There are many new advanced technologies for metal casting, but sand casting remains one of the most widely used casting process today due to the low cost of raw materials, a wide variety of castings with respect to size and composition, and the possibility of recycling the molding sand. The sand casting process is one of the most versatile processes in manufacturing because it is used for most metals and alloys with high melting temperatures such as iron, copper, and nickel. The metal is melted in the furnace and then ladled and poured into the cavity of the sand mold, which is formed by the pattern. The sand mold separates along a parting line and the solidified casting can be removed. Many foundry industries in Pakistan and in the world using this process and increasing day by day.

**SAND CASTING PROCESS IN THE INDUSTRIES OF THE WORLD:**

Here I am sharing an annual report of the famous foundry to explain how they are focused on their work to increase their business and making their product quality better and become leader in future.

“Our mission is to develop innovative solutions that enable our customers to improve the performance of their manufacturing process and reduce energy consumption, whilst providing each employee with a safe workplace where he or she is recognized, developed and properly rewarded. Our ultimate goal is to deliver sustainable, profitable growth and provide our shareholders with a superior return on their investment.”

This company has its business all around the world description given below,

<table>
<thead>
<tr>
<th>COUNTRY</th>
<th>EMPLOYES</th>
<th>REVENUE</th>
<th>PRODUCTION SITES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>2012</td>
<td>2013</td>
</tr>
<tr>
<td>America</td>
<td>3,008</td>
<td>£499m</td>
<td>£481m</td>
</tr>
<tr>
<td>Europe/Middle East/Africa</td>
<td>5,400</td>
<td>£671m</td>
<td>£672m</td>
</tr>
<tr>
<td>Asia Pacific</td>
<td>2,443</td>
<td>£376m</td>
<td>£356m</td>
</tr>
</tbody>
</table>

Here I have discussed only one foundry industry of the world. The purpose behind this is to tell how industries, are rising in the world.
USES/APPLICATION OF SAND CASTING:

Sand casting is used to produce a wide variety of metal components with complex geometries. These parts can vary greatly in size and weight ranging from a couple ounces to several tons. Some smaller sand cast parts include components as gears, pulleys, crankshafts, connecting rods and propellers. Larger equipment and heavy machine bases. Sand casting is also common in producing automobile components such as engine blocks, engine manifolds, cylinder heads and transmission cases.

ADVANTAGES OF SAND CASTING PROCESS:

The sand casting process helps you to increase production rate in a short time. It uses less expensive tooling than other metal casting processes, its lower per piece cost.

DISADVANTAGES OF SAND CASTING PROCESS:

Green sand mold is a kind of soft mold, so it is not hard enough as the resin sand molds and shell molding, so there are more casting defects such as sand residuals, sand holes, air holes and shrinkage.

CONCLUSION:

“And We sent down iron, wherein is great military might and benefits for the people, and so that Allah may make evident those who support Him and His messengers unseen. Indeed, Allah is Powerful and Exalted in Might.”{HOLY QURAN (57:25)}

As we see around the world every country has foundry industry. These industries work as the backbone of the country's economy. These industries give employment to many needy people or you can say that these industries help to decrease the unemployment rate.

In the last the sand casting process is very economical process and good for business because this process does not require enough skillful labor, machines are not costly and easy to deal with.

SYED MUHAMMAD TAHA
N.E.D UNIVERSITY PAKISTAN
ITSTHA@OUTLOOK.COM
+923362611622