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World Membrane Separation Technologies

Industry Study with Forecasts for **2012 & 2017**

Study #2468 | April 2009 | \$5700 | 393 pages

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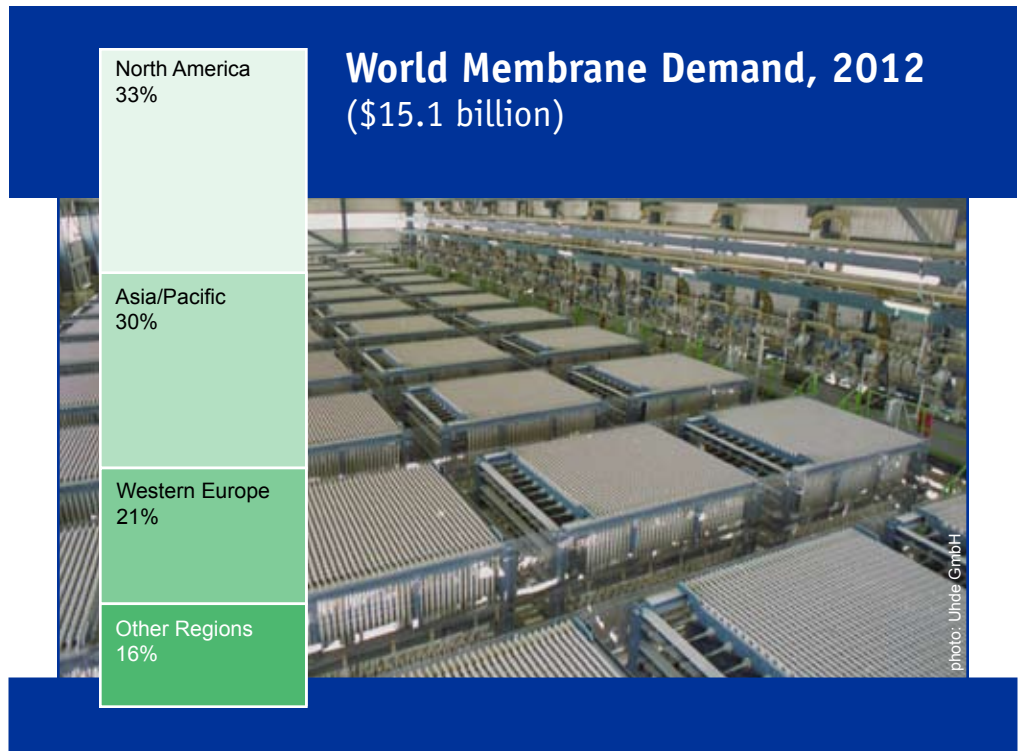
Increased attention paid to water quality and scarcity, the disposal of industrial and other waste streams, and food and beverage safety regulations will help propel membrane sales.

Global demand to grow 8.6% yearly through 2012

Global demand for membranes is projected to increase a healthy 8.6 percent annually to over \$15 billion in 2012. The BRIC countries and others with large, developing industrial bases and stressed local water resources are expected to post the strongest gains through the forecast period. Increased attention paid to water quality, the disposal of industrial and other waste streams, and food and beverage safety regulations will propel membrane sales. Gains in global membrane demand will also be driven by interest in water re-use and material reclamation because of the rising price of raw water and other inputs, and concerns about the environment, particularly water scarcity in many parts of the world.

North America to remain largest regional market

North America, the largest regional market, accounted for one-third of global membrane sales in 2007 and will advance a strong 8.3 percent annually through 2012. Gains in the US market are projected to be aided by upgrades of water treatment techniques to accommodate newer water quality regulations and the use of low quality water resources in the water-stressed regions. Also, a growing number of industries use membranes to reduce water use and waste disposal expenditures. Unlike in many other industries, the US is expect-



ed to account for a larger share of global growth than China through 2012. Canada's membrane market is much smaller than that of the US, but benefits from comparable industrial development, regulations and investment in water treatment technologies. The Mexican market is smaller still and much less advanced because of its lower level of investment in water and wastewater treatment, and the relative lack of industries that require ultrapure water. Still, growth will be strong as regulations tighten and investment increases.

In developing countries, gains are based on the continued growth of water-intensive industries, increased need to tap brackish or otherwise poor quality

water resources, and rising investment in modernizing water and waste infrastructure. However, in many of the least developed countries -- especially in Africa and parts of South Asia -- growth will be more limited due to lack of adequate funding and local corruption that impedes progress.

Much of the Middle East has invested heavily in seawater and brackish water treatment to ensure a sufficient supply of water for drinking, agricultural and industrial purposes. Until recently, much of that came from thermal distillation plants; however, even oil-rich nations are increasingly shifting to more efficient desalination systems based on reverse osmosis membranes.

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Sample Text, Table & Chart

ASIA/PACIFIC

South Korea: Membrane Markets

In 2007, South Korea was the fourth largest market for membrane-based desalination in the Asia/Pacific region, with seven percent of sales. Although the country is expected to post double-digit gains in membrane-based desalination through 2012, this rate will still be below the regional average due to faster growth projected for China and India, two much larger markets.

Water and wastewater treatment markets for membranes are expected to be the largest shares of demand in the Asia/Pacific region, respectively. Advances in the water treatment market will benefit from the presence of a significant number of manufacturers, including electronics and electronic components manufacturers, which demand for ultra-pure water that is produced using membrane-based water treatment in general has expanded in strength in South Korea. The country's pharmaceutical and chemical industries will drive membrane gains for similar reasons. Additionally, these two markets also generally require membrane treatment of more than input water, but also of the various components of the end products as they move through process steps. Gains in the water treatment market will also be aided by rising concerns about drought, drinking water quality and the availability of enough water to satisfy a growing urban population. Because of these concerns, the country is increasingly adopting more stringent water and wastewater regulations.

Additionally, after concentrating on providing thermal desalination technology to the Middle East, South Korea has begun shifting its resources toward membrane-based desalination. Not only are membrane-based systems becoming the option of choice in a growing share of new desalination construction worldwide, the technology more closely aligns with their needs. For instance, the SeaHERO (Seawater Engineering & Architecture of High Efficiency Reverse Osmosis) program was launched by the South Korean government in August 2007 with a \$170 million investment.

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SAMPLE TEXT

TABLE VI-17

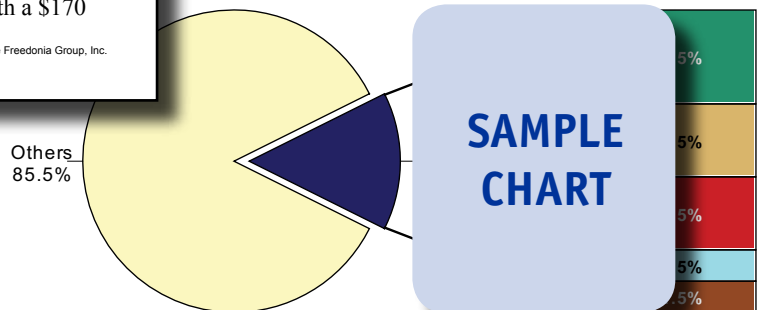
SOUTH KOREA: MEMBRANE DEMAND BY MARKET (million dollars)

Item	1997	2002	2007	2012	2017
Manufacturing Value Added (bil 2006\$)					
\$ membrane/000\$ MVA					
South Korea Membrane Demand					
Water Treatment					
Wastewater Treatment					
Food & Beverage Processing					
Pharmaceutical & Medical					
Other					

SAMPLE TABLE

CHART VIII-1

MEMBRANE MARKET SHARE BY COMPANY, 2007 (\$10 billion)



SAMPLE CHART

Sample Profile, Table & Forecast

TABLE VI-16
SOUTH KOREA: MEMBRANE DEMAND BY TYPE
 (million dollars)

Item	1997	2002	2007	2012	2017
Manufacturing Value Added (bil 2006\$)					102
\$ membrane/000\$ MVA					1.0
South Korea Membrane Demand					93
Microfiltration					76
Reverse Osmosis					27
Ultrafiltration					97
Other					93
% South Korea					5.8
Asia/Pacific Membrane Demand	10				235



COMPANY PROFILES

Membrane Technology and Research Incorporated
 1360 Willow Road, Suite 103
 Menlo Park, CA 94025
 650-328-2228
 http://www.mtr.com

Annual Sales:
 Employment:

Key Products: membrane separation systems

SAMPLE PROFILE

Membrane Technology and Research (MTR) specializes in the design and manufacture of membrane-based gas separation systems for petrochemical plants, refineries and gas processing facilities. The privately held company conducts administrative, research and manufacturing activities at its headquarters complex in Menlo Park, California. MTR also maintains sales offices in Houston, Texas and Brussels, Belgium, and markets its products worldwide via sales agents.

The Company manufactures membrane-based gas separation systems primarily under the VAPORSEP tradename. These systems utilizes the MTR's proprietary VAPORSEP process, which combines a compression/condensation step with a membrane separation step. Specifically, a feed gas is first compressed and cooled, thereby condensing a portion of the hydrocarbons in the gas. Liquid hydrocarbons are then recovered and the remaining gas is fed through a VAPORSEP synthetic polymer membrane, which separates the gas into a hydrocarbon-rich permeate stream and a hydrocarbon-depleted residue stream. In the petrochemical industry, VAPORSEP systems are used to recover hydrocarbons and nitrogen from vent streams in the production of polypropylene, ethylene oxide, vinyl acetate monomer, polyethylene and

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“Demand for membranes in South Korea is expected to increase 10.2 percent per year to \$317 million in 2012. Advances will be driven by periods of drought and rising concern about pending water shortages. Additionally, growth in demand for membranes will also be supported by the country’s solid markets in pharmaceuticals, chemicals, electronics and other industries that require ultrapure water for processing or as an input. Furthermore,...”

--Section VI, pg. 193

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OTHER STUDIES

World Nonwovens

Global demand for nonwoven fabrics is forecast to rise 6.9% yearly through 2012. Gains in developing parts of Asia/Pacific, Eastern Europe, Africa/Mideast and Latin America will outpace demand in developed countries. Spunmelt nonwovens, the largest segment, will also grow the fastest. This study analyzes the \$21.2 billion world nonwovens industry, with forecasts for 2012 and 2017 by formation process, application, market, world region and for 19 national markets. It also evaluates market share and profiles industry players.

#2482 03/2009..... \$5600

World Water Disinfection

Global water disinfection product demand will grow 7.4% yearly through 2012. Markets in China, India and other developing countries with large industrial sectors will grow the fastest. In mature markets like North America, growth will be driven by upgrades to better performing specialty chemicals. This study analyzes the \$5.2 billion world water disinfection industry, with forecasts for 2012 and 2017 by product, market, world region and for 17 major countries. It also evaluates company market share and profiles industry players

#2412 10/2008..... \$5700

Water Treatment in China

Demand for water treatment products in China will soar 15.5% annually through 2012. Filters and membranes will be the fastest growing segments, although all types will see double-digit gains. The industrial sector will remain the largest market, but will be outpaced by municipal and other end uses. The study analyzes the ¥20.4 billion water treatment product industry in China, with forecasts for 2012 and 2017 by product, market and region. It also evaluates company market share and profiles leading industry players.

#2329 04/2008..... \$5100

Membrane Separation Technologies

US membrane material demand will rise 8.2% annually through 2012, driven by ongoing interest in higher purity process fluids and increasingly strict water/wastewater quality rules. The best opportunities will emerge in pharmaceutical and medical markets, and water and wastewater treatment will remain the largest markets. This study analyzes the \$2.9 billion US membrane industry, with forecasts for 2012 and 2017 by type, application and market. It also details market share and profiles major players.

#2307 03/2008..... \$4600

World Filters

Global filter demand will climb 5.6% annually through 2011. Developing areas will lead gains based on faster-growing economies and the enactment of stricter environmental laws. China, India and Russia will post some of the strongest sales growth. Air and fluid filters will be the fastest growing types. This study analyzes the \$37 billion world filter industry, with forecasts for 2011 and 2016 by product, market, world region and for 26 countries. It also evaluates company market share and profiles major players.

#2295 03/2008..... \$5800

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