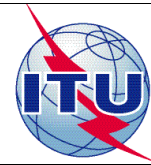


STATISTICS KOREA



Committed to Connecting the World



International  
Telecommunication  
Union

PARTNERSHIP ON  
MEASURING ICT  
FOR DEVELOPMENT

**International Seminar on ICT Statistics  
UNSD-ITU-UNCTAD-KOSTAT  
Seoul, 19-21 July 2010**

**Session 2:  
ICT Statistics and Policy Making  
*"Monitoring the WSIS targets"***

Susan Teltscher, Head  
Market Information and Statistics Division  
ITU Telecommunication Development Bureau

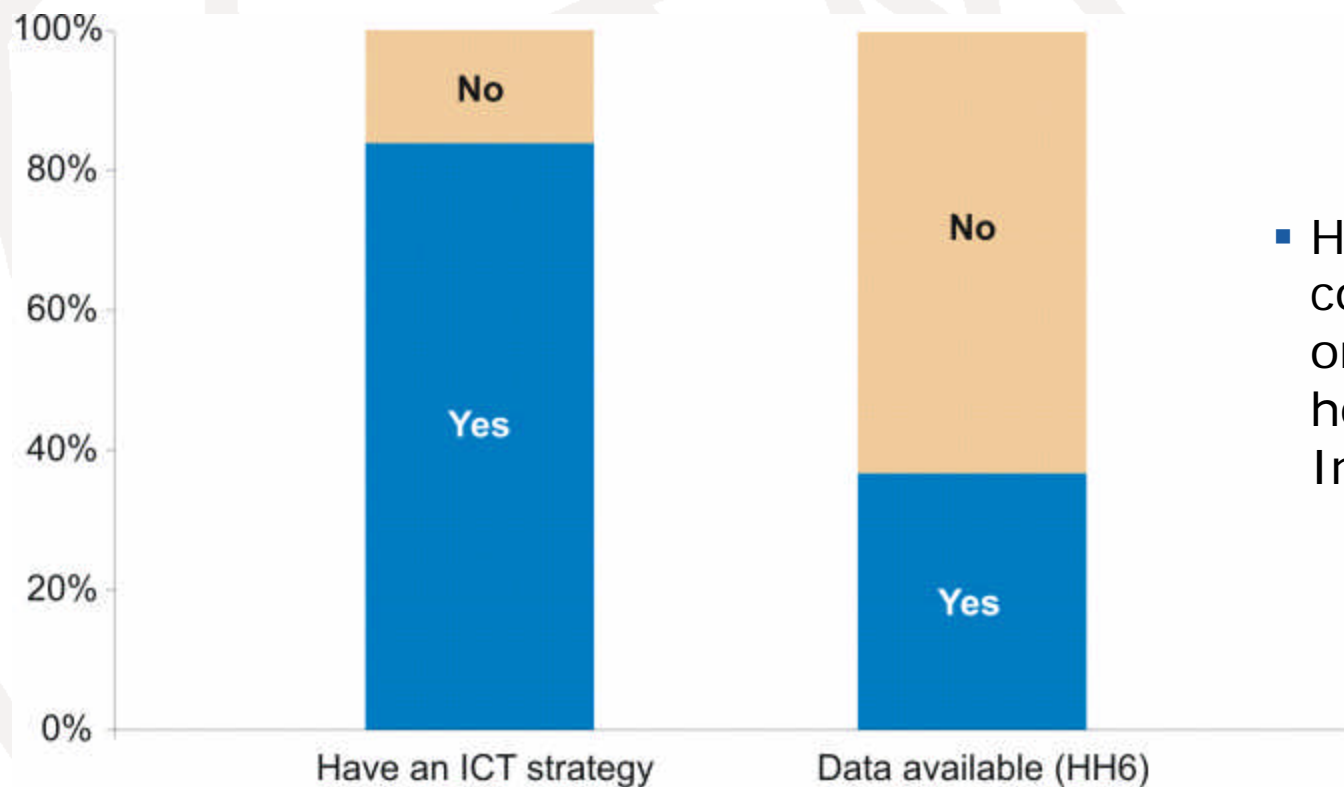
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## Agenda

- **ICT policy making and measurement**
  - Why measuring ICT?
  - Recent global and regional ICT trends
  - Benchmarking and indices
- **WSIS targets**
  - Why monitoring the WSIS targets?
  - Defining indicators and assessing progress to date
  - Towards 2015

# Why measuring ICT?

## Gap between ICT policy making and ICT data availability (% countries)



- HH6: % of countries with data on number of households with Internet access

Source: ITU (2010)

## ICT measurement is essential ...

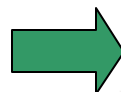
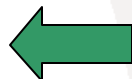
- For designing, evaluating and reformulating ICT policies and strategies
- For monitoring and assessing the digital divide
- For analysing the impact of ICT on growth and development
- For international and regional benchmarking
- For tracking progress towards achieving the MDGs and the WSIS targets (2015)

## What is being measured?

### ICT supply

- ICT sector
- Services
- Manufacturing
- Wholesale trade
  
- Telecommunication infrastructure

*Administrative data sources*

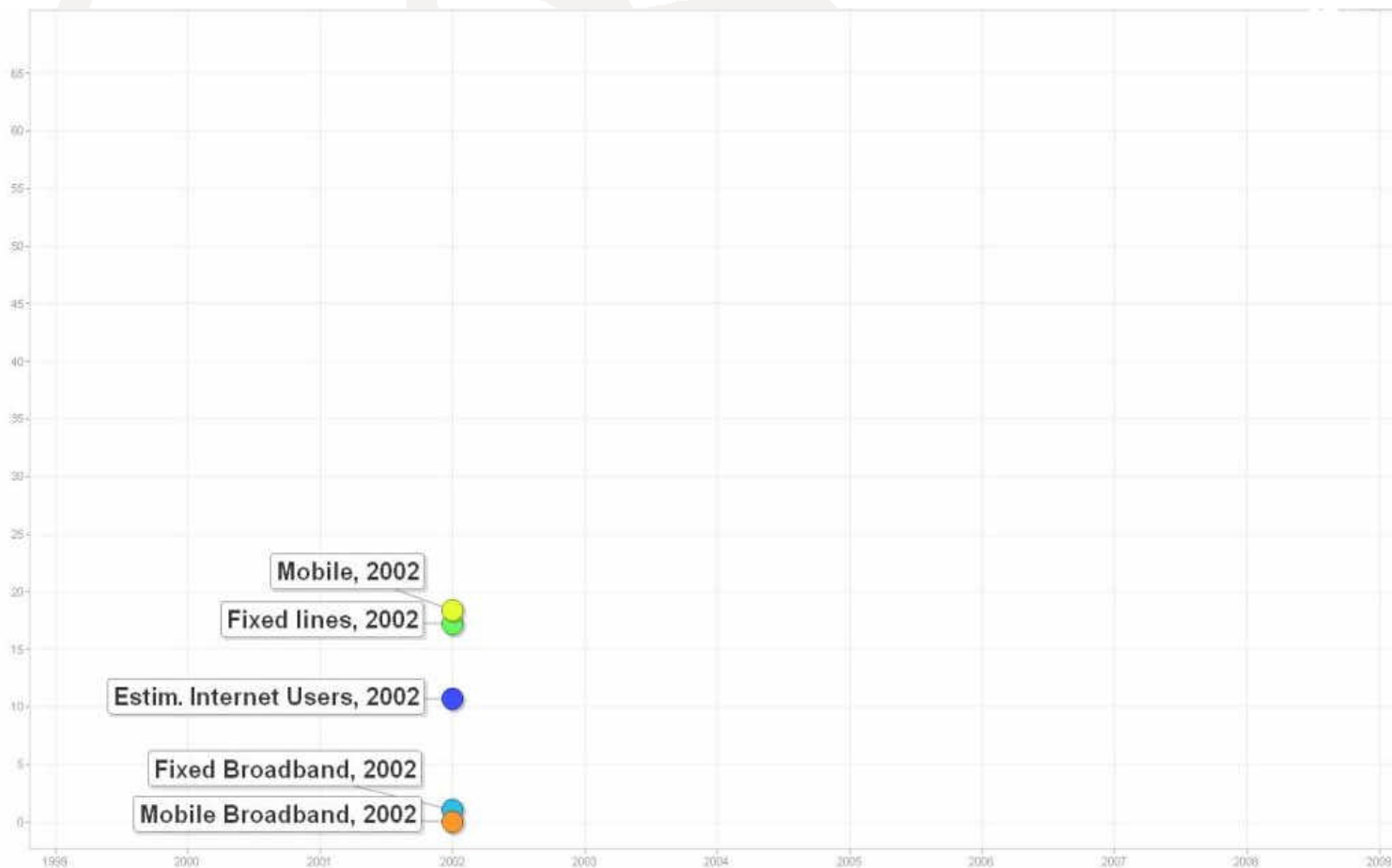


### ICT demand

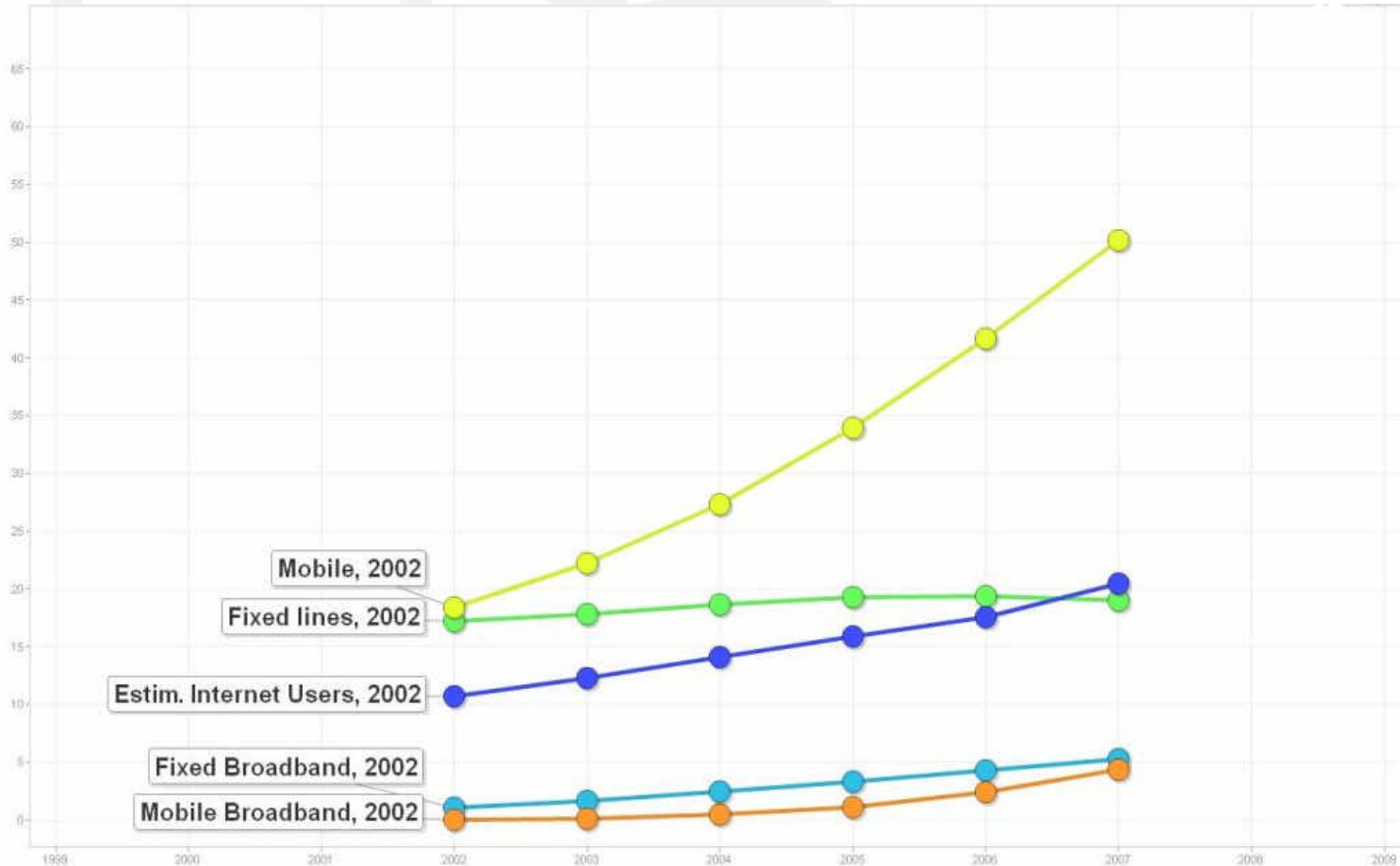
- ICT access and use by:
- households
  - individuals
  - businesses
  - public institutions  
(government, hospitals, schools, universities, etc)

*Survey data sources*

# Global ICT growth (penetration levels)

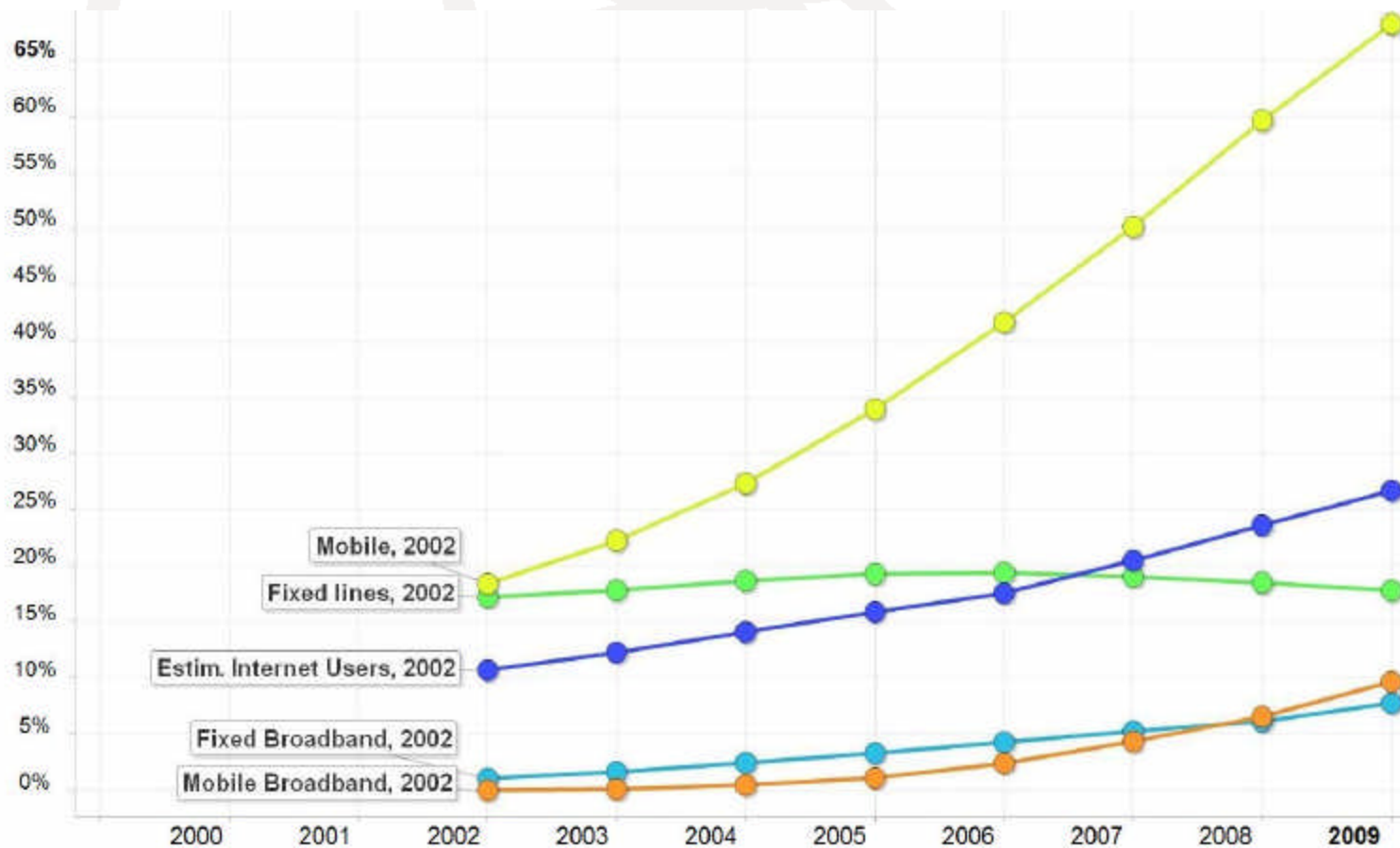


# Global ICT growth



# Global ICT growth

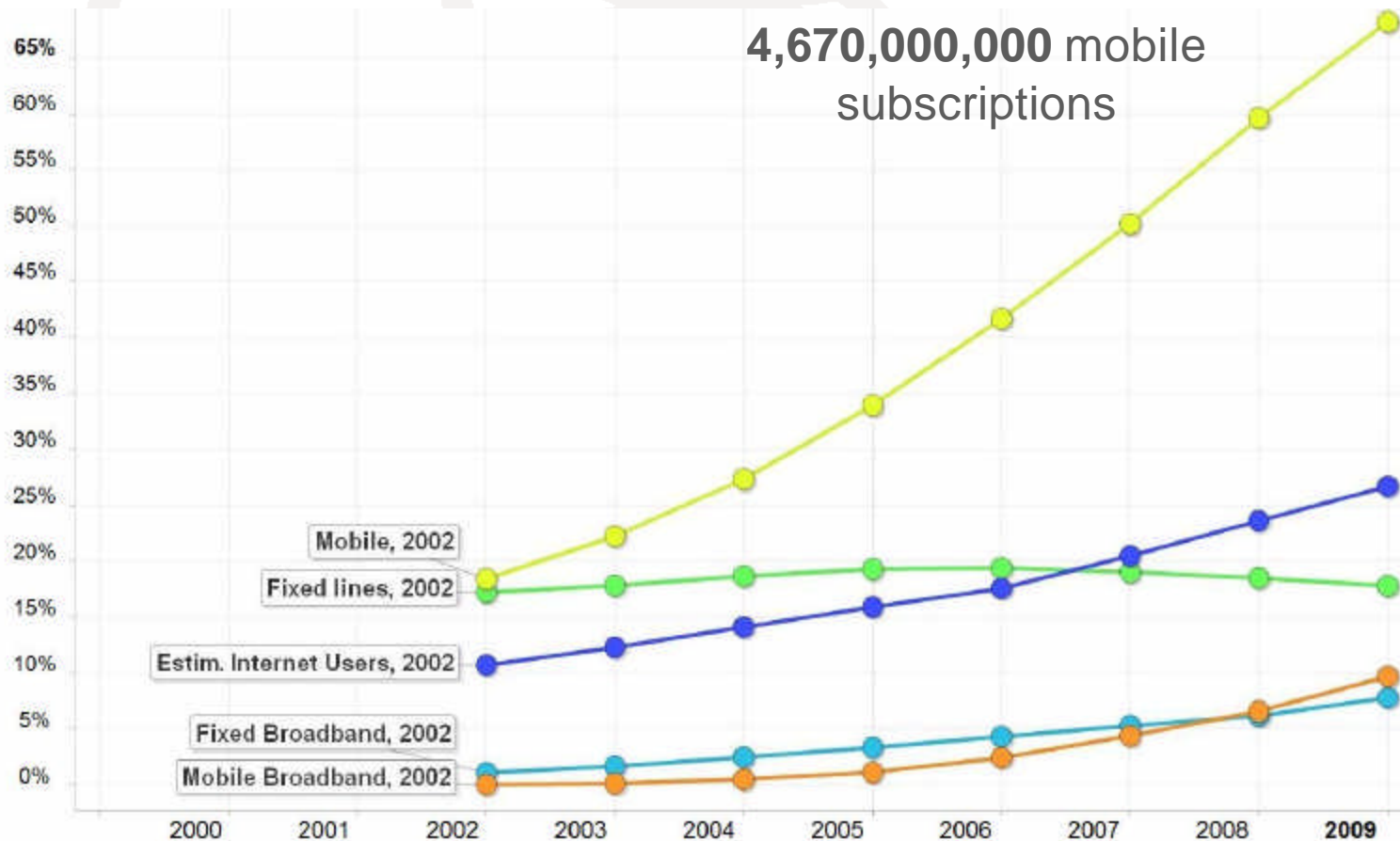
Mobile penetration: 68%





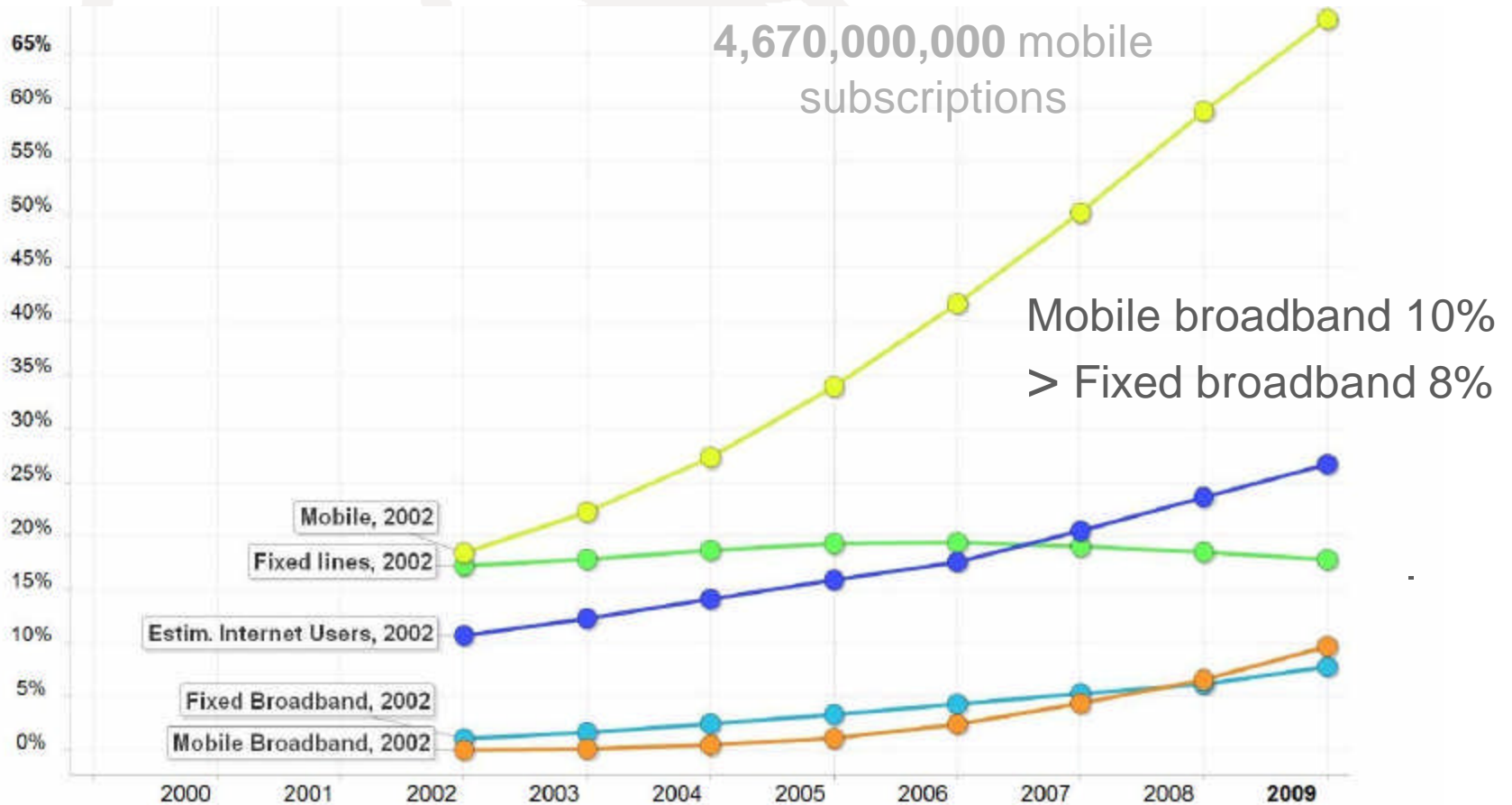
# The mobile miracle

Mobile penetration: 68%



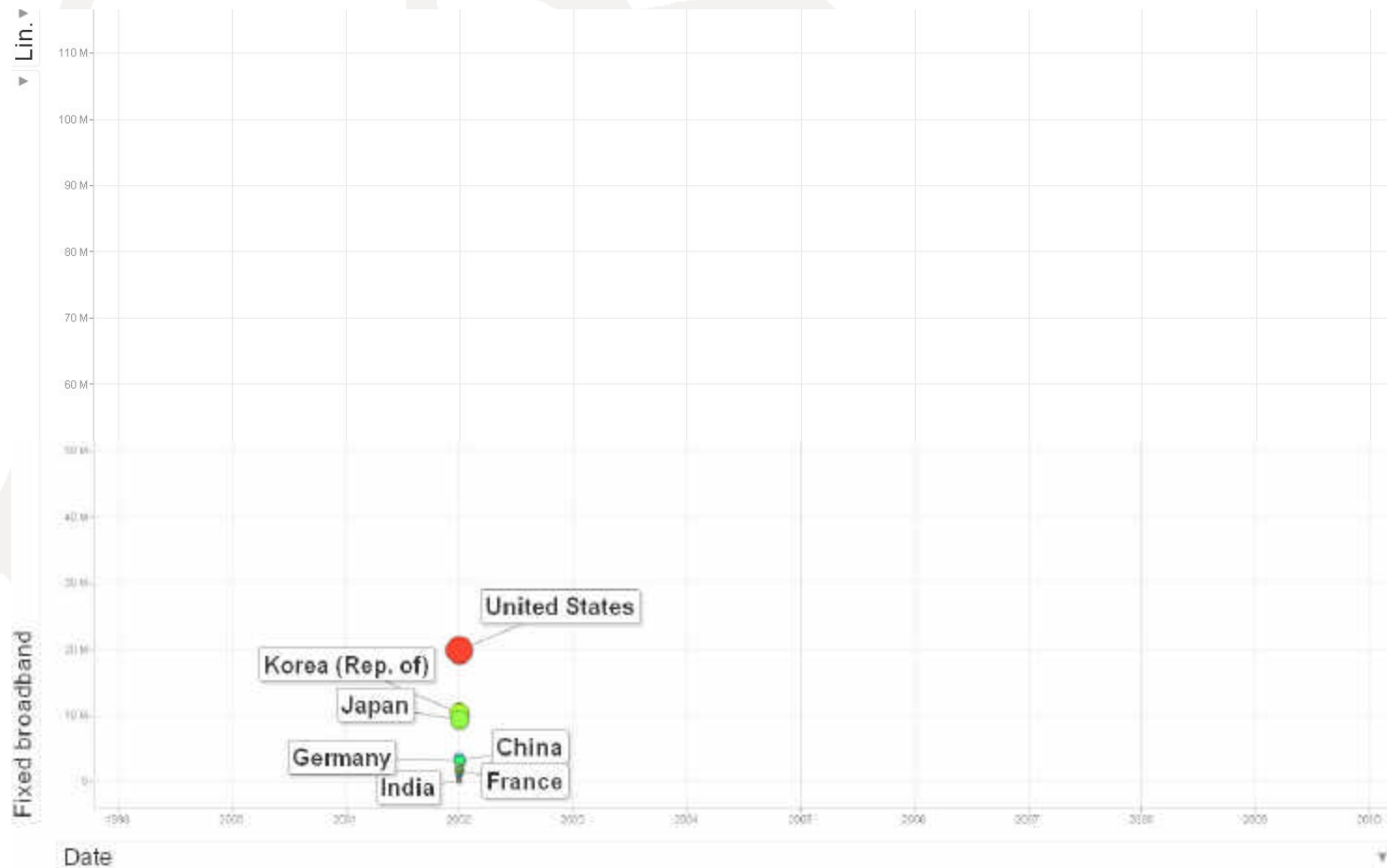
# The mobile miracle

Mobile penetration: 68%

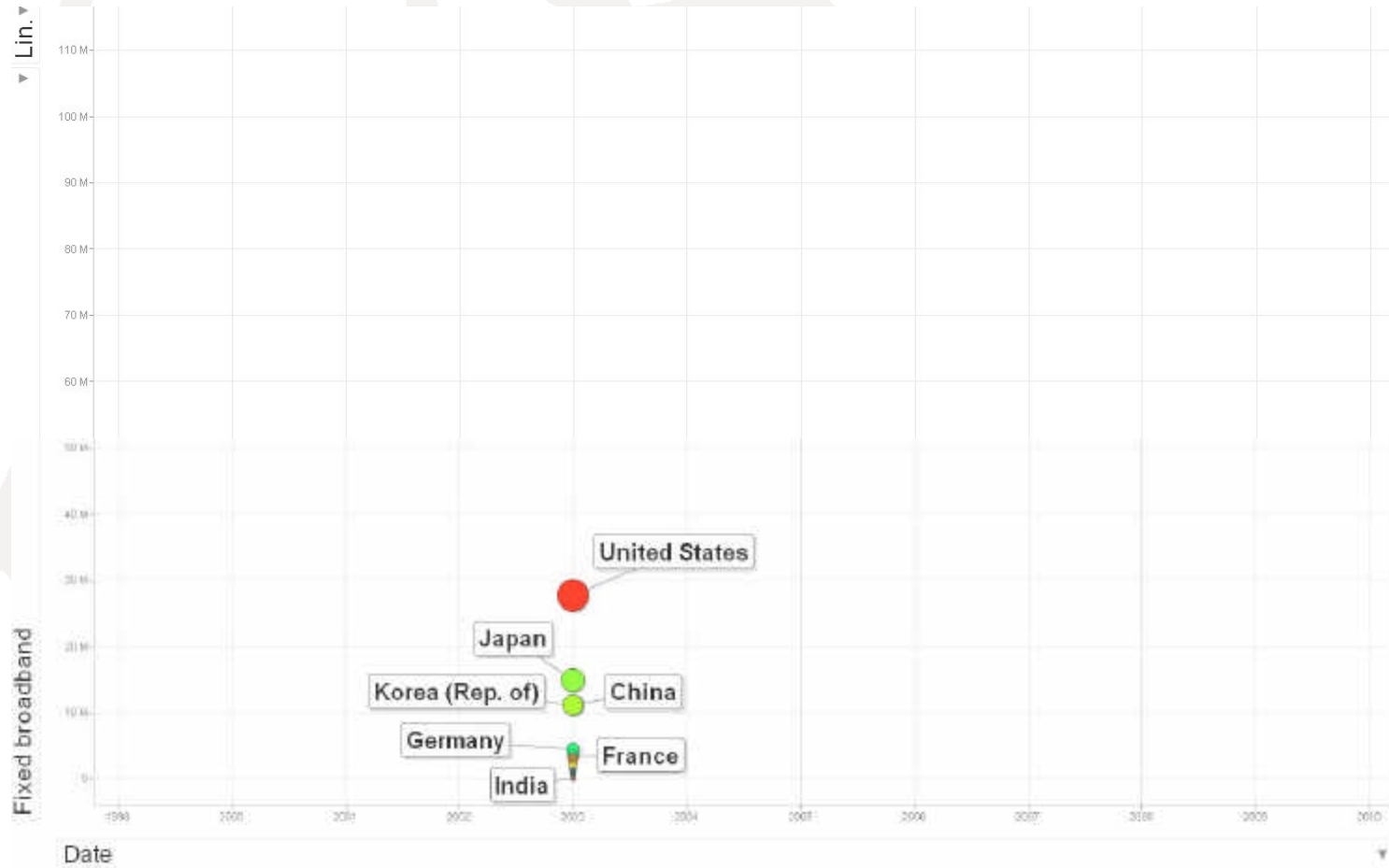


# Fixed broadband Internet 2002

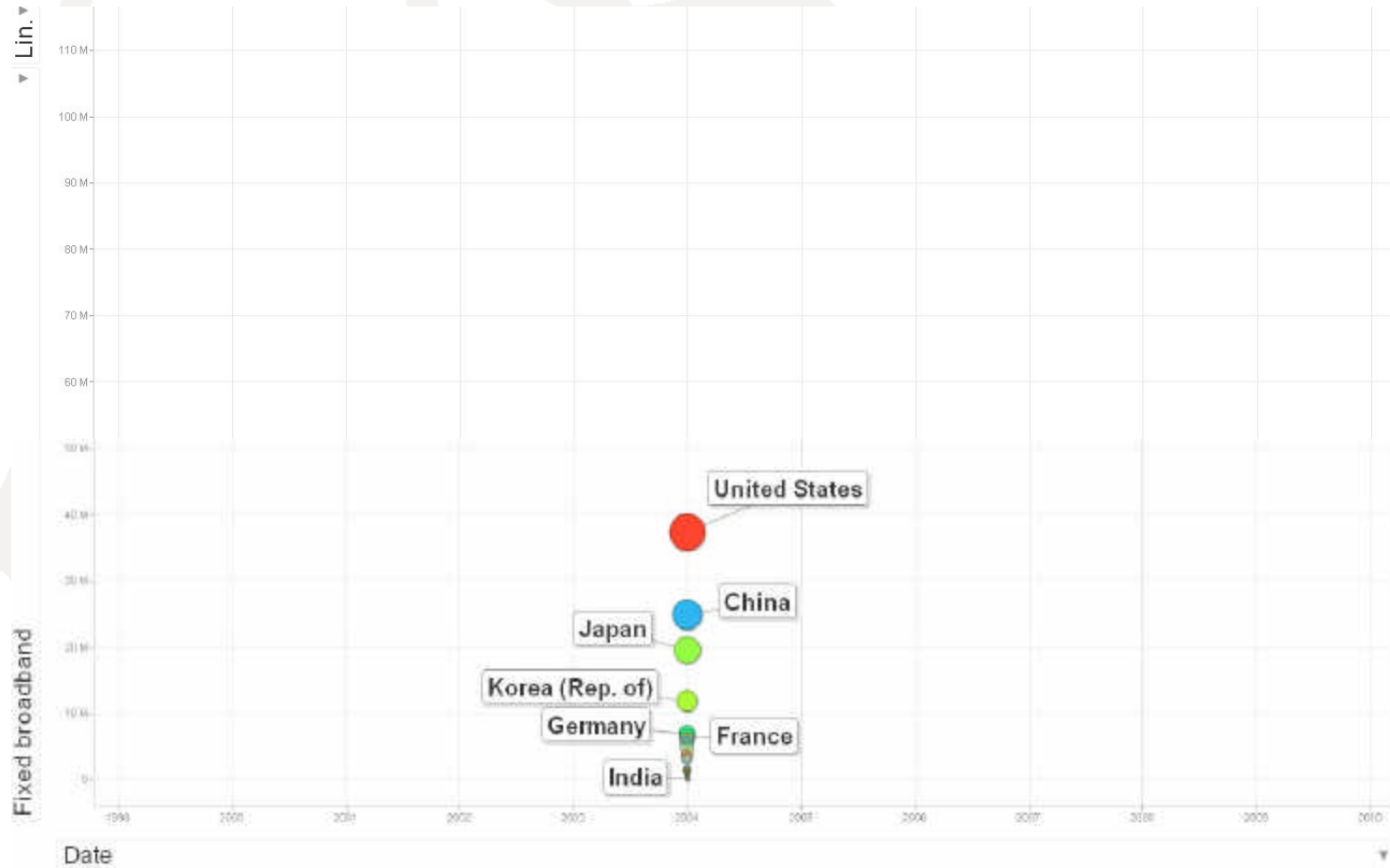
*(number of subscriptions)*



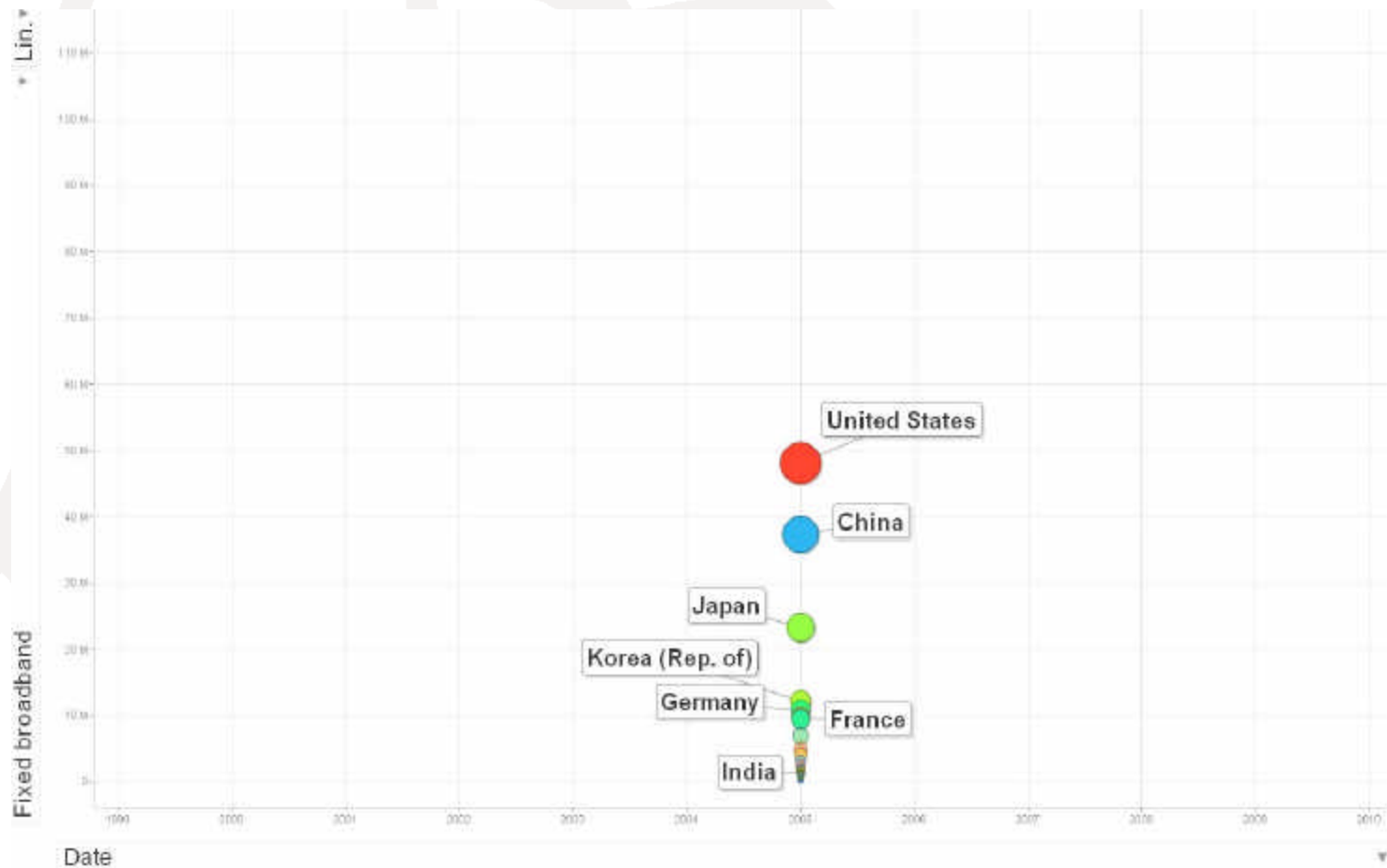
# 2003



# 2004



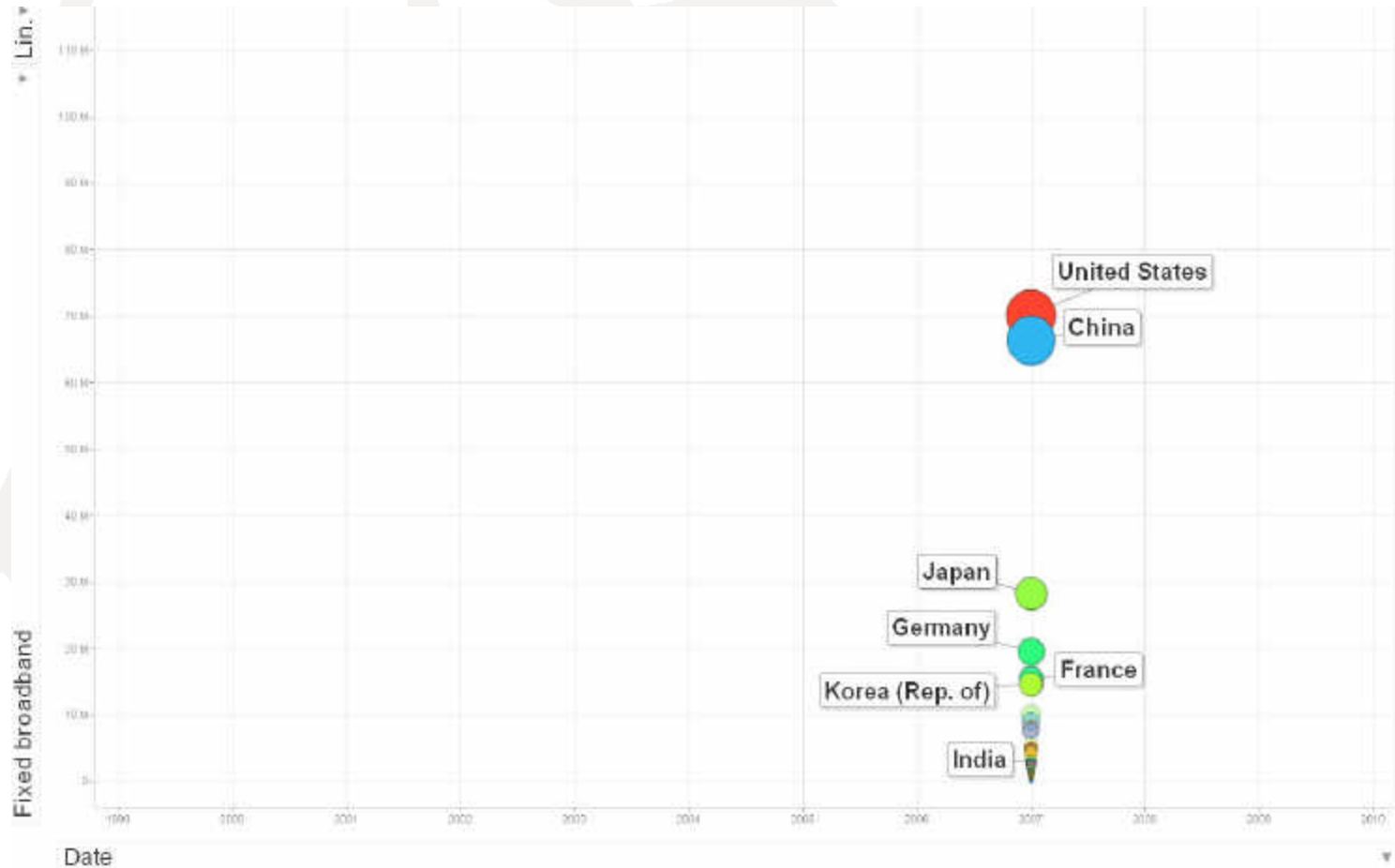
# 2005



# 2006

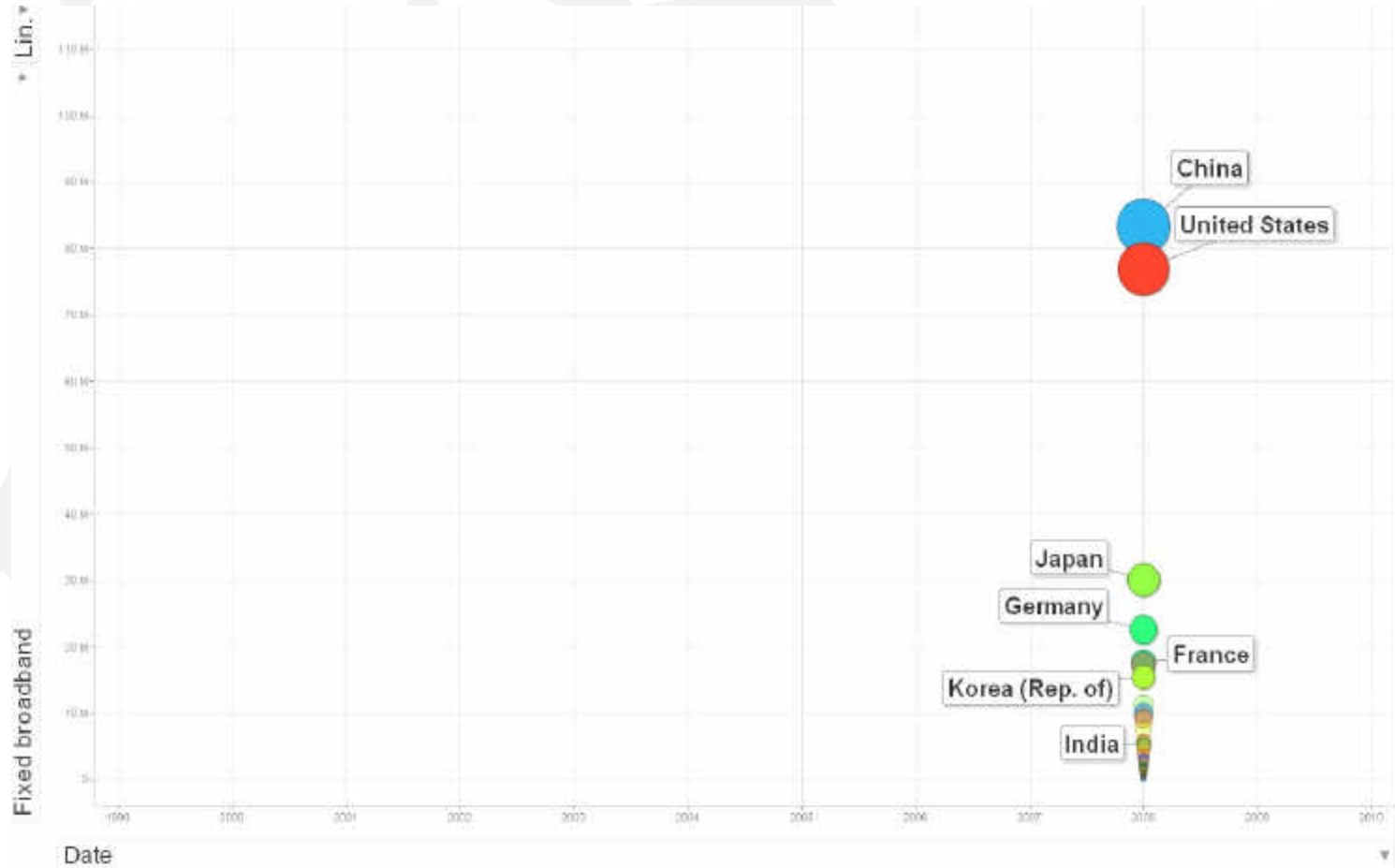


# China surpassing the US in 2007

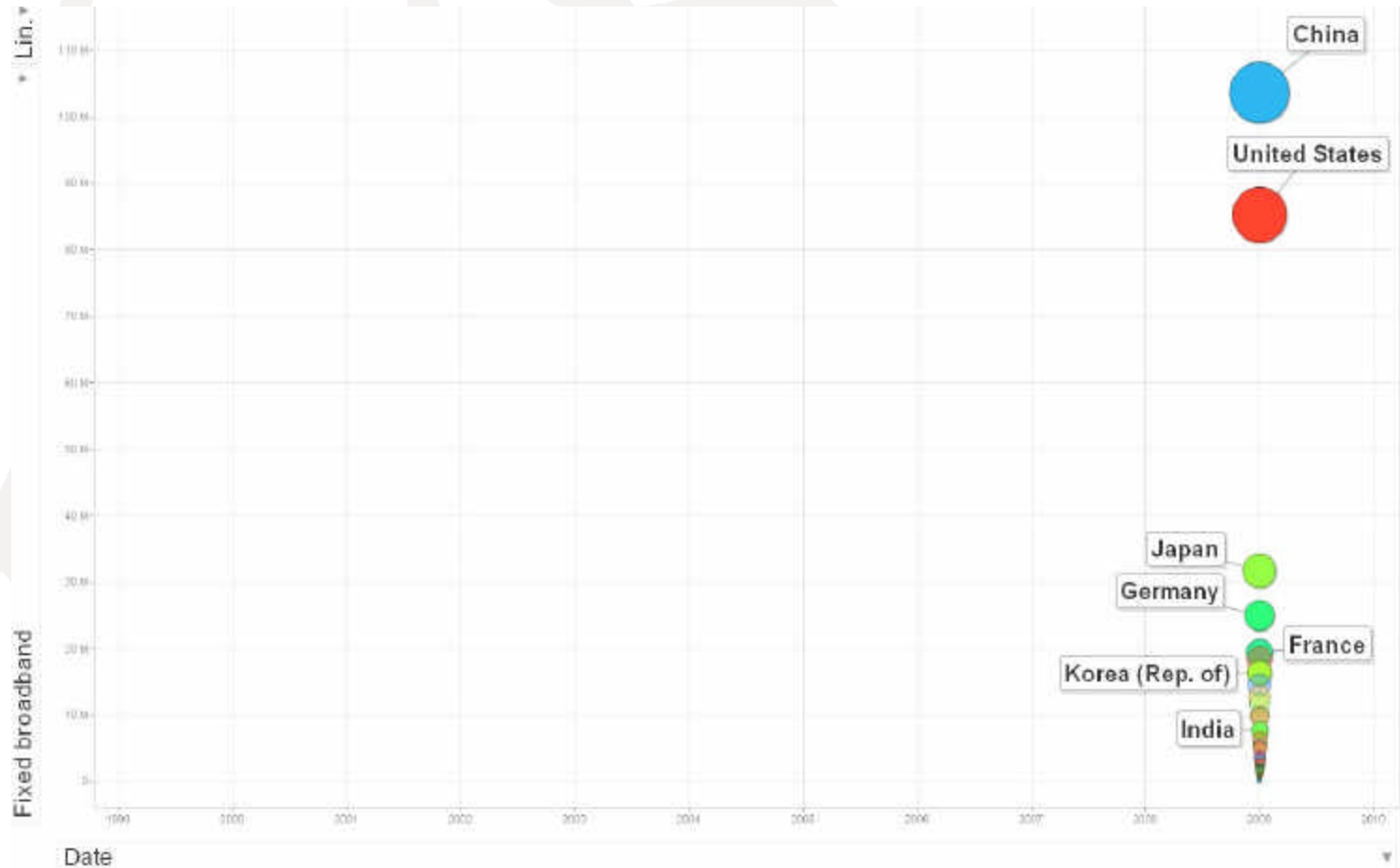




# 2008

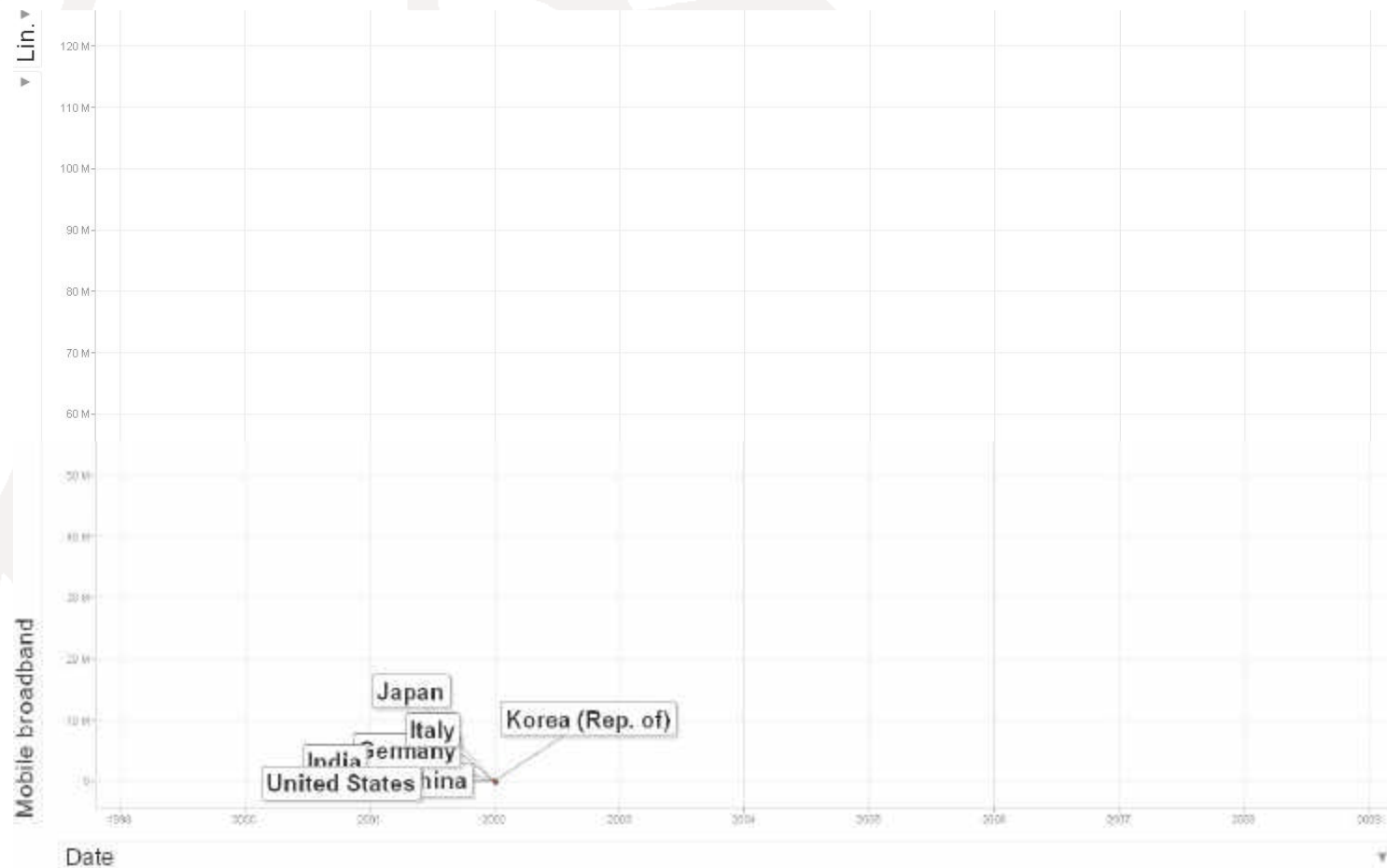


# Fixed broadband Internet 2009

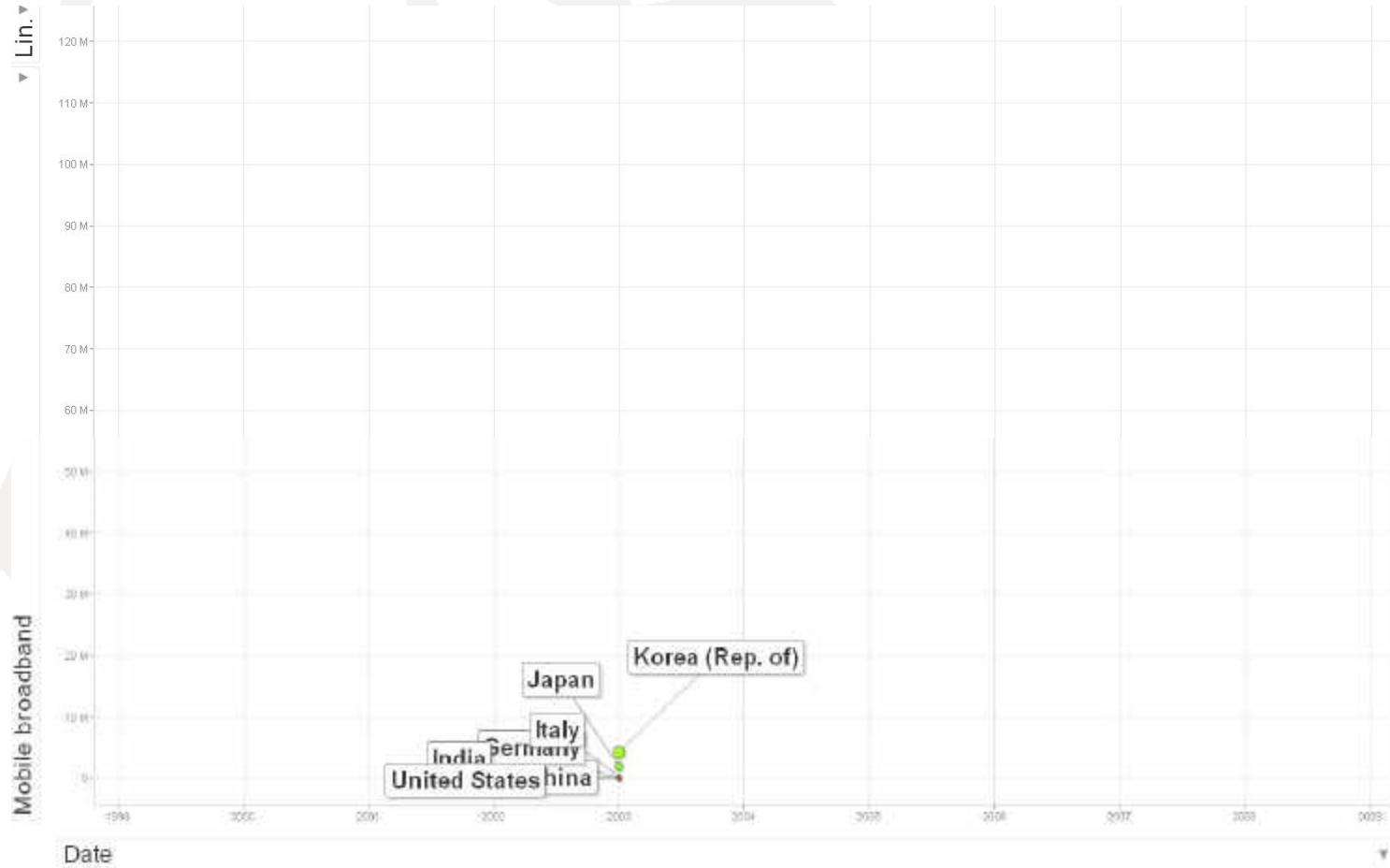


# Mobile broadband 2002

*(number of subscriptions)*



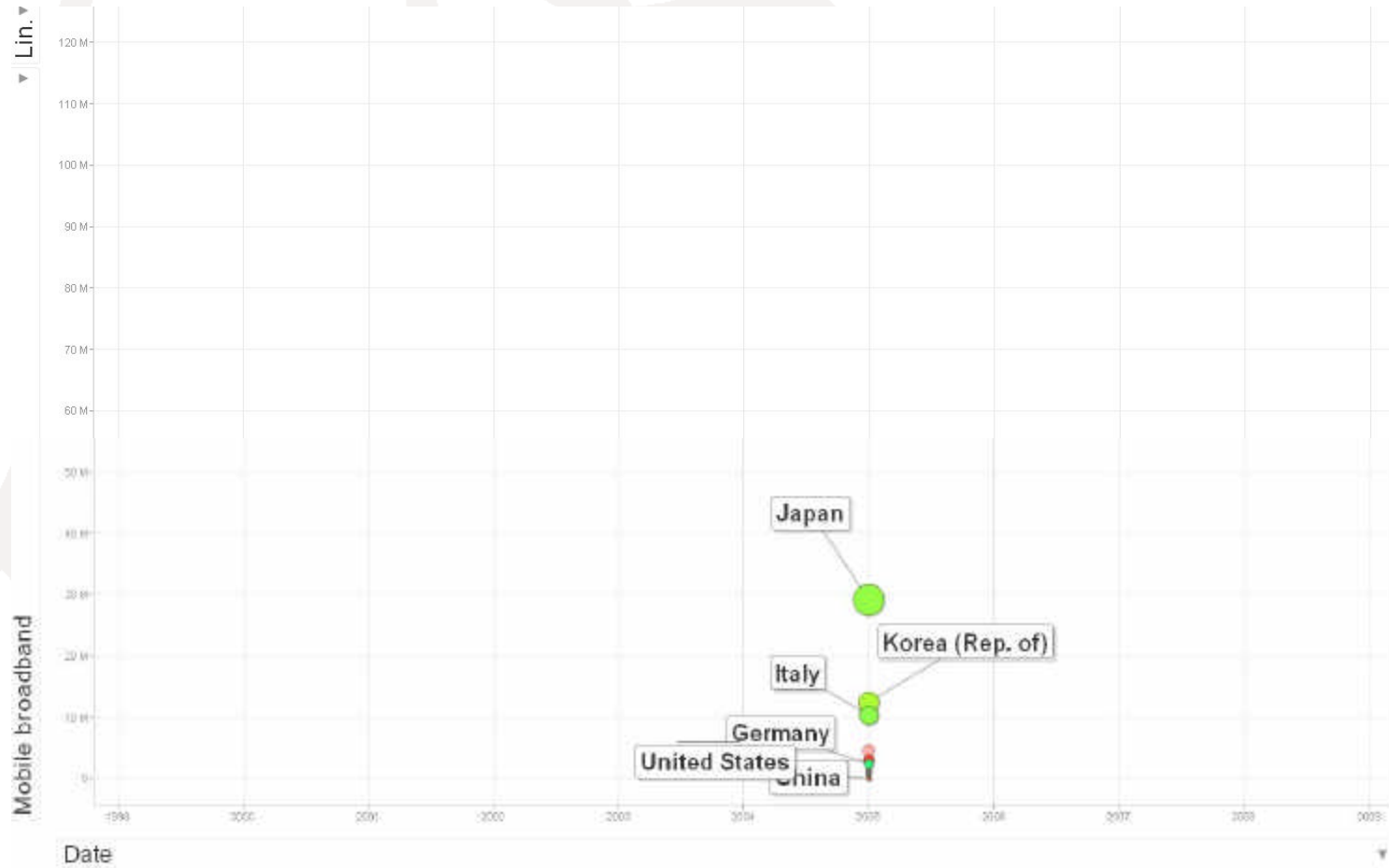
# 2003



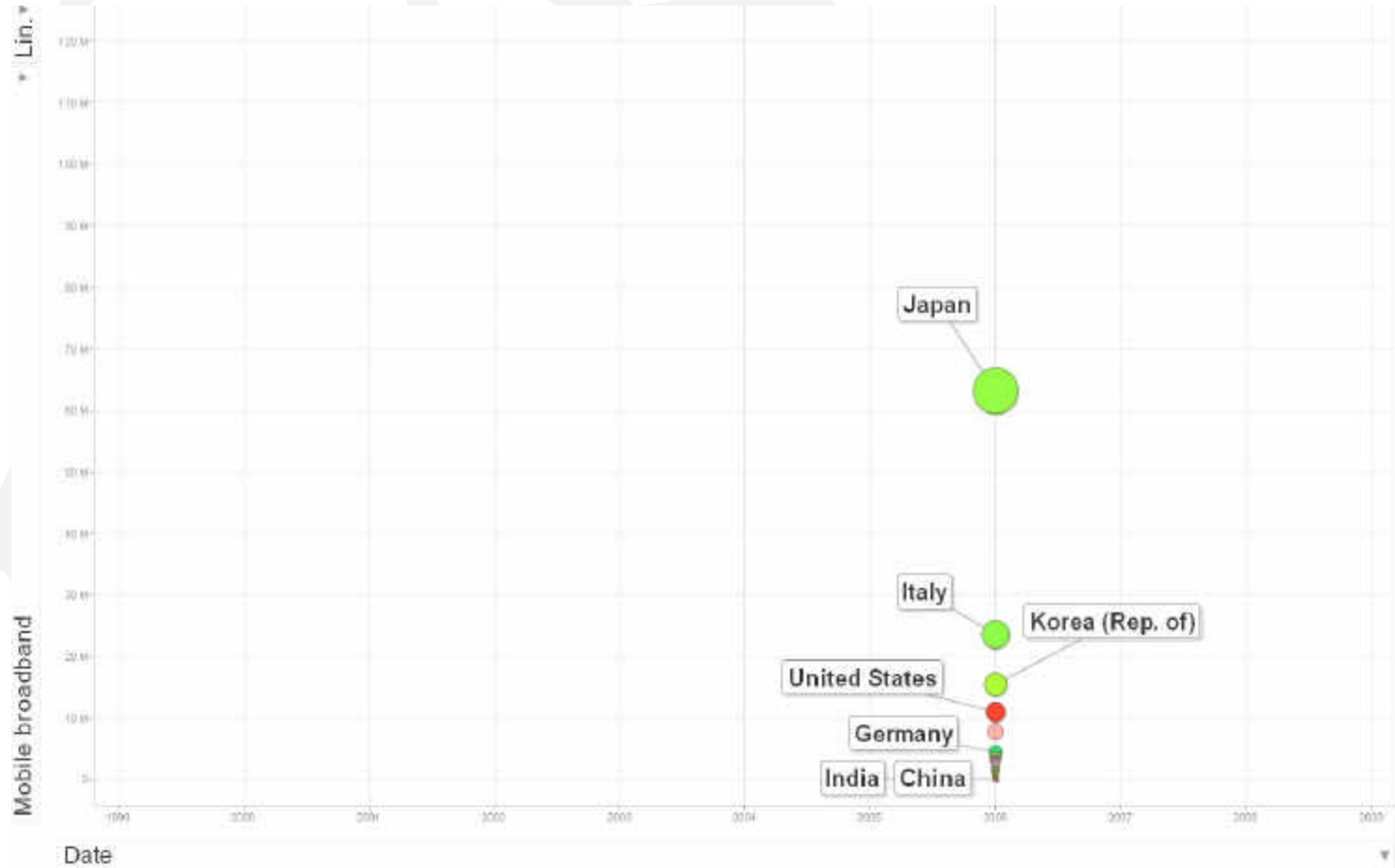
# 2004



# 2005



# 2006

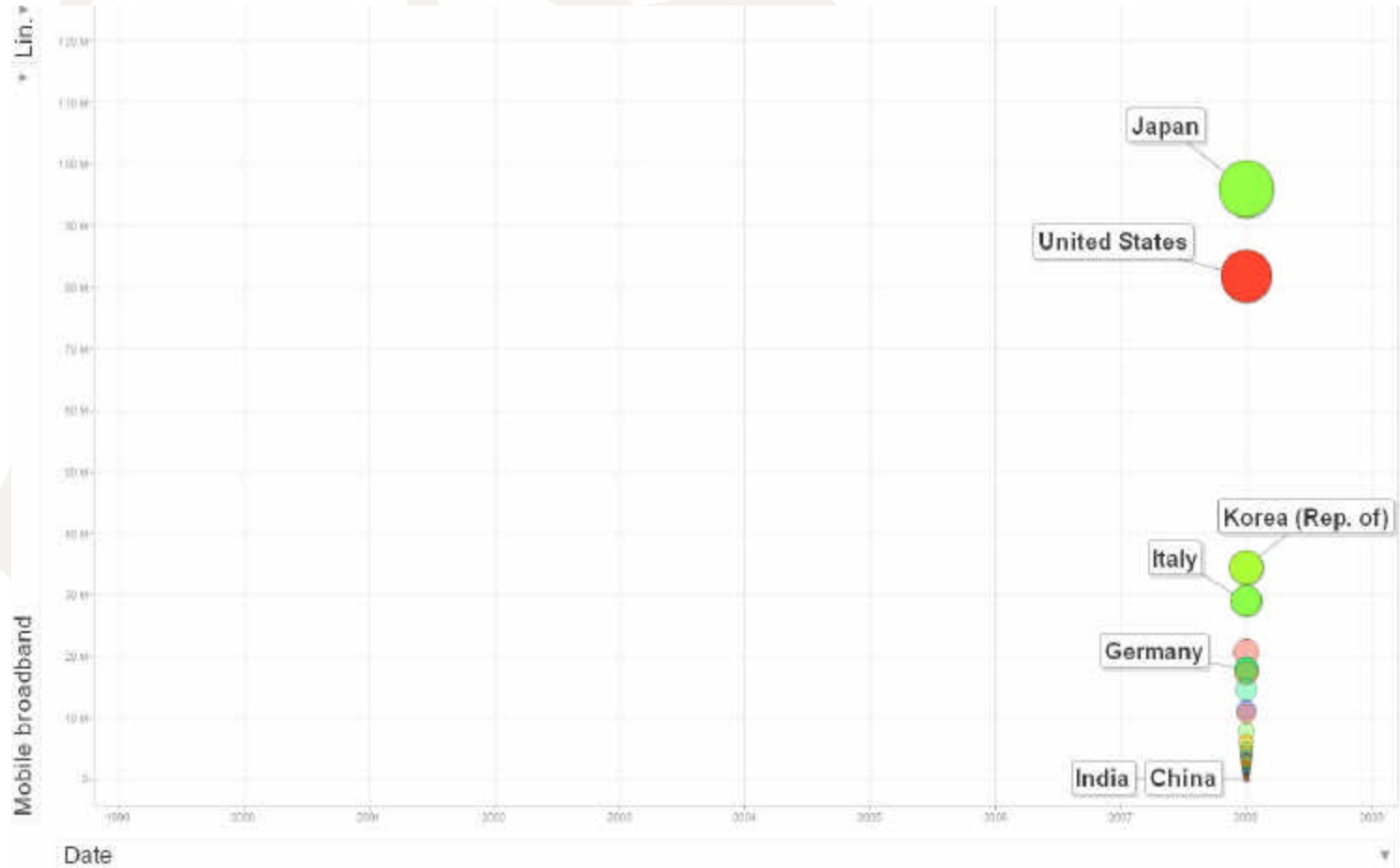


# 2007

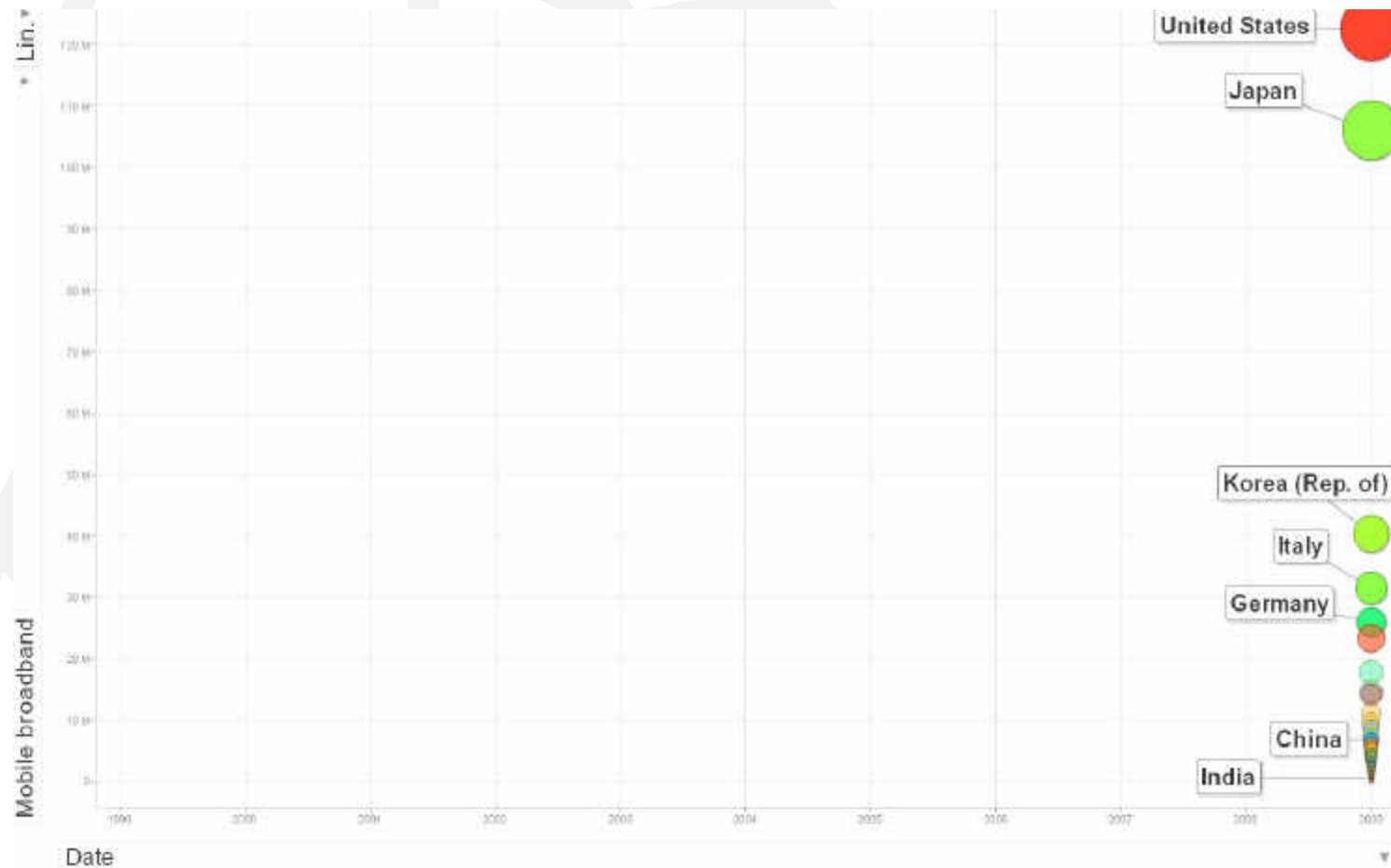




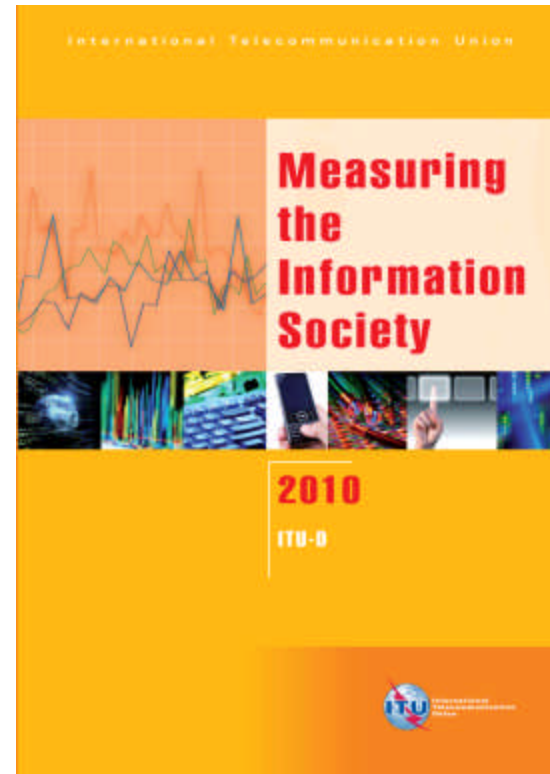
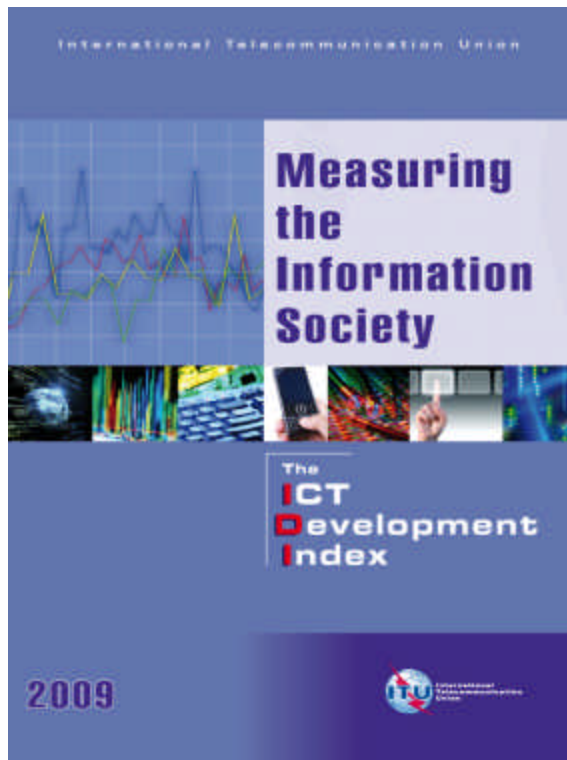
# 2008



# Mobile broadband 2009



# Benchmarking ICT developments



# Two international ICT benchmarking tools

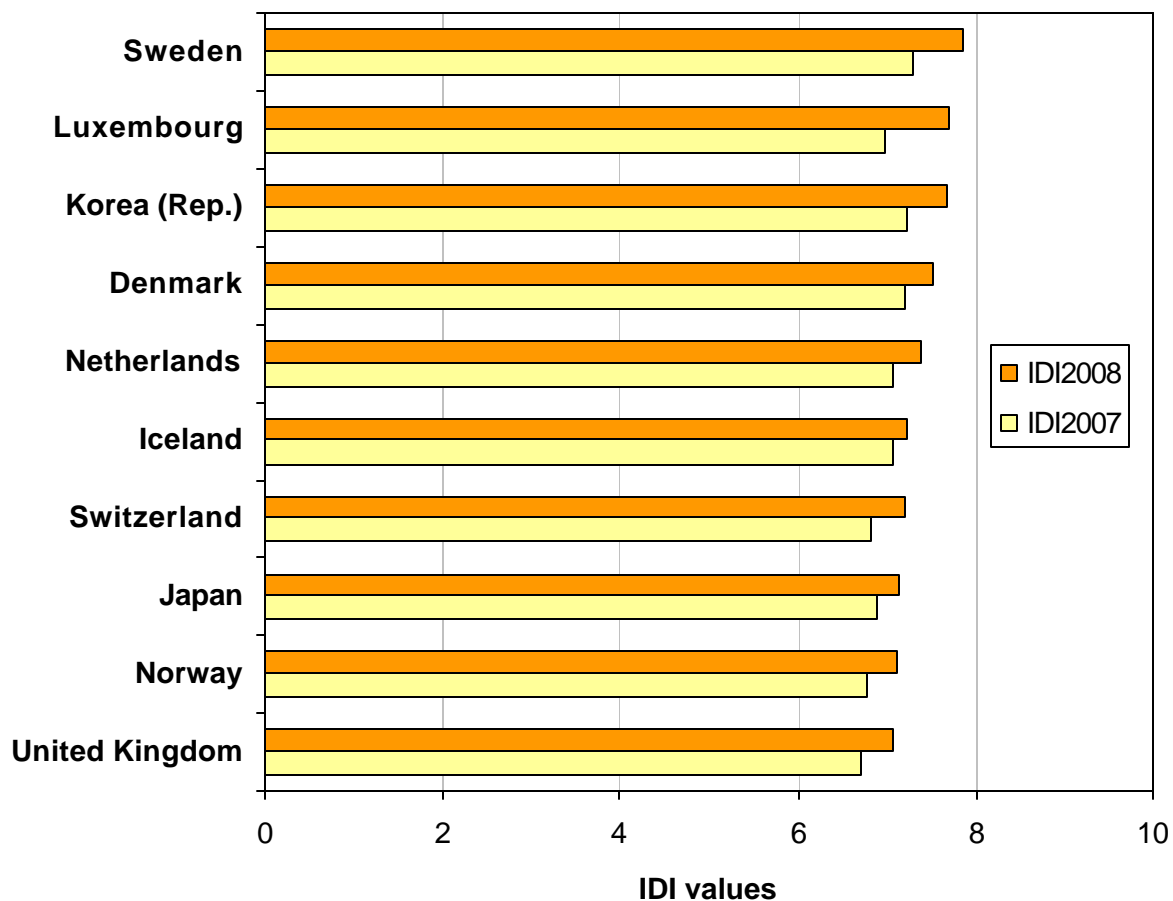
## ICT Development Index (IDI)

- 11 indicators
- Three areas:
  - ICT access
  - ICT use
  - ICT skills
- 159 economies
- Two years (2007, 2008)

## ICT Price Basket

- Entry-level price for three ICT services:
  - fixed telephone
  - mobile cellular
  - fixed broadband Internet
- 161 economies
- Three calculations:
  - US\$, PPP\$, % of monthly GNI p.c.
- Two years: (2008, 2009)

## Top IDI countries mainly from Europe Sweden ranks first for the second year in a row



Source: ITU

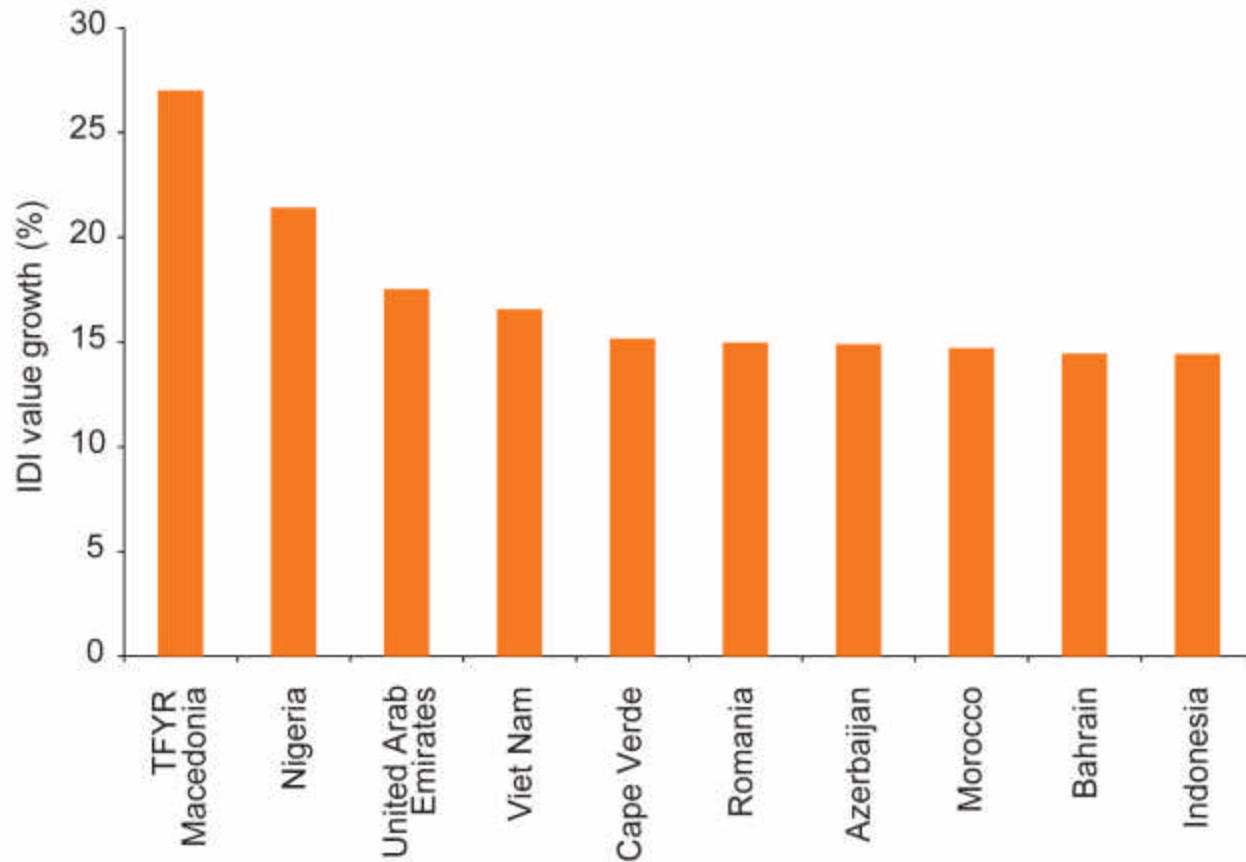
Seoul, 19-21 July 2010

## Who tops the IDI in each region?

Regional IDI Rank	Europe	Asia & Pacific	Americas	Arab States	CIS	Africa
1	Sweden	Korea (Rep.)	United States	UAE	Russia	Seychelles
2	Luxembourg	Japan	Canada	Bahrain	Belarus	Mauritius
3	Denmark	Hong Kong, China	St Vincent and the Grenadines	Qatar	Ukraine	South Africa
4	Netherlands	Singapore	Argentina	Saudi Arabia	Kazakhstan	Cape Verde
5	Iceland	Australia	Uruguay	Kuwait	Moldova	Botswana

Source: ITU.

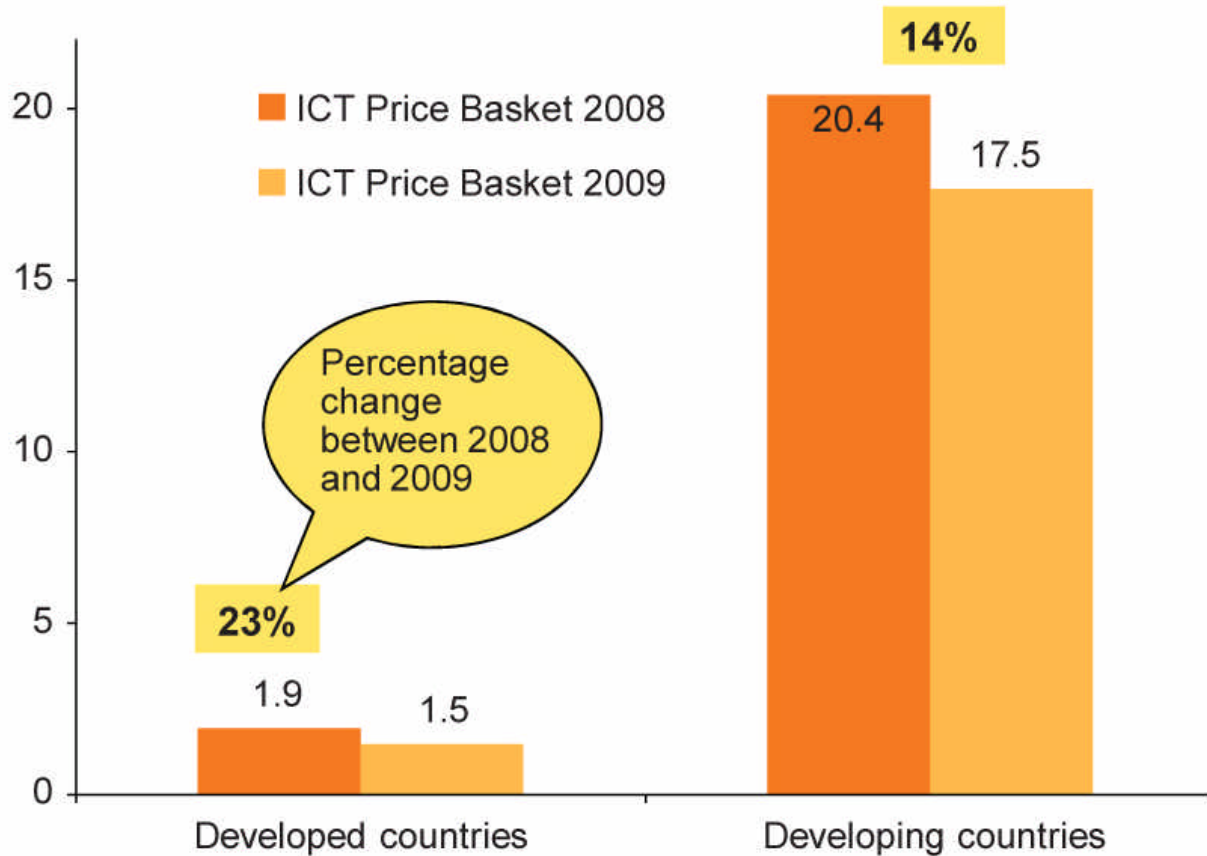
# Most dynamic economies are from the developing world



Source: ITU

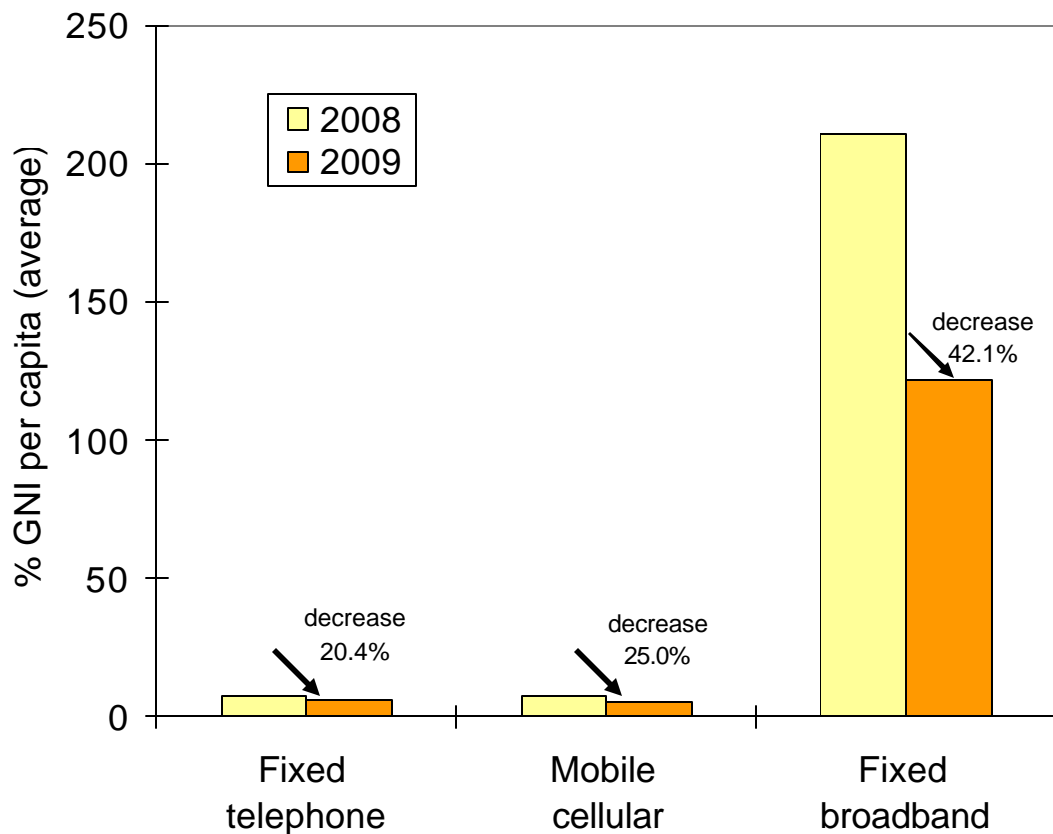
Seoul, 19-21 July 2010

# Developing countries are paying more



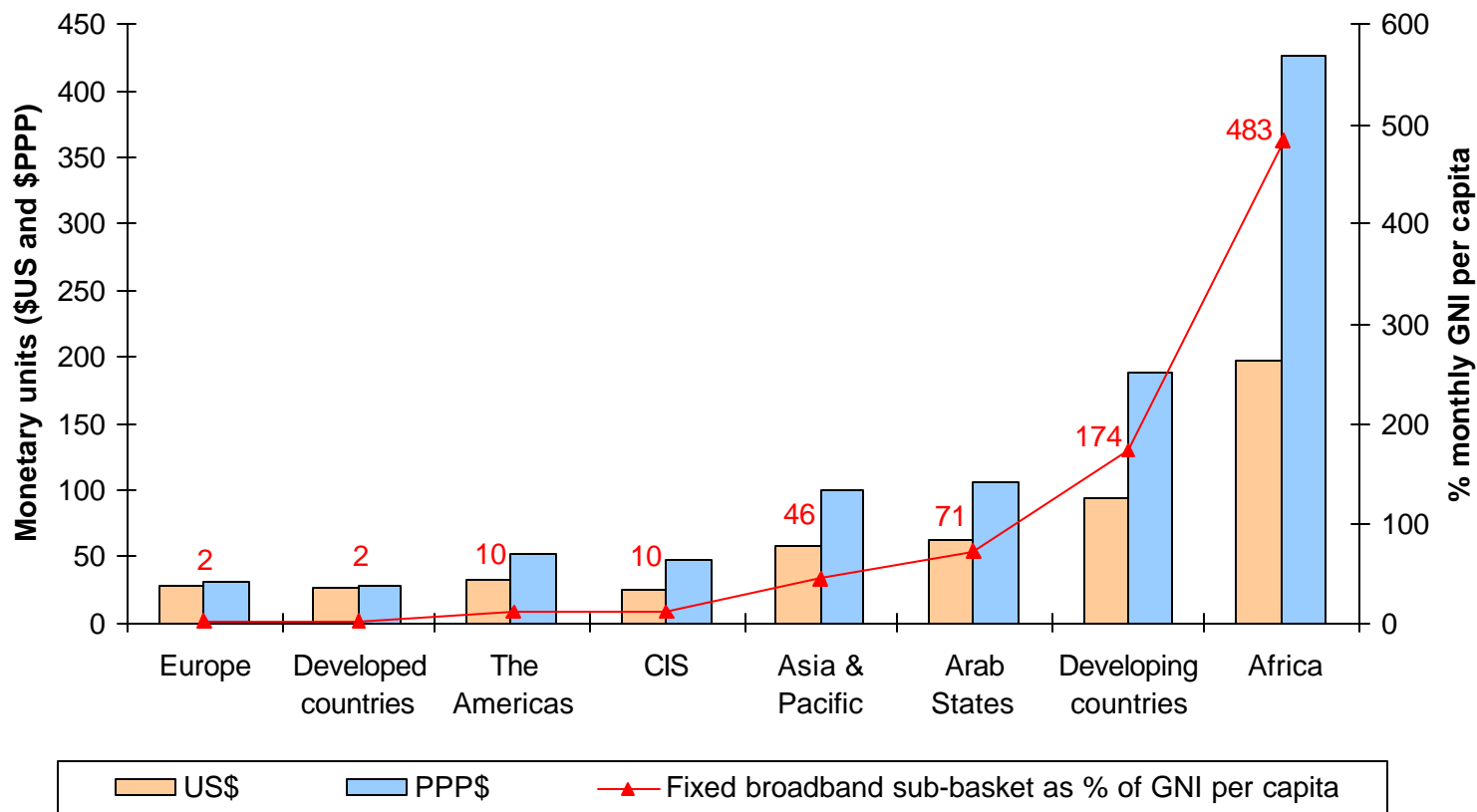


## Fixed broadband prices decreasing – but still the most expensive...



... especially in developing countries

# 2009 Fixed broadband prices: regional disparities



Source: ITU.

## Agenda

- **ICT policy making and measurement**
  - Why measuring ICT?
  - Recent global and regional ICT trends
  - Benchmarking and indices
- **WSIS targets**
  - Why monitoring the WSIS targets?
  - Defining indicators and assessing progress
  - Towards 2015

## Why monitoring the WSIS targets?

- References/mandates: WSIS outcome documents (Geneva Plan of Action 2003, Tunis Agenda 2005), UN ECOSOC resolution (2008)
- 2015: WSIS review summit – assess global progress towards the information society

## Monitoring the WSIS targets – background and stakeholders

- ITU World Telecommunication/ICT Development Report (WTDR) 2010, jointly with other partners
- *New Partnership on Measuring ICT for Development* Task Group (launched at WSIS Forum, May 2010)
- External collaborators, national experts, WSIS community

# ITU WTDR 2010: 10 targets and 50 indicators to assess the global information society

- First global effort to measure progress towards the achievement of the targets agreed at the World Summit on the Information Society (WSIS)
- Mid-term review based on quantitative indicators
- Policy recommendations to help achieve the targets by 2015



In collaboration with UNESCO, WHO and UNDESA, as well as civil society  
Available online: [www.itu.int/ict](http://www.itu.int/ict)

## WSIS targets

1. To connect villages with ICTs and establish community access points
2. To connect universities, colleges, secondary schools and primary schools with ICTs
3. To connect scientific and research centres with ICTs
4. To connect public libraries, cultural centres, museums, post offices and archives with ICTs
5. To connect health centres and hospitals with ICTs
6. To connect all local and central government departments and establish websites and e-mail addresses
7. To adapt all primary and secondary school curricula to meet the challenges of the information society, taking into account national circumstances
8. To ensure that all of the world's population have access to television and radio services
9. To encourage the development of content and put in place technical conditions in order to facilitate the presence and use of all world languages on the Internet
10. To ensure that more than half the world's inhabitants have access to ICTs within their reach

## WSIS targets – measurement issues

- WSIS targets are vaguely formulated and have no benchmarks nor associated indicators (e.g. “connect villages with ICTs” – what type of connection? what ICT? what is a village? how many villages should be connected?)
- Slight revisions to targets are proposed (e.g. connect **all** schools, hospitals, libraries etc.)
- Partnership core indicators were applied where possible
- WSIS targets go beyond Partnership core list of indicators - need to define new indicators
- See Annex table for list of proposed indicators

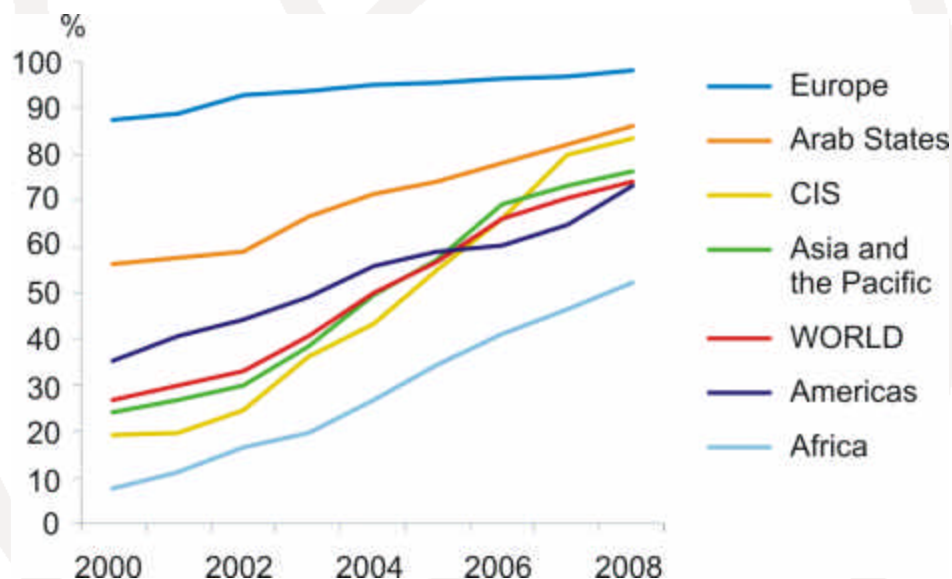


## Target 1: Connect villages with ICTs and establish community access points - 5 indicators

Aspect measured	Proposed indicator	Partnership core indicator
Rural connectivity	1. Percentage of rural population covered by a mobile cellular telephone network, broken down by technology (2G, 3G)	A7
	2. Proportion of rural households with a telephone, broken down by type of network (fixed and/or mobile, mobile only, fixed only)	HH3
	3. Proportion of rural households with Internet access, broken down by type of access (narrowband, broadband)	HH6
Community connectivity	4. Percentage of localities with public Internet access centres (PIACs), broken down by size of locality, or by urban/rural	A10
	5. Location of individual use of the Internet in the last 12 months	HH8

## Target 1: Major urban-rural divides

Rural population covered by a mobile cellular signal, by region



Source: ITU World Telecommunication/ICT Indicators database.

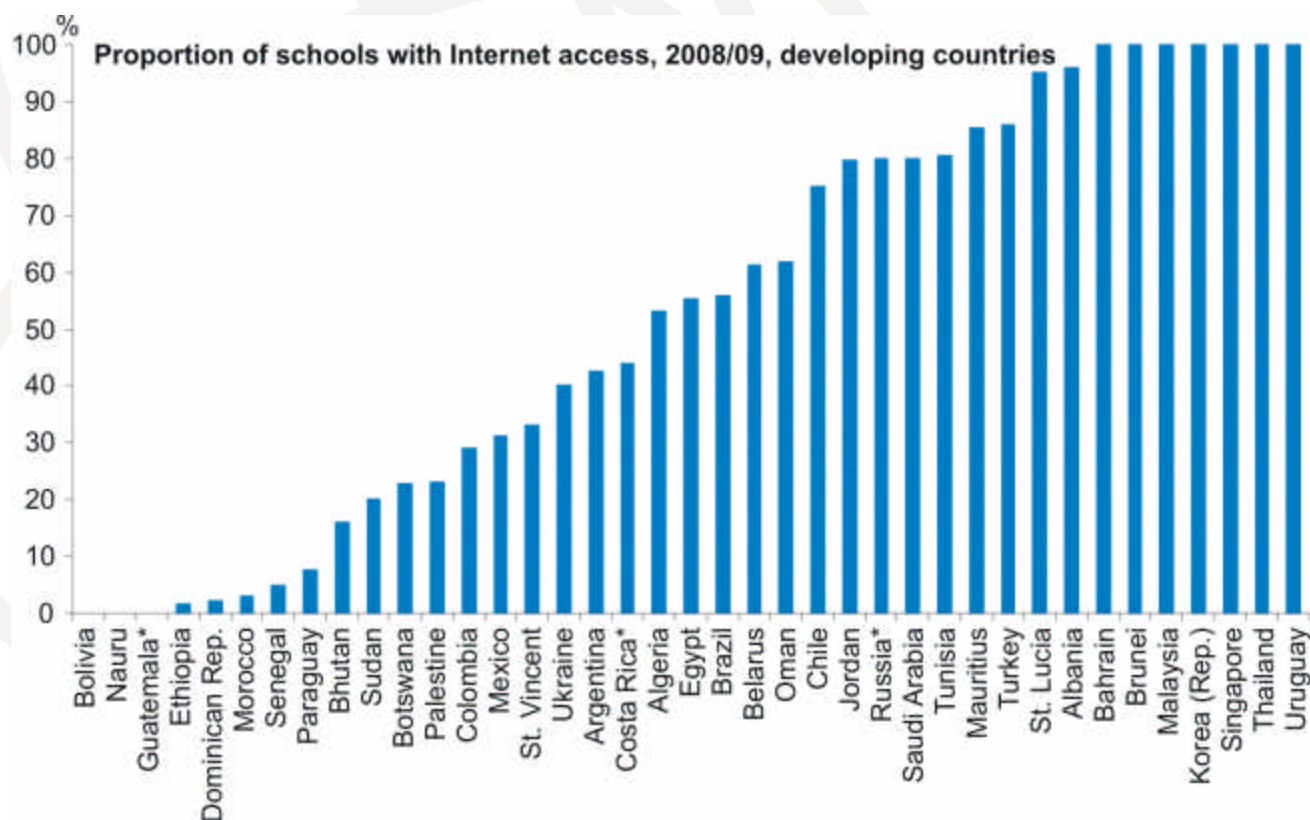
- Almost 75% of the world's rural population is covered by a mobile cellular signal
- In many developing countries, more than half of rural households have a mobile telephone but very few have Internet access; broadband access levels remain negligible
- Many people in rural areas use public Internet access centres but more needs to be done to bring the Internet to rural communities

## Target 2: Connect universities, colleges, secondary schools and primary schools with ICTs – 4 indicators



- Schools with a radio used for educational purposes
- Schools with a television used for educational purposes
- Schools with Internet access, by type of access (narrowband, broadband)
- Learners-to-computer ratio

## Target 2: More schools need to be connected to the Internet, at high speed



Source: UIS.

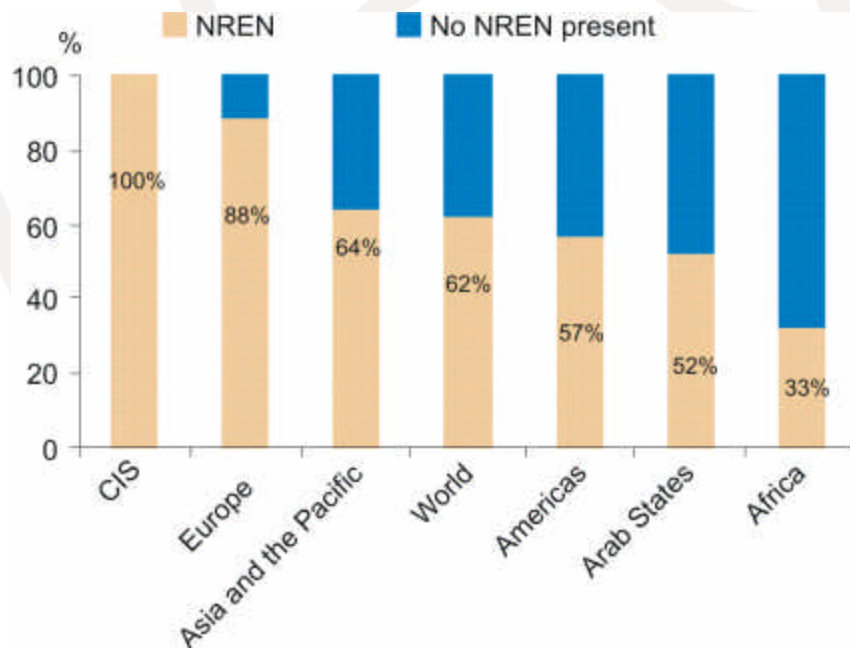
Note: Data refer to 2008/09, or latest available year. Includes national estimates. \*Refers to public schools, only.

## Target 3: Connect scientific and research centres with ICTs – 5 indicators

- Percentage of public scientific and research centres with access to the Internet, by type of access
- Presence of a national research and education network (NREN), by bandwidth (Mbit/s)
- Number of national research and education network (NREN) nodes
- Percentage of universities connected to the national research and education network (NREN), by type of connection (narrowband, broadband)
- Percentage of public scientific and research centres connected to the national research and education network (NREN), by type of connection (narrowband, broadband)

## Target 3: Research networks are expanding, and becoming faster

Countries with a national research and education network (NREN), by region, 2010



Source: ITU

- Most research institutes and universities have access to the Internet, often through a broadband connection
- By 2010, around 62 per cent of countries had a national research and educational network (NREN) and the number of networks is growing
- The bandwidth availability of countries' NRENs varies considerably, from just a few megabits in some developing countries to over 10 gigabits in developed countries

# Target 4: Connect public libraries, cultural centres, museums, post offices & archives with ICTs

✓ Public libraries



✓ Cultural centres



✓ Museums



✓ Post offices



✓ Archives



Content in archives that has been digitized



Digitized information in archives that is available online

**14 indicators**

With a website



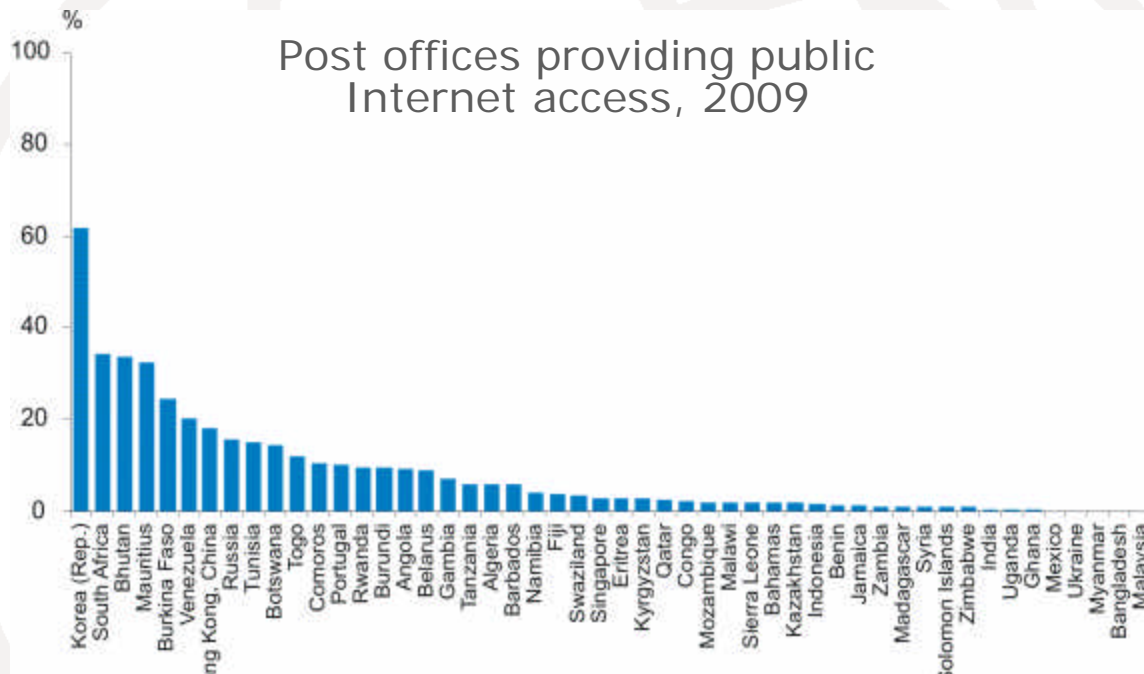
With broadband Internet access



Providing public Internet access



# Target 4: Transforming libraries, cultural centers and post offices into public Internet access centres



Source: ITU based on UPU data

Note: Data include both permanent and mobile post offices

- In developed countries, most libraries, museums and archives are connected to the Internet, often at broadband speeds - but not yet in developing countries
- Relatively few libraries, post offices and cultural centres in developing countries today are used as public Internet access centres and very few provide online information – huge potential

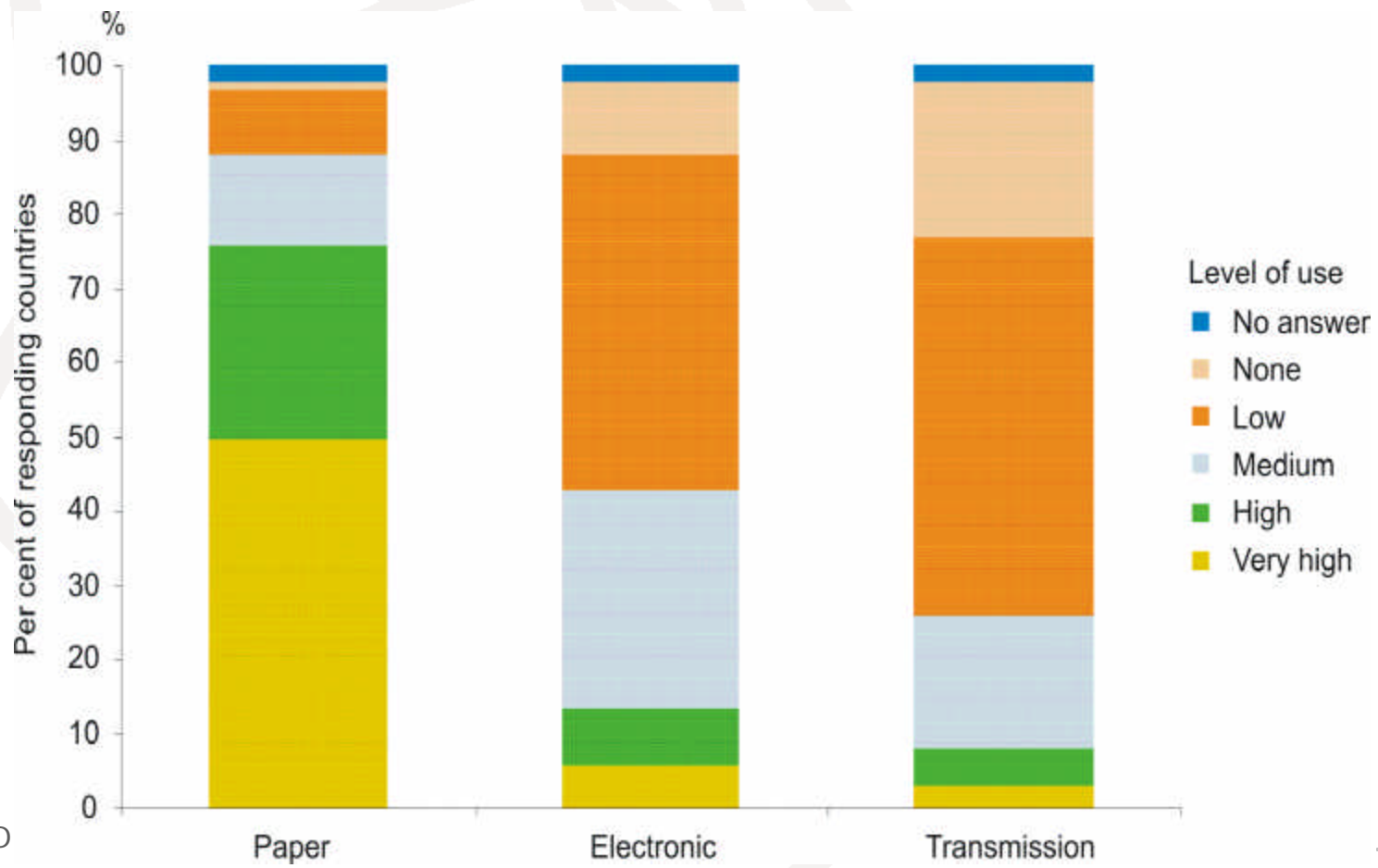


## Target 5: Connect health centres and hospitals with ICTs – 4 indicators



- Public hospitals with Internet access, by type of access (narrowband, broadband)
- Health centres with Internet access, by type of access (narrowband, broadband)
- Public hospitals using computers/the Internet to collect/process/transmit individual patient information
- Health centres using computers/the Internet to collect/process/transmit individual patient information

# Target 5: Few health services use ICTs for storing and transmitting patient information (2009)



## Target 6: Connect all local and central government departments and establish websites and e-mail addresses -6 indicators

- Government employees using the Internet
- Government employees using computers
- Government institutions with Internet access, by type of access (narrowband, broadband)
- Government institutions with a website
- Government institutions using corporate networks (LAN, WAN, intranet, extranet)
- Government institutions offering online services, by type of service (interactive, transactional, connected)



## Target 6: Today, almost all governments are online....

	2003	2009
Countries <u>with</u> central government website	173	189
Countries <u>without</u> central government website	18	3
Total UN Member States	191	192

Source: UNDESA.

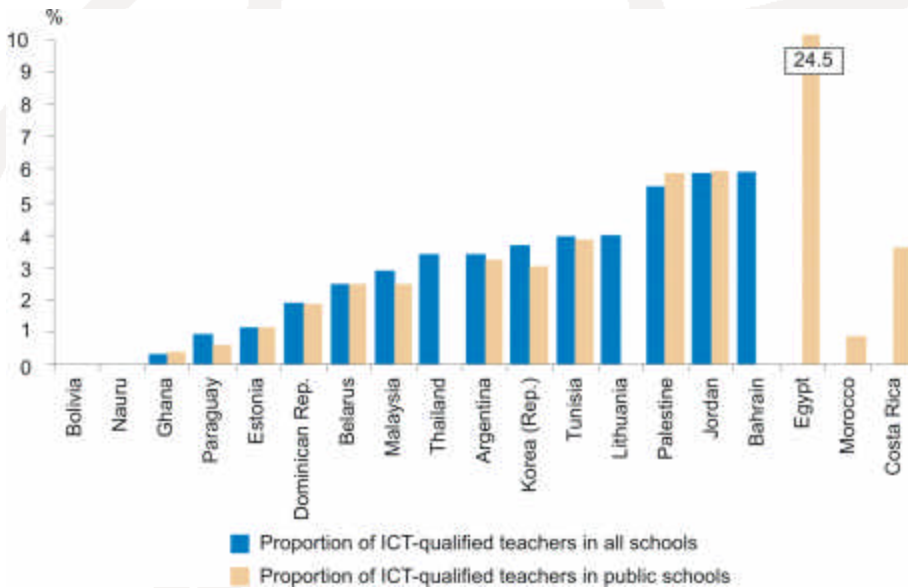
**.... but many don't yet offer advanced public services to citizens over the Internet**

## Target 7: Adapt all primary and secondary school curricula to meet the challenges of the information society, taking into account national circumstances – 4 indicators

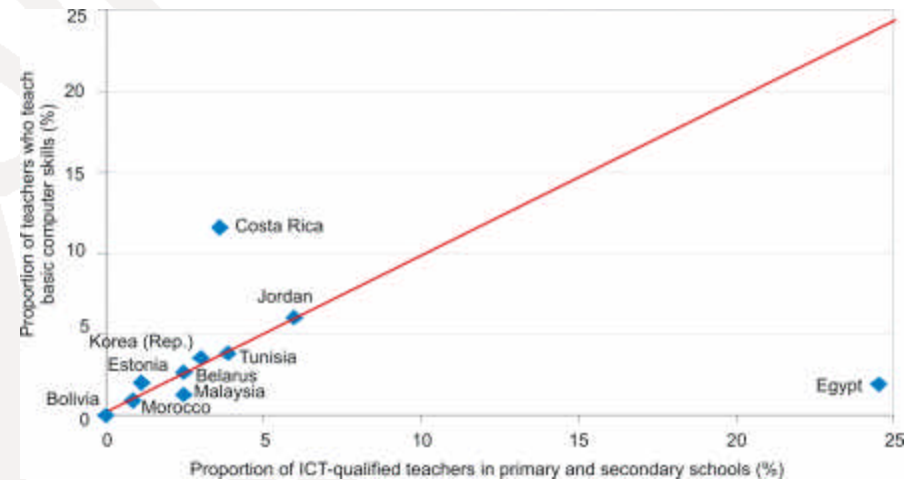


- ICT-qualified teachers in primary and secondary schools
- Teachers trained to teach subjects using ICT
- Schools with computer-assisted instruction
- Schools with Internet-assisted instruction

# Target 7: Need for more ICT-qualified teachers



Proportion of ICT qualified teachers in primary and secondary schools, 2008-09



Proportion of teachers who teach basic computer skills compared to the proportion of ICT qualified teachers

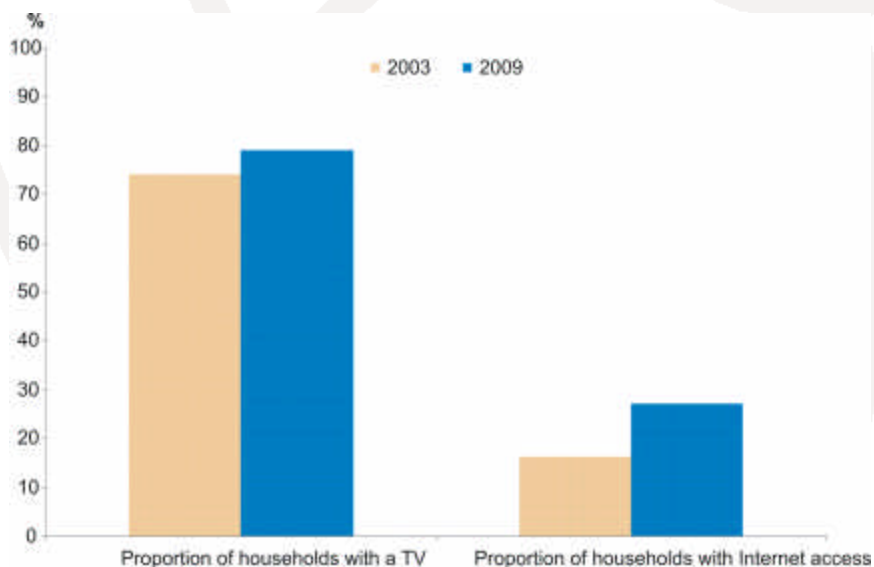
Source: UIS.

## Target 8: Ensure that all of the world's population has access to television and radio services – 3 indicators

- Proportion of households with a radio (HH1)
- Proportion of households with a TV (HH2)
- Proportion of households with multichannel television service (by type)

## Target 8: Worldwide access to TV and radio services – potential for Internet

Households with TV and Internet access, 2003 & 2009



Source: ITU World Telecommunication/ICT Indicators database.  
Note: ITU estimates.

- Today, the world's surface is covered by terrestrial and/or satellite radio and TV signals
- A total of 1.4 billion households – or five billion people – have a TV, half of them with multichannel services
- By 2009, 79% of households had a TV, compared to 27% with Internet access
- In LDCs, around one third of households have a TV and two thirds have a radio

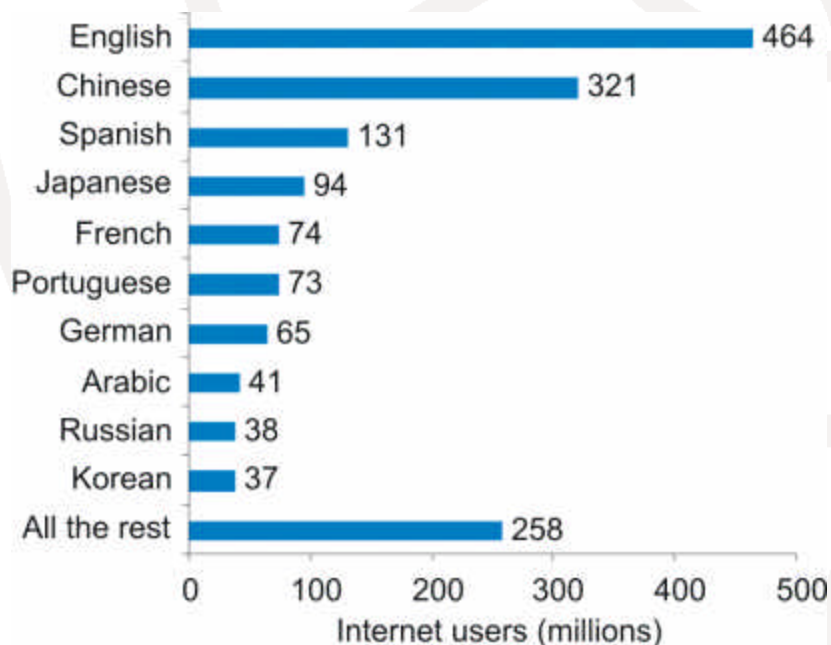


## Target 9: Encourage the development of content and put in place technical conditions in order to facilitate the presence and use of all world languages on the Internet - *2 indicators*

- Internet users, by language
- Webpages, by language

## Target 9: The Internet is still dominated by a few languages only

Top ten languages on the Internet, 2009



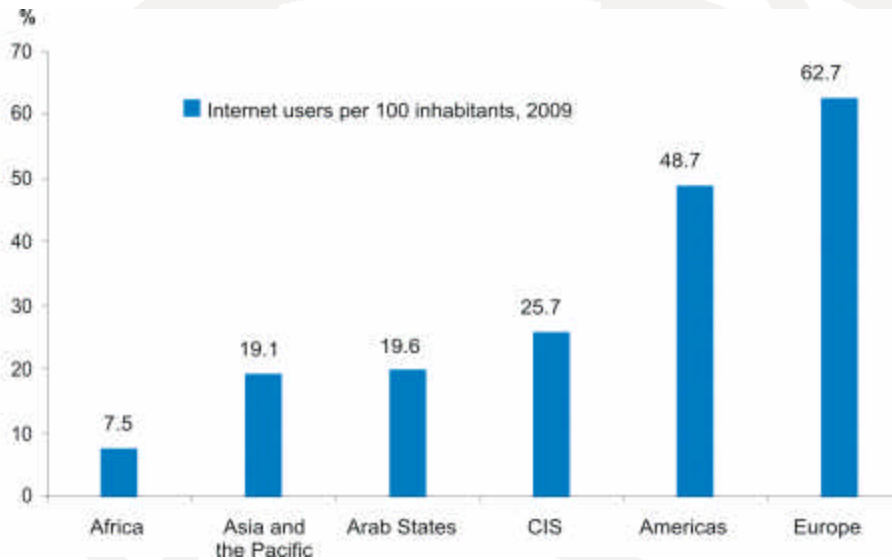
Source: Internet World Stats.

- The persistent digital divide is also a content and language divide
- English is the predominant language on the Internet although only about 15% of the world population understands it

## Target 10: Ensure that more than half the world's inhabitants have access to ICTs within their reach – 4 indicators

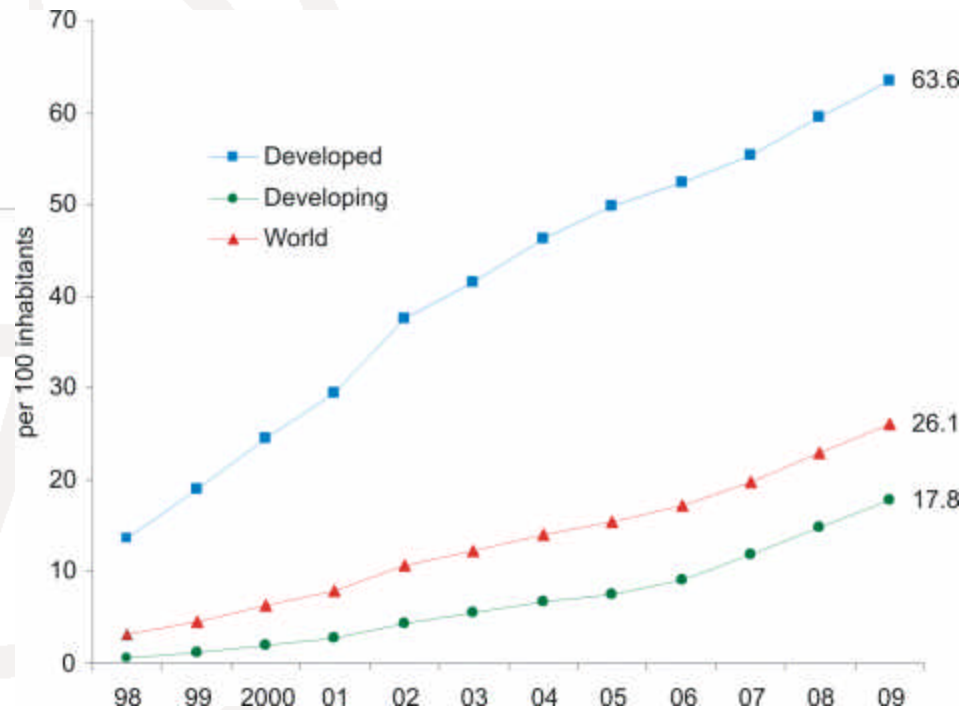
- Mobile cellular telephone subscriptions per 100 inhabitants (A2)
- Proportion of individuals who used a mobile cellular telephone in the last 12 months (HH10)
- Proportion of individuals who used the Internet (from any location) in the last 12 months (HH7)
- Proportion of households with access to the Internet by type of access (narrowband, broadband) (H11)

# Target 10: 3 out of 4 people are not online (2009)



- By 2009, 1.7 billion people – or 26% of the world population – were online

- Developing countries are still far from reaching this target: by 2015, **half the world population should have broadband access**



## Partnership Task Group on Measuring WSIS targets: **towards 2015**

- Launched during WSIS Forum 2010 (Geneva, May 2010)
- Develop monitoring framework for WSIS targets (including indicators, definitions, benchmarks and collection methodologies), to be disseminated widely
- WTDR 2010 is starting point: refine indicators
- Track progress up to 2015 – final report
- Partnership members and external collaborators
- Online forum: <http://groups.itu.int/wsis-targets> or [www.itu.int/ict](http://www.itu.int/ict)

## Delegates are invited to:

- Contribute to discussion on indicators for each target - Task Group is open to external collaborators and contributions
- Share expertise on specific targets (health, education, government, content...)
- Help disseminate final monitoring framework
- Collect/provide data to international community (up to at least 2015 when final review will be made)

**Sign up:**

**<http://groups.itu.int/wsis-targets>**

**Thank you**