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Asia revisited: The epicenter of the telecom world

The world’s largest telecommunication market

1991
- Europe: 41%
- Americas: 35%
- Asia-Pacific: 22%
- Total telephone subscribers: 555 million

1996
- Europe: 36%
- Americas: 33%
- Asia-Pacific: 29%
- Total telephone subscribers: 877 million

2001
- Europe: 35%
- Americas: 27%
- Asia-Pacific: 36%
- Total telephone subscribers: 1'979 million
Geography, economy and dynamism

There are three principal reasons for the region’s rapid telecom evolution:
1. Geography
2. Economy
3. Dynamism
Telecom transition


New Zealand CAGR 3.4%
Japan 13.0%
Australia 6.3%
Hong Kong, China 7.6%
Singapore 11.6%
Korea (Rep.) 14.7%
Taiwan, China 10.5%
Malaysia 17.0%
Thailand 20.1%
China 44.2%

Teledensity: Fixed & mobile telephone subscribers per 100 inhabitants

Teledensity = 10
Teledensity = 30
## South Asia’s Villages

<table>
<thead>
<tr>
<th>Country</th>
<th>Number</th>
<th>Number with phone service</th>
<th>% with phone service</th>
<th>Total (000s)</th>
<th>Total with access to phone (000s)</th>
<th>% with access to phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bangladesh</td>
<td>86'000</td>
<td>12'568</td>
<td>15</td>
<td>103'441</td>
<td>31'420</td>
<td>30</td>
</tr>
<tr>
<td>Bhutan</td>
<td>6’000</td>
<td>N/A</td>
<td>N/A</td>
<td>636</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>India</td>
<td>607'491</td>
<td>468'016</td>
<td>77</td>
<td>741'660</td>
<td>726'827</td>
<td>98</td>
</tr>
<tr>
<td>Maldives</td>
<td>200</td>
<td>200</td>
<td>100</td>
<td>196</td>
<td>196</td>
<td>100</td>
</tr>
<tr>
<td>Nepal</td>
<td>3’914</td>
<td>1’761</td>
<td>45</td>
<td>19’457</td>
<td>8’754</td>
<td>45</td>
</tr>
<tr>
<td>Pakistan</td>
<td>125'083</td>
<td>12'000</td>
<td>10</td>
<td>97'855</td>
<td>29’357</td>
<td>30</td>
</tr>
<tr>
<td>Sri Lanka</td>
<td>23’000</td>
<td>2'475</td>
<td>11</td>
<td>13’113</td>
<td>9’834</td>
<td>75</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>851'688</td>
<td>497'020</td>
<td>58</td>
<td>976’358</td>
<td>806’388</td>
<td>83</td>
</tr>
</tbody>
</table>
High-growth, high-speed Mobile

- The region now leads the world in several important market categories:
  - Two of the top three mobile economies measured by mobile phones per capita
  - The world’s biggest mobile economy
  - The mobile economy with the biggest potential for growth
- The region is also home to the economy with the largest number of:
  - mobile Internet users
  - high-speed (3G) mobile Internet users

![Chart showing mobile telephone subscribers per 100 inhabitants over time for Taiwan, China and Hong Kong, China. Taylor, China passed 100 in early April.](chart.png)
Developing mobile

- Perhaps the biggest effects of mobile have come among the LDCs of the region:
  - In 1993 Cambodia became the first country in the world where mobile phones exceeded fixed-line connections. Today Cambodia has more than eight times more mobile phones than fixed-lines.
  - In the Maldives, mobile overtook fixed in April 2002, just 2.5 years after the launch of digital mobile service.
  - In Bangladesh, mobile overtook fixed during 2001, partly due to the innovative means of supplying village phones to expand community access.

![Village Phones in Bangladesh](chart.png)

- Chart showing the percentage of rural population covered by village phones in Bangladesh from June 1997 to April 2002.
  - Jun-97: 0.02%
  - Jun-98: 0.1%
  - Jun-99: 0.3%
  - Jun-00: 0.4%
  - Jun-01: 1%
  - Apr-02: 31%

Legend:
- Bar colors: Orange for village phones, blue for percentage.
- X-axis: Dates from Jun-97 to Apr-02.
- Y-axis: Number of village phones and percentage of rural population covered.
Mobile Internet

- Region leads the world in mobile Internet
- Japan and Republic of Korea first two nations in the world to launch 3G
- Hong Kong, China ranks top on ITU’s Mobile Internet Index

<table>
<thead>
<tr>
<th>Country</th>
<th>Mobile Internet penetration, 2001</th>
</tr>
</thead>
<tbody>
<tr>
<td>France</td>
<td>5.6</td>
</tr>
<tr>
<td>Taiwan, China</td>
<td>6.6</td>
</tr>
<tr>
<td>UK</td>
<td>6.9</td>
</tr>
<tr>
<td>Italy</td>
<td>7.0</td>
</tr>
<tr>
<td>Germany</td>
<td>7.9</td>
</tr>
<tr>
<td>US</td>
<td>7.9</td>
</tr>
<tr>
<td>Singapore</td>
<td>9.4</td>
</tr>
<tr>
<td>Canada</td>
<td>13.8</td>
</tr>
<tr>
<td>Finland</td>
<td>16.5</td>
</tr>
<tr>
<td>Rep. of Korea</td>
<td>59.1</td>
</tr>
<tr>
<td>Japan</td>
<td>72.3</td>
</tr>
</tbody>
</table>
Asia in cyberspace

Internet users in Asia-Pacific, millions

- Per 100 inhabitants

1995: 0.1
1996: 0.3
1997: 0.6
1998: 1.1
1999: 2.0
2000: 7.0
2001: 16.0
2002: 45.0
Forecast: 225

Distribution of Internet users, 2001

- North America: 32%
- W. Europe: 25%
- Asia-Pacific: 33%
- C&E Europe: 3%
- Africa: 1%
- Arab States: 1%
- LAC: 5%

Internet users by language, September 2002

- English: 36%
- Chinese: 10.9%
- Other: 16%
- Asian: 25%
- Japanese: 9.7%
- Korean: 4.5%
- Italian: 4%
- French: 4%
- German: 7%
- Spanish: 7%

Web content by language, 2001

- English: 69%
- Chinese: 4%
- Asian: 11%
- Japanese: 6%
- Korean: 1%
- Other: 9%
- French: 3%
- Spanish: 2%
- German: 6%
Broadband landscape

1. The most intense Internet users in the world

- Korea (Rep.): 19:20
- Hong Kong, China: 12:12
- US: 10:19
- Japan: 9:27
- Canada: 9:08
- Singapore: 8:48
- Brazil: 8:10
- Taiwan, China: 8:04

Hours of Internet use per month, July 2001

2. The cheapest broadband prices

ADSL prices, monthly, US$, 2002

Price per Mbit/s

Korea (Rep.), Japan, Hong Kong, China, Taiwan, China, USA, Singapore, Germany, UK, France

3. Makes the world’s leading broadband economies

- Korea (Rep.): 19.3
- Hong Kong, China: 12.1
- Canada: 9.7
- Taiwan, China: 7.2
- Belgium: 6.3
- Sweden: 5.4
- Iceland: 5.2
- USA: 5.0
- Denmark: 4.5
- Singapore: 4.4
- Austria: 4.3
- Japan: 3.9

Top 12 economies by broadband penetration June 2002
Bandwidth transition

- Capacity on Internet links connecting Asia-Pacific to the world have skyrocketed more than eight fold over the last two years from eight gigabits (Gbit/s) to 65 Gbit/s by the end of 2001.
- International Internet capacity in the region now far exceeds conventional telephone capacity.
- Hong Kong, China leads the region in overall Internet bandwidth index.
Where do we go from here?

- Is Internet growth slowing?
- The growth rate in the number of users in 2001 was 30%, the lowest level in the region since people began using the Internet.
- This is partly due to the more advanced economies reaching saturation.
- Even growth in developing Asia-Pacific dropped by half in 2001 compared to 2000 (from 113% to 51%).
• Awareness of the Internet, and the ability to use it successfully is highly dependent on education.

• The payoff from enhancing Internet access at universities can be great:
  – In the Philippines and Vietnam, Internet penetration could be doubled if all tertiary institutions had access.
  – The payoff would be even greater in Laos and Cambodia where Internet penetration would increase by a magnitude of three and five respectively if all tertiary students had access.
From kilobits to megabrains: ICTs in education

Music class at Sunrin High, Korea (Rep.)

Digital Art at Radin Mas Primary, Singapore

Source: ITU Internet diffusion case studies.
Asia’s new world role

- Leading the way out of the telecom recession
- Setting the policy agenda
- Setting the corporate agenda

Top 10 operators by profit margin, 2001

<table>
<thead>
<tr>
<th>Operator</th>
<th>Profit Margin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hutchison (Hong Kong, China)</td>
<td>20%</td>
</tr>
<tr>
<td>VSNL (India)</td>
<td>20%</td>
</tr>
<tr>
<td>Chunghwa (Taiwan, China)</td>
<td>20%</td>
</tr>
<tr>
<td>Telmex (Mexico)</td>
<td>21%</td>
</tr>
<tr>
<td>Singapore Telecom</td>
<td>22%</td>
</tr>
<tr>
<td>PT Telkom (Indonesia)</td>
<td>26%</td>
</tr>
<tr>
<td>China Mobile (HK) (China)</td>
<td>29%</td>
</tr>
<tr>
<td>Etisalat (UAE)</td>
<td>32%</td>
</tr>
<tr>
<td>Swisscom</td>
<td>35%</td>
</tr>
<tr>
<td>TCC (Taiwan, China)</td>
<td>37%</td>
</tr>
</tbody>
</table>

Price per inhabitant of 3G mobile licenses, Euro

<table>
<thead>
<tr>
<th>Country</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>United Kingdom</td>
<td>€ 60</td>
</tr>
<tr>
<td>Germany</td>
<td>€ 52</td>
</tr>
<tr>
<td>Italy</td>
<td>€ 21</td>
</tr>
<tr>
<td>Netherlands</td>
<td>€ 15</td>
</tr>
<tr>
<td>Spain</td>
<td>€ 10</td>
</tr>
<tr>
<td>France</td>
<td>€ 10</td>
</tr>
<tr>
<td>Hong Kong, China</td>
<td>€ 9</td>
</tr>
<tr>
<td>Korea (Rep.)</td>
<td>€ 6</td>
</tr>
<tr>
<td>Singapore</td>
<td>€ 5</td>
</tr>
<tr>
<td>Australia</td>
<td>€ 4</td>
</tr>
<tr>
<td>New Zealand</td>
<td>€ 1</td>
</tr>
<tr>
<td>Japan</td>
<td>€ -</td>
</tr>
</tbody>
</table>
Towards a billion new subscribers

- The region’s advanced economies face the challenge of increasing high-speed access to communication networks over the next few years. The Republic of Korea is forecasting that some 80 per cent of its households will have broadband by 2005. Assuming other advanced Asia-Pacific economies can meet that target, there will be some 50 million new broadband subscribers in the region by mid decade.

- Assuming that telecommunication networks in developing Asia-Pacific nations grow at just twelve per cent a year through the end of the decade, there will be over 800 million new telephone users in the region by 2010 and teledensity will rise from 13.7 to 34. This is a conservative estimate since the 1991-2001 growth rate was 33 per cent a year.
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