



World Automotive Sensors

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

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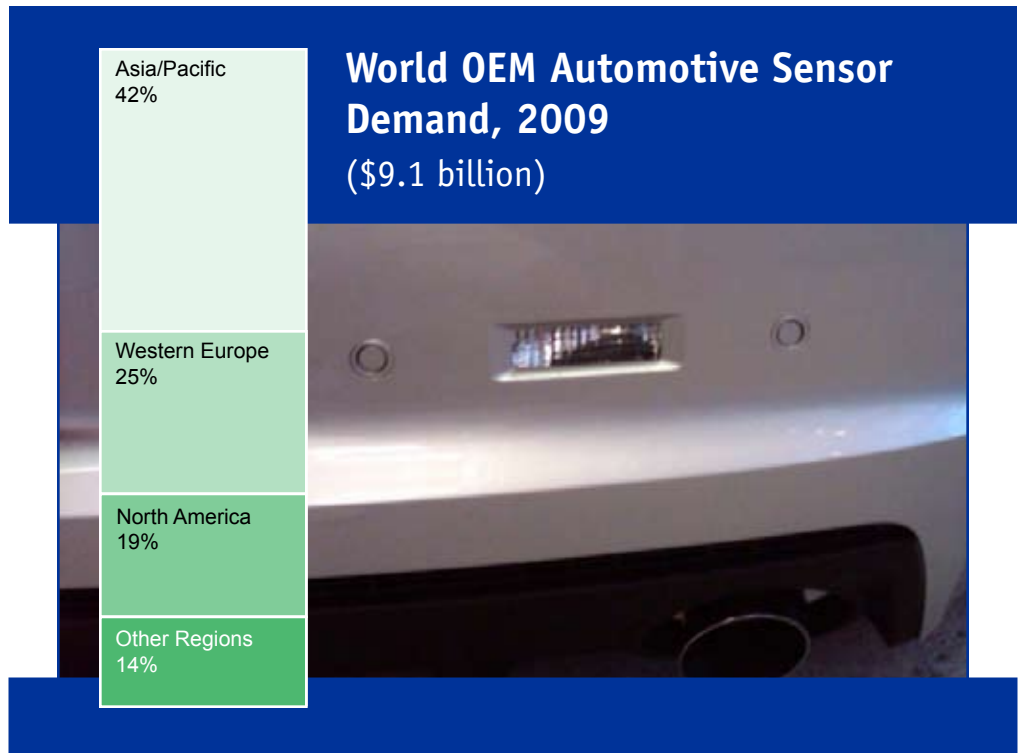
Automotive sensor demand will gain uplift from increasing regulatory pressure and the continued search among automakers for cost-effective ways to differentiate their products.

Global demand to advance 11.8% yearly through 2014

Global demand for light vehicle original equipment manufacturer (OEM) automotive sensors will advance 11.8 percent annually to \$15.9 billion in 2014, rebounding from depressed 2009 levels. In addition to the expected recovery from the 2009 recession, automotive sensor demand will gain uplift from increasing regulatory pressure and the continued search among automakers for cost-effective ways to differentiate their products. Sensor demand grows hand-in-hand with electronics demand, which itself has expanded substantially during the past decade, despite the impact of the recession in developed markets.

Developed markets to favor newer technology

However, the 2009 recession did cause developed and emerging automotive markets to bifurcate. Light vehicle sales in the key developed markets of the US, Western Europe and Japan fell 9.2, 2.1 and 4.4 percent per year, respectively, from 2004 to 2009, while ascendant emerging markets Brazil, China, and India grew 14.1, 26.4 and 12.1 percent, respectively, during the same period. While the faster-growing emerging markets will likely set the global pace going forward, they do not produce the same per-vehicle sensor revenues because many of the sensor technologies they currently contain and will use in the future have already been commoditized in terms of price.



Developed markets to favor newer technology

The automotive OEM sensor industry in developed markets is dynamic and constantly changing, as new sensing technologies experience massive growth while well-established products face flat or declining prospects as they are superseded by newer technology or integrated into other applications. In developed markets, the coming decade is rapidly shaping up to be one focused on expanding the driver's capabilities to react to events or to see further and anticipate more fully any potential challenge ahead on the roadway, and sensor technologies are slated to play major roles. However, in the medium term, society's new focus on frugality

could signal a reduction in interest in the latest automotive sensor applications.

Emerging markets typically have more basic sensor needs and focus on technologies long-standard in developed countries. Examples include now-basic safety technologies such as standard airbags and antilock brake systems, powertrain and emissions applications, and closed-loop catalytic converter systems. Many of these applications require sensor technologies that have already been perfected in developed markets, and OEMs often select commoditized sensor technologies for use in emerging markets to lower costs. Sensor suppliers face a continuing mandate to deliver more functionality at lower costs.

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Sample Text, Table & Chart

ASIA/PACIFIC

South Korea: Sensor Demand

Demand for OEM automotive sensors in South Korea is expected to increase to \$320 million in 2014, accounting for nearly 14 percent of the total sensor market. This rate of growth represents an increase of 7.8 percent annually from 2004 through 2014, a large part of which is due to the 2009 recession, which increases in demand for sensors in various applications.

**SAMPLE
TEXT**

As in the case of Japan, demand has benefited substantially from the rapid growth in light vehicle production, though production growth will slow after 2014 as companies such as Hyundai and Kia set up transplant assembly facilities in other nations. Like Japan's, South Korea's light vehicle industry is largely geared toward the export market, so OEM sensor demand serves a much larger market than domestic vehicle sales might indicate. Nevertheless, South Korea in 2009 ranked third in the Asia/Pacific region behind Japan and China in terms of OEM automotive sensor demand.

Demand for engine and drivetrain sensors in South Korea is expected to grow 7.8 percent annually to \$320 million in 2014, driven by increased production levels and by the move upscale that Korean automakers are attempting, especially in terms of vehicles slated for export. Safety and security sensor demand will rise nearly ten percent per year to \$285 million in 2014 as Korean OEMs continue to equip vehicles with new active and passive safety technologies. Demand for emission control sensors will rise a healthy 8.2 percent annually to \$110 million, driven by both growing light vehicle production levels and increasing sensor content per vehicle. Entertainment, communication and navigation sensor demand will increase 9.0 percent per year to \$57 million in 2014 with the introduction of new audio, multimedia and navigation system sensors. Demand for other sensors will increase just 5.0 percent annually to \$13 million as upscale-oriented vehicles

175

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TABLE VI-7

SOUTH KOREA: MACROECONOMIC ENVIRONMENT

Item	1999	2004	2009	2014	2019
Population (million persons)					6
GDP/capita		1			0
Gross Domestic Product (bil 2008\$)					5
light vehicle sales/mil \$ GDP					1
Light Vehicle Sales (000)					5
+ net exports & sales from inventory					5
Light Vehicle Production (000)					0

**SAMPLE
TABLE**

CHART VIII-1

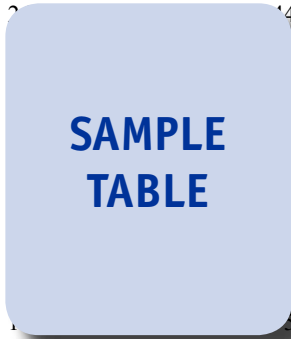
WORLD OEM AUTOMOTIVE SENSOR MARKET SHARE (\$9.1 billion, 2009)



Sample Profile, Table & Forecast

TABLE VI-8
SOUTH KOREA: OEM AUTOMOTIVE SENSOR DEMAND
 (million dollars)

Item	1999	2004	2009	2014	2019
Light Vehicle Production (000)	2,000	2,000	2,000	2,000	2,000
\$ sensors/vehicle					1400
OEM Auto Sensor Demand					280
Engine & Drivetrain					85
Safety & Security					85
Emission Control					25
Entertainment/Comms/Navigation					76
Other					19
% South Korea					1.3
Asia/Pacific OEM Auto Sensor Dmnd					390



COMPANY PROFILES

Lear Corporation
 21557 Telegraph Road
 Southfield, MI 48033
 248-447-1500
 http://www.learcorp.com

Revenues: \$1.9 billion in 2009
 Geographic: North America 36%, Europe 49%, Asia/Pacific 15%
 Employment: 100,000

Key Products: sensor integrated systems

SAMPLE PROFILE

Lear is one of the largest independent suppliers of automotive interior systems in the world. In 2008, the Company operated in two segments: Seating, and Electrical and Electronic. In 2009, the Electrical and Electronic segment began reporting as the Electrical Power Management segment. In November 2009, Lear completed a reorganization and exited bankruptcy protection, which the Company had entered in July 2009.

Lear is active in the world automotive sensor industry via the Electrical Power Management segment, which had 2009 revenues of \$1.9 billion. The segment produces wireless systems, body control modules, electrical distribution systems, smart junction boxes and specialty electronics. Among these products are a variety of sensor integrated systems, including tire pressure monitoring systems and adaptive front lighting systems. The Electrical Power Management segment's tire pressure monitoring systems are sold under the INTELLITIRE brand name. These systems feature sensors that detect tire pressure and temperature, and are engineered to alert the driver when a tire has low

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"Growth in demand in South Korea for automotive sensors is expected to surpass growth levels seen over the 1999-2009 period as overall market conditions stabilize and as the OEMs continue to push up-market. These companies are attempting to move beyond the entry-level vehicle segment in the United States in part by including high levels of electronics and sensor content in their vehicles."

--Section VI, pg. 176

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OTHER STUDIES

Sensors

Demand for sensors in the US will rise 6.1% annually through 2014. The motor vehicle market will grow the fastest based on a rebound in motor vehicle production and the rising use of newer sensor-laden systems. Proximity and positioning and chemical property sensors will be the fastest growing types. This study analyzes the \$9.7 billion US sensors industry, with forecasts for 2014 and 2019 by product and market. The study also reviews sensor technology, evaluates company market share and profiles industry competitors.

#2662 September 2010..... \$4900

Automotive Aftermarket in North America

The aftermarket for light vehicle components in North America will increase 2.9% annually through 2014. Mechanical products will remain the largest category while electronics grow the fastest. The dominant professional service provider segment will outpace the DIY market. This study analyzes the \$66 billion automotive aftermarket in North America, with forecasts for 2014 and 2019 by country (US, Canada, Mexico) and product. It also evaluates company market share and profiles industry participants.

#2606 March 2010..... \$4800

Automotive Aftermarket in China

The automotive aftermarket in China will grow 18.3% yearly through 2014, driven by the country's expanding and aging stock of light vehicles. Mechanical products will remain the most common types, while electronics grow the fastest. Low-speed vehicles will continue to be a key aftermarket in rural areas. This study analyzes the 71 billion yuan automotive aftermarket in China, with forecasts for 2014 and 2019 by product and service performer. It also evaluates company market share and profiles industry participants.

#2621 March 2010..... \$5300

World Motorcycles (including Electric Bicycles & Mopeds)

Global motorcycle demand will grow 7.6% per year through 2013, driven by rising living standards in developing areas that make motorcycles more affordable to use. ICE motorcycles will remain dominant while electric types lead gains. Sales in the Africa/Mideast and Asia/Pacific markets will grow the fastest. This study analyzes the 79.2 million unit world motorcycle industry, with forecasts for 2013 and 2018 by product, world region and for 21 countries. It also evaluates market share and profiles industry players.

#2537 August 2009..... \$5700

World Light-Duty Green Vehicles

Global "green" vehicle demand will grow rapidly through 2013, driven by government subsidies, technology breakthroughs and erratic oil prices. North America will remain the largest and fastest growing market. Conventional hybrid-electric vehicles will surpass natural gas types to become the most commonly sold. This study analyzes the 1.8 million unit world green vehicle industry, with forecasts for 2013 and 2018 by type, world region and for 13 countries. It also evaluates market share and profiles industry players.

#2510 August 2009..... \$5700

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