Abstract

Membrane technologies experienced significant development in the last decades. The market continues to show strong growth worldwide driven by ever stricter environmental regulations, advancement of material science and process technologies, challenges related to water supply and sanitation, exploration of new applications, rapidly increasing demand in developing regions, etc.

Global demand on membrane modules in water treatment and industrial uses combined was valued at approximately US$20.8 billion in 2017. Growing by 7.0% annually in the coming years, the market is expected to approach US$25 billion by 2019 and to approach US$32.7 billion by 2023.

Chemical processing and water treatment present the largest application markets of membrane technologies. North America and Western Europe remain the key leaders for membrane systems and filtration technologies. With unique properties, distinct performance characteristics, and technology innovations and developments, the market presents promising prospect and huge potential.

Acmite Market Intelligence has finished a most comprehensive report on the global membrane technology market. It is ready for order.

The report examines the current products, technologies and application areas, provides extensive market data of 2017, and market forecast through 2021 to 2026. It also outlines the competition landscape, evaluates market chances and risks and anticipates future trends and chances based on a series of influence factors.

- 265 pages analyzing the market
- 70 data tables
- 265 manufacturers of membrane products profiled

With a multi-dimensional and in-depth view of the global technology membrane market, this report is ideal help for you with decisions about market penetration, business expansion or project feasibility analysis.
# Table of Contents

**Volume I**

1 Market definition and segmentation................................................. 1  
1.1 Membrane and membrane module.............................................. 1  
1.2 Membrane technology and applications................................... 4  
1.3 Review of membrane technology market................................. 8  
1.4 Scope of market estimation.................................................... 11  

2 World economic environment........................................................... 13  

3 Overview of membrane technology market....................................... 19  
3.1 Market size and outlook.......................................................... 19  
3.1.1 Membrane module market by media.................................... 19  
3.1.2 Membrane module market by module type............................ 22  
3.1.3 Membrane module market by technology.............................. 24  
3.1.4 Membrane module market by application............................. 27  
3.1.5 Membrane module demand by region.................................. 30  
3.1.6 Membrane module production by region ............................... 33  
3.2 Market trends and chances...................................................... 36  
3.3 Industry dynamics.................................................................... 47  
3.4 Investment, M&A...................................................................... 71  
3.5 Competition analysis............................................................... 96  

4 Market by membrane media............................................................... 120  
4.1 Polymeric membrane................................................................. 120  
4.1.1 Products and uses.................................................................. 120  
4.1.2 Polymeric membrane market size and forecast...................... 122  
4.1.2.1 Polymeric membrane market by material.......................... 122
4.1.2.2 Polymeric membrane market by technology ........................................... 123
4.2 Inorganic membrane ....................................................................................... 124
4.2.1 Products and uses ....................................................................................... 124
4.2.2 Inorganic membrane market size and forecast ............................................. 127
4.2.2.1 Inorganic membrane market by material ............................................... 127
4.2.2.2 Inorganic membrane market by technology ............................................. 128
4.3 Hybrid membrane .......................................................................................... 129

5 Market by module type ....................................................................................... 130
5.1 Products and uses .......................................................................................... 130
5.2 Spiral-wound membrane market by process technology .................................. 134
5.3 Hollow fiber membrane market by application .............................................. 135
5.4 Tubular membrane market by application .................................................... 136
5.5 Plate-and-frame membrane modules ............................................................. 137
5.6 Other membrane modules ............................................................................. 138

6 Market by technology ......................................................................................... 139
6.1 Microfiltration ................................................................................................. 139
6.1.1 Products, features and applications .............................................................. 139
6.1.2 Market data and forecast ............................................................................ 142
6.1.2.1 Membrane module market for MF by module type ................................. 144
6.1.2.2 Membrane module market for MF by media ........................................... 145
6.1.2.3 Membrane module market for MF by application .................................. 146
6.1.2.4 Membrane module market for MF by region .......................................... 147
6.2 Ultrafiltration .................................................................................................. 148
6.2.1 Products, features and applications .............................................................. 148
6.2.2 Market data and forecast ............................................................................ 151
6.2.2.1 Membrane module market for UF by module type ................................. 153
6.2.2.2 Membrane module market for UF by media ........................................... 154
6.2.2.3 Membrane module market for UF by application .................................. 155
6.2.3.4 Membrane module market for UF by region .......................................... 156
6.3 Reverse osmosis /nanofiltration ...................................................................... 157
<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.2.2.1</td>
<td>Membrane module demand in water treatment by technology</td>
<td>198</td>
</tr>
<tr>
<td>7.2.2.2</td>
<td>Membrane module demand in water treatment by segment</td>
<td>199</td>
</tr>
<tr>
<td>7.2.2.3</td>
<td>Membrane module demand in water treatment by region</td>
<td>200</td>
</tr>
<tr>
<td>7.3</td>
<td>Wastewater treatment</td>
<td>201</td>
</tr>
<tr>
<td>7.3.1</td>
<td>Application and market segmentation</td>
<td>201</td>
</tr>
<tr>
<td>7.3.2</td>
<td>Market data and forecast</td>
<td>203</td>
</tr>
<tr>
<td>7.3.2.1</td>
<td>Membrane module demand in wastewater treatment by technology</td>
<td>205</td>
</tr>
<tr>
<td>7.3.2.2</td>
<td>Membrane module demand in wastewater treatment by segment</td>
<td>206</td>
</tr>
<tr>
<td>7.3.2.3</td>
<td>Membrane module demand in wastewater treatment by region</td>
<td>207</td>
</tr>
<tr>
<td>7.4</td>
<td>Food &amp; beverage</td>
<td>208</td>
</tr>
<tr>
<td>7.4.1</td>
<td>Application and market segmentation</td>
<td>208</td>
</tr>
<tr>
<td>7.4.2</td>
<td>Market data and forecast</td>
<td>210</td>
</tr>
<tr>
<td>7.4.2.1</td>
<td>Membrane module demand in food &amp; beverage by technology</td>
<td>212</td>
</tr>
<tr>
<td>7.4.2.2</td>
<td>Membrane module demand in food &amp; beverage by segment</td>
<td>213</td>
</tr>
<tr>
<td>7.4.2.3</td>
<td>Membrane module demand in food &amp; beverage by region</td>
<td>214</td>
</tr>
<tr>
<td>7.5</td>
<td>Pharmaceuticals &amp; biotech</td>
<td>215</td>
</tr>
<tr>
<td>7.5.1</td>
<td>Application and market segmentation</td>
<td>215</td>
</tr>
<tr>
<td>7.5.2</td>
<td>Market data and forecast</td>
<td>217</td>
</tr>
<tr>
<td>7.5.2.1</td>
<td>Membrane module demand in pharma &amp; biotech by technology</td>
<td>219</td>
</tr>
<tr>
<td>7.5.2.2</td>
<td>Membrane module demand in pharma &amp; biotech by segment</td>
<td>220</td>
</tr>
<tr>
<td>7.5.2.3</td>
<td>Membrane module demand in pharma &amp; biotech by region</td>
<td>221</td>
</tr>
<tr>
<td>7.6</td>
<td>Energy industry</td>
<td>222</td>
</tr>
<tr>
<td>7.6.1</td>
<td>Application and market segmentation</td>
<td>222</td>
</tr>
<tr>
<td>7.6.2</td>
<td>Market data and forecast</td>
<td>224</td>
</tr>
<tr>
<td>7.6.2.1</td>
<td>Membrane module demand in energy industry by technology</td>
<td>226</td>
</tr>
<tr>
<td>7.6.2.2</td>
<td>Membrane module demand in energy industry by segment</td>
<td>227</td>
</tr>
<tr>
<td>7.6.2.3</td>
<td>Membrane module demand in energy industry by region</td>
<td>228</td>
</tr>
<tr>
<td>7.7</td>
<td>E&amp;E industry</td>
<td>229</td>
</tr>
<tr>
<td>7.7.1</td>
<td>Application and market segmentation</td>
<td>229</td>
</tr>
<tr>
<td>7.7.2</td>
<td>Market data and forecast</td>
<td>231</td>
</tr>
<tr>
<td>7.7.2.1</td>
<td>Membrane module demand in E&amp;E industry by technology</td>
<td>233</td>
</tr>
<tr>
<td>7.7.2.2</td>
<td>Membrane module demand in E&amp;E industry by segment</td>
<td>234</td>
</tr>
</tbody>
</table>
7.7.2.3 Membrane module demand in E&E industry by region .......................... 235
7.8 Other applications ..................................................................................... 236

8 Market by region ......................................................................................... 237
  8.1 Western Europe ........................................................................................ 237
    8.1.1 Market size and forecast ..................................................................... 237
    8.1.1.1 Membrane module demand by technology in W. Europe .............. 237
    8.1.1.2 Membrane module demand by application in W. Europe .......... 238
    8.1.1.3 Membrane module demand by country in W. Europe ............... 239
    8.1.2 Trends and chances .......................................................................... 240
  8.2 North America .......................................................................................... 242
    8.2.1 Market size and forecast .................................................................... 242
    8.2.1.1 Membrane module demand by technology in N. America ......... 242
    8.2.1.2 Membrane module demand by application in N. America ....... 243
    8.2.1.3 Membrane module demand by country in N. America ........... 244
    8.2.2 Trends and chances .......................................................................... 245
  8.3 Japan ......................................................................................................... 247
    8.3.1 Market size and forecast .................................................................... 247
    8.3.1.1 Membrane module demand by technology in Japan ................. 247
    8.3.1.2 Membrane module demand by application in Japan ............... 248
    8.3.2 Trends and chances .......................................................................... 249
  8.4 China ........................................................................................................ 251
    8.4.1 Market size and forecast .................................................................... 251
    8.4.1.1 Membrane module demand by technology in China ............... 251
    8.4.1.2 Membrane module demand by application in China ............... 252
    8.4.2 Trends and chances .......................................................................... 253
  8.5 Asia Pacific* .............................................................................................. 255
    8.5.1 Market size and forecast .................................................................... 255
    8.5.1.1 Membrane module demand by technology in Asia Pacific* ........ 255
    8.5.1.2 Membrane module demand by application in Asia Pacific* ....... 256
    8.5.1.3 Membrane module demand by selected country in Asia Pacific* ... 257
    8.5.2 Trends and chances .......................................................................... 258
8.6 Rest of the world……………………………………………………………………………….260
8.6.1 Market size and forecast………………………………………………………………………260
8.6.1.1 Membrane module demand by technology in ROW………………………………260
8.6.1.2 Membrane module demand by application in ROW……………………………262
8.6.1.3 Membrane module demand by selected country in ROW…………………….263
8.6.2 Trends and chances………………………………………………………………………..264

Volume II
Company profiles (265)……………………………………………………………………………1-335

Note:
Regions:
North America: US, Canada, Mexico (NAFTA region)
Asia Pacific: Countries of Asia, Australia, New Zealand
Asia Pacific*: Asia Pacific excluding Japan and China

Market: excl. medical membrane market
4.2 Inorganic membrane

4.2.1 Products and uses

Synthetic membrane can be produced from inorganic materials. Typical inorganic membrane media include ceramics such as various oxides (alumina, silica, titania, zirconia), zeolites, and metals such as stainless steel, palladium, silver and their alloys.

Inorganic membranes can be classified into two major categories based on their structure:

- Porous inorganic membranes. Microporous inorganic membranes have two different structures: symmetric and asymmetric; and include both amorphous and crystalline membranes. The current commercial inorganic membrane market is dominated by porous membranes.

- Dense (non-porous) inorganic membranes. Application of dense inorganic membranes is primarily for highly selective separation of gases such as hydrogen and oxygen. However, dense membranes have limited industrial application due to their low permeability compared to porous inorganic membranes.

Ceramic membranes

Ceramic membranes are produced from inorganic materials such as aluminium oxides, titanium oxides, silicon carbide, zirconium oxide or some glassy materials. Ceramic membranes are very resistant to the action of aggressive media such as acids and strong solvents. They are very stable chemically, thermally, and mechanically, and biologically inert. Even though ceramic membranes have a high weight and substantial production costs, they are ecologically friendly and have long working life. Ceramic membranes are generally made as monolithic shapes of tubular capillaries

... ...
7.4.2.3 Membrane module demand in food & beverage by region

Membrane module demand in food & beverage by segment in US$ million

<table>
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<tr>
<th>Segment</th>
<th>2017</th>
<th>2019</th>
<th>2021</th>
<th>2023</th>
<th>2026</th>
<th>CAGR</th>
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<tr>
<td>Dairy products</td>
<td>632</td>
<td>741</td>
<td>867</td>
<td>1015</td>
<td>1285</td>
<td>8.2%</td>
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<tr>
<td>Wine, beer &amp; soft drinks</td>
<td>447</td>
<td>512</td>
<td>586</td>
<td>671</td>
<td>822</td>
<td>7.0%</td>
</tr>
<tr>
<td>Fruit and vegetable</td>
<td>338</td>
<td>386</td>
<td>440</td>
<td>502</td>
<td>611</td>
<td>6.8%</td>
</tr>
<tr>
<td>Sugar and other sweeteners</td>
<td>305</td>
<td>343</td>
<td>386</td>
<td>433</td>
<td>516</td>
<td>6.0%</td>
</tr>
<tr>
<td>Grain and oilseed products</td>
<td>131</td>
<td>150</td>
<td>172</td>
<td>196</td>
<td>240</td>
<td>7.0%</td>
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<tr>
<td>Others</td>
<td>327</td>
<td>375</td>
<td>429</td>
<td>491</td>
<td>601</td>
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</tr>
<tr>
<td>Total</td>
<td>2180</td>
<td>2506</td>
<td>2880</td>
<td>3310</td>
<td>4075</td>
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</tbody>
</table>

Membrane demand in food & beverage by segment, 2017

- Dairy products: 29.0%
- Wine, beer & soft drinks: 20.5%
- Fruit and vegetable: 15.5%
- Sugar and other sweeteners: 14.0%
- Grain and oilseed products: 6.0%
- Others: 15.0%
Meidensha Corp. (Japan)

ThinkPark Tower, 2-1-1 Osaki,
Shinagawa-ku, Tokyo, 141-6029
Japan
Phone: +81-3-6420-7510
Fax: +81-3-5745-3053
http://www.meidensha.co.jp

Year of foundation: 1897
Number of employees 2017: 9,000
Revenue 2017: JPY240.87 billion

Company profile

Meidensha Corp. is mainly engaged in development, manufacture and sales of power generators and water treatment systems.

Its products and service offerings include:
- social infrastructure systems, including power, electric railways, plants and buildings, water treatment, PV solutions and vacuum interrupters
- industrial systems, including computers and components, motor drives, automotive test systems and logistics support
- engineering systems, including maintenance services
- real estate

Its Water Treatment business offers integrated supervisory control systems, electrical system for water treatment plant, water purification systems, water quality meters and ceramic membranes.

The company provides following membrane products: … …

(Vol. II P. 182)
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<td>☐ EUR 1690</td>
<td>☐ EUR 2390</td>
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<td>☐ EUR 2390</td>
<td>☐ EUR 3390</td>
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<td>Sum</td>
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<td></td>
<td>☐ EUR</td>
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