Graphite is a form of carbon found in nature. It is a grayish black grey lustrous mineral with metallic tinge. The first known use was for writing and drawing. This attribute prompted A G Werner, a German mineralogist to name it after the Greek word 'Graphein', which means, to write.

There are two types of graphites.

a. Natural Graphite

b. Synthetic / Artificial Graphite

Natural graphite is found in abundance in Mexico, India and Sri Lanka. It could be in foliated or amorphous forms. Foliated graphite is used in making crucibles and lubricants. And, amorphous graphite is used in making lead pencils, foundry facings, electric brush carbons, paint pigments.

Synthetic / Artificial Graphite was first made in 1896 by Edward G Acheson. During last one hundred years, a lot of research is done in this field. Synthetic or artificial graphite made at high temperatures in electric furnaces are now preferred for most of uses because of its purity. In this context the term 'Graphite' is used to mean 'Synthetic Graphite'.
Graphite is extremely refractory. It has low coefficient of thermal expansion and very high thermal conductivity, may be fifth among all the materials. It is chemically inert to most regents. It is a good conductor of electricity.

In a commonman's language all this means that graphite does not easily melt at even very high temperature. Heat and electricity can pass through graphite with ease. It does not expand even when it is exposed to heat. It does not easily combine with many other chemicals.

These properties have made the graphite to be the most ideal material to make electrodes and anodes used in electro-metallurgical and electro-chemical process plants, in general and electric arc furnace for melting steel scrap. Thus, graphite is important for the survival of iron and steel industry. It is one of most important indicators of industrial progress of any country.

Synthetic Graphite industry in India took off in 1967 with the commissioning of the first plant in Durgapur, West Bengal by Graphite India Ltd. In 1976, the established another plant in Bangalore to meet the demand of graphite electrodes. The demand was so high that two more companies came up in 1977, in Bhopal and Nasik.
The profile of the Synthetic Graphite industry in India can be given at a glance in the following table.

<table>
<thead>
<tr>
<th>Company</th>
<th>Year of Establishment</th>
<th>Capacity (In Mega-tones)</th>
<th>Licensed</th>
<th>Installed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graphite India Ltd</td>
<td>1967</td>
<td>30,000</td>
<td></td>
<td>21,900</td>
</tr>
<tr>
<td>Durgapur, West Bengal</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Graphite India Ltd</td>
<td>1976</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bangalore, Karnataka</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hindustan Electro-graphite Ltd</td>
<td>1977</td>
<td>30,000</td>
<td></td>
<td>24,000</td>
</tr>
<tr>
<td>Bhopal, Madhya Pradesh</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carbon Everflow Ltd</td>
<td>1977</td>
<td>15,000</td>
<td></td>
<td>10,000</td>
</tr>
<tr>
<td>Nasik, Maharashtra</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>55,900</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Thus, the Graphite Industry has installed capacity of 55,900 MT. The demand is much more than this. Synthetic Graphite is exported to South East Asia, Far East, Middle East, Eastern Europe, USA, Canada and Latin America.

These plants have strong research and development units. The engineers and scientists working in these plants and the respective R & Ds were the respondents to this study. Thus, these individuals became sample of the study.
These R & D units are attached with a special library which contains books, journals, standards, patents and various other documents. Among all such libraries attached with Graphite industrial units, the one attached to the Graphite India Ltd., Bangalore is largest. Hence, the Bangalore library happens to be the venue for application of reengineering. Therefore, some particulars of this library are given here.

**Library and Information Centre**

(Graphite India Limited, Bangalore)

Industrial information services can be very useful in increasing productivity, not only by aggressive marketing, but also by making nascent data and information available to the management. The main services of this library include the following.

- Reference/Referral Services
- Bibliographic Services
- Newspaper Clipping Service
- Translation Services
- Selective Dissemination of Information (SDI) Service.

**Publications**

- News Alerts, A monthly publication
  It primarily deals with marketing related
information in relation to graphite industry. The coverage is slightly non technical and the slant is on business.

- Current Awareness Bulletin
  A quarterly publication covering the technical journals received in the library. This is circulated to all the scientific and technical personnel of all the graphite manufacturing units.

- Latest Addition List
  This is a monthly giving the list of books added to the library.