

Networks in China

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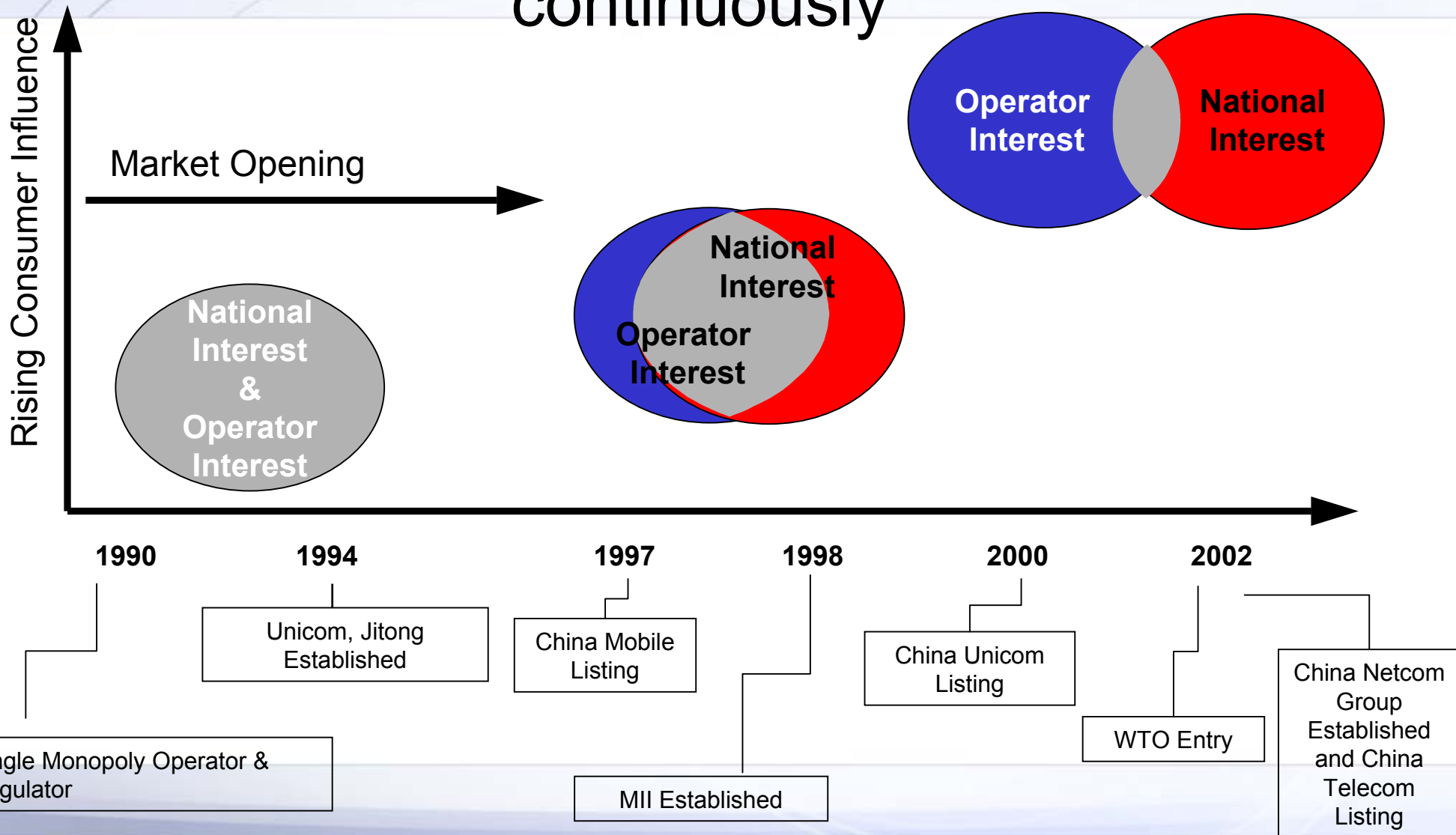
Beijing



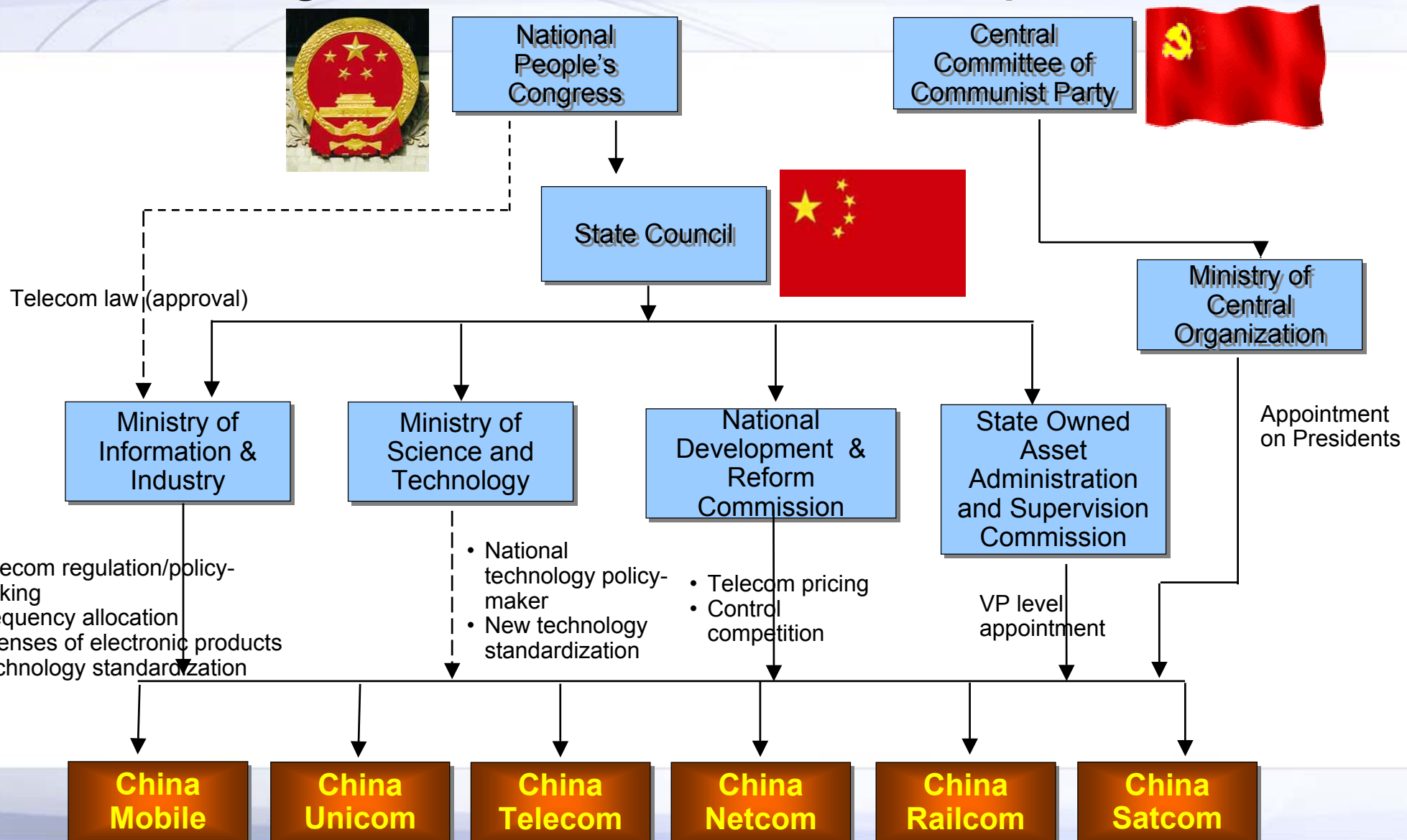
Agenda

- China Operators update
- Nokia Networks Market presence
- 3G in China
- Nokia Networks Strategies

Business environment is changing continuously



China government and China operators



Operator landscape scenarios

1. Mobile subscription growth and network traffic increase continue to be strong.
 - Mobile subscriptions and traffic has surpassed fixed
 - Mobile data revenue will continue to increase
2. Continue to float the remaining asset of the four major operators.
3. Mobile operators are trying to control the entire value chain from contents, applications to terminals
4. Four 3G licenses likely to be issued in sequence commencing in 1H2005

Operators Facts

China Mobile

- Total subscription reached 177M, with new subscribers of 39M and 28% growth from 2002.
- 2003 SMS volume of 180.5B, with data revenue at 12%.



GSM → GPRS

China Telecom

- Total fixed subscribers reached 162M, PHS subscriptions reached 26M, Internet users reached 7.4M.
- Internet and data revenue at 10.3%.



PHS

China Unicom

- Total subscription reached 95M with YTD incremental of 25M (16M GSM and 9M CDMA).
- YTD SMS volume of 40B, data revenue at only 3%.



GSM
IS-95 GSM1X

China Netcom

- Total fixed subscribers reached 95M, PHS subscriptions reached 10M, Internet users reached 18M, ADSL user reached 3M.



PHS

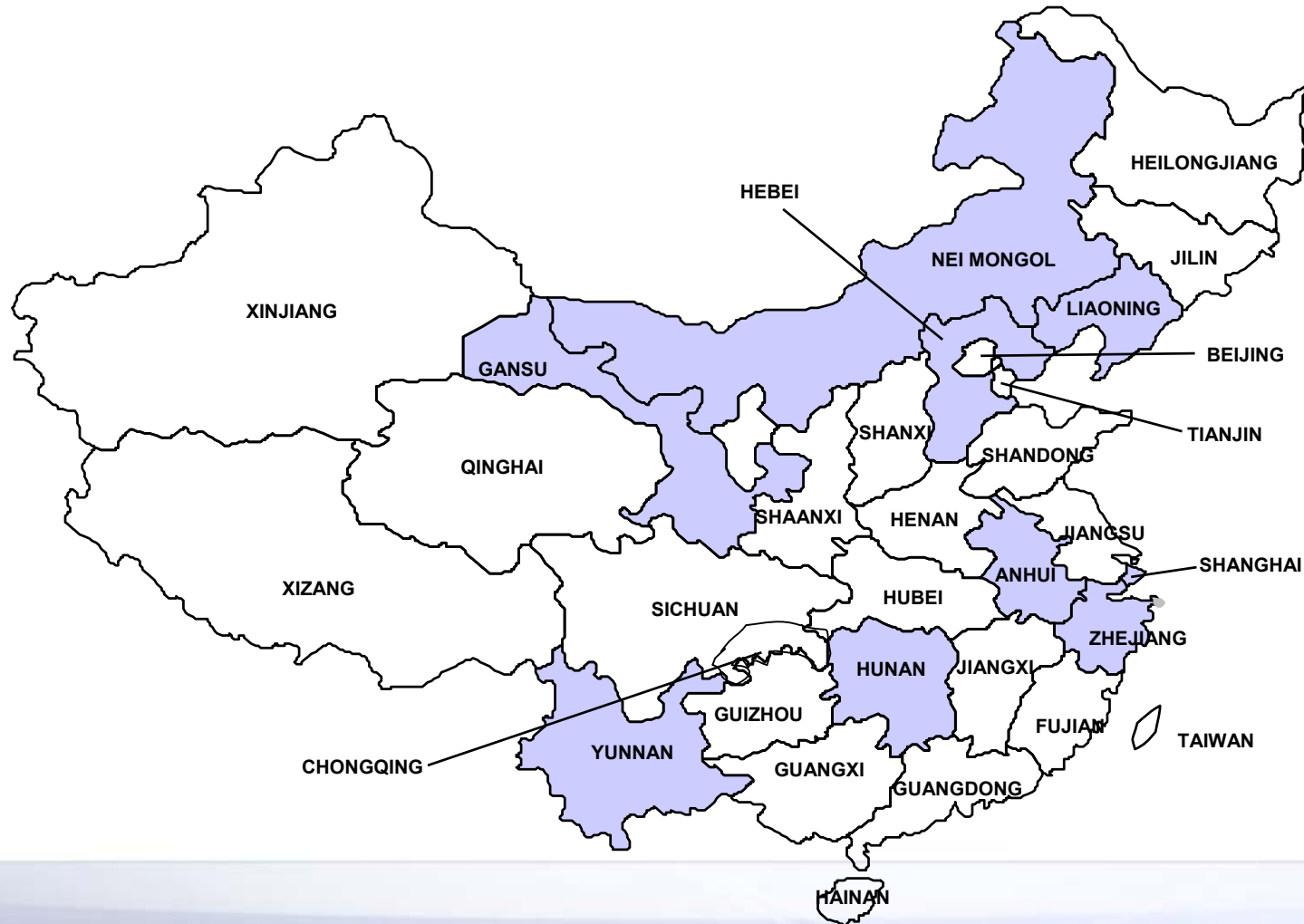
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Nokia GSM presence in 19 provinces in China Mobile



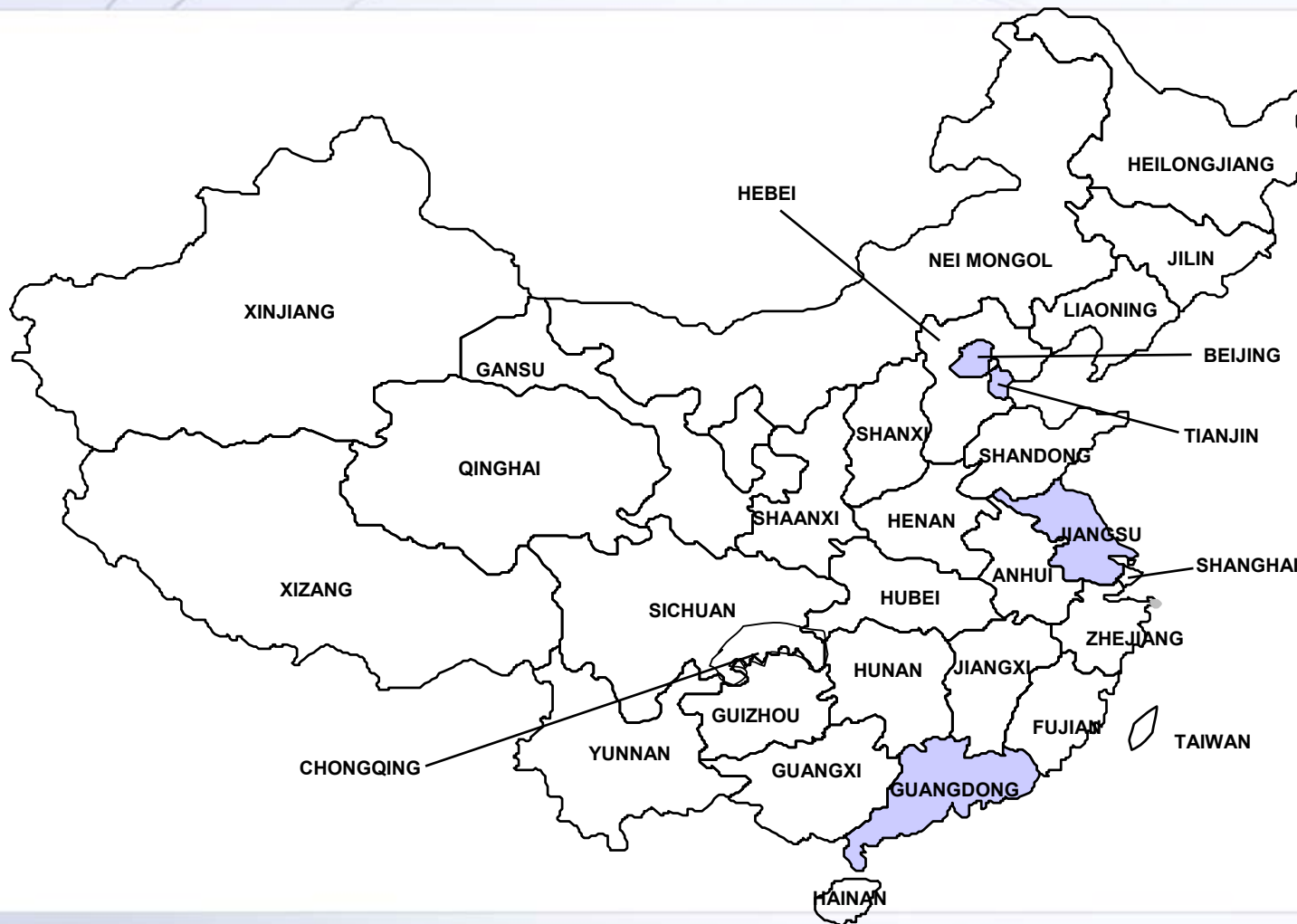
Nokia GSM presence in 9 provinces in China Unicom



Nokia ADSL presence in 9 provinces in China Telecom and China Netcom



Nokia Tetra presence in China



- Beijing government shared network with Integrated Emergency Response System
- Nanjing, Shenzhen and Guangzhou Metro networks
- Ningqi railway network in Jiangsu
- Tianjin Water and Tianjin Security networks

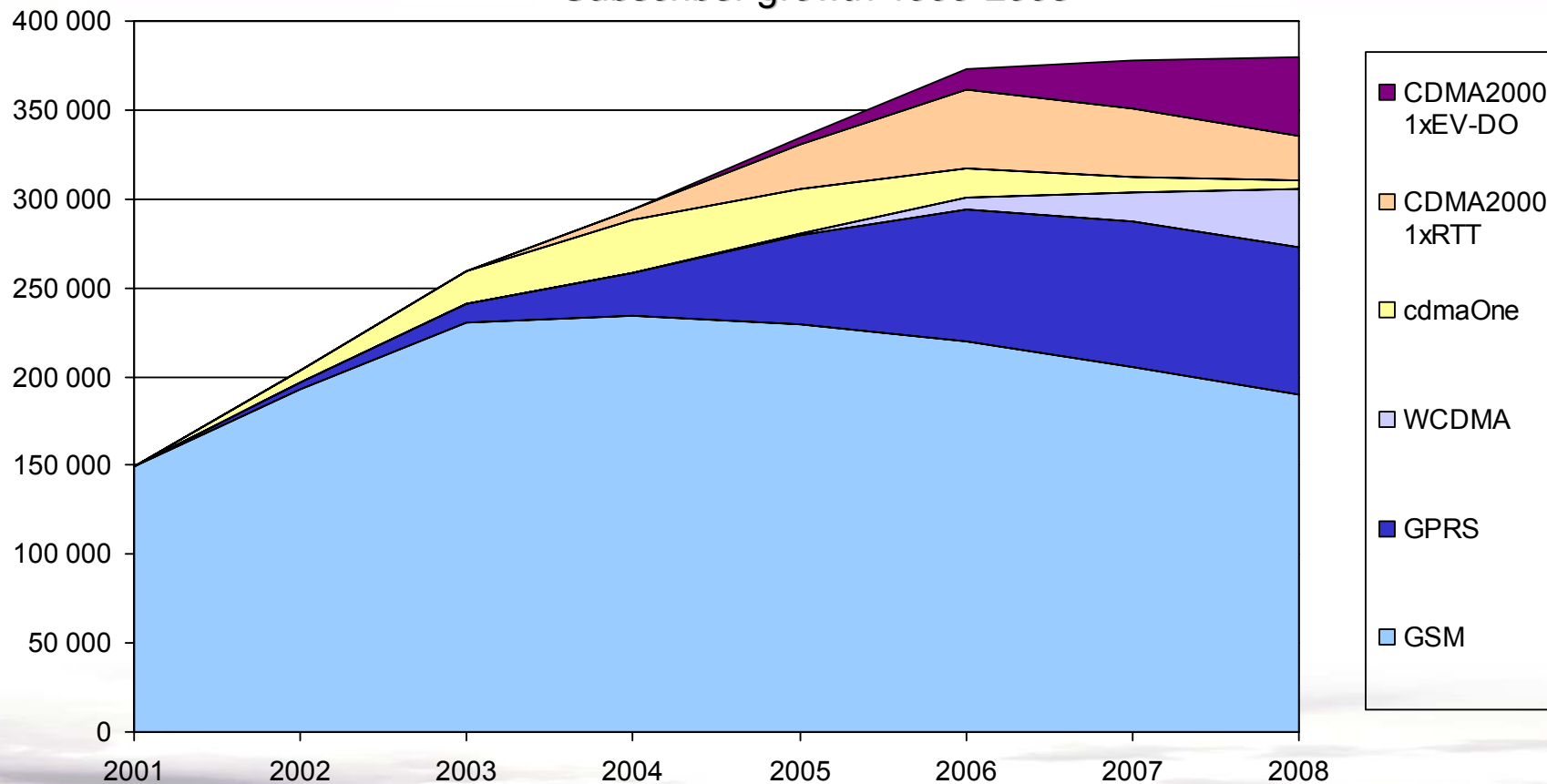
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Robust mobile market forecast

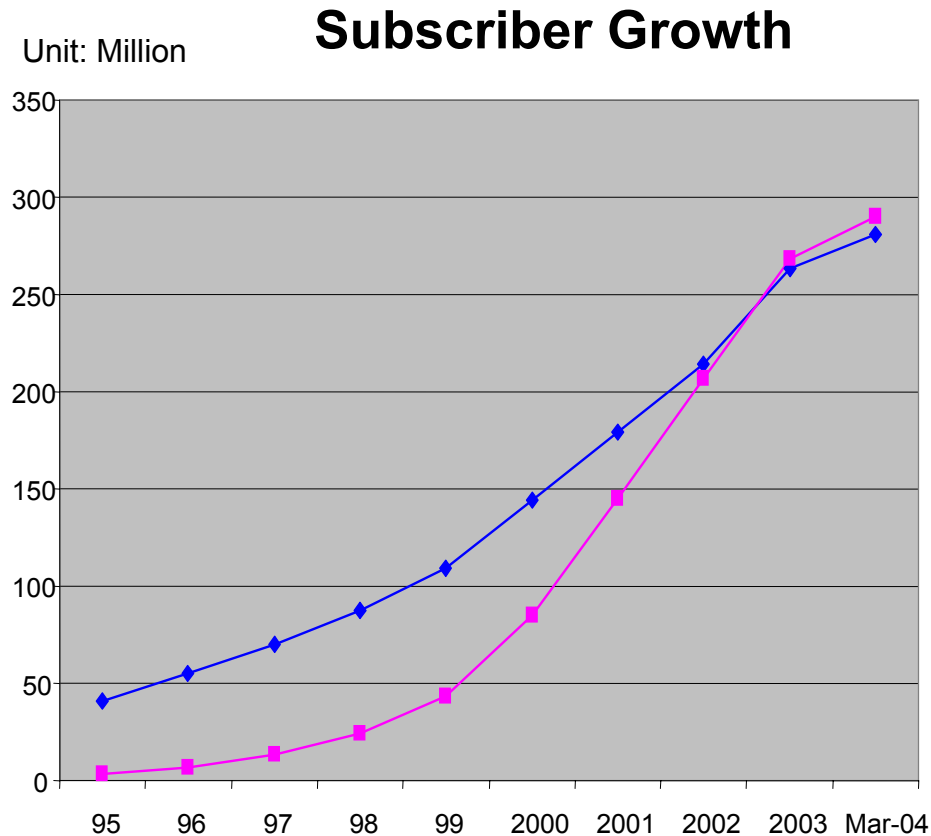
Unit: thousand

Subscriber growth 1999-2008

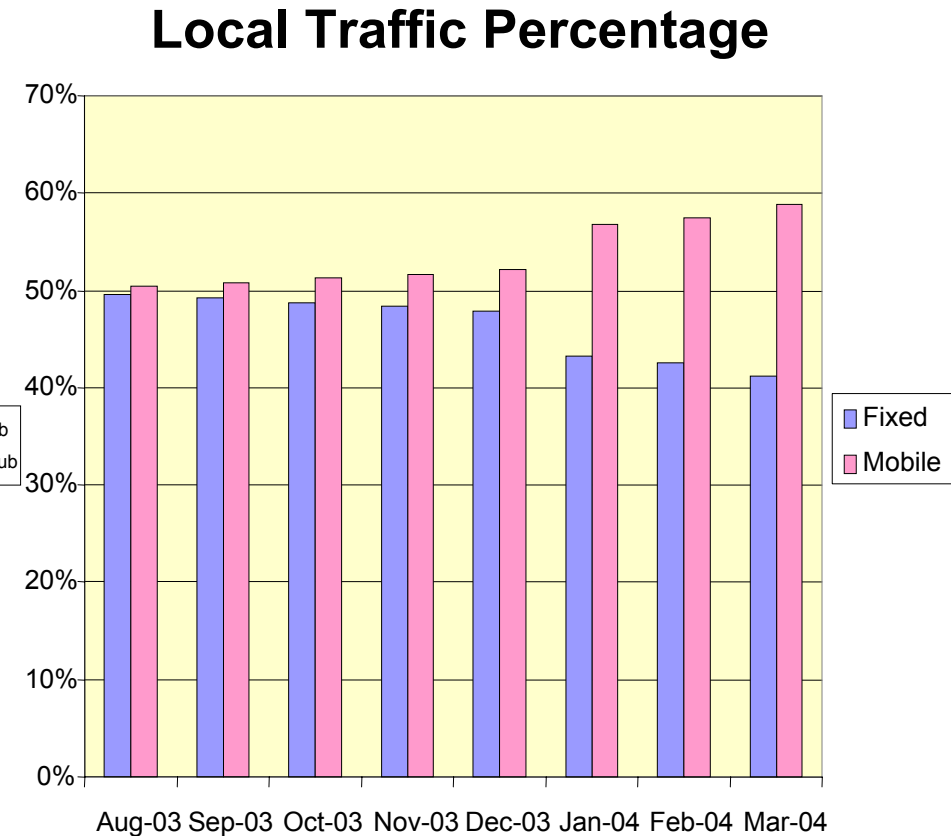


Source: Yankee Group, March 2004

Mobile to fixed substitution is happening



Source: MII data

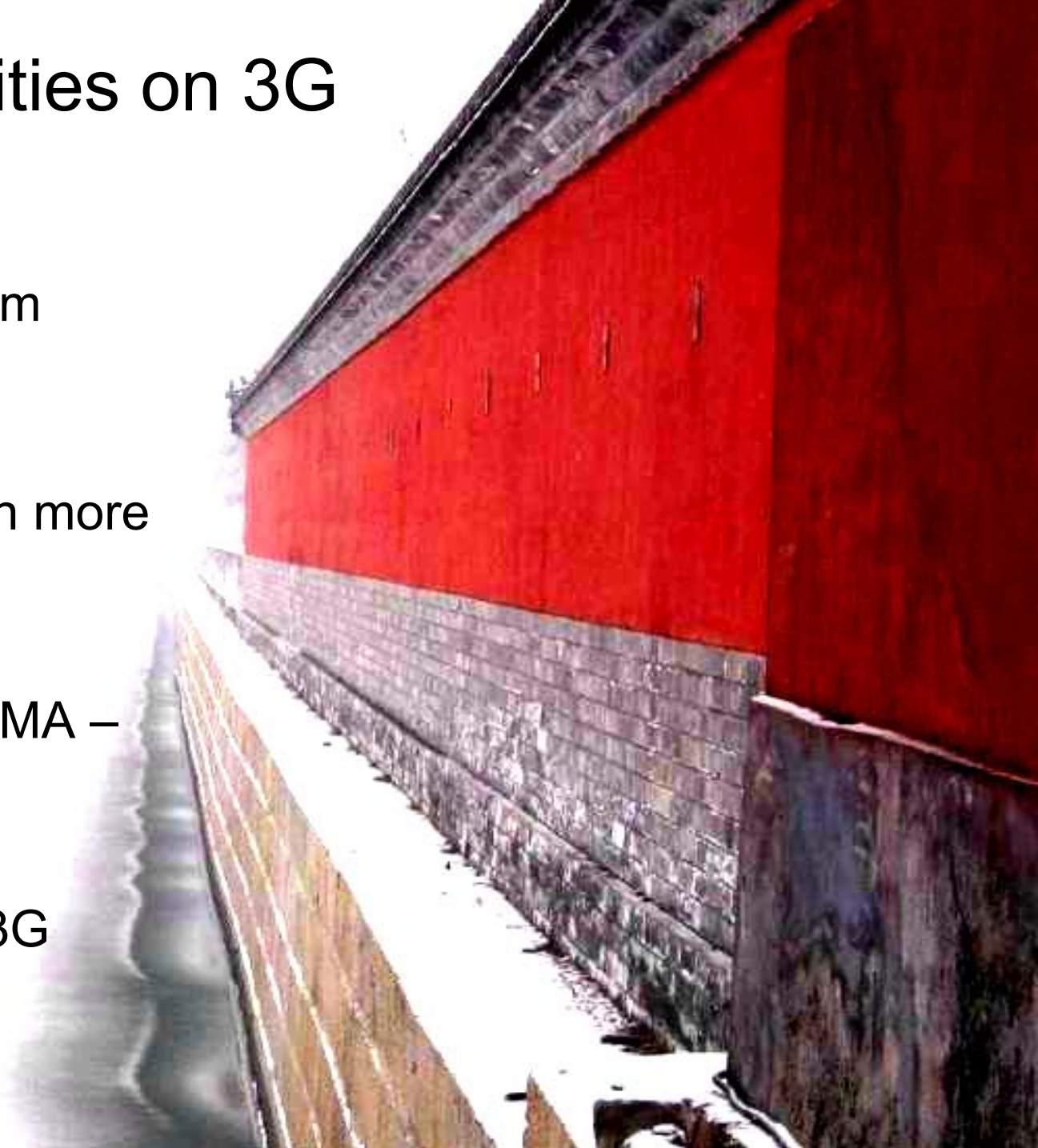


Source: MII data

1. Mobile network subscriptions and traffic surpassed fixed network in 2003
2. Global mobile network traffic is approximately 20% of total traffic

Government priorities on 3G

- Economic growth from investments
- Local vendors to gain more market share
- Adoption of TD-SCDMA – national pride
- Reduce IPR fee for 3G



MII 3G outdoor trials

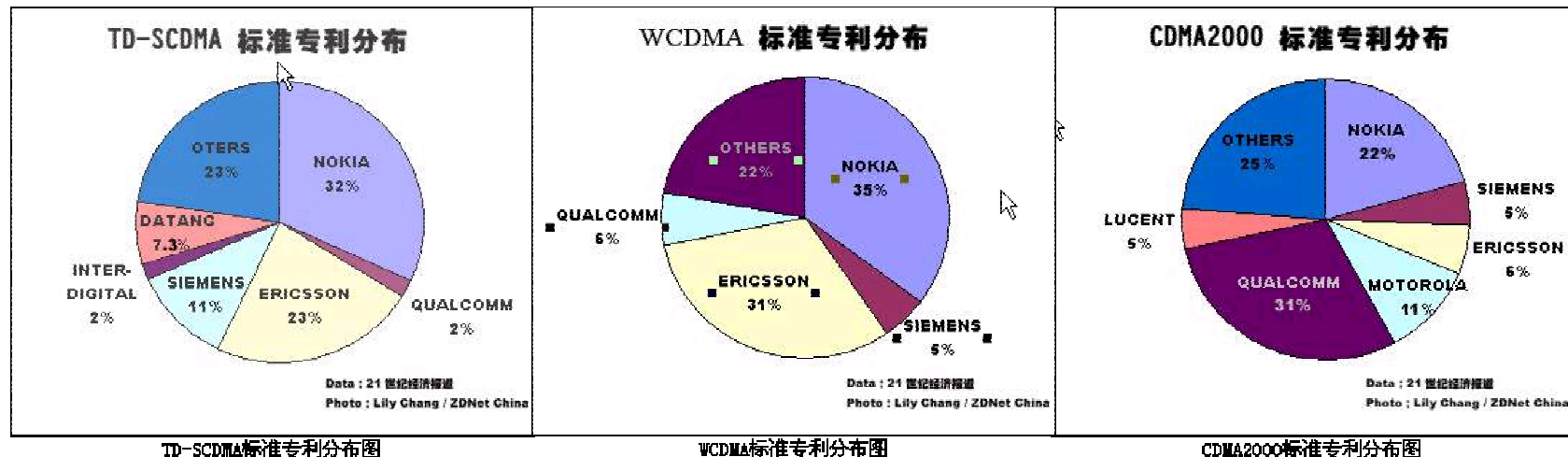
	WCDMA	cdma2000	TD-SCDMA
China Mobile	√		√
China Unicom	√	√	√
China Telecom	√	√	√
China Netcom	√		√
China Railcom	√		√
China Satcom		√	√

Source: MII data

Nokia has strong IPR position in all technologies

- Nokia is a leading IPR holder of each 3G technology
- Nokia is committed to fair, reasonable and non-discriminative principles on licensing IPRs to other companies
- Nokia has announced an IPR agreement on WCDMA infra with Huawei and is having discussions with other Chinese companies
- 3G IPRs licensing will not be a hindrance to business in China

Estimated IPR in 3G:



Source: 21st Century Business Herald, August 23, 2003 , IPR shares in 3G

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Strategic Intent

To become China's leading enabler of mobility

Different Networks Businesses Have Distinctive Strategies

Professional Services

Grow by extending offering to multivendor and managed services



Customers

Radio

Drive business leadership in technology, scale and cost

Core

Win with Nokia end-to-end solutions

Our Strategies bring to our customers

Growth — Opportunities with new end-user services and new customer segments

Leadership — Solutions for fast time-to-market

Profitability — New revenues and lowest OPEX



NOKIA

CONNECTING PEOPLE

NOKIA