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Chemical Sensors

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

Study #2716 | January 2011 | \$4800 | 326 pages



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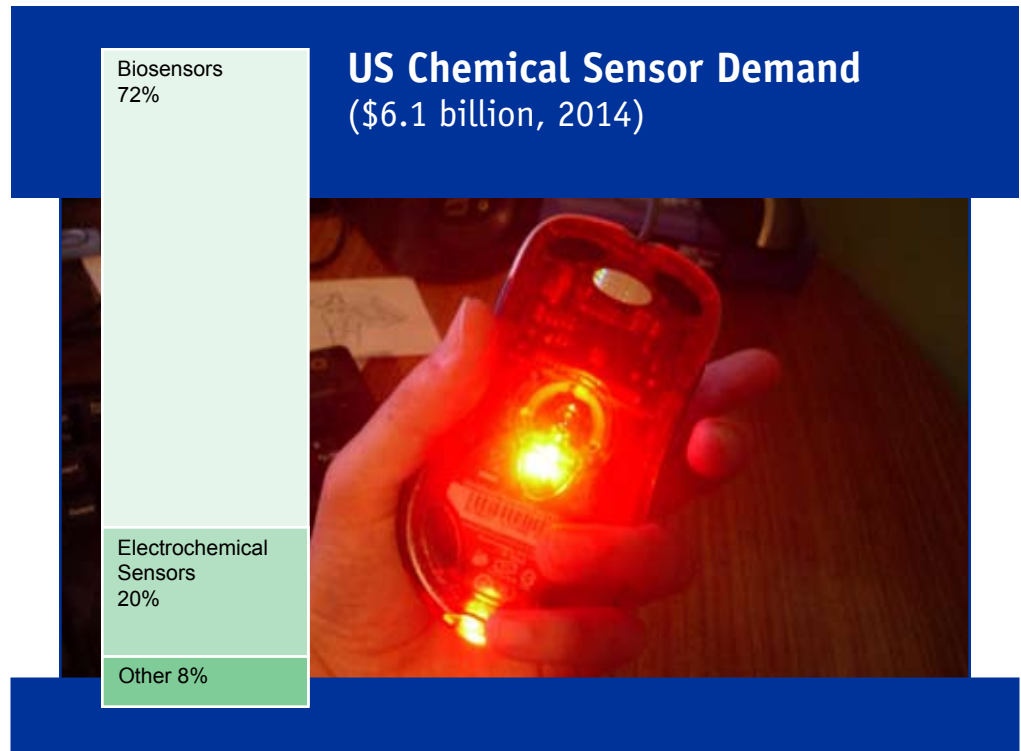
Biosensors will continue to be the largest type of chemical sensor, as the increasing number of diagnosed diabetics boosts demand for glucose test strips.

US demand to grow 8.9% annually through 2014

US demand for chemical sensors is projected to grow 8.9 percent per year to \$6.1 billion in 2014. Biosensors will continue to be the largest type of chemical sensor, as the increasing number of diagnosed diabetics boosts demand for glucose test strips. Overall growth will be supported by recovery in automobile manufacturing and process industries; by technological advances that allow for price reduction and greater precision, which will expand the use of chemical sensors into new markets; and by new applications within existing markets. Demand for chemical sensors based on emerging technologies, such as optical sensors, will see fast gains. Although the largest end use will remain the medical market, growth will be strong in all chemical sensor outlets, which also include industrial and environmental monitoring applications.

Electrochemical sensors to grow the fastest

Through 2014, electrochemical sensors are expected to see the fastest growth, with demand reflecting recovery in manufacturing -- particularly new motor vehicle production -- following the significant downturn that began in late 2007. Optical sensors -- including products based on infrared, fiber optic, photoionization, fluorescence, chemiluminescence, light-emitting diode, laser and ultraviolet technologies -- will also



see substantial gains. Optical sensors will continue to benefit from their high sensitivity, stability, immunity to interference, and product improvements such as smaller size and enhanced ruggedness. Biosensors are expected to provide good opportunities as well. Sales will be boosted by the increasing prevalence of diabetes in the population, and by growing demand for home and point-of-care testing and monitoring tools. While the development of multi-analyte sensors and the use of biosensors in high-density arrays will also support demand, biosensors used outside of medical applications will continue to face considerable challenges from other existing detection and measurement methodologies.

Automotive market to post favorable growth

The large automotive sensor market will post favorable growth due to a rebound in motor vehicle production. In addition, the development of lower-cost, more durable and higher-performance chemical sensors will drive demand in other markets such as process industries, water and wastewater monitoring, and homeland security. Demand in the process industries will also benefit from increasing regulation of food quality prior to distribution. In the medical market, fierce competition among suppliers of blood glucose test strips will lower prices as manufacturers strive to capture or maintain market share.

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Sample Text, Table & Chart

MARKETS

Medical

Demand for chemical sensors in medical applications is to increase \$ billion in 2014. Gain especially r as cholesterol monito narcotics ar detection. These appl however, ar ases compared to glu toring, whe ties will continue. G also result f d miniaturization of t equipment, w to be conducted immedi point-of-care, rather than in laboratories. Diagnostic tests fo point-of-care applications will experience the fastest growth.

Point-of-care diagnosis and monitoring are becoming increasingly popular due to their ability to provide fast, accurate medical information to health care providers. These systems can be costly, and until recently were used primarily in critical care situations. Sensor and equipment producers must face strict regulatory guidelines, as well as the conservative nature of the health care community. The presence of several well-entrenched market leaders in medical diagnostics, coupled with high research and development costs, also makes it difficult for new entrants in this area to achieve financial success. As a result, laboratory analysis still accounts for a large part of medical diagnosis and testing activities. However, the aging of the US population and the attendant need for more extensive medical and diagnostic testing are straining the resources of the cost-conscious health care industry, which is becoming r tive to point-of-care monitors. Improvements in technology production efficiencies are reducing unit costs, with commer increases in use in physicians' offices and clinics.

Biosensors dominate the medical market due to their us glucose and other diagnostic testing. Nonetheless, nearly all

160

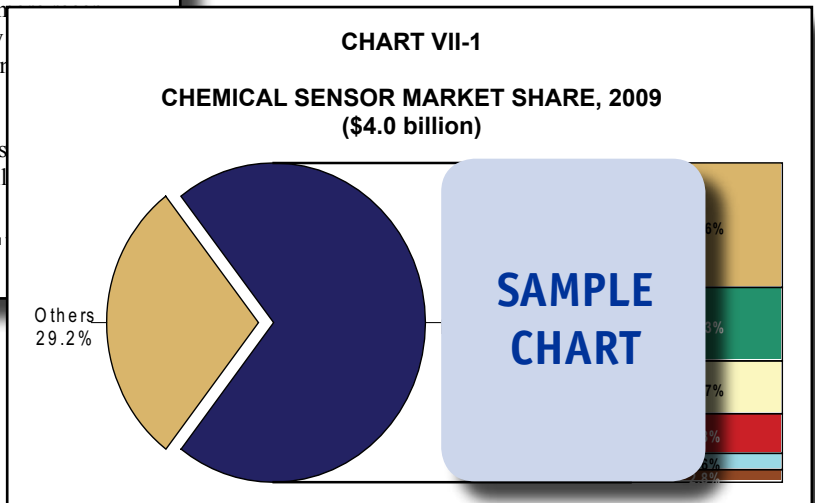
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TABLE V-2
LIQUID & SOLID PHASE CHEMICAL SENSOR DEMAND
 (million dollars)

Item	1999	2004	2009	2014	2019
Chemical Sensor Demand % liquids & solids					
Liquid & Solid Phase Chemical Sensors					
By Analyte:					
Carbohydrates					
pH					
Oxidation-reduction Potential					
Dissolved Gases					
Other					
By Type:					
Biosensor					
Electrochemical					
Other					

SAMPLE TEXT

SAMPLE TABLE



SAMPLE CHART

Sample Profile, Table & Forecast

COMPANY PROFILES

Nova Biomedical Corporation

200 Prospect Street
 Waltham, MA 02454
 781-894-0800
<http://www.nova-biomedical.com>

Annual Sales
 Employment:

Key Products
 monitors blood glucose

Nova Biomedical is one of the largest private US manufacturers of in vitro diagnostics, producing clinical whole blood analyzers for the medical industry, chemistry analyzers used in bioprocessing applications, and blood glucose monitoring devices for diabetes care. In addition to its own products, the Company offers contract manufacturing of diagnostic products and medical devices.

The Company is active in the chemical sensor industry through the development and production of biosensor-based analyzers and blood glucose monitoring systems. Analyzers comprise blood chemistry, gas and electrolyte/chemistry types marketed under the STAT PROFILE and BIOPROFILE brand names that incorporate biosensor and reagent technologies. These systems employ a number of electrochemical biosensor technologies for rapid analysis of various measurements, including blood chemistry, blood gases, electrolytes, metabolites, hematology variables and nutrients. The Company's STAT PROFILE clinical blood gas and critical care analyzers are employed in a range of medical testing applications, including point of care, critical care, emergency department and routine laboratory diagnostic testing settings. In these applications, the analyzers' biosensors enable whole blood testing using

275

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**SAMPLE
PROFILE**

TABLE IV-11

OPTICAL CHEMICAL SENSOR DEMAND (million dollars)

Item	1999	2004	2009	2014	2019
Gross Domestic Product (bil \$)	92	118	142	170	200
\$ sensor/mil \$ GDP					1.1
Optical Sensor Demand				90	110
By Technology:					
Infrared				53	67
Other				37	43
By Analyte:					
Gas Phase				35	45
Liquid Phase				55	65
By Market:					
Environmental Monitoring				48	58
Medical				92	110
Industrial				36	44
Other				64	78
\$/unit				32	38
Optical Sensor Demand (mil units)	2,875	3,600	4,375	5,250	6,316

**SAMPLE
TABLE**

"Demand for optical sensors is forecast to increase 9.5 percent per year to \$260 million in 2014, with nearly all types registering robust gains. Gas detection will remain the largest application, where uses will emphasize detection of VOCs, oxygen and carbon monoxide. Optical sensors are growing in importance for monitoring dissolved gases in medical applications, and fiber optic pH sensors are increasingly important to medical applications; their precision makes them applicable for use in ..."
 --Section IV, pg. 107

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OTHER STUDIES

World In Vitro Diagnostics

This study analyzes the global *in vitro* diagnostic (IVD) product industry. It presents historical demand data (1999, 2004, 2009) and forecasts for 2014 and 2019 by IVD product (e.g., reagents and consumables, instruments and systems), application (e.g., clinical chemistry, immunodiagnostic, nucleic acid, hematology, microbiology, cellular analysis), world region and for 14 countries. The study also considers market environment factors, evaluates company market share and profiles industry participants.

#2724 February 2011 \$6100

World Disposable Medical Supplies

Global demand for disposable medical supplies will increase 5.6% annually through 2014, with developed countries accounting for nearly three-fourths of the market. Wound management supplies will remain the top-selling group while diagnostic and laboratory disposables grow the fastest. This study analyzes the \$125 billion world disposable medical supply industry, with forecasts for 2014 and 2019 by product, world region and for 14 countries. It also evaluates company market share and profiles industry competitors.

#2691 December 2010 \$5900

World Food Safety Products

Global food safety product demand will rise 8.1% yearly through 2014, driven by gains in food and beverage processing activity and increasingly strict food safety regulations. Best opportunities will be found in the Asia/Pacific region, while the US will remain the largest national market. This study analyzes the \$9.2 billion global food safety product industry, with forecasts for 2014 and 2019 by product, market, world region and for 17 countries. It also evaluates company market share and profiles industry participants.

#2693 November 2010 \$5800

Enzymes

US demand for enzymes will rise 4.8% annually through 2014. Gains will be driven by continued expansion of higher-value specialty enzymes in pharmaceuticals, diagnostics, research and biotechnology, and biocatalysts. In the biofuels segment, growth will moderate as the industry transitions to cellulases for producing biomass ethanol. This study analyzes the \$2.2 billion US enzymes industry, with forecasts for 2014 and 2019 by market and product. It also evaluates company market share and profiles industry competitors.

#2670 September 2010 \$4900

Nanotechnology in Health Care

US demand for nanosized medical products will grow 17.1% yearly though 2014. Cancer and central nervous system disorders will be the fastest growing applications. Nanomedicines will provide the best opportunities, while nanotech medical supplies and devices grow the fastest from a small base. This study analyzes the \$34.2 billion US nanotechnology medical product industry, with forecasts for 2014 and 2019 by product and application. It also evaluates company market share and profiles industry participants.

#2622 June 2010 \$4800

About The Freedonia Group

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