Introduction of Medical Imaging Devices

Medical imaging devices are apparatus for technique and process of creating visual representations of the interior of a body for clinical analysis. There are both radiation and non-radiation methods.

<table>
<thead>
<tr>
<th>Classification</th>
<th>Products</th>
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<tbody>
<tr>
<td>Medical imaging devices</td>
<td>X-ray camera, computed tomography, C-arm or O-arm, breast cancer diagnosis equipment, positron emission tomography</td>
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<tr>
<td>non-radiation</td>
<td>MRI, OCT, ultrasound devices, endoscopy</td>
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<examples of main product of medical imaging devices>
Examples of Medical Imaging Devices

- Fluoroscopic machine
- digital C-arm X-ray system
- Angiography apparatus
- Blood vessel and cardiovascular X-ray imaging system
- computed tomographic imaging system
- Digital/general x-ray imaging system
- MRI
- Breast cancer diagnosis equipment
- Clinical imaging
- PET/CT
- Ultrasound devices
- Cardiac, gynecology, radiology
Characteristics of Medical Imaging Device Industry

- This industry shows that there are limited buyers (hospitals) and the most critical point is safety and reliability, so that devices are regulated by FDA, TVU, CE marking, etc. There is a tendency for users to use existing ‘famous’ products and there are a number of different regulation and rules in countries by countries. The industry is characterized by granular medium-sized market and small quantity batch production.

- Imported products have been continuously increasing since the level of technology, capital strength, awareness/recognition of South Korea in the industry is somewhat low. There are many small and medium sized companies but not a global top one in South Korea. So, they mostly manufacture middle-low price products.
Global Market of Medical Imaging Devices

< global market size of medical devices ;
global(orange) & S. Korea(blue)>

< global market size of medical imaging devices ;
global(orange) & S. Korea(blue)>

Market Share over Product Classification of Medical Imaging

- Source: Association of Medical Device Industry: Production/Import/Export from 2005~2007

Market Size of Medical Imaging Devices in S. Korea

- Medical Devices of South Korea occupies about 1.7% of World market
- CAGR: 13.2% (cf. world market CAGR: 4.7%)

- Source: Association of Medical Device Industry: Production/Import/Export from 2005~2007
Technology Trend of Medical Imaging Devices

- Complex/fusion such as ultrasound-guided hifu, MR hifu, Tomotherapy, operation robot, MR-LINAC, PET-CT, PET-MRI.

- Mutually and organically integrated solutions become an answer to complicated diagnosis process due to multi-modality.

- Development of nuclear medicine imaging devices is noticeable.
  - For example, PET/CT is a gold standard in oncology.

- to develop devices with low radiation and high resolution, so that the processes for diagnosis or treatment are minimized, as well as multi-modality imaging system development showing paradigm shift to personal medicine, molecular medicine.

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