. Increases in gear value will occur in part due to trends toward the utilization of transmissions with a greater number of speeds (and thus higher values). Further boosting gear value per vehicle will be heavy motor vehicle production modestly outpacing that of light vehicles, as trucks and buses naturally require larger, and in some cases more complex, gear products. However, growth will be restrained by the growing implementation of continuous variable transmissions (CVTs), which do not use gears, in a number of light vehicles. Furthermore, slowing growth in the number of vehicles in use in the US will hold back aftermarket demand increases.

The highest-value gear applications in the motor vehicle market are transmissions, which accounted for nearly two-thirds of total demand in the industry in 2008. Transmission sales are forecast to outpace all other motor vehicle applications, though not by a significant margin. Gains will be supported primarily by rebounding light vehicle production and additionally bolstered by the value of heavy vehicle production.

**SAMPLE
TEXT**

TABLE IV-8

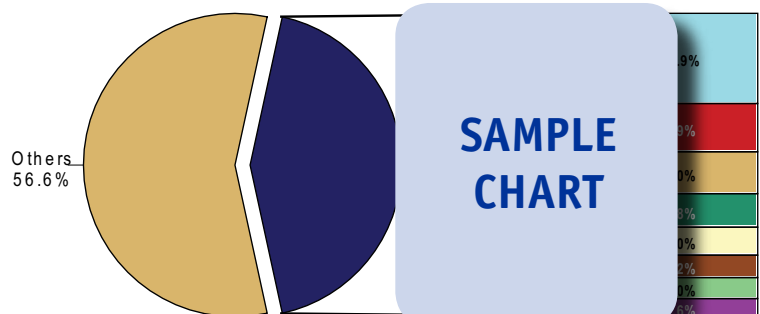
INDIVIDUAL GEAR SUPPLY & DEMAND (million dollars)

Item	1998	2003	2008	2013	2018
Machinery & Trans Equip Shpts (bil \$)					3
\$ indv gears/000\$ machine & trans					6
Individual Gear Demand					0
Helical					0
Bevel					5
Spur					0
Other					5
+ exports					0
- imports					5
Individual Gear Shipments					5
% individual gears					5
Total Gear Demand	19				00

**SAMPLE
TABLE**

CHART VI-1

US GEAR MARKET SHARE BY COMPANY, 2008 (\$24.8 billion)



**SAMPLE
CHART**

Sample Profile, Table & Forecast

TABLE III-2
FERROUS METAL GEAR DEMAND BY PRODUCT
 (million dollars)

Item	1998	2003	2008	2013	2018
Gear Demand	19				100
% ferrous metal					2.2
Ferrous Metal Gear Demand	17				100
Powertrain Gear Assemblies	14				100
Steering Gear Assemblies	2				100
Helical Gears					40
Bevel Gears					94
Spur Gears					31
Other Gears					35

**SAMPLE
TABLE**

COMPANY PROFILES

Rexnord LLC

4701 West Greenfield Avenue
 Milwaukee, WI 53214
 414-643-3000
 http://www.rxnrd.com

Sales: \$1.1 billion (2009) (SEC)
 US Sales: \$1.1 billion (2009) (SEC)
 Employees: 1,000 (2009) (SEC)

**SAMPLE
PROFILE**

Key Products

Rexnord manufactures gear products for industrial and aerospace markets, as well as water management market. The Company operates through two segments: Power Transmission and Water Management. Rexnord is owned by affiliates of Apollo Management LP (New York, New York), a private equity firm.

The Company is involved in the US gears industry through the Power Transmission segment, which manufactures and sells gears, couplings, bearings, flattop chain and modular conveyer belts, industrial chain, and other products. Gear products from the Power Transmission segment include gear drives for the natural resource extraction, steel, pulp and paper, chemical, forest, wood, and other industrial markets. These gear drives are made in heavy-, medium- and light-duty varieties, primarily through the FALK product line. Specific FALK products include ULTRAMAX concentric gear drives, which are available in ten sizes with output torque of up to 600,000 pound-inches; ULTRAMITE gearmotor drives in right angle helical bevel, helical concentric shaft, helical shaft-mounted and helical worm varieties; MRH and MR series marine gear drives; A+PLUS parallel shaft gear drives with high-strength helical gears; QUADRIVE shaft-mounted drives; DRIVE ONE

“Sales of ferrous metal gears are forecast to advance 4.2 percent per annum to \$27.7 billion in 2013. Gains will outpace those expected for nonferrous metals and for the gear market overall. Rebounding levels of motor vehicle production will support advances. Vehicular gear assemblies, the fastest growing product type through 2013, are manufactured almost exclusively from ferrous metals. Slowing growth in machinery and nonautomotive transportation equipment industries will limit advances to some degree, as these are also important markets for ferrous metal gears. In addition, ...”
 --Section III, pg. 39

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.

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.

Credit Card Orders

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

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.2593

Gears..... \$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

World Gears

Global gear demand will climb 4.7% yearly through 2013, driven in part by a shift toward more expensive, energy-efficient units. China and India will register some of the strongest market advances, with China expected to claim one-third of all new demand and pass Japan as the second largest market behind the US. This study analyzes the \$135 billion world gear industry, with forecasts for 2013 and 2018 by product, market, world region and for 21 countries. It also evaluates company market share and profiles industry participants.

#2624April 2010 \$5800

World Industrial Rubber Products

Global industrial rubber product demand will climb 4.3% yearly through 2013. China will surpass the US to become the largest national market, and claim over one-third of all new demand. Advances will be stronger in the hose and belt segments, while mechanical rubber goods remains dominant. This study analyzes the \$79.3 billion world industrial rubber product industry, with forecasts for 2013 and 2018 by market, product, world region and for 27 countries. It also evaluates company market share and profiles industry players.

#2609 March 2010..... \$5800

World Abrasives

Global abrasives demand will climb 5.9% annually through 2013. Advances in developing parts of Asia and other regions will considerably outpace demand in the US, Western Europe and Japan. Nonmetallic abrasives will remain dominant and grow the fastest, led by loose abrasive grains and powders. This study analyzes the \$28.7 billion world abrasives industry, with forecasts for 2013 and 2018 by product, market, raw material, world region and for 21 countries. It also evaluates company market share and profiles industry players.

#2592January 2010 \$5800

Mining Equipment in China

Demand for mining equipment in China is projected to grow 7.1% annually through 2013. Underground mining machinery will remain the largest product group, while crushing, pulverizing and screening equipment grows the fastest. Coal mining will continue as the largest market segment, while metal mining leads gains. This study analyzes the 107 billion yuan mining equipment industry in China, with forecasts for 2013 and 2018 by product, market and region. It also evaluates company market share and profiles industry players.

#2571December 2009 \$5200

Bearings

US ball, roller and plain bearing demand is projected to expand 3% annually through 2013. Gains will be supported in part by sales of high-value, large diameter bearings used in wind energy and heavy equipment markets. Ball and roller bearings will outpace plain bearings, with roller bearings posting the strongest market gains. This study analyzes the \$9.2 billion US bearings industry, with forecasts for 2013 and 2018 by product and market. It also evaluates market share and profiles industry players.

#2547 September 2009..... \$4800

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)