



India

A Telecom Destination

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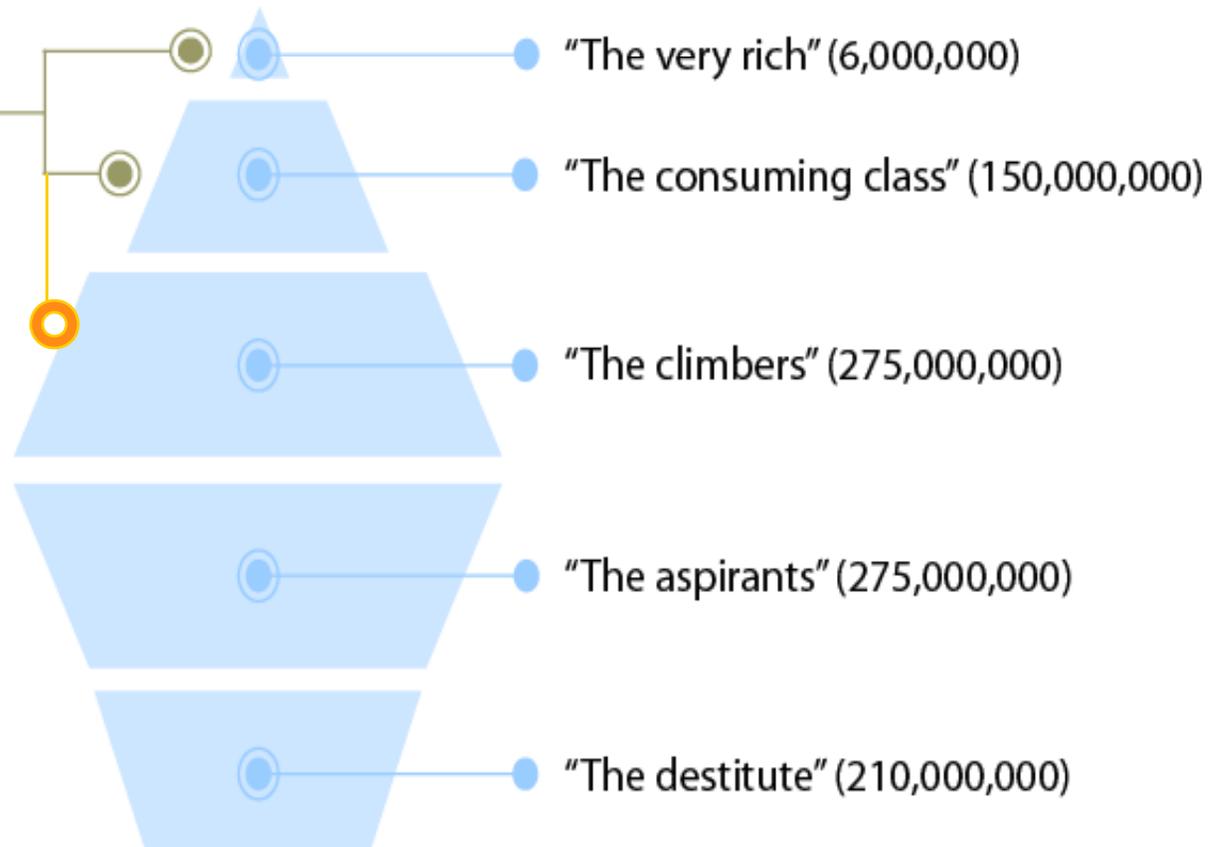
President CTIA India

Chair, RWG, WiMAX forum India

India has over 480 Million telecom consumers and over 275 million will join the club shortly

The Indian consumer base isn't homogenous but is divided into five distinct classes

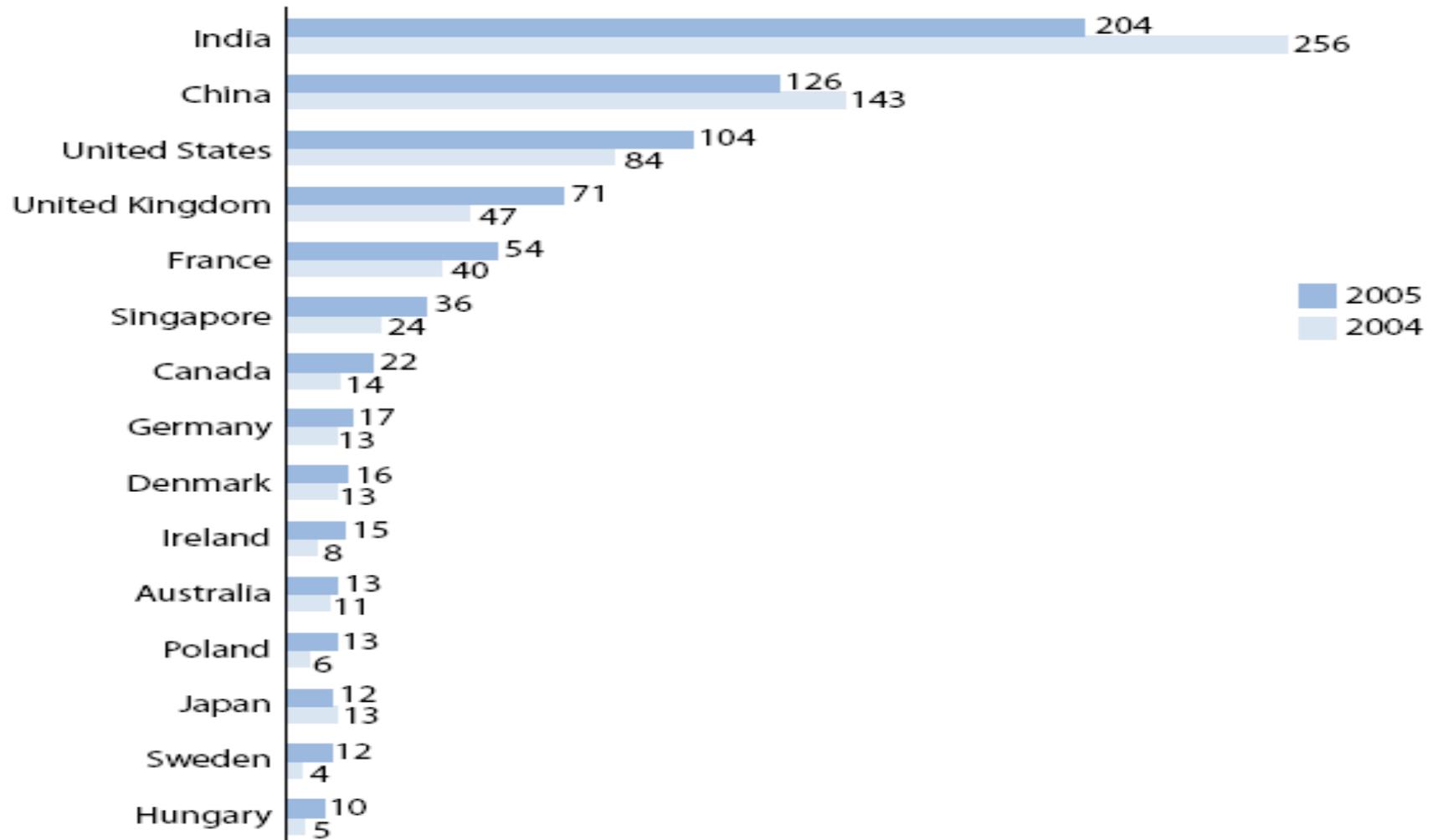
481 Million
Indians today
can afford
cellular phone
services



Sources: National Council of Applied Economic Research (NCAER); Shashi Tharoor, "Who is this middle class?" *The Hindu*, May 22, 2005; Tarun Khanna and Krishna G. Palepu, "Emerging Giants: Building World-Class Companies In Developing Countries," *Harvard Business Review*, October 2006

India is emerging as a global R&D hub

“Top-ranking destination countries by number of research and development projects”



Source: IBM-Project Location International (IBM-PLI) Global Investment Locations Database (GILD)

Multinationals are expanding their R&D presence in India

Companies that use their own captive centers

Telecom/ Datacom	Computing Systems	Auto/ Aero	Engineering/ Manufact.	Process Automation	Software	Semi- conductors	Medical Systems
Motorola Cisco Samsung	Intel IBM HP	Ford John Deere Johnson Controls GE Aircraft Engines	Bosch ABB	Honeywell Fanuc	Microsoft Oracle ASP	Jabil Texas Instruments	Siemens GE Healthcare

Companies that rely on third-party services providers

Telecom/ Datacom	Computing Systems	Auto/ Aero	Engineering/ Manufact.	Process Automation	Software	Semi- conductors	Medical Systems
Nortel Wavecom Lucent Terayon Extreme	AMD EMC	Ferrari Airbus Chrysler Boeing General Motors Pratt & Whitney	Eaton Cummins Danaher Carrier	Rockwell Festo Schlum- berger	Google FileNet Hyperion Yahoo! Avid Business Objects	Renesas Analog Devices	St. Jude

Source: August 3, 2006 "Offshore Product Development Has Arrived" Report

India and China are the Fastest growing IT markets

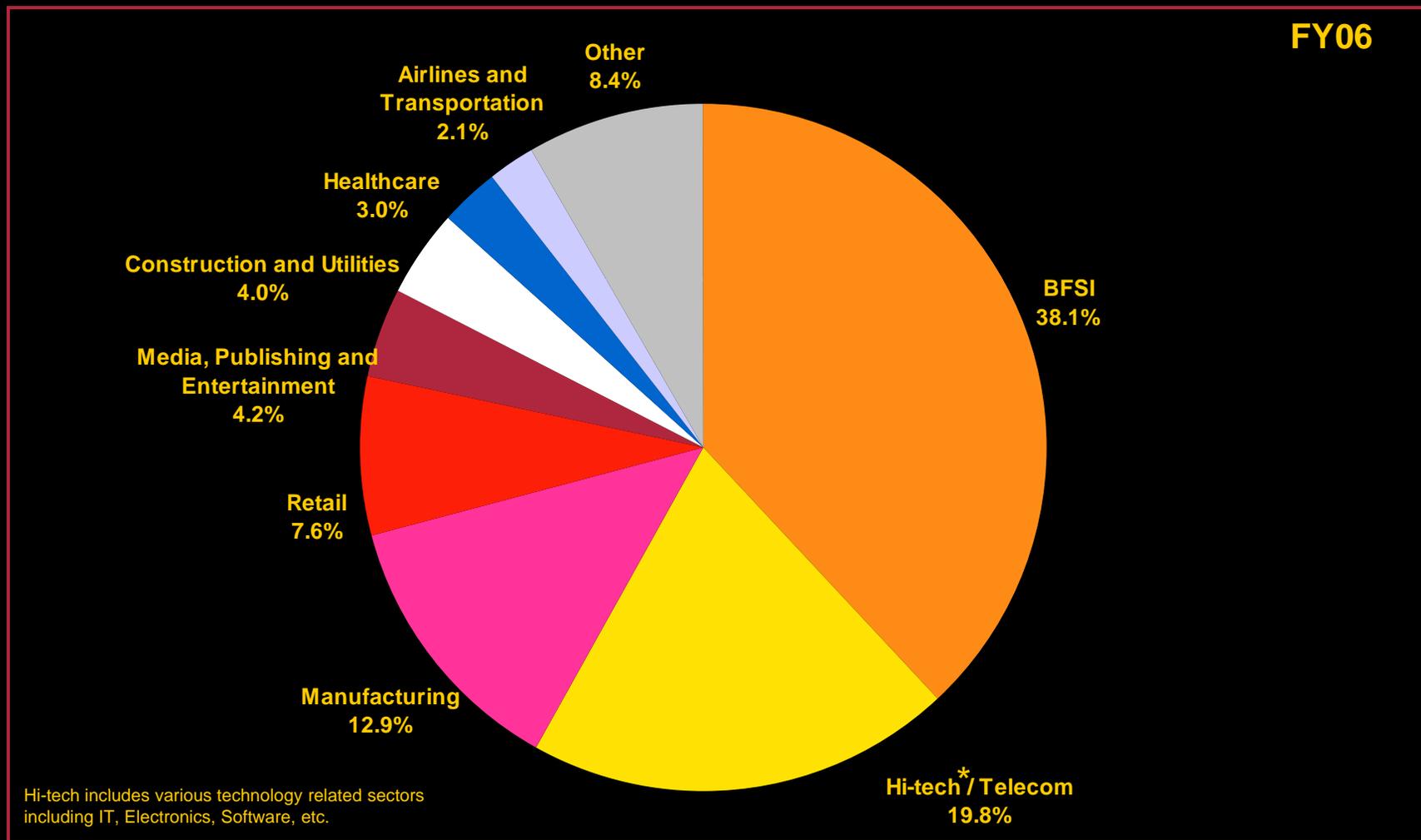
2008 Estimated growth rates of top 15 global markets

Top five IT markets

	Local currency (billions)	% change from prior year
US	USD 552	3%
Japan [†]	JPY 17.6	-1%
China	CNY 1,046	20%
UK	GBP 49	2%
Germany	EUR 62	4%

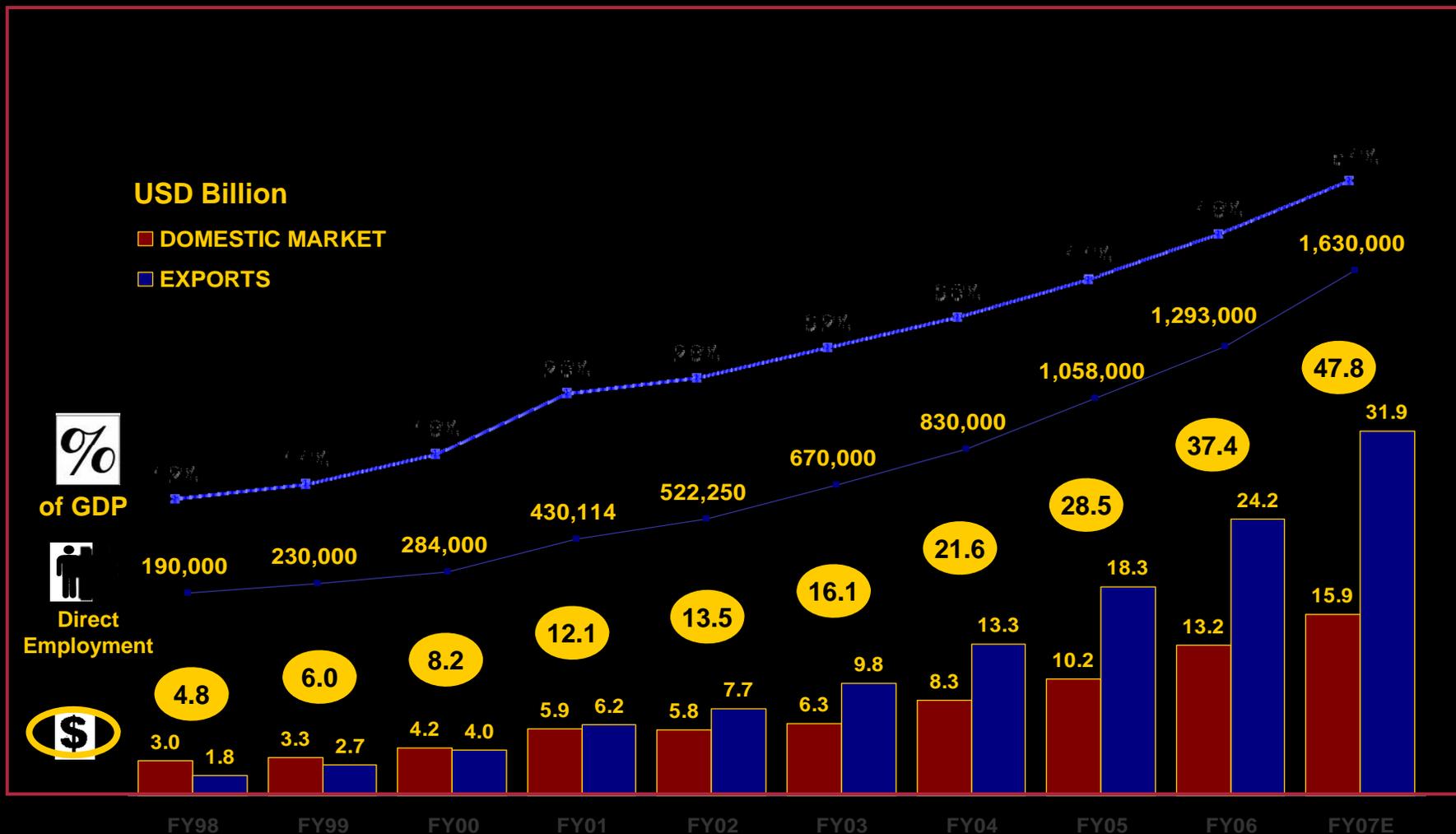
	Local currency (billions)	% change from prior year
France	EUR 52	5%
Brazil	BRL 88	3%
Australia	AUD 50	3%
Canada	CAD 44	2%
Korea [†]	KRW 36.5	6%
Italy	EUR 29	2%
India	INR 1,555	18%
Spain	EUR 21	6%
Netherlands	EUR 19	2%
Mexico	MXN 243	8%

Telecom and BFSI remain the biggest drivers of IT industry



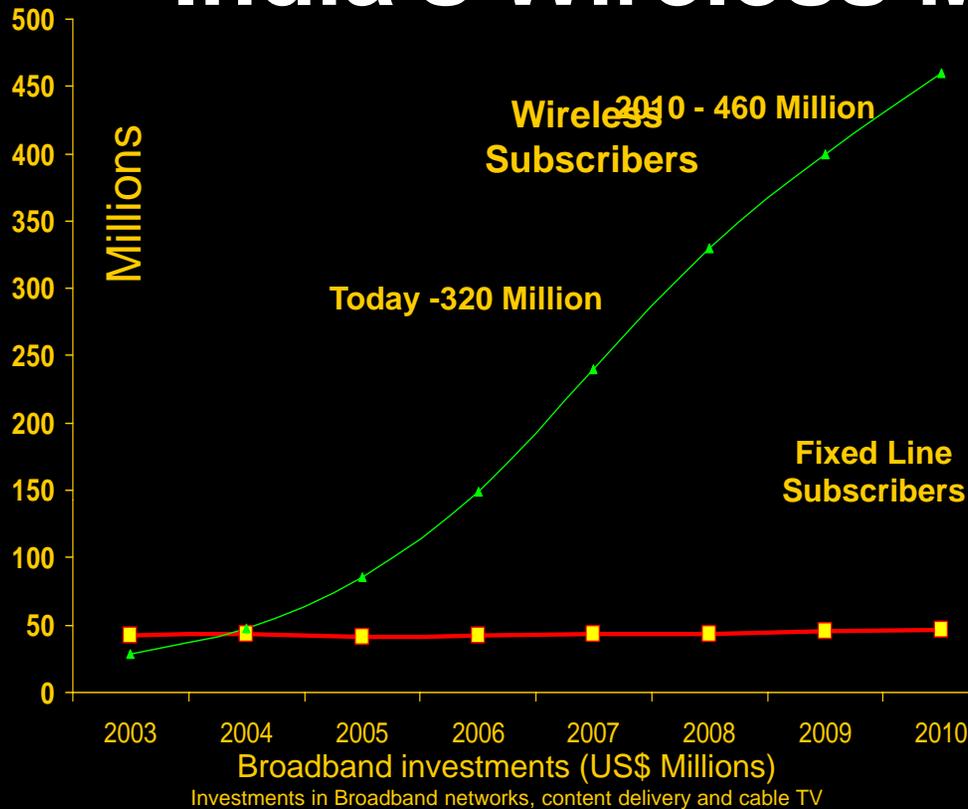
BFSI- Banking, financial services and Insurance)

IT and telecom Industry has already created Direct employment of 2.5 million

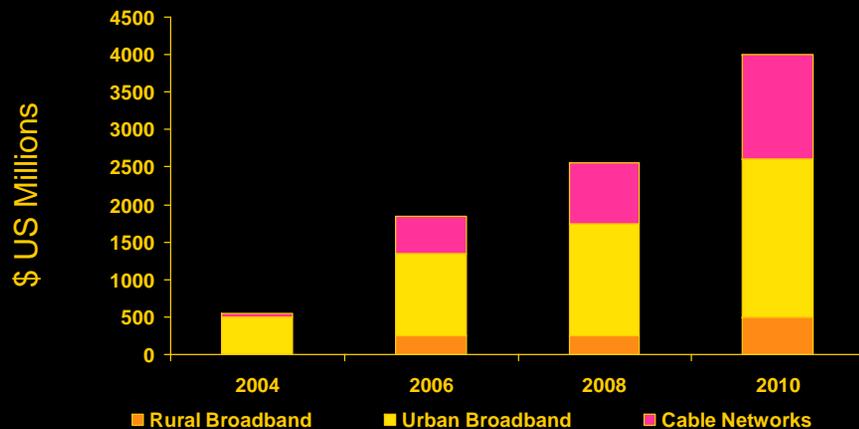


Targeted to reach 10% of the GDP by 2010

India's Wireless Market is sizzling



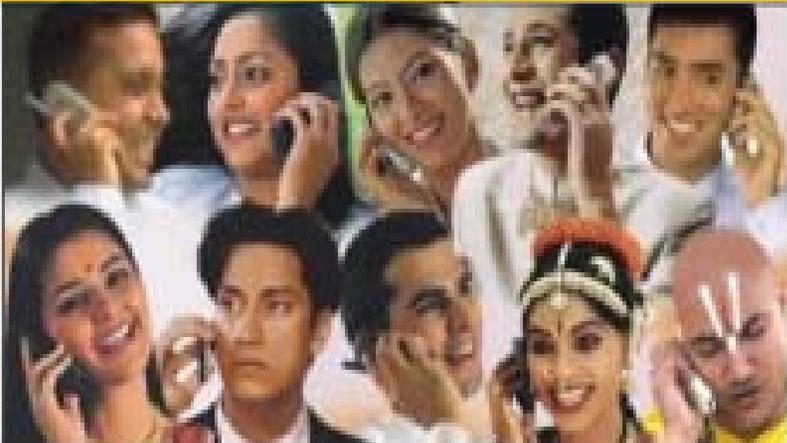
- India is the fastest growing cellular market in the world
- Has become the 2nd largest market after china earlier this year
- India is adding 9-10 Million new wireless subscribers every month
- Broadband subscribers beginning to pick up
- About 50% tele- density by 2010 with 500 Million Subscriber



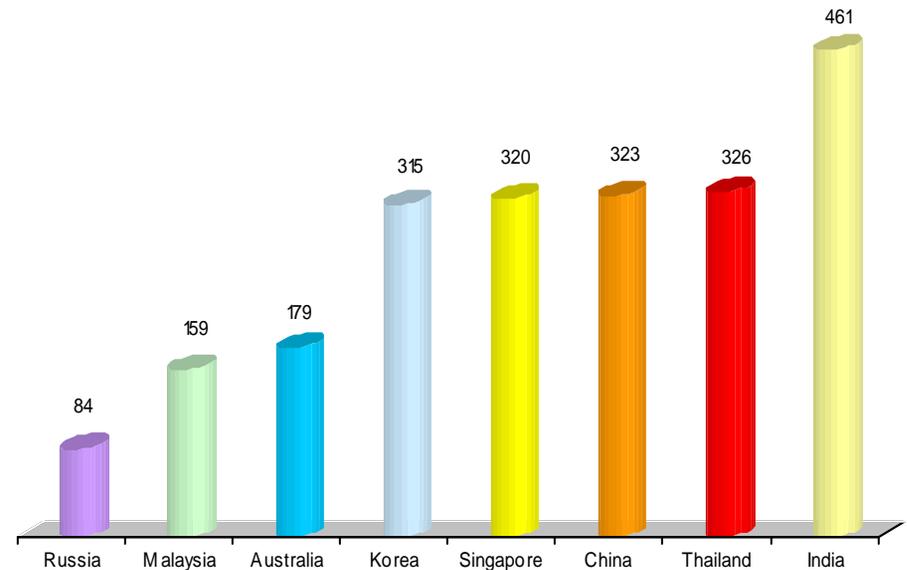
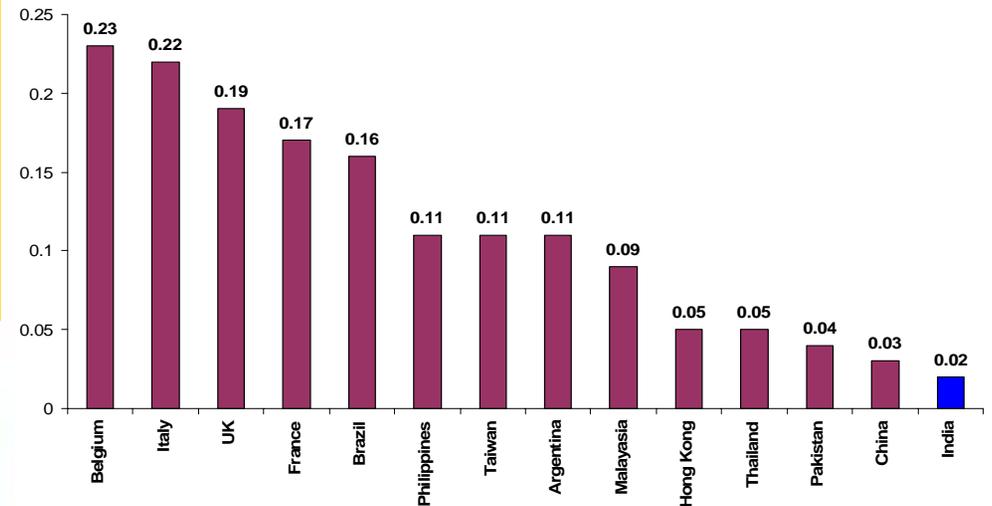
Source : CII Broadband report

India's Wireless services have redefined the global rules of Telecom Industry

- ✓ Lowest Mobile tariffs in the World, (yet operators are profitable with high valuations)

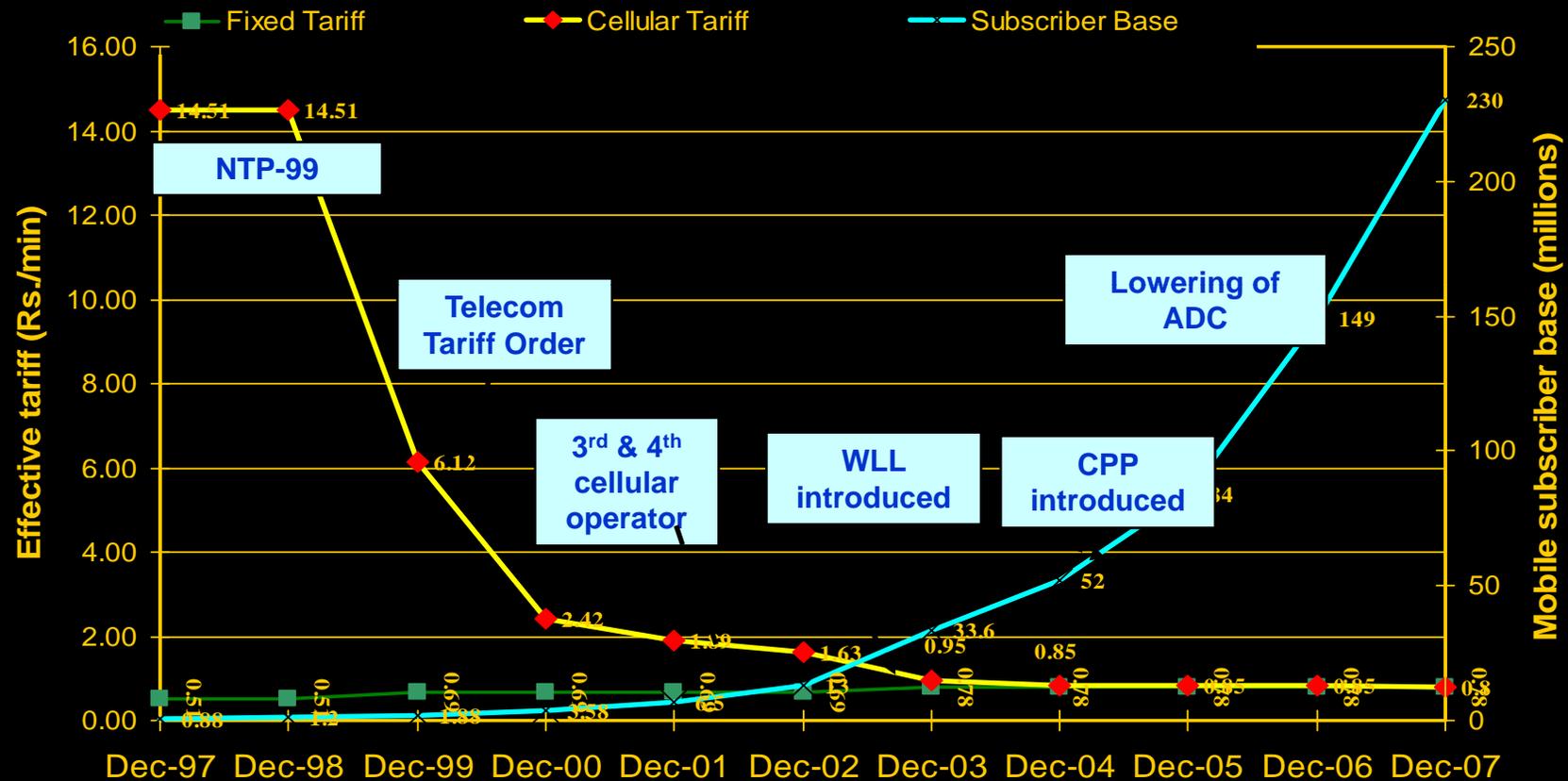


- ✓ Very high and rising Minutes of Use Compared to many countries



Policy initiatives have driven the Market in the past

New Policy initiatives on the way

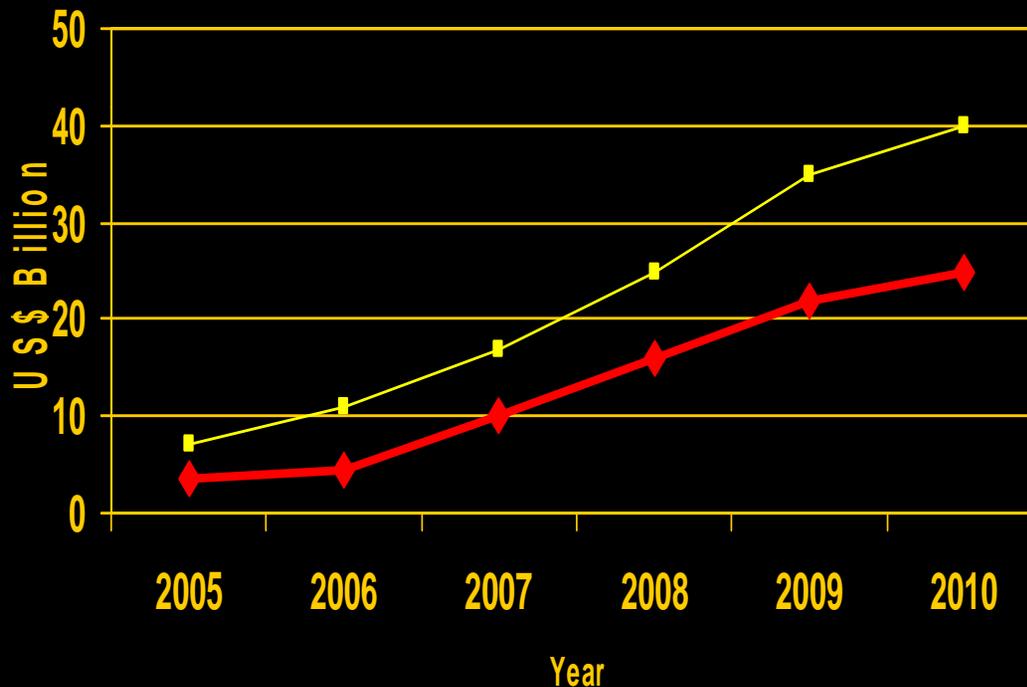


DoT Policy initiatives continue to fuel growth

India Telecom Equipment Demand

India's Telecom equipment demand will grow at 10 X most other economies

India Telecom equipment Demand and Production (\$Billion)

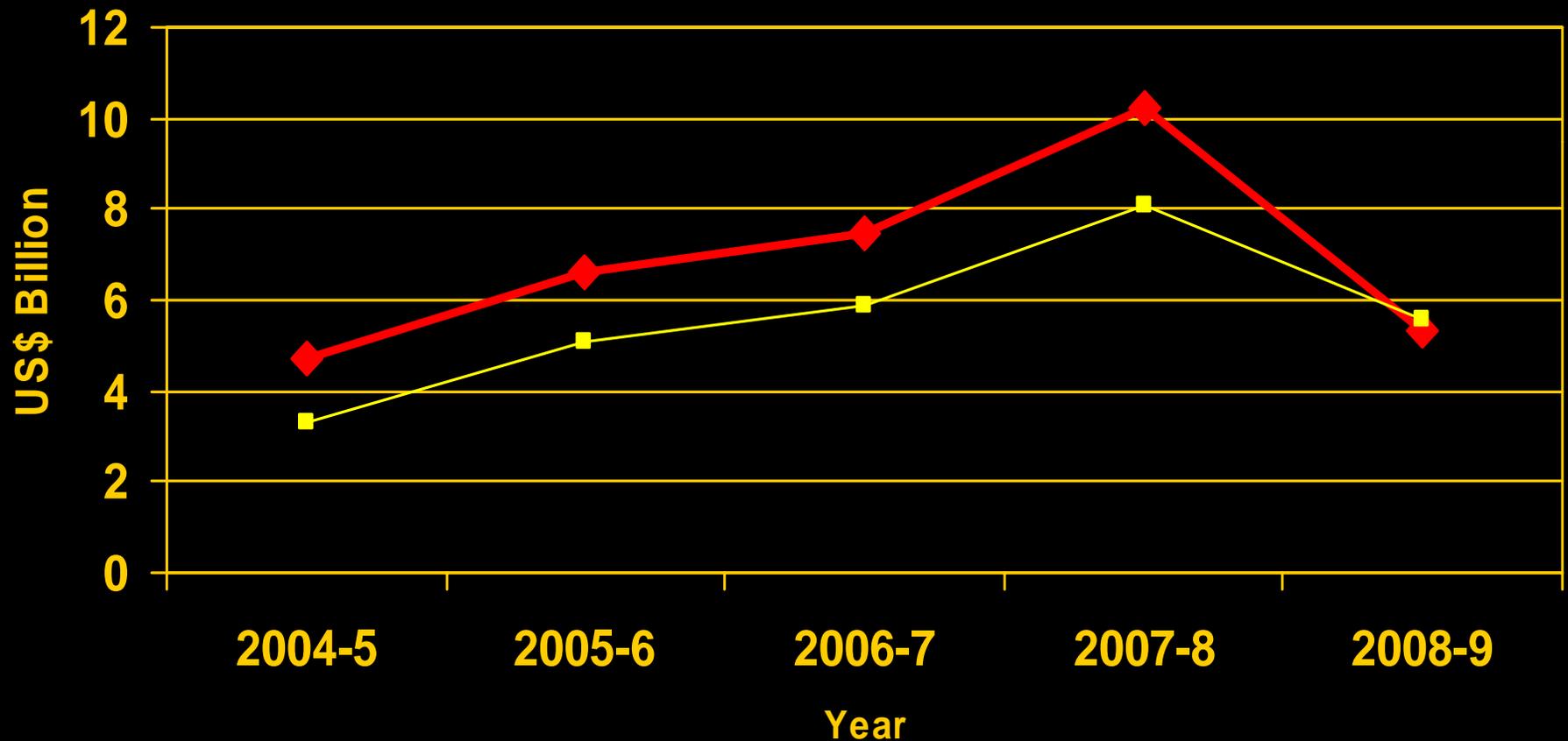


Year indicates financial year ending March 31

- Over \$100 Billion worth of telecom equipment is needed during next four years.
- Thanks to the current policy regime, Telecom equipment production is increasing.
- The expected production boom will generate employment for at least 10 Million (4 mn Direct; 6 mn Indirect)
- Service a market of 500 Million Subs.

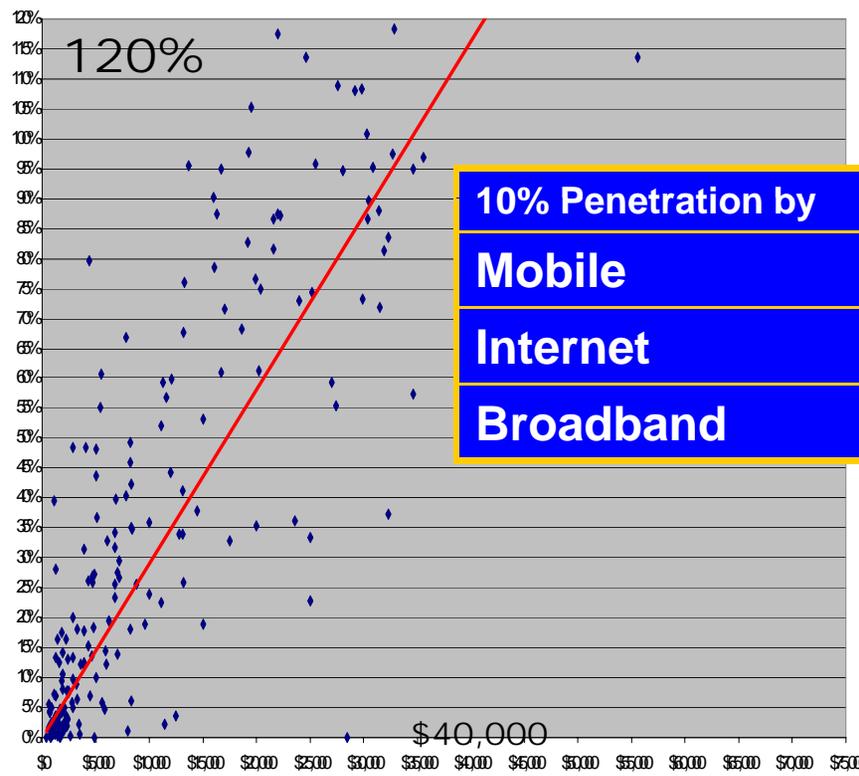
India Telecom imports and exports

India Telecom equipment Imports and Exports

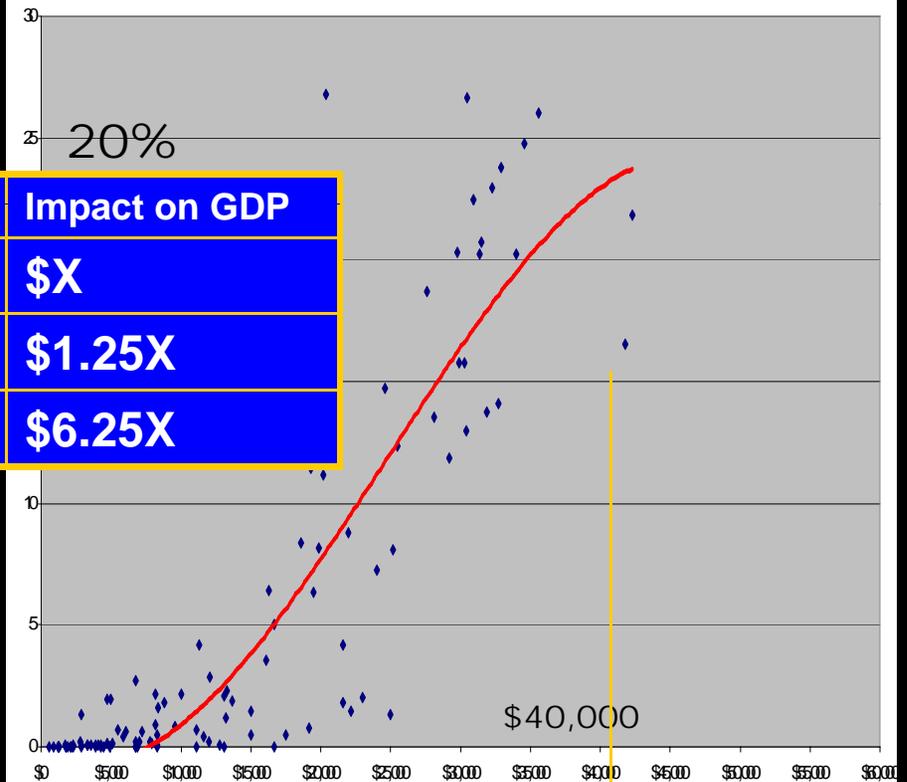


Main Focus of India is now to increase broadband penetration

Mobile Penetration vs. countries GDP



Broadband Internet Penetration vs. countries GDP



10% Penetration by	Impact on GDP
Mobile	\$X
Internet	\$1.25X
Broadband	\$6.25X

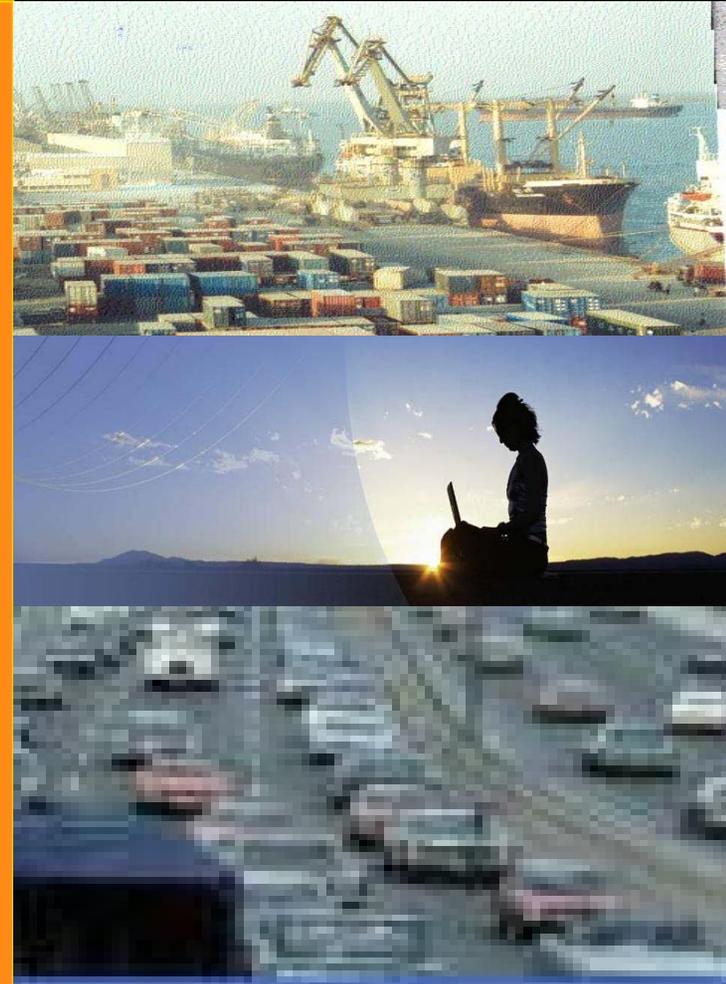
In the Emerging Markets, A High Broadband Internet Penetration Rates correlates to higher productivity and access to information which have a direct relationship to increased the country's GDP.

Source Data: GDP Information from CIA Fact book 2006. Penetration Rates for 208 Countries Latitude Broadband Research June 2006



India's Approach to 3G & Broadband Rollout

- ✓ Leverage use of existing infrastructure
- ✓ Technology neutrality
- ✓ Leap frogging in use of technology
- ✓ Providing Urban Amenities in Rural Areas (PURA)
- ✓ Focus on e- Governance.
- ✓ 100,000 Community Service Centers in Rural area to cover 600,000 villages with more than 700 million people.
- ✓ Broadband coverage for all secondary and higher secondary schools, Village Panchayats and all public health care centers.



Policy Environment for 3G and BWA

- ✓ Guidelines issued on availability of spectrum in suitable bands
- ✓ 3G and BWA Spectrum Auctions likely next month
- ✓ Thrust on optimization and efficient use of spectrum
- ✓ Launching of Centers of Excellence in PPP mode
- ✓ Leveraging USO fund for setting up shared rural infrastructure
- ✓ Positive initiatives by BSNL (the incumbent) in fast roll-out of wireless broadband services



Dr. Manmohan Singh

Hon'ble Prime Minister of India:

- “I assure you that the Government will develop a forward looking policy regime that will encourage investment in manufacturing in telecom sector”
- “While we can be satisfied with the growth in tele-density, I am concerned about our capabilities in telecom R&D & manufacturing. Can we have a sector where we are world class in telecom network but do not have an adequate manufacturing presence?”

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