Trends in Productions of Machine Tools

Machine Tool Production

Source: METI

Production statistics are reported in a publication entitled Survey of Industrial Production. Issued by the Ministry of Economy, Trade and Industry, this publication covers business facilities with 50 or more employees.

The value of production of machine tools in 2018 amounted to ¥1,236.8 billion, up 9.5% YOY and marked the year-on-year growth in two consecutive years. This topped ¥1 trillion for five consecutive years. The value of production of NC machine tools amounted to ¥1,119.1 billion, up 8.8% YOY, topping ¥1 trillion for two consecutive years.

Viewed by the category, grinding machines posted ¥132.4 billion, up 18.4% YOY, turning machines posted ¥338.9 billion, up 21.2% YOY, other machine tools posted ¥172.5 billion, up 4.3% YOY, special-purpose machines posted ¥92.5 billion, up 5.9% YOY, and machining centers posted ¥478.3 billion, up 3.9% YOY. Only gear cutting & finishing machines showed decrease from the last year, as they posted ¥22.2 billion, down 12.5% YOY.

Broken down by the share of the category within the total value of production, machining centers accounted for 38.7% of total 2018 machine tool production value, followed by turning machines at 27.4%, other machine tools at 13.9%, grinding machines at 10.7%, special purpose machines at 7.5%, and gear cutting & finishing machines at 1.8%.

According to the World Machine Tool Output & Consumption Survey 2019, which was issued in May 2019 by Gardner Publications, Inc, China was the first place in the value of production of machine tools (total amount of metal cutting and forming) for ten consecutive years. Germany marked the second place and Japan was the third.
Machine Tool Production by Type of Machine (Share)

<table>
<thead>
<tr>
<th>Year</th>
<th>Machine Tool Type</th>
<th>2016 Share (%)</th>
<th>2017 Share (%)</th>
<th>2018 Share (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Machining Centers</td>
<td>37.0%</td>
<td>40.8%</td>
<td>38.7%</td>
</tr>
<tr>
<td></td>
<td>Turning Machines</td>
<td>25.7%</td>
<td>24.7%</td>
<td>27.4%</td>
</tr>
<tr>
<td></td>
<td>Grinding Machines</td>
<td>11.2%</td>
<td>8.9%</td>
<td>10.7%</td>
</tr>
<tr>
<td></td>
<td>Other Machine Tools</td>
<td>15.3%</td>
<td>14.0%</td>
<td>13.9%</td>
</tr>
<tr>
<td></td>
<td>Gear Cutting &amp; Finishing Machines</td>
<td>2.2%</td>
<td>1.8%</td>
<td>1.8%</td>
</tr>
<tr>
<td></td>
<td>Special-Purpose Machines</td>
<td>1.8%</td>
<td>1.8%</td>
<td>1.8%</td>
</tr>
</tbody>
</table>

Source: METI

Machine Tool Production by Type of Machine (Year Result)

<table>
<thead>
<tr>
<th>Type of Machine</th>
<th>Year</th>
<th>Units ('18/'17 (%))</th>
<th>Value (Millions of Yen) ('18/'17 (%))</th>
<th>Share (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Turning Machines</td>
<td>2016</td>
<td>16,462</td>
<td>260,301</td>
<td>121.2</td>
</tr>
<tr>
<td>NC Turning Machines</td>
<td>2016</td>
<td>14,641</td>
<td>227,986</td>
<td>122.1</td>
</tr>
<tr>
<td>Grinding Machines</td>
<td>2016</td>
<td>4,827</td>
<td>113,250</td>
<td>118.4</td>
</tr>
<tr>
<td>NC Grinding Machines</td>
<td>2016</td>
<td>3,299</td>
<td>88,570</td>
<td>118.2</td>
</tr>
<tr>
<td>Gear Cutting &amp; Finishing Machines</td>
<td>2016</td>
<td>678</td>
<td>24,822</td>
<td>118.5</td>
</tr>
<tr>
<td>NC Gear Cutting &amp; Finishing Machines</td>
<td>2016</td>
<td>531</td>
<td>22,193</td>
<td>118.2</td>
</tr>
<tr>
<td>Special-Purpose Machines</td>
<td>2016</td>
<td>3,656</td>
<td>85,070</td>
<td>105.9</td>
</tr>
<tr>
<td>NC Special-Purpose Machines</td>
<td>2016</td>
<td>1,357</td>
<td>50,782</td>
<td>101.8</td>
</tr>
<tr>
<td>Machining Centers</td>
<td>2016</td>
<td>26,790</td>
<td>374,622</td>
<td>103.9</td>
</tr>
<tr>
<td>Vertical</td>
<td>2016</td>
<td>24,202</td>
<td>220,673</td>
<td>93.8</td>
</tr>
<tr>
<td>Horizontal</td>
<td>2016</td>
<td>3,967</td>
<td>116,271</td>
<td>124.9</td>
</tr>
<tr>
<td>Other Machining Centers</td>
<td>2016</td>
<td>621</td>
<td>37,678</td>
<td>113.4</td>
</tr>
<tr>
<td>Other Machine Tools</td>
<td>2016</td>
<td>13,578</td>
<td>154,745</td>
<td>104.3</td>
</tr>
<tr>
<td>NC Drilling Machines</td>
<td>2016</td>
<td>190</td>
<td>2,735</td>
<td>108.4</td>
</tr>
<tr>
<td>NC Boring Machines</td>
<td>2016</td>
<td>249</td>
<td>11,420</td>
<td>107.3</td>
</tr>
<tr>
<td>NC Milling Machines</td>
<td>2016</td>
<td>654</td>
<td>6,520</td>
<td>117.0</td>
</tr>
<tr>
<td>NC Electric Discharge Machines</td>
<td>2016</td>
<td>2,573</td>
<td>32,048</td>
<td>105.9</td>
</tr>
<tr>
<td>Other NC Metal Cutting Machine Tools</td>
<td>2016</td>
<td>3,820</td>
<td>85,277</td>
<td>102.0</td>
</tr>
<tr>
<td>Other Machine Tools</td>
<td>2016</td>
<td>6,089</td>
<td>16,136</td>
<td>108.8</td>
</tr>
<tr>
<td>Total</td>
<td>2016</td>
<td>67,991</td>
<td>1,012,810</td>
<td>109.5</td>
</tr>
<tr>
<td>NC Total</td>
<td>2016</td>
<td>56,278</td>
<td>911,679</td>
<td>108.8</td>
</tr>
</tbody>
</table>

Source: METI

( ): Share of NC Machine Tools

MACHINE TOOL INDUSTRY JAPAN 2019