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[Table of Contents 2](#)

[List of Tables & Charts 3](#)

[Study Overview 4](#)

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

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

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# World Nanomaterials

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Industry Study with Forecasts for **2013, 2018 & 2025**

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Study #2612 | March 2010 | \$5900 | 456 pages

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## Table of Contents

### EXECUTIVE SUMMARY

### MARKET ENVIRONMENT

General .....	4
World Economic Overview .....	5
Recent Historical Trends .....	5
World Economic Outlook .....	8
World Per Capita Gross Domestic Product ..	11
World Personal Consumption & Expenditure Trends.....	13
World Population Trends.....	14
World Manufacturing Outlook .....	16
World Electricity/Power Generation Outlook..	17
World Electronics Overview .....	19
World Construction Overview.....	21
World Health Expenditures Outlook .....	23
Nanotechnology Overview.....	26
Definitions.....	27
Nanomaterials Overview .....	28
Size.....	29
Conventional Materials .....	31
New Materials .....	32
Research & Development Spending .....	32
United States.....	33
European Union.....	35
Japan .....	36
Other.....	37
Environmental & Regulatory Issues .....	39
World Nanomaterial Demand .....	41

### MATERIALS OVERVIEW

General .....	45
Metal Oxides .....	49
Silica .....	51
Aluminum Oxide/Hydroxide .....	53
Titanium Dioxide .....	55
Zinc Oxide .....	57
Iron Oxide .....	58
Other Metal Oxides.....	60
Chemicals & Polymers .....	62
NANOCRYSTAL Medicines .....	63
Liposomes .....	65
Other Chemicals & Polymers.....	67
Metals.....	69
Nanotubes .....	73
Multi-Wall Nanotubes .....	76
Single-Wall Nanotubes .....	78
Other Nanomaterials.....	80
Conventional Materials .....	81
Clays .....	82
Minerals & Ceramics .....	84

New Materials.....	84
Fullerenes.....	85
Quantum Dots .....	87
Dendrimers .....	88
All Other .....	91

### MARKET OVERVIEW

General .....	93
Electronics.....	96
Semiconductors .....	98
Displays .....	100
Other Electronics .....	102
Health Care.....	104
Pharmaceuticals .....	106
Therapeutic Agents .....	108
Drug Delivery Systems .....	110
Other Health Care .....	113
Construction .....	116
Paints & Coatings .....	117
Glass .....	120
Flooring .....	122
Other Construction.....	123
Energy Generation & Storage.....	125
Other Markets.....	128
Personal Care Products.....	129
Textiles .....	131
Packaging, Paper & Printing .....	133
Machinery.....	134
Motor Vehicles.....	136
Aerospace & Defense .....	138
All Other .....	139

### THE AMERICAS

Overview .....	142
Nanomaterial Demand.....	144
United States .....	147
Canada.....	155
Brazil.....	160
Mexico .....	165
Other Americas .....	170

### WESTERN EUROPE

Overview .....	177
Nanomaterial Demand.....	179
Germany.....	182
United Kingdom.....	190
France.....	197
Italy .....	203
Other Western Europe .....	207

### ASIA/PACIFIC

Overview .....	213
Nanomaterial Demand.....	215

Japan.....	218
Taiwan .....	230
South Korea .....	235
China .....	241
Australia.....	248
India .....	253
Other Asia/Pacific .....	257

### OTHER REGIONS

Eastern Europe .....	264
Russia.....	267
Other Eastern Europe.....	273
Africa/Mideast.....	277

### INDUSTRY STRUCTURE

General .....	283
Participants .....	284
Pure Play Companies .....	285
Materials Producers .....	286
End Users .....	287
Cooperative Agreements.....	288
Acquisitions & Divestitures.....	294
Competitive Strategies.....	296
Research & Development.....	297
United States .....	298
Japan .....	300
Western Europe .....	301
Other Regions .....	302
Manufacturing .....	305
Marketing & Distribution.....	307

### COMPANY PROFILES..... 309-456

## List of Tables/Charts

### EXECUTIVE SUMMARY

1 Summary Table.....	3
----------------------	---

### MARKET ENVIRONMENT

1 World Gross Domestic Product.....	11
2 World Per Capita Gross Domestic Product .....	12
3 World Personal Consumption Expenditures.....	14
4 World Population .....	15
5 World Manufacturing Value Added.....	17
6 World Electricity Generation .....	19
7 World Electronic Product Shipments.....	20
8 World Construction Expenditures .....	23

## List of Tables/Charts

(continued from previous page)

- 9 World Health Expenditures ..... 26
- 10 Nanomaterials: Size Comparison  
with Other Objects..... 29
- Cht Surface Area-to-Volume Comparison..... 30
- 11 World Nanotechnology Government  
R&D Spending by Region ..... 33
- 12 World Nanomaterial Demand by Region 43
- Cht World Nanomaterial Demand  
by Region, 2013..... 44

### MATERIALS OVERVIEW

- 1 World Nanomaterial Demand by Type.... 48
- Cht Share of Nanomaterial Demand  
by Type, 2003-2025 ..... 48
- 2 Metal Oxide Nanomaterial  
Demand by Region..... 51
- 3 Chemical & Polymer Nanomaterial  
Demand by Region..... 63
- 4 Metal Nanomaterial Demand by Region. 72
- Cht Carbon Nanotube..... 74
- 5 Nanotube Demand by Region..... 76
- 6 Selected Multi-Wall Carbon  
Nanotube Capacity Increases..... 78
- 7 Other Nanomaterial Demand by Region. 81
- Cht Fullerene..... 86
- Cht Dendrimer ..... 89

### MARKET OVERVIEW

- 1 World Nanomaterial Demand by Market. 95
- Cht Share of Nanomaterial Demand  
by Market, 2003-2025 ..... 95
- 2 Electronics Market for Nanomaterials  
by Region ..... 98
- 3 Health Care Market for Nanomaterials  
by Region ..... 106
- 4 Construction Market for Nanomaterials  
by Region ..... 117
- 5 Energy Generation & Storage Market  
for Nanomaterials by Region ..... 128
- 6 Other Markets for Nanomaterials  
by Region ..... 129

### THE AMERICAS

- 1 The Americas -- Key Indicators  
for Nanomaterial Demand..... 144
- 2 The Americas -- Nanomaterial  
Demand by Type & Market..... 146
- Cht The Americas: Nanomaterial  
Demand by Country, 2013 ..... 147

- 3 United States -- Key Indicators  
for Nanomaterial Demand..... 149
- 4 United States -- Nanomaterial  
Demand by Type & Market..... 151
- 5 Canada -- Key Indicators  
for Nanomaterial Demand..... 156
- 6 Canada -- Nanomaterial  
Demand by Type & Market..... 158
- 7 Brazil -- Key Indicators  
for Nanomaterial Demand..... 161
- 8 Brazil -- Nanomaterial  
Demand by Type & Market..... 164
- 9 Mexico -- Key Indicators  
for Nanomaterial Demand..... 166
- 10 Mexico -- Nanomaterial  
Demand by Type & Market..... 169
- 11 Other Americas -- Key Indicators  
for Nanomaterial Demand..... 172
- 12 Other Americas -- Nanomaterial  
Demand by Type & Market..... 175

### WESTERN EUROPE

- 1 Western Europe -- Key Indicators  
for Nanomaterial Demand..... 178
- 2 Western Europe -- Nanomaterial  
Demand by Type & Market..... 181
- Cht Western Europe: Nanomaterial  
Demand by Country, 2013 ..... 182
- 3 Germany -- Key Indicators  
for Nanomaterial Demand..... 184
- 4 Germany -- Nanomaterial  
Demand by Type & Market..... 186
- 5 United Kingdom -- Key Indicators  
for Nanomaterial Demand..... 191
- 6 United Kingdom -- Nanomaterial  
Demand by Type & Market..... 194
- 7 France -- Key Indicators  
for Nanomaterial Demand..... 198
- 8 France -- Nanomaterial  
Demand by Type & Market..... 201
- 9 Italy -- Key Indicators  
for Nanomaterial Demand..... 204
- 10 Italy -- Nanomaterial  
Demand by Type & Market..... 206
- 11 Other Western Europe -- Key Indicators  
for Nanomaterial Demand..... 208
- 12 Other Western Europe -- Nanomaterial  
Demand by Type & Market..... 210

### ASIA/PACIFIC

- 1 Asia/Pacific -- Key Indicators  
for Nanomaterial Demand..... 215
- 2 Asia/Pacific -- Nanomaterial  
Demand by Type & Market..... 217

- Cht Asia/Pacific: Nanomaterial  
Demand by Country, 2013 ..... 218
- 3 Japan -- Key Indicators  
for Nanomaterial Demand..... 220
- 4 Japan -- Nanomaterial  
Demand by Type & Market..... 223
- 5 Taiwan -- Key Indicators  
for Nanomaterial Demand..... 231
- 6 Taiwan -- Nanomaterial  
Demand by Type & Market..... 234
- 7 South Korea -- Key Indicators  
for Nanomaterial Demand..... 237
- 8 South Korea -- Nanomaterial  
Demand by Type & Market..... 240
- 9 China -- Key Indicators  
for Nanomaterial Demand..... 243
- 10 China -- Nanomaterial  
Demand by Type & Market..... 246
- 11 Australia -- Key Indicators  
for Nanomaterial Demand..... 249
- 12 Australia -- Nanomaterial  
Demand by Type & Market..... 251
- 13 India -- Key Indicators  
for Nanomaterial Demand..... 254
- 14 India -- Nanomaterial  
Demand by Type & Market..... 256
- 15 Other Asia/Pacific -- Key Indicators  
for Nanomaterial Demand..... 259
- 16 Other Asia/Pacific -- Nanomaterial  
Demand by Type & Market..... 262

### OTHER REGIONS

- 1 Eastern Europe -- Key Indicators  
for Nanomaterial Demand..... 265
- 2 Eastern Europe -- Nanomaterial  
Demand by Type & Market..... 267
- 3 Russia -- Key Indicators  
for Nanomaterial Demand..... 269
- 4 Russia -- Nanomaterial  
Demand by Type & Market..... 272
- 5 Other Eastern Europe -- Key Indicators  
for Nanomaterial Demand..... 274
- 6 Other Eastern Europe -- Nanomaterial  
Demand by Type & Market..... 276
- 7 Africa/Mideast -- Key Indicators  
for Nanomaterial Demand..... 278
- 8 Africa/Mideast -- Nanomaterial  
Demand by Type & Market..... 280

### INDUSTRY STRUCTURE

- 1 Selected Cooperative Agreements ..... 290
- 2 Selected Acquisitions & Divestitures .. 295

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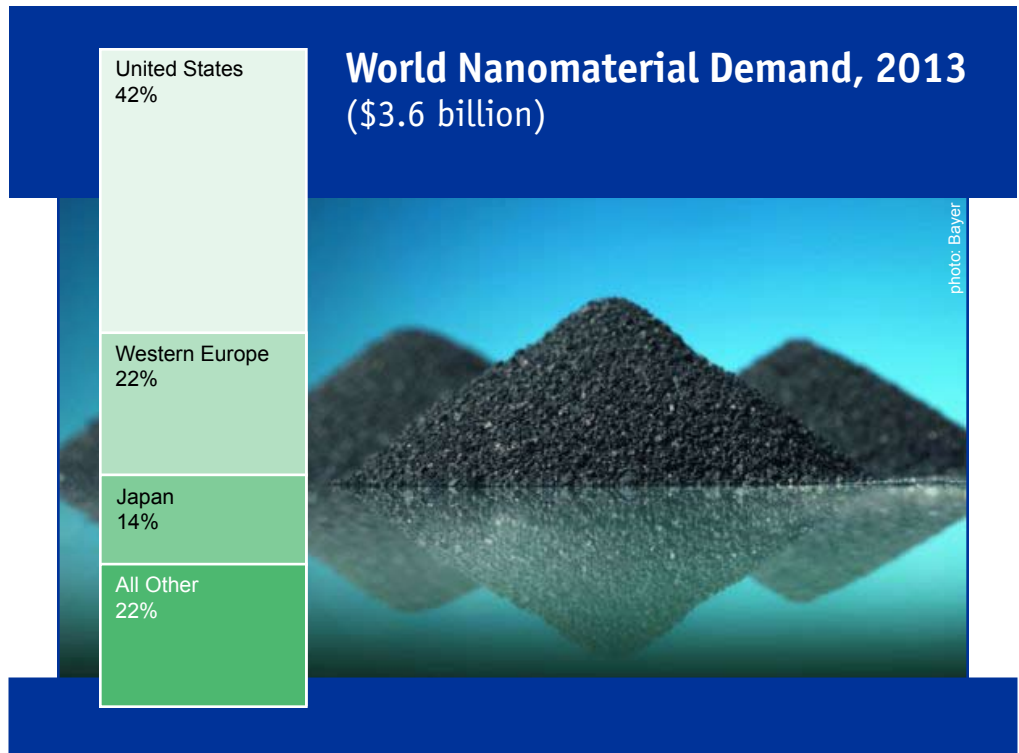
*While market demand has not matched the considerable hype generated over the past decade and a half, nanomaterials are expected to reach over \$34 billion in sales by 2025.*

## Global demand to rise 21% yearly through 2013

While market demand has not matched the considerable hype that nanotechnology has generated over the past decade and a half, nanomaterials have managed to attain an appreciable commercial presence in recent years. Global nanomaterial demand will continue to rise, posting robust 21 percent annual gains to \$3.6 billion in 2013. By 2025, nanomaterials are expected to reach over \$34 billion in sales, having still only scratched the surface of their immense market potential.

## Health care, electronics to be key markets

Many of the initial uses for nanomaterials which have had the greatest commercial impact have involved relatively low-tech materials and applications. These include nanoscale versions of conventional materials, including silica, alumina, titanium dioxide, clays and metals such as gold and silver. These nanomaterials have found widespread applications as wafer polishing slurries for semiconductor processing, personal care products such as sunscreen, and antibacterial treatments for consumer products. In the next decade or two, however, some of the relatively novel nanomaterials, particularly carbon nanotubes, will account for a larger share of overall nanomaterial demand, as these products find increasing use in electronics and motor vehicle components.



Health care was the second largest market for nanomaterials in 2008, but is expected to overtake electronics as the leading outlet in 2013 and beyond. Nanomaterial-based pharmaceuticals, which include nanoscale drug delivery systems as well as nanosized drug active ingredients, have enjoyed a significant degree of commercial success to date. In the future, it is expected that nanomaterials will expand from pharmaceuticals into other medical product and health care applications, including diagnostics, imaging and dental care. Additionally, the range of nanomaterials used will broaden as well, encompassing nanotubes, nanoscale metals and new materials such as dendrimers and quantum dots.

## US to remain largest market through 2025

In 2008, the US and Japan combined to account for over half of world nanomaterial demand, while Western Europe and two high-income Asian nations, Taiwan and South Korea, represented an additional 34 percent. While virtually all nanomaterial markets will experience robust double-digit gains in demand, the fastest gains are forecast for the rapidly industrializing countries of China and India. By 2025, it is expected that China will rise to overtake Japan as the second largest market for nanomaterials in the world behind the United States, accounting for twelve percent of global demand.

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## Sample Text, Table & Chart

### ASIA/PACIFIC

#### Taiwan: Nanomaterial Demand

Demand for nanomaterials in Taiwan is projected to rise from \$1.2 billion in 2003 to \$10 billion by 2025. Demand is projected to be the major market for nanomaterials in Asia. The country has, by 2008, become the largest market for nanomaterials in the world. The ratio in the US market derives primarily from the large semiconductor manufacturing industry, as electronics account for nearly 80 percent of all Taiwanese nanomaterial demand. Going forward, the commercial success of nanomaterials in Taiwan hinges strongly upon the successful development and commercialization of electronic products that incorporate nanoscale materials. A number of consumer, health care and energy-related applications are expected to emerge over the next decade or two, electronics will account for a lion's share of demand in Taiwan for the near future, a larger share than in any other nation.

Taiwan is a major manufacturer of a broad array of electronic products which offer potential markets for nanomaterials, with particularly strong positions in high-volume applications such as semiconductors, notebook computers and displays such as desktop monitors and television sets. Like many sectors of its industrial economy, the Taiwanese electronics industry is heavily export-oriented, with much output targeted at the country's regional neighbors (including China) as well as the US. Applications targeting the use of nanomaterials in Taiwan's electronics sector include nanoscale components of semiconductors, printed circuit boards, displays, quantum dot lasers and high density data storage.

Taiwan is the world's second leading producer of semiconductors, trailing only Japan. Currently, this market accounts for the largest material usage in Taiwan, particularly nanoscale metal oxides.

232

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TABLE VII-6

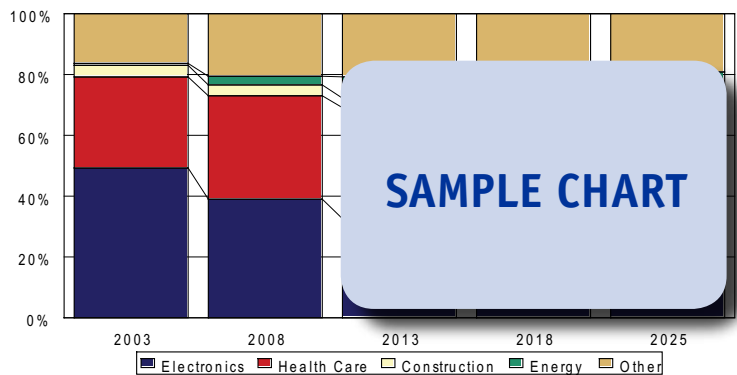
TAIWAN -- NANOMATERIAL DEMAND BY TYPE & MARKET  
(million US dollars)

Item	2003	2008	2013	2018	2025
Gross Domestic Product (bil 2007 US\$)					
\$ nanomaterial/mil \$ GDP					
Nanomaterial Demand					
By Type:					
Metal Oxides					
Chemicals & Polymers					
Metals					
Nanotubes					
Other					
By Market:					
Electronics					
Health Care					
Construction					
Energy					
Other					

SAMPLE TABLE

CHART IV-1

SHARE OF NANOMATERIAL DEMAND BY MARKET, 2003-2025



SAMPLE CHART





**OTHER STUDIES**

**World Specialty Silicas**

World specialty silicas demand will rise 6.3% yearly through 2014, driven by growth in key silica markets such as tires, rubber, chemicals and agricultural products. Precipitated silica will remain the dominant product type and lead gains. The Asia/Pacific region will grow at the fastest pace. This study analyzes the two million metric ton world specialty silica industry, with forecasts for 2014 and 2019 by product, market, world region and for 14 countries. It also details company market share and profiles industry participants.

#2644 ..... June 2010 ..... \$5800

**Nanotechnology in Health Care**

US demand for nanosized medical products will grow 17.1% yearly through 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

**Membrane Separation Technologies**

US demand for membrane materials will rise 8% per year through 2014. Nonpolymeric membranes will outpace the dominant polymeric segment. Ultrafiltration and reverse osmosis types will be the fastest growing. Chemical processing and pharmaceutical/medical uses will be among the best market opportunities. This study analyzes the \$3.3 billion US membrane industry, with forecasts for 2014 and 2019 by type, application and market. It also evaluates company market share and profiles industry players.

#2632 ..... May 2010 ..... \$4900

**World Carbon Black**

World demand for carbon black is forecast to rise 4.3% annually through 2013. Growth in the non-tire rubber product market will outpace growth in the dominant motor vehicle tire sector, while the smaller special blacks market will rise the fastest. The Asia/Pacific region will post the strongest gains. This study analyzes the 9.4 million metric ton world carbon black industry, with forecasts for 2013 and 2018 by market, world region and for 25 countries. It also evaluates company market share and profiles industry players.

#2596 ..... February 2010 ..... \$5700

**World Kaolin**

Global demand for processed kaolin clay products will reach 24.8 million metric tons in 2013, based in part on an improved paper market, which will offset a slower ceramics market. Strong growth in developing Asian countries will account for most new kaolin demand, with China alone claiming over half of the global gain. This study analyzes the \$3.1 billion world kaolin industry, with forecasts for 2013 and 2018 by market, world region and for 20 countries. It also evaluates company market share and profiles industry players.

#2579 ..... December 2009 ..... \$5700

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