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# Gears

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US Industry Study with Forecasts for **2011 & 2016**

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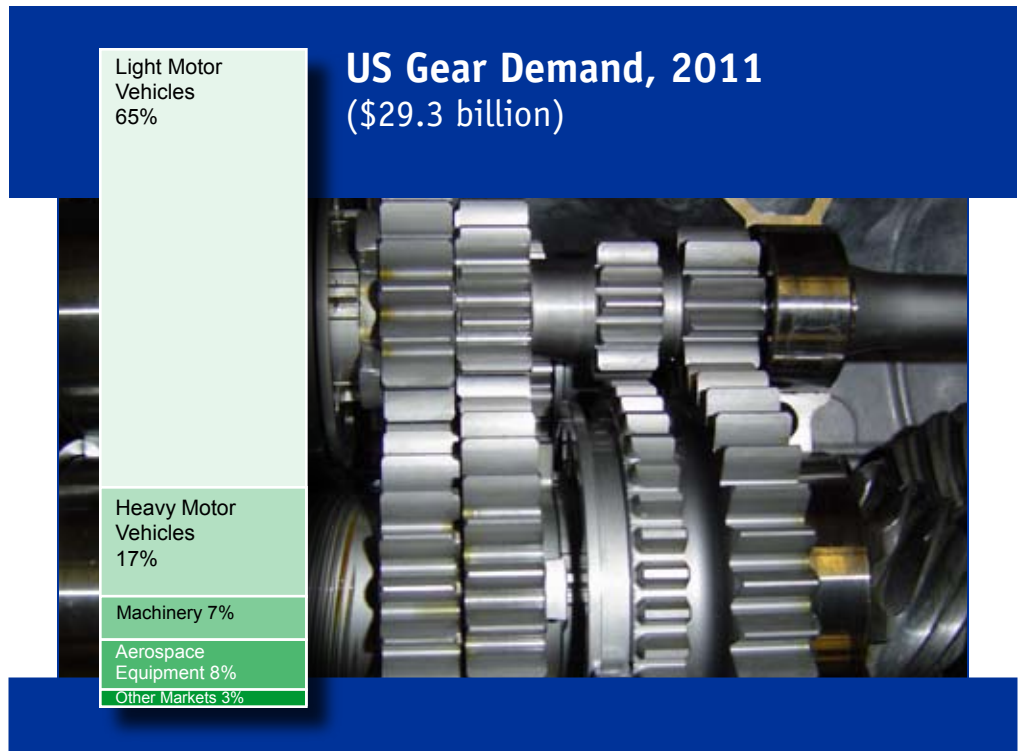
*The dominant motor vehicle market will benefit from solid advances in driveline components such as differentials and transfer cases, driven in part by greater production of light trucks.*

## Vehicular gear assemblies to stay largest gear type

US demand for gears is forecast to increase 3.3 percent annually to \$29.3 billion in 2011. Due to the large size of the motor vehicle market, vehicular gear assemblies will remain the largest product type by far, with demand increasing 3.5 percent per annum to \$25.4 billion in 2011. Individual gears will post above average gains, despite decelerating relative to the 2001 to 2006 period. The fastest growing individual gear types will be helical and bevel gears. Helical gears will benefit from their continuing displacement of spur gears, as well as from improvements in material and design. Bevel gears will benefit from strong demand in the aerospace market, with demand for spiral bevel gears forecast to grow more than five percent annually through 2011.

## Aerospace to offer best market opportunities

The best prospects for growth will come from the aerospace industry, which is expected to post the fastest advances through 2011. Demand for gear products in the aerospace industry is projected to advance over five percent annually through 2011, to \$2.4 billion. This growth represents a recovery from the declines experienced between 2001 and 2006, when output of aerospace equipment fell as demand from civil aviation weakened. However, aerospace equipment shipments are expected to post solid ad-



vances going forward, with particularly strong growth in the production of regional jets and helicopters. This rebound will especially benefit spiral bevel gears, as they are widely used in helicopters.

The motor vehicle industry is the largest market for gears by far, constituting over 80 percent of demand. Motor vehicle gear demand through 2011 is forecast to expand 3.3 percent per annum to nearly \$24 billion. Solid advances are expected for driveline components such as differentials and transfer cases as favorable trends, including greater production of light trucks, continue to increase the intensity of use of these products. Strong demand is also expect-

ed in the aftermarket for heavy motor vehicles. An upturn in sales of heavy motor vehicles from 2004 through 2006 expanded the number of these vehicles in use, which will in turn generate increased spending to maintain them.

As growth in machinery shipments decelerates through 2011, aggregate gear demand in machinery markets is also expected to slow. A bright spot is demand from industrial trucks and tractors, which is forecast to outpace all other machinery types. Among other machinery gear markets, mining equipment will also post above average gains, while material handling equipment will rebound from losses sustained between 2001 and 2006.



## Sample Text, Table & Chart

### MARKETS

#### Gear Demand by Application & Vehicle Type

Gear demand in the motor vehicle market is forecast to grow at a rate of 1.5 percent per year through 2011, reaching \$10 billion. This represents a growth rate of 1.5 percent per year, as the production of light and heavy trucks is forecast to grow at 1.5 percent per year. About two-thirds of the demand will be for gear assemblies, the largest gear application in the motor vehicle market.

**SAMPLE TEXT**

Growth in heavy motor vehicle applications outpaced all other motor vehicle applications for gears between 1996 and 2006. This was the result of increased heavy motor vehicle production and demand trends that increased the average transmission value. Heavy motor vehicles require more expensive transmissions due to the amount of torque they generate. As production of heavy motor vehicles outpaced production of light vehicles, the average value of transmissions grew, offsetting the decline in total motor vehicle production. Other trends also contributed to the increased average value of transmissions. More costly automated manual transmissions displaced some traditional manual transmissions in heavy trucks. In light vehicles, more costly automatic transmissions continued to displace manual transmissions. Additionally, trends toward a greater number of transmission speeds has increased the average transmission value. As production of heavy motor vehicles declines, and the market penetration of more expensive transmissions slows, growth in demand for transmissions will decelerate.

Demand for driveline components will outpace all other applications through 2011. Between 1996 and 2006, demand was driven by increased production of light trucks and increased production of four-wheel-drive vehicles. In both the light truck and automobile segments, the proportion of vehicles manufactured with four-wheel-drive drivelines increased. Because the value of gear assemblies used in motor vehicle drivelines is greater in four-wheel-drive vehicles (especially all-wheel-

TABLE III-2

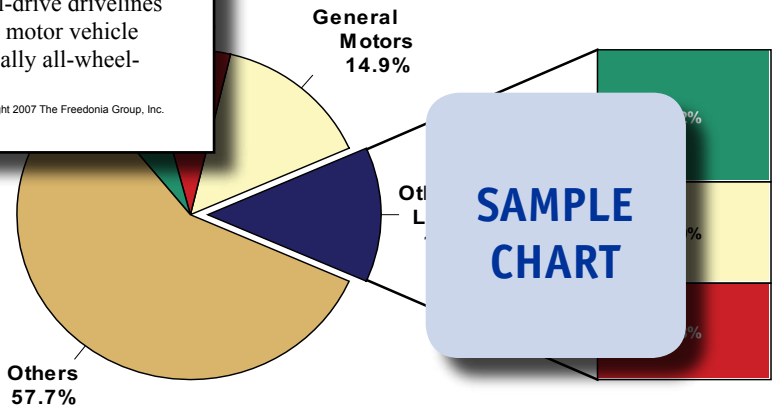
FERROUS METAL GEAR DEMAND BY PRODUCT  
 (million dollars)

Item	1996	2001	2006	2011	2016
Gear Demand					
% ferrous metal					
Ferrous Metal Gear Demand					
Powertrain Gear Assemblies					
Steering Gear Assemblies					
Helical Gears					
Bevel Gears					
Spur Gears					
Other Gears					

**SAMPLE TABLE**

CHART VI-1

MARKET SHARE BY COMPANY, 2006  
 (\$24.9 billion)

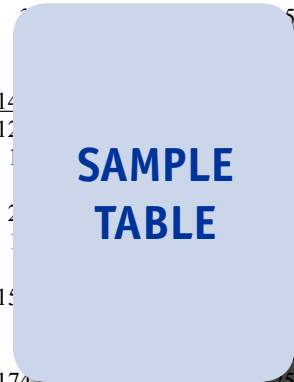


**SAMPLE CHART**

## Sample Profile, Table & Forecast

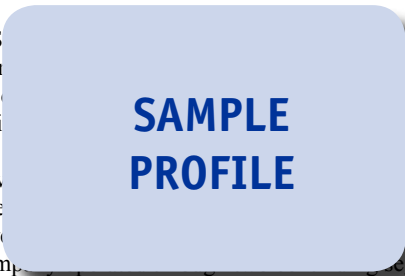
**TABLE IV-2**  
**VEHICULAR GEAR ASSEMBLY SUPPLY & DEMAND**  
 (million dollars)

Item	1996	2001	2006	2011	2016
Motor Vehicle Shipments (bil \$)					562
\$ gear assemblies/000\$ vehicles					9.9
Vehicular Gear Assembly Demand	14	12	11	10	50
Powertrain Gear Assemblies					00
Steering Gear Assemblies					50
+ exports					50
- imports					00
Vehicular Gear Shipments	15	14	13	12	00
% vehicular gear assemblies					5.3
Total Gear Demand	17450	20850	24700	29300	32500



### COMPANY PROFILES

**ArvinMeritor Incorporated**  
 2135 West Maple Road  
 Troy, MI 48084  
 248-435-1000  
<http://www.arvinmeritor.com>



Sales: \$ (2006)  
 Employed: (2006)  
 Key Products: transmissions, complete drivetrain

ArvinMeritor provides a broad range of integrated drivetrain components for light vehicle, commercial and certain aftermarkets. The Company's segments in FY 2006: Light Vehicle Systems (LVS) and Commercial Vehicle Systems (CVS). A former third segment, Light Vehicle Aftermarket, is classified as a discontinued operation.

The Company is active in the US gears industry through the CVS and LVS segments. The CVS segment reported sales of \$4.3 billion in FY 2006, of which North America accounted for \$2.7 billion. The segment manufactures drivetrain systems and components, including drivelines, transfer cases, axles, transmissions and other products designed for medium- and heavy-duty trucks, trailers, buses and speciality vehicles. The segment operates 34 CVS manufacturing plants worldwide and 32 other sites that house sales, service, warehousing and engineering operations.

Many of the Company's drivetrain products incorporate gears into their design, including ArvinMeritor's drivelines, transfer cases, axles and transmissions. Among drivelines are PERMALUBE products,

"Demand for powertrain gear assemblies is projected to increase 3.5 percent per annum through 2011 to \$23.1 billion. Demand will benefit from the rebound of light motor vehicle production as well as strength in the medium and heavy motor vehicle aftermarket. However, demand will grow more slowly than it did over the 2001 to 2006 period due to ..."

--Section IV, pg. 49



**OTHER STUDIES**

**World Industrial Valves**

This study analyzes the global industrial valve industry. It presents historical demand data (1996, 2001, 2006) and forecasts for 2011 and 2016 by valve product (e.g., standard multiturm, quarterturn, automatic control, regulator, automatic actuator); world regional market (e.g., North America, Asia/Pacific, Western Europe); and for 34 major national markets. The study also considers market environment factors, details industry structure, evaluates company market share and profiles leading valve producers.  
 #2297 ..... 02/2008..... \$5500

**Bearings in China**

This study analyzes the Chinese market for bearings. It presents historical demand data (1996, 2001, 2006) and forecasts for the years 2011 and 2016 by bearing type (ball, roller, plain, mounted, parts), market (original equipment manufacturing and maintenance/repair/operations) and geographic region (e.g., Central-North, Central-East, North-Central). In addition, the study considers market environment factors, details industry structure, evaluates company market share and profiles leading bearing manufacturers.  
 #2281 ..... 01/2008..... \$5100

**Industrial Castings**

US industrial castings demand will reach \$35 billion in 2011, supported by gains in smaller markets such as aerospace and electrical/electronic equipment. Shipments of nonferrous types will accelerate, led by magnesium-based castings. Ferrous castings will continue to lose market share to nonferrous, both in value and tonnage. This study analyzes the 15.8 billion ton US industrial castings industry, with forecasts given for 2011 and 2016 by type and market. It also details market share and profiles major players.  
 #2214 ..... 07/2007..... \$4400

**Industrial Fasteners in China**

Demand in China for industrial fasteners will grow 9.4% annually through 2010. Nonthreaded sales will lead gains among standard types, with externally threaded fasteners remaining dominant. Aerospace-grade fasteners will outpace standard products. Construction will be the fastest growing market. This study analyzes the ¥25.6 billion Chinese industrial fasteners industry, with forecasts for 2010 and 2015 given by type and market. This study also evaluates company market share and profiles major players.  
 #2187 ..... 06/2007..... \$4900

**Industrial Valves**

US industrial valve demand will top \$16 billion in 2011, driven by the construction and public utilities markets. Imports will approach 60% of demand. Key export markets include Canada, Mexico, Western Europe, and the Asia/Pacific and Africa/Mideast regions. Steel and alloys will remain the dominant valve material. This study analyzes the \$13.9 billion US industrial valve industry, with forecasts for 2011 and 2016 presented by type and market. It also evaluates market share and profiles major manufacturers.  
 #2205 ..... 05/2007..... \$4400

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