



Capital Market Days

# India Telecom - The Perfect Storm

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Nokia Networks India

# Agenda



Capital Market Days

- Market Overview
- Telecom Market Growth
- Operator Positions
- Nokia Networks Position in India

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# Indian Economy – The Perfect Storm



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- Largest democracy in the World and Telecom friendly regulator.
- 4th largest economy in PPP and 10th most industrialized nation.
- GDP growth of 8.1% For 2003-04.
- Crosses \$119bn In forex reserves.
- 300m middle class with 44% population < 19 yrs. Median age 24yrs.
- Ranked as #2 destination For telecom FDI globally And #3 overall (ATK Survey Oct/04)

# India – Population Distribution



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Type	Population Strata	No of towns	% of Urban Popln
Tier 1	> 1 million	27	26
Tier 2	0.5 - 1 million	42	11
Tier 3	100 K - 500K	354	24
Tier 4	< 100k ( Urban )	4728	39
<b>Total Urban</b>		<b>5151</b>	<b>100</b>
			<i>27% of India</i>
<b>Rural India</b>	<b>&lt;5 K primarily</b>	<b>550 K</b>	<b>73% of India</b>

**>1 Bln people, agriculture 25% contribution to GDP**

**318m+ workforce will add another 120m+ workers in 5 years\***

**Highly fragmented trade (Total 12 Million retail outlets)**

\*Enskilada Securities

# APAC Wireless Penetration Estimates

Lucrative growth potential



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	<b>2003</b>	<b>2008E</b>	<b>CAGR</b>
<b>Taiwan</b>	112.9%	115.5%	0.5%
<b>Hong Kong</b>	100.1%	106.1%	1.2%
<b>Singapore</b>	84.7%	93.7%	2.0%
<b>Australia</b>	72.7%	91.2%	4.6%
<b>Korea</b>	70.1%	79.0%	2.4%
<b>New Zealand</b>	64.8%	84.8%	5.5%
<b>Phillippines</b>	27.3%	46.8%	11.4%
<b>Thailand</b>	33.3%	56.3%	11.1%
<b>China</b>	20.8%	36.5%	11.9%
<b>Indonesia</b>	8.1%	25.5%	25.9%
<b>India</b>	<b>3.1%</b>	<b>13.7%</b>	<b>34.4%</b>

Source: Morgan Stanley Research July 2004

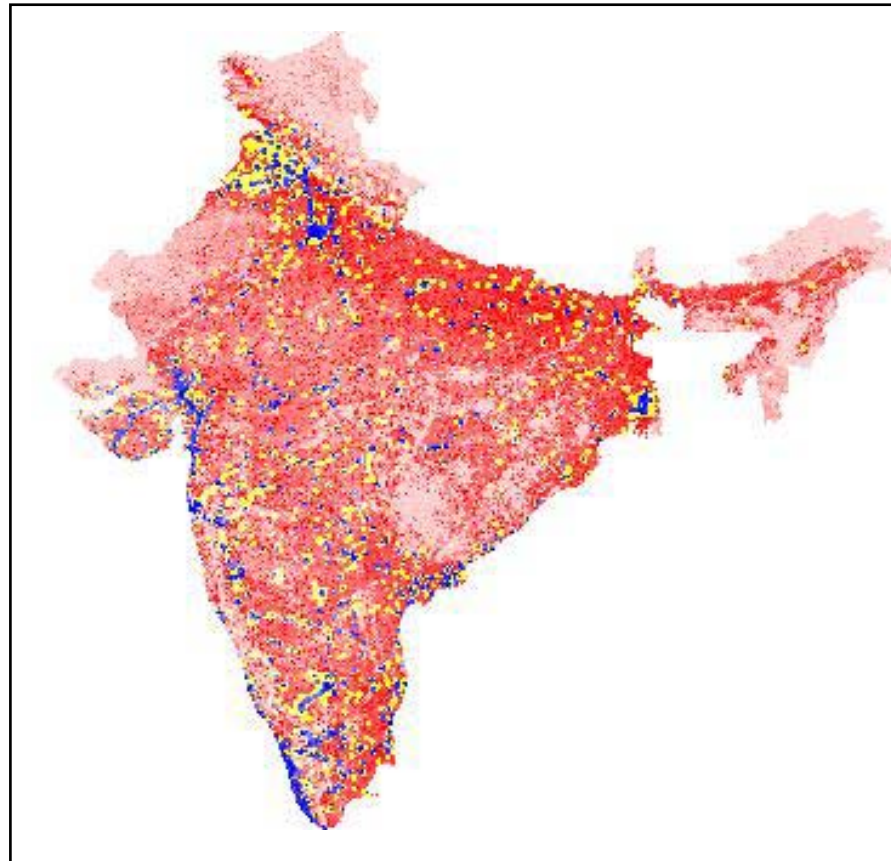
# Immense Opportunity for Network Growth

## Overlay of Coverage on Population



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Population Density	Operator Coverage		
	None	One	Multiple
>755	Red	Yellow	Blue
756 to 1510	Light Red	Light Yellow	Light Blue
1511 to 3020	Very Light Red	Very Light Yellow	Very Light Blue
3021 to 4530	Lightest Red	Lightest Yellow	Lightest Blue
4531 to 6040	Lightest Red	Lightest Yellow	Lightest Blue
6041 to 7550	Lightest Red	Lightest Yellow	Lightest Blue
7551 to 9060	Lightest Red	Lightest Yellow	Lightest Blue
9061 to 11110	Lightest Red	Lightest Yellow	Lightest Blue



### Wireless Coverage Statistics

- Geographic coverage 18%
- Population coverage 20%
- Rural teledensity 1.7%
- Urban teledensity 20%

Source: TESFA Report April 2004, TRAI Paper on Telecom Oct 2004

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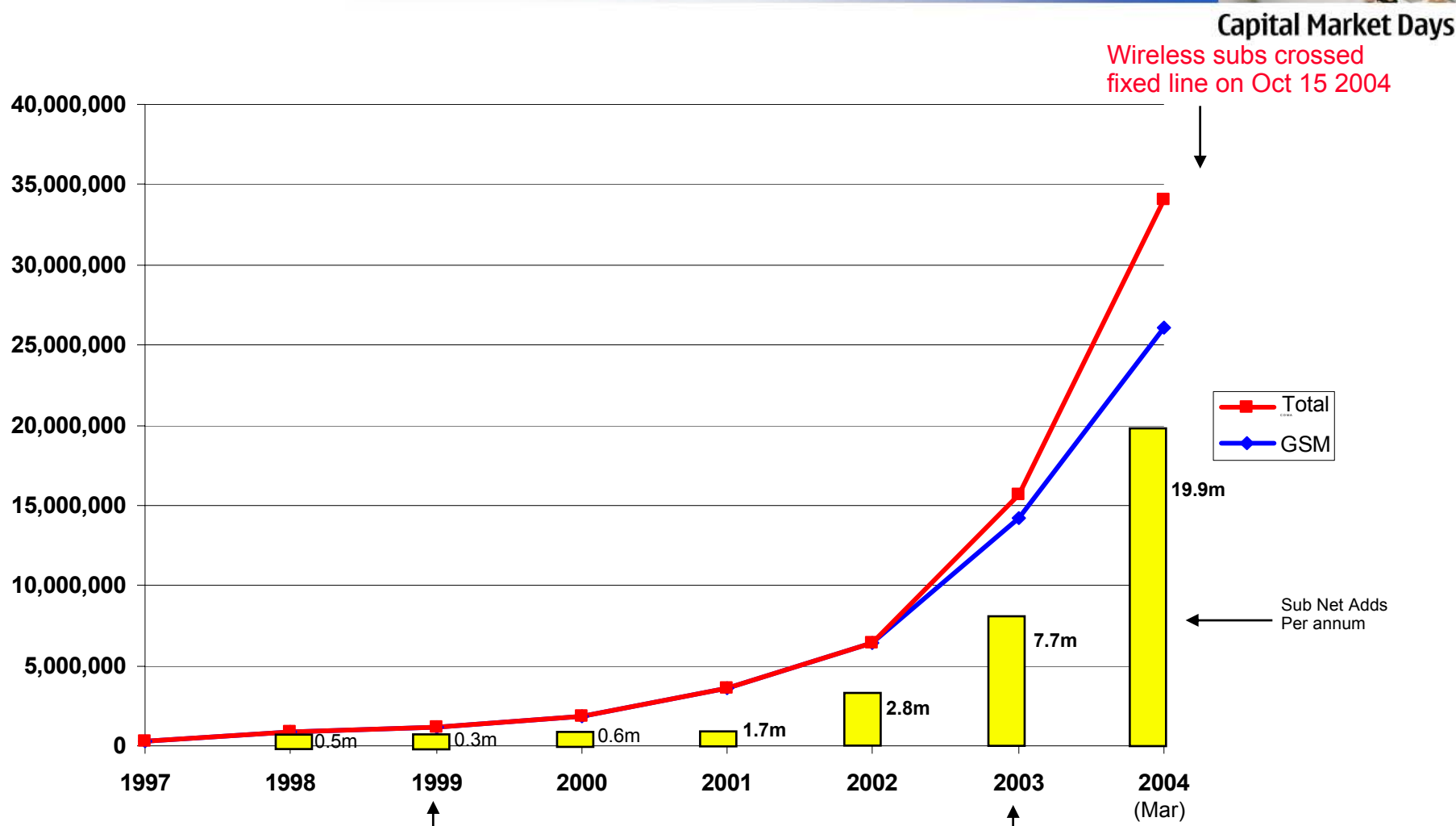


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# India Telecom Growth

## 1997-Present (financial year based)



National Telecom Policy 1994

© NOKIA

NTP 99 announced

Unified Licensing

Source: COAI

Company Confidential



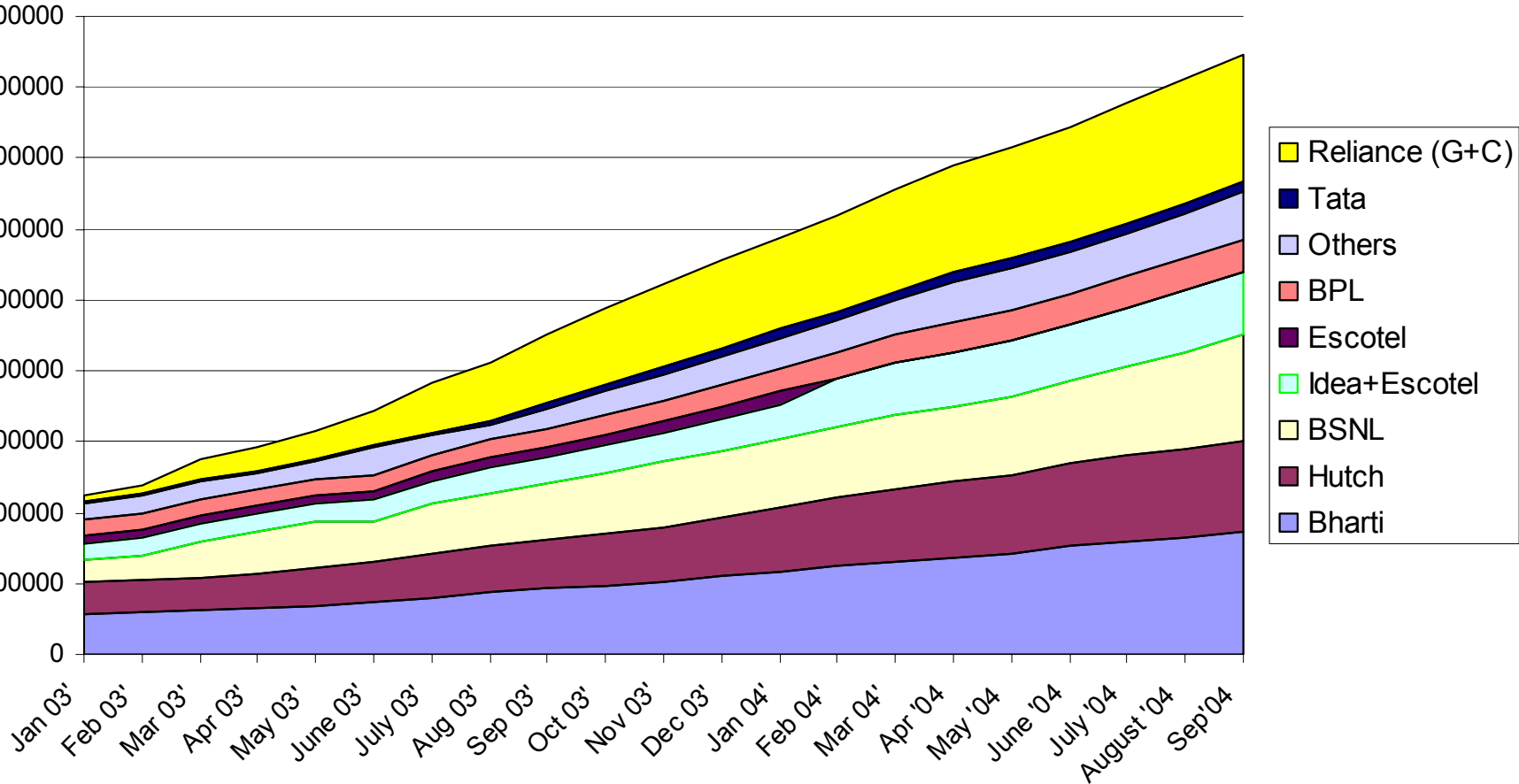
# Wireless Subs Growth 2003 - Present

Healthy Growth – Wireless exceeds fixed lines as of Oct 2004



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(subs)

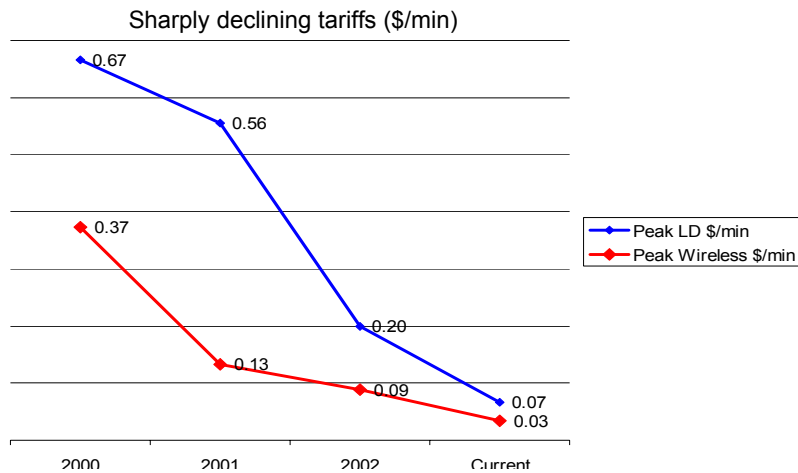


Source: COAI

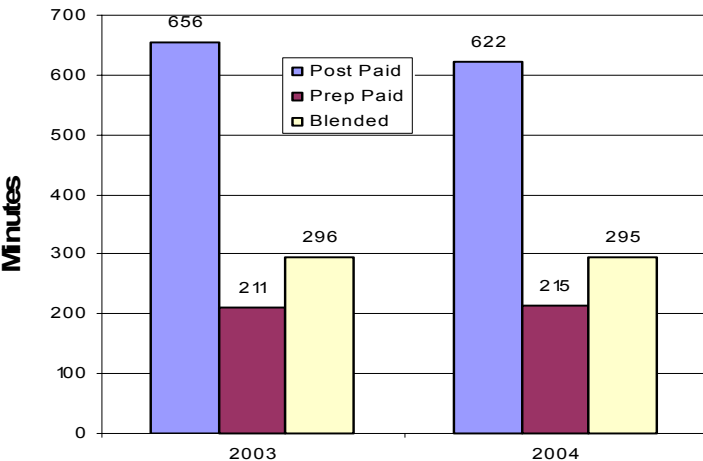
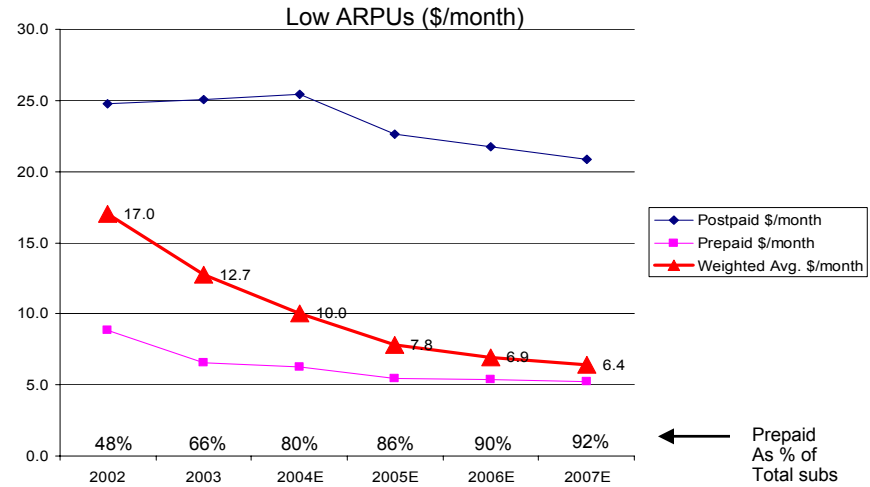
# Very Competitive Market Dynamics



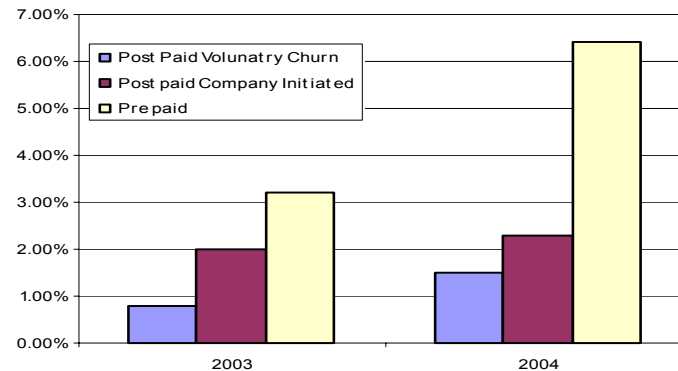
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MoU - Bharti



High Monthly Churn - Example Bharti

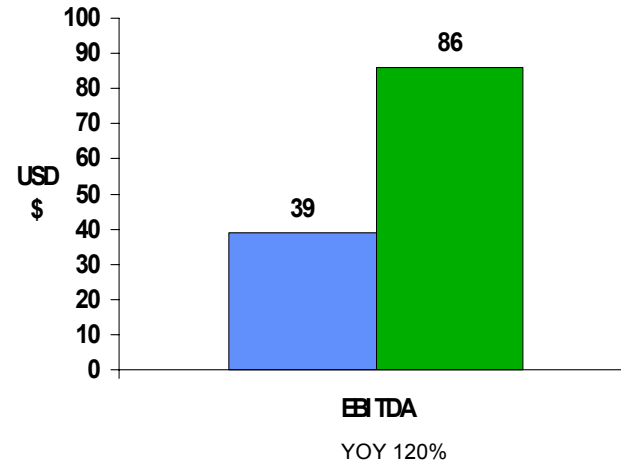
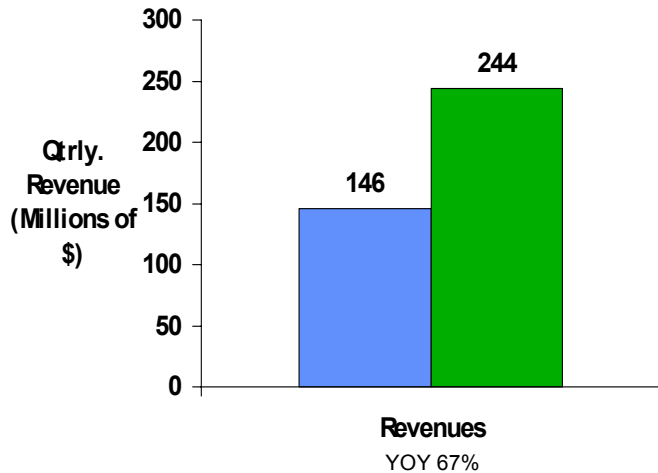
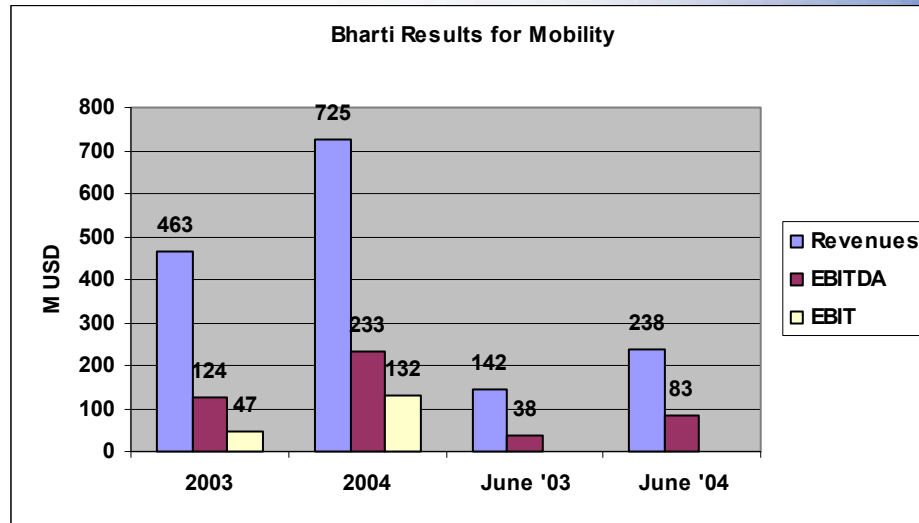


# Yet Operators Beginning to Thrive

## Snapshots from Bharti's Results



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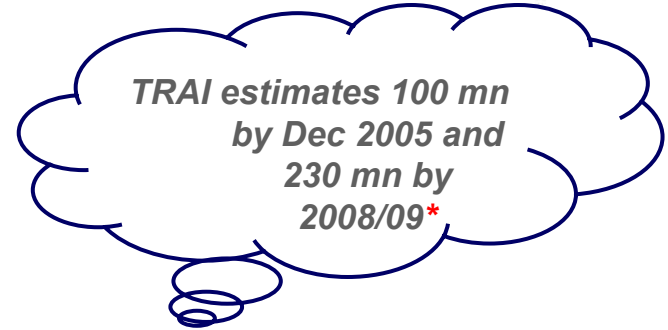
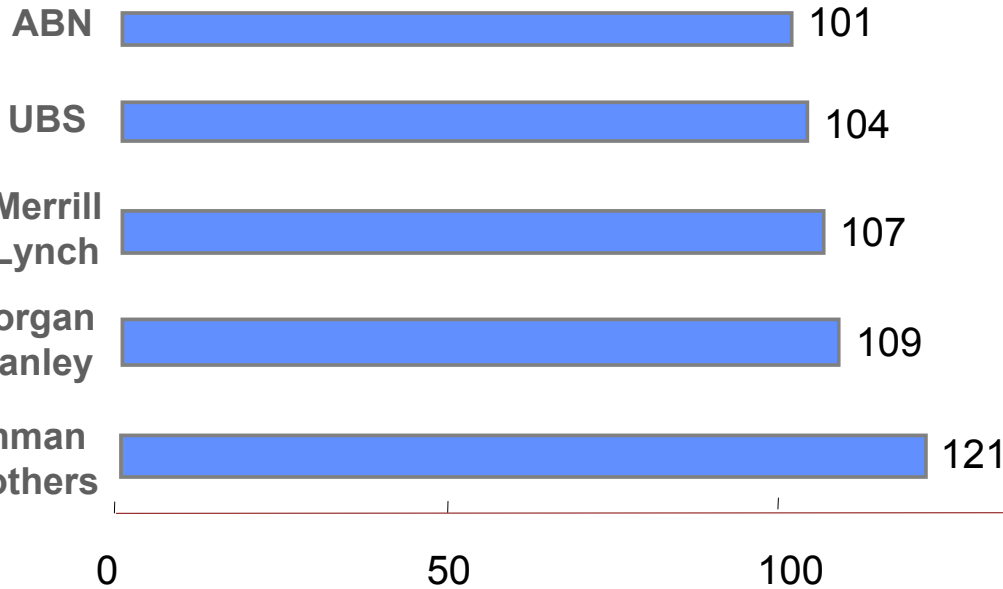
# India Country Subscribers Forecast FY 2007

Analyst Consensus Estimates



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subscribers in millions



Vehicle, mobile ownership correlation

## Drivers of growth

- Increasing rural / new states being launched
- Aggressive end user airtime pricing
- Lower handset prices and lower tariffs
- Favorable government policies

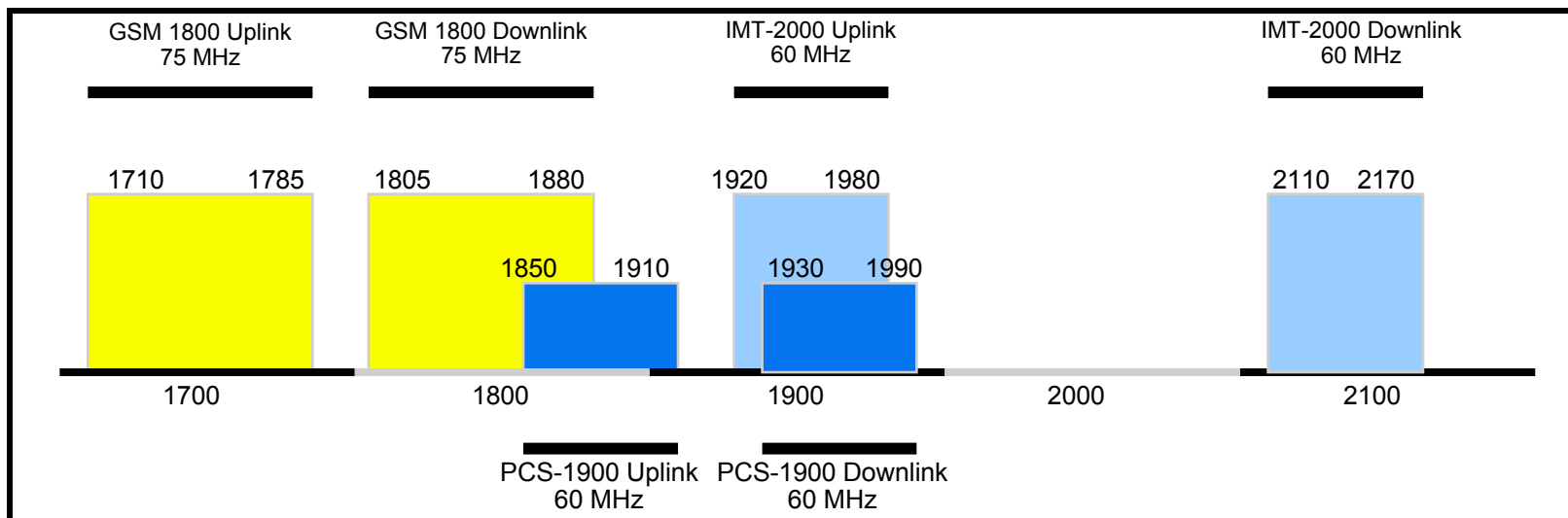
# Spectrum Issues in India

SM and CDMA lobbies at loggerheads – Far reaching implication on 3G growth



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- Various Positions:
  - GSM Operators – India should not deviate from global norms with respect to IMT bands
  - CDMA Operators – They need PCS 1900 and particularly 1900-1910/1980-1990
  - Regulator – We are technology neutral and we need to make useful spectrum available to all
  - Media – Issue central to the growth of 3G in India
- Outcome: TRAI open houses being held, decision shortly. Active lobbying by both sides.



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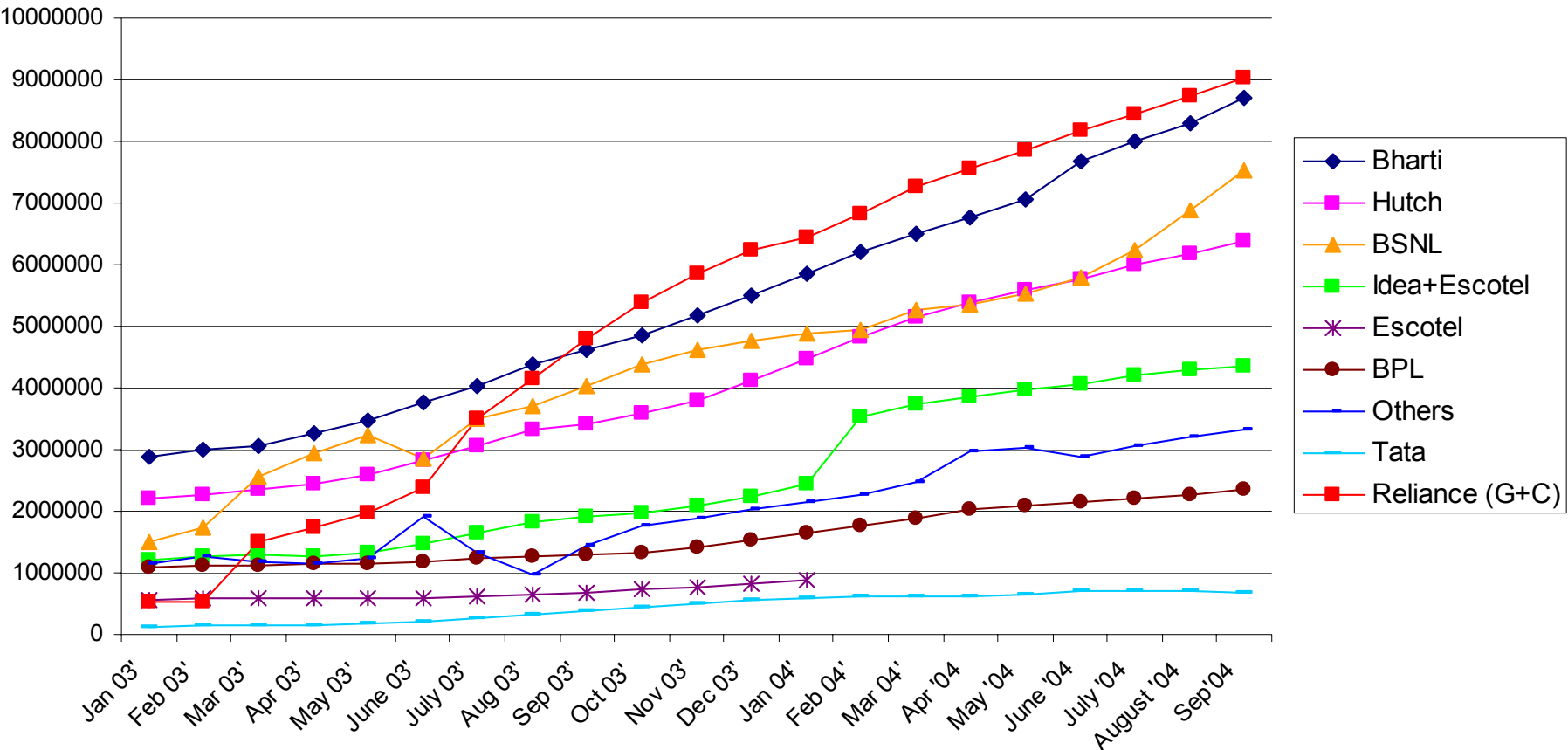
# Market trends 2003 – Present

All operators growing



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(subs)



Reliance Monsoon Offer

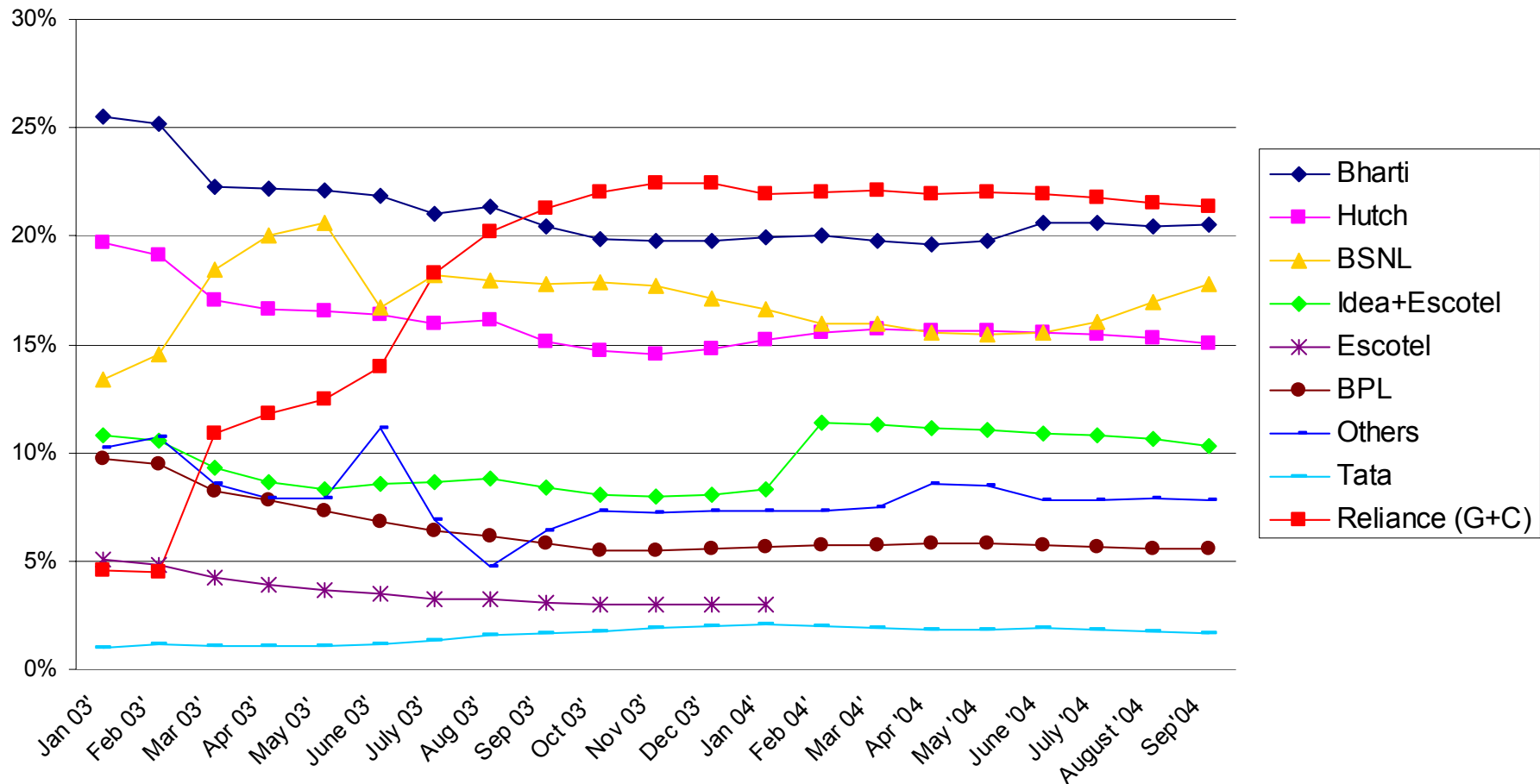
Escotel Acquisition By Idea

# Market trends 2003 – Present

## Market Shares – Total market



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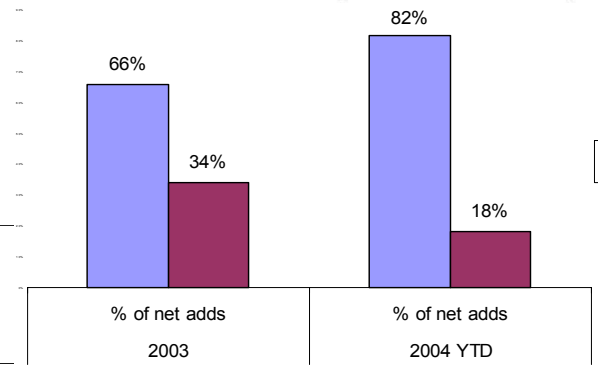


# Market trends 2003 - Present

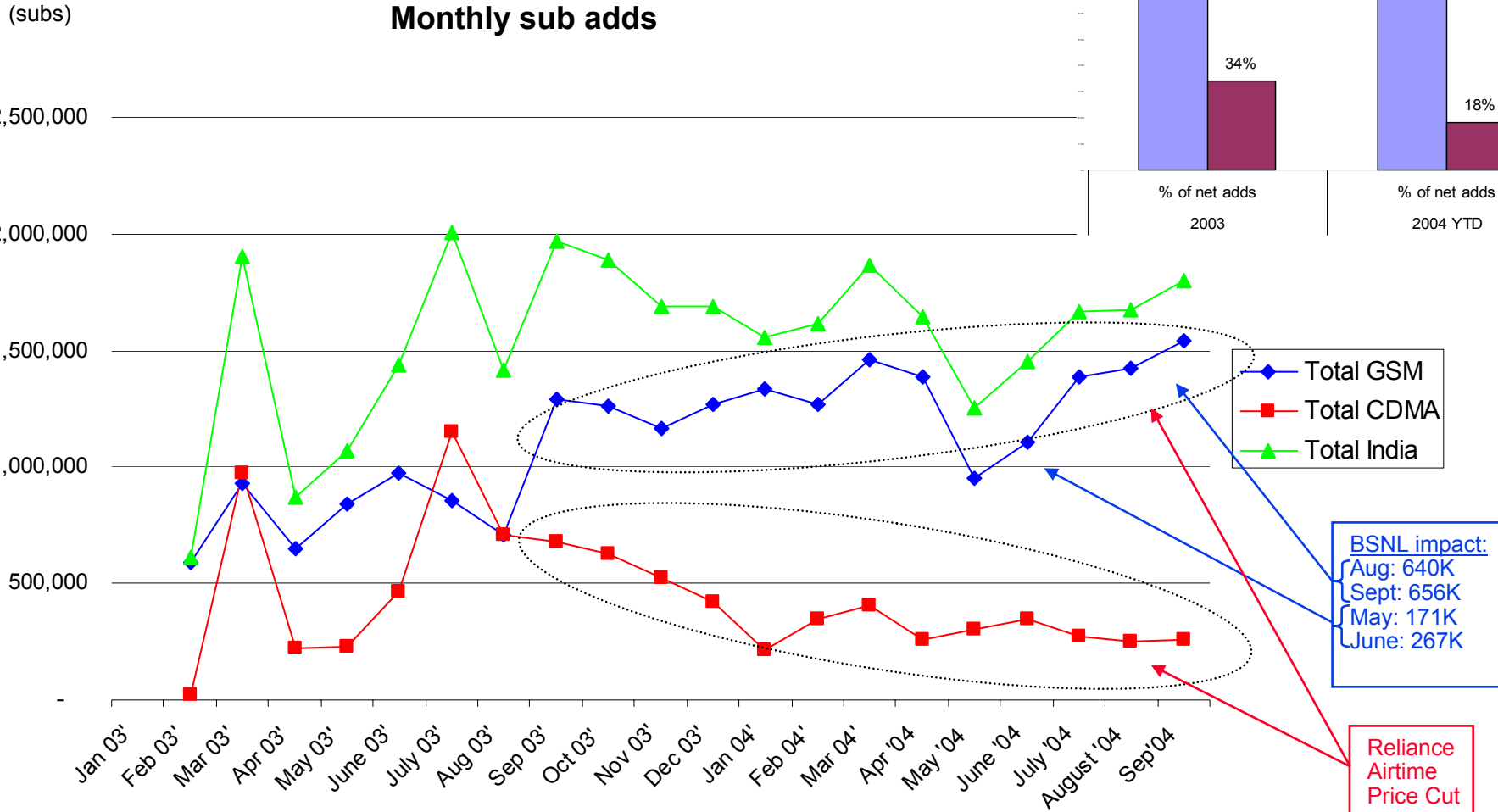
But GSM grows at more healthy levels compared to CDMA



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## Monthly sub adds



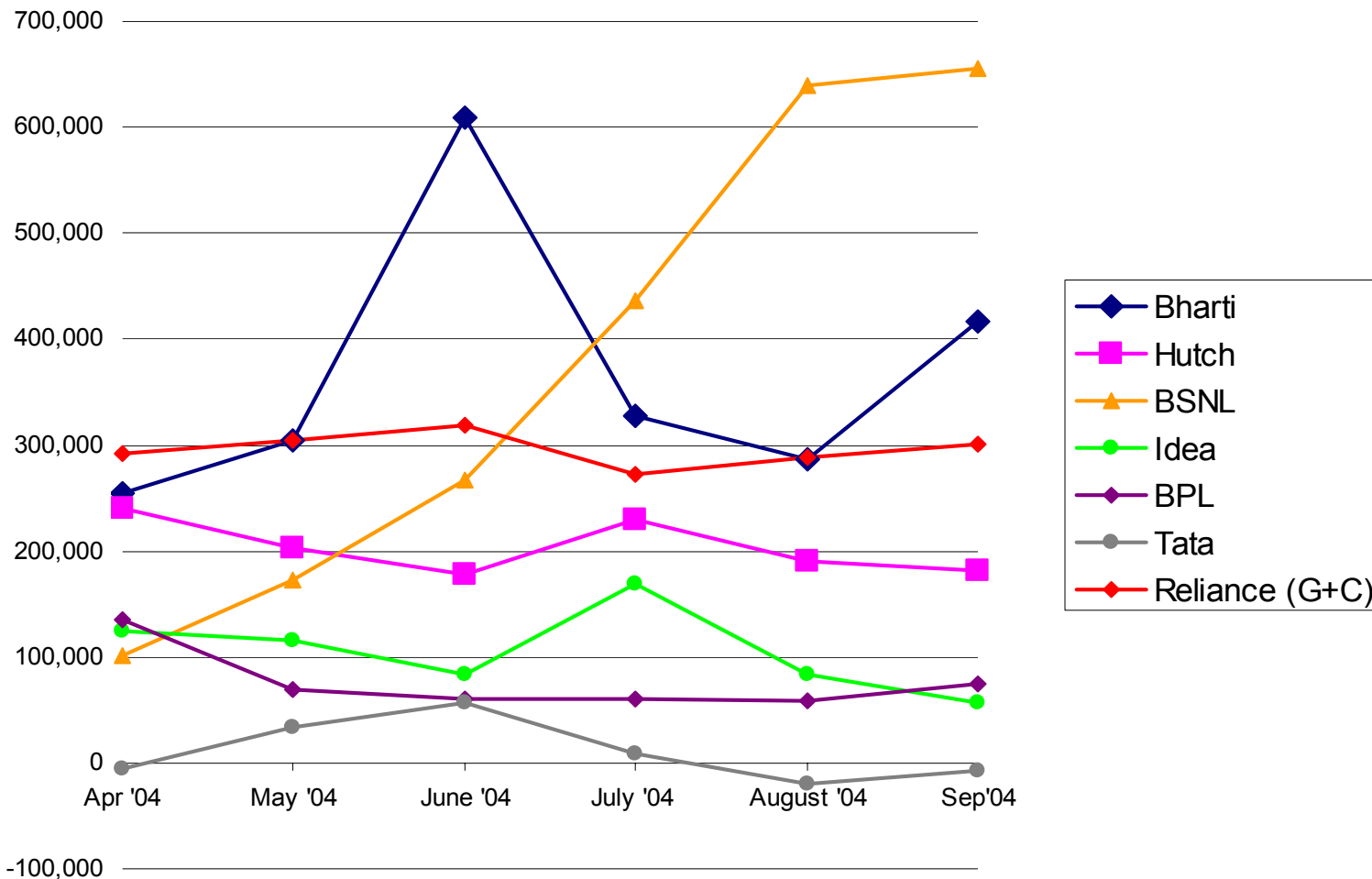
# Market trends – Past 6 months

BSNL leading the way



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(subs)



Source: COAI

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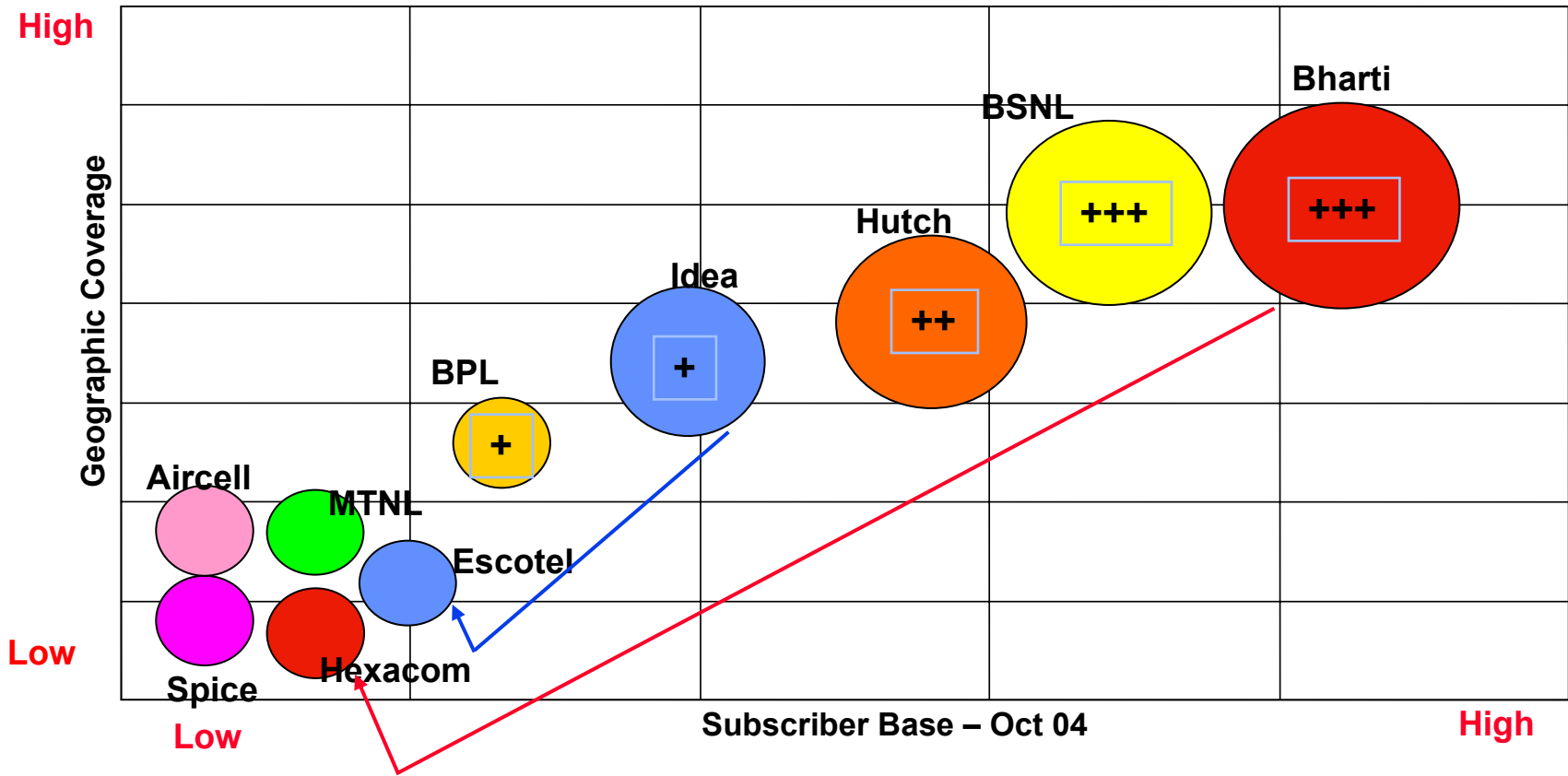
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# India GSM Operators & Suppliers – October 2004

Nokia – Significant market gains



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# What has worked in 2004



- Strong management focus
- Ability to grasp the significance of the time in 2004 and move swiftly to take the opportunity
- Right blend of highly competent internal and external people
- Pull from customers
- Delivery and execution

# Key Strategies for the Future



- Execution excellence
- Building a strong organization
- Differentiating through technology
- Focus on market defining aspects like WCDMA, Spectrum, faster adoption of new technology
- Exploring new frontiers in neighboring countries



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Thank You