Taiwan ICT Industry Outlook

Keng Lee
Institute for Information Industry
Jan. 2011
Outlines

- Taiwan ICT status
- Taiwan ICT Hardware/Software Industry
- Future Developments
- When I meets T
Open Innovation System

The Open Innovation System of Taiwan ICT Industry

Vertically Integrated Industrial Clusters

• OEM → ODM → OBM

Network

Innovation

Knowledge

Education

Entrepreneurship

Skill

Globalization

Gov Stimulus Plans

• R&D Strategic Alliance between businesses
• Public R&D Program Support & Technology Transfer

• Multinational R&D Centers
• Global Supply-Chain Management

e-Connection (Logistics)

Human Resource

Information


© 2010 Institute for Information Industry
Companies get recognition

BusinessWeek's 2009 ranking of the tops in tech showcases companies that managed to thrive even in the face of a bruising global recession.

The InfoTech 10

How do you pick through the world’s best-performing tech companies? With the help of Standard & Poor's Compustat, BusinessWeek combed the financial results of tens of thousands of publicly traded businesses and ranked tech players on shareholder return, return on equity, total revenues, and revenue growth. Leading the list are those with the best aggregate ranking. (For a detailed explanation of methodology, see page 42.) Amazon.com was No. 1 for the second consecutive year, with Oracle No. 2 and IBM fifth. One trend this year: 43 U.S. companies made the list, up from 35 last year. Still, when we launched the list in 1998, 75 were U.S. companies.

![Source: http://bwnt.businessweek.com/interactive_reports/it100_2009/?chan=magazine+channel_in+depth]
<table>
<thead>
<tr>
<th>Publishing Institute</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>WEF (2009)</strong></td>
<td>Global Ranking: No.12</td>
</tr>
<tr>
<td>-Global Competitiveness Index</td>
<td>-Technological Readiness: No.18</td>
</tr>
<tr>
<td><strong>WEF (2009)</strong></td>
<td>Global Ranking: No.11</td>
</tr>
<tr>
<td>-Networked Readiness Index</td>
<td>-Individual/Business/Government Readiness: No. 22, 17, 8</td>
</tr>
<tr>
<td></td>
<td>-Individual/Business/Government Readiness: No. 14, 6, 3</td>
</tr>
<tr>
<td><strong>BERI (2010)</strong></td>
<td>Global Ranking: No.4</td>
</tr>
<tr>
<td>-Profit Opportunity Recommendation</td>
<td>Asian Ranking: No.2</td>
</tr>
<tr>
<td><strong>IMD (2010)</strong></td>
<td>Global Ranking: No.8</td>
</tr>
<tr>
<td>-The World Competitiveness Yearbook</td>
<td>Asian Ranking: No.4</td>
</tr>
<tr>
<td><strong>Brown University (2008)</strong></td>
<td>Global Ranking: No.2</td>
</tr>
<tr>
<td>-Global E-Government</td>
<td>(Analysis of 1,667 government websites in 198 different nations)</td>
</tr>
<tr>
<td><strong>Waseda University (2009)</strong></td>
<td>Global Ranking: No.8</td>
</tr>
<tr>
<td>-E-Government Ranking</td>
<td>Asian Ranking: No.4</td>
</tr>
<tr>
<td><strong>EIU (2009)</strong></td>
<td>Global Ranking: No.16</td>
</tr>
<tr>
<td>-E-Readiness Rankings</td>
<td>Asian Ranking: No.5</td>
</tr>
</tbody>
</table>

Source: WEF, BERI, IMD, Brown University(US), Waseda University(JPN), EIU, Compiled by MIC, May 2010
Taiwan ICT Hardware/Software Industry

Future Developments

When I meets T
### Leading ICT products, made by Taiwan

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Laptop</td>
<td>95.3%</td>
<td>Cable CPE</td>
<td>93.0%</td>
</tr>
<tr>
<td>Motherboard</td>
<td>93.5%</td>
<td>WLAN NIC</td>
<td>90.8%</td>
</tr>
<tr>
<td>Netbook PC</td>
<td>90.7%</td>
<td>DSL CPE</td>
<td>65.0%</td>
</tr>
<tr>
<td>Server (System/MB)</td>
<td>88.7%</td>
<td>IP Phone</td>
<td>54.0%</td>
</tr>
<tr>
<td>LCD Monitor</td>
<td>71.8%</td>
<td>Taiwan Inside®</td>
<td></td>
</tr>
</tbody>
</table>

- WLAN AP, Cable STB, ODD and DSC ranked 2nd, 2009
- 85% of PCs and 80% of data communications equipment, in the world are produced by Taiwan.

IT Hardware Shipment Value

Source: MIC/III, Mar. 2010
IT Hardware Shipment Area

2008
Worldwide shipment by area

Production Value:
US$110,251M

2009
Worldwide shipment by area

Production Value:
US$107,830M

Source: MIC/III, Mar. 2010
Data Communications Shipment Value

Millions USD

<table>
<thead>
<tr>
<th>Year</th>
<th>Production Value</th>
<th>Growth %</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>3,017</td>
<td></td>
</tr>
<tr>
<td>2001</td>
<td>3,044</td>
<td></td>
</tr>
<tr>
<td>2002</td>
<td>3,176</td>
<td></td>
</tr>
<tr>
<td>2003</td>
<td>3,348</td>
<td></td>
</tr>
<tr>
<td>2004</td>
<td>4,102</td>
<td></td>
</tr>
<tr>
<td>2005</td>
<td>5,231</td>
<td></td>
</tr>
<tr>
<td>2006</td>
<td>6,643</td>
<td></td>
</tr>
<tr>
<td>2007</td>
<td>8,643</td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td>9,581</td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>9,115</td>
<td></td>
</tr>
</tbody>
</table>

WLAN NIC, DSL CPE, Cable CPE, VoIP CPE, IP phone
Source: MIC/III, Mar. 2010
Data Communications Shipment Area

2008
Worldwide shipment
by area

2009
Worldwide shipment
by area

Production Value:
US$9,581M

Production Value:
US$9,115M

Source: MIC/III, Mar. 2010
Mobile Handheld Devices Shipment Value

<table>
<thead>
<tr>
<th></th>
<th>Millions USD</th>
<th>Growth %</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2006</td>
<td>2007</td>
</tr>
<tr>
<td>BFP Production Value</td>
<td>6,344</td>
<td>3,694</td>
</tr>
<tr>
<td>SCD Production Value</td>
<td>3,486</td>
<td>5,082</td>
</tr>
<tr>
<td>BFP YoY GR</td>
<td>-41.8%</td>
<td>-24.1%</td>
</tr>
<tr>
<td>SCD YoY GR</td>
<td>45.8%</td>
<td>103.4%</td>
</tr>
</tbody>
</table>

BFP: Basic/Feature Phone, SCD: Smart Cellular Device

Source: MIC/III, Mar. 2010
Mobile Handheld Devices Shipment Area

Basic/Feature Phone 2008

North America: 10.4%
Latin America: 24.6%
South East Asia: 26.9%
China: 16.3%
Europe: 17.8%
Japan: 0.3%
Taiwan: 1.6%
Others: 2.1%

Production Volume: 75,370 K Units

Smart Cellular Device 2009

North America: 7.2%
Latin America: 17.3%
Europe: 23.9%
China: 22.7%
Taiwan: 2.7%
Other Asian Countries: 23.1%
Other: 3.1%

Production Volume: 38,439K Units

Production Volume: 45,494K Units

Source: MIC/III, Mar. 2010
Taiwan Software market 2007-2012

Taiwan software market 2007-2012 in USD Million

2007 2008 2009 2010 (e) 2011 (f) 2012 (f)

- embedded 244 278 279 300 324 351
- security 1,091 1,231 1,366 1,569 1,799 2,062
- Enterprise 107 115 122 133 147 163
- outsource 437 500 568 655 762 892
- Integration 2,541 2,694 2,473 2,553 2,657 2,750

% NA 9.6% -3.8% 7.1% 8.1% 8.5%

Source: MIC/III, Mar. 2010
- Taiwan ICT status
- Taiwan ICT Hardware/Software Industry
- Future Developments
- When I meets T
Intelligent mobile device takes top spot

(MID: Mobile Internet Device, UMPC: Ultra Mobile PC)
ICT product is no longer just Hardware...

- ICT = Hardware + Software + Service... and Content is KING.
- Business Model (Handset+PC+3.5G Mobile Service)
Taiwan ICT status

Taiwan ICT Hardware/Software Industry

Future Developments

When I meets T
When India meets Taiwan …

- When software meets hardware
- When embedded meets component
- When talent merge together
- The only and the last chance!
  - Let I.T. make products together
  - Let I.T. market together

- ICT Domestic demand to create industry
  - Computer, Solar, TV, mobile, …
Thank You

keng@iii.org.tw
(M) +91.8144.0505.04
+91.97100.73779
How efficiency

How long to get a company register and how much invest?

<table>
<thead>
<tr>
<th></th>
<th>Days</th>
<th>Cost (USD)</th>
<th>Taiwan invested (USD M) year 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vietnam</td>
<td>90</td>
<td>700</td>
<td>534.5</td>
</tr>
<tr>
<td>China</td>
<td>75-90</td>
<td>700</td>
<td>13,317.0</td>
</tr>
<tr>
<td>EUN</td>
<td>45</td>
<td>6,000</td>
<td>47.6</td>
</tr>
<tr>
<td>Singapore</td>
<td>30</td>
<td>N/A</td>
<td>31.8</td>
</tr>
<tr>
<td>Taiwan</td>
<td>15-30</td>
<td>500</td>
<td>To India</td>
</tr>
</tbody>
</table>

One news

*Foxconn in China: from initial setup to ship products within 2.5 months (76 days)*

Source: [1] INVESTMENT COMMISSION, MOEA, Taiwan, III integrated, 2010