

Bharti Airtel (BHARTI IN)

Rating: BUY | CMP: Rs740 | TP: Rs1,032



Networked for growth

Avishek Datta avishekdatta@plindia.com | 91-22-66322254

Page No.

Bharti - Play on multiple opportunities markets	4
Investment Thesis	6
Indian telecom industry – At the cusp of strong growth	6
Court rulings and Jio entry changed the course of industry	6
2G license cancelation (first round of attrition)	6
Jio launch- Landmark event in telecom industry	6
AGR ruling broke the back of VI	7
Favorable government policies to help industry	7
Top 2 players rule the space	8
ARPU to ride on rising data growth and tariff hikes	11
Rising smartphone penetration driving data usage	11
Cheaper data prices drive 4G usage	12
Rising digitization trends increase internet penetration	12
Bharti India mobile business - Growth Prospects Abound	14
Relentless march across circles	14
Top ten circles (Profitable markets): Bharti has 36.3% share	16
Continuous gains in subscriber share	16
Subscriber share in top ten circles	17
Convergence and premiumisation drive	17
Contrasting pricing by top 2 players	18
Other segments offer strong tailwind	19
Airtel Africa- Steady growth ahead	19
Enterprise business	20
Airtel a leading force in enterprise segment	21
Home services and DTH business	22
Airtel payments bank	23
5G the next frontier	24
Competition to intensify, but payback likely to be back-ended	24
What US experience suggests for Indian players	24
Mapping the India 5G market size	26
Strong Balance sheet (BS) to drive growth	27
Capex intensity to increase, but healthy business growth to drive FCF	28
Financials and Sensitivity	29
Valuation and View	30
Key Risks	31
Annexure – Spectrum holdings of telecom players	32

Company Initiation

Key	Financials -	Consolidated	

Y/e Mar	FY22	FY23E	FY24E	FY25E
Sales (Rs. bn)	1,165	1,418	1,709	1,954
EBITDA (Rs. bn)	575	729	906	1,041
Margin (%)	49.4	51.4	53.0	53.3
PAT (Rs. bn)	43	115	186	269
EPS (Rs.)	7.8	20.4	31.6	45.7
Gr. (%)	(118.4)	160.1	55.3	44.4
DPS (Rs.)	3.0	5.0	7.0	9.0
Yield (%)	0.4	0.7	0.9	1.2
RoE (%)	6.9	14.2	18.0	22.1
RoCE (%)	12.6	16.9	19.6	24.0
EV/Sales (x)	4.5	3.8	3.2	2.5
EV/EBITDA (x)	9.1	7.3	6.0	4.7
PE (x)	94.5	36.3	23.4	16.2
P/BV (x)	6.1	4.4	3.9	3.3

Key Data	BRTI.BO BHARTI IN
52-W High / Low	Rs. 793 / Rs. 629
Sensex / Nifty	59,246 / 17,666
Market Cap	Rs. 4,258 bn/ \$ 53,332 m
Shares Outstanding	5,563m
3M Avg. Daily Value	Rs. 5061.44m

Shareholding Pattern (%)

Promoter's	55.98
Foreign	18.54
Domestic Institution	20.22
Public & Others	5.26
Promoter Pledge (Rs bn)	-

Stock Performance (%)

	1M	6M	12M
Absolute	5.2	13.3	14.6
Relative	3.7	3.9	12.4

Avishek Datta

avishekdatta@plindia.com | 91-22-66322254

Bharti Airtel (BHARTI IN)

Rating: BUY| CMP: Rs740 | TP: Rs1,032

Networked for growth

We initiate coverage on Bharti Airtel Ltd (Bharti) with 'BUY' rating at SOTP based TP of Rs1,032. We believe Bharti is a compelling play on multiple growth opportunities in emerging digital economy given 1) strong brand presence across mobile, enterprise business, home services, DTH and Africa business, 2) focus on attracting high quality discerning customers for ARPU expansion (ARPU at ~Rs266 in FY25E v/s Rs163 in FY22), 3) digitization and innovation with supportive government policies and 4) affordable 5G rollout wherein Bharti will use existing 4G infrastructure with 3.5GHz spectrum acquired recently. The Indian telecom sector is expected to enter into a strong growth phase as wireless revenues will grow at 17.7% CAGR to Rs2.9trn over FY22-25E. Underpinned by these positives, we expect Bharti's consolidated EBIDTA/PBT to increase at 21.8%/84.2% CAGR over FY22-25E. Initiate BUY.

India's telecom sector - Consolidation to drive growth: India's telecom sector is expected to enter into a strong growth phase over FY22-25E, on back of industry consolidation and increasing discipline on ARPU. Led by supportive government policies, we expect sector's wireless revenue to increase at 17.7% CAGR over FY22-25E, aided by 17.7% CAGR in ARPU from Rs134 to Rs219. We believe that Jio and Bharti will control 72% and 84% market share of sector's subscribers and revenue in FY25E against FY22 levels of 68% and 78% respectively. However Vodafone idea (VI) and BSNL's market share may further reduce, due to weak balance sheet besides limited financial bandwidth to upgrade the network capacity.

Bharti's has multiple growth avenues - Bharti's customer focused strategies along with digital investments has helped drive revenue and subscriber market share. Bharti had highest Adjusted Gross Revenue (AGR) in Q1FY23 and last one/two-year growth was 25.1%/30.3% vs Jio's 20.6%/18.7%. Led by ARPU and customer addition, EBIDTA of Indian/Africa mobile business is expected to grow at a ~23.8%/13.4% CAGR over FY22-25E. We expect strong 33.7% CAGR in home services business which includes fixed line and broadband services. Additionally, Airtel payment bank - one of the few profitable fintech bank (with reported PAT of Rs104mn and Gross Merchandise Value (GMV) of Rs1.3trn in FY22) remains well placed to capitalize on rising digital transactions with ~129.4mn customer base.

5G the next frontier: 5G in India is anticipated to be a Rs580-1300bn opportunity by CY27 across connectivity and enterprise market. Bharti's 5G plan will ride on use of existing 4G infrastructure along with 3.5GHz of midband spectrum (acquired recently). This will result in lower operating cost and better utilization of existing assets, as 5G ecosystem user case develops. Also, Bharti's leadership position in enterprise segment with 32% revenue market share will ride on expanding market size i.e.~2x to Rs700bn by 2025 given its presence in IOT, CPaaS, data centre etc.

Strong balance sheet (BS) to drive growth: Bharti has raised ~Rs1trn through various financial instruments and stake sale in businesses (Airtel Africa and tower assets), which along with improving fundamentals has cut Bharti's Net debt/EBIDTA (ex lease) to 0.5x for FY25E from 2.1x in FY22. We expect ROE to improve to ~22.1% for FY25E from 6.9% in FY22E. We expect FCF of ~Rs398bn for FY25E with reduction in net debt to ~Rs548bn.

Bharti - Play on multiple opportunities markets

Bharti Airtel Limited is a leading global telecommunications company operating in 18 countries across Asia and Africa. It offers an interesting play of multiple growth opportunities across Mobile, Home services (broadband, fixed line telephone), DTH and Africa business (voice, data cloud etc) with over 491mn subscribers across India and other fast growing under-penetrated geographies. The company has entered a virtuous cycle, as all its major segments are poised to benefit from respective industry tailwinds. With India's digital ecosystem set to undergo massive growth led by increased data consumption across businesses and individuals, Bharti remains well placed to capitalize on various opportunities with its strong spectrum footprint, robust balance sheet and favorable industry dynamics.

Exhibit 1: Airtel business breakup - India and Africa mobile business to account for 80% of consol EBIDTA in FY22

	Airtel _		India bus	siness		
	consolidated	India mobile services	Enterprise	Home service (Fixed line + broadband)	DTH	Africa mobile (Mobile services)
FY22 revenue	1,165,469	632,054	160,703	30,390	31,538	351,147
FY22 EBIDTA	575,339	313,664	62,882	16,139	21,006	172,331
Customers (End of period, mn)	491	326		4.5	17.6	128
Avg ARPU (Rs/mon)		163		671	147	237
FY25E revenue	1,953,567	1,102,684	257,389	71,517	32,352	547,468
FY25E EBIDTA	1,040,580	578,909	105,529	38,619	20,452	251,660
Customers (End of period, mn)	526.2	348.8		8.6	17.6	151.1
Avg ARPU (Rs/mon)		266		757	154	312

Source: Company, PL

Bharti's India mobile business accounted for ~55% of consolidated EBIDTA in FY22. While Indian telecom space is expected to increasingly converge into a duopoly (with top two players accounting for 84% and 72% of revenue and subscribers in FY25E), it will aid greater pricing power and drive industry's ARPU to ~Rs.219 by FY25E from ~Rs134.1 level of FY22. Though mobile penetration remained low at 58.5% in rural markets against All-India level of 85.1%, we believe that favorable demographics, increasing smartphone penetration along with strong focus on premiumisation will drive Bharti India's FY25E ARPU to Rs266 v/s Rs163 in FY22. We also expect Mobile business EBIDTA to increase at ~23.8% CAGR over FY22-25E.

Bharti's African business too is expected to report steady growth, led by improving ARPU and subscriber addition. We estimate ~13.4% EBITDA CAGR over FY22-25E, led by ~5.6% CAGR increase in ARPU and subscribers at \$3.8/mon and 151m respectively in FY25E.

Bharti's non-mobile business comprises of Fixed line + broadband, DTH and Enterprise business which rides on increased adoption of digital technologies, 5G and rising need for data centres. We expect ~33.4% EBIDTA CAGR over FY22-25E for Homes services business of **fixed line + broadband** and ~18.8% growth for **enterprise segment**. **DTH business** will likely witness muted growth due to pressures on ARPU growth and hence we expect -0.9% EBIDTA CAGR over FY22-25E.

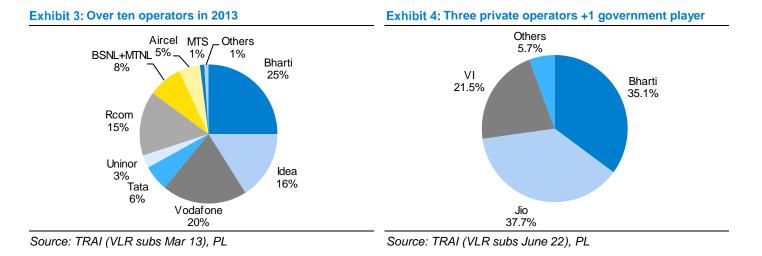
	FY17	FY18	FY19	FY20	FY21	FY22	FY23E	FY24E	FY25E	FY22-25 CAGR
Consolidated										
Revenues (Rs m)	954,683	836,879	807,802	846,765	1,006,158	1,165,469	14,18,451	17,08,775	19,53,567	18.
EBIDTA (Rs m)	356,208	313,629	259,207	342,534	453,716	575,339	7,29,348	9,05,785	10,40,580	21.
EBIDTA (%)	37.3%	37.5%	32.1%	40.5%	45.1%	49.4%	51.4%	53.0%	53.3%	
ludia makila kusinasa										
India mobile business	070.0	204.0	000.0	000 7	204.4	200.0	000.0	244.0	240.0	0
Subscribers end of period(mn)	273.6	304.2	282.6	283.7	321.4	326.0	333.3	341.8	348.8	2.
ARPU (Rs/mon)	181	133	110	137	156	163	196	235	266	17.
Revenues (Rs m)	565,511	462,639	415,541	459,663	555,676	632,054	7,74,934		11,02,684	20.
EBIDTA (Rs m)	227,734	150,888	94,225	169,560	242,642	313,664	4,02,615	5,04,780	5,95,450	23.
EBIDTA (%)	40.3%	32.6%	22.7%	36.9%	43.7%	49.6%	52.0%	53.0%	54.0%	
EBIDTA (% of consol)	64%	48%	36%	50%	53%	55%	55%	56%	57%	
Africa business										
Subscribers end of period(mn)	80.1	89.3	98.9	110.6	118.2	128.4	138.1	145.1	151.1	5.
ARPU (\$/mon)	3.4	3.1	2.9	2.7	2.8	3.2	3.4	3.6	3.8	5.
Revenues (Rs m)	219,568	202,236	225,391	242,615	288,451	351,147	4,27,665	4,96,158	5,47,468	15.
EBIDTA (Rs m)	52,143	66,697	84,381	107,425	132,890	172,331	2,05,871	2,33,624	2,51,660	13.
EBIDTA (%)	23.7%	33.0%	37.4%	44.3%	46.1%	49.1%	48.1%	47.1%	46.0%	10.
EBIDTA (% of consol)	15%	21%	37.4%	31%	29%	49.1% 30%	48.1%	26%	40.0%	
,		,_							,.	
Enterprise business										
Revenues (Rs m)	109,429	113,218	124,538	132,331	144,075	160,703	1,86,770	2,20,017	2,57,389	17.
EBIDTA (Rs m)	33,884	42,296	40,645	42,643	54,973	62,882	73,790	88,578	1,05,529	18.
EBIDTA (%)	31.0%	37.4%	32.6%	32.2%	38.2%	39.1%	39.5%	40.3%	41.0%	
EBIDTA (% of consol)	10%	13%	16%	12%	12%	11%	10%	10%	10%	
Home services (fixed line +										
broadband)										
Subscribers end of period(mn)	2.1	2.2	2.3	2.4	3.1	4.5	5.7	7.1	8.6	24.
ARPU (Rs/mon)	1,124	979	840	799	710	671	666	711	757	4.
Revenues (Rs m)	27,518	25,265	22,391	22,451	23,342	30,390	40,657	54,536	71,517	33.
EBIDTA (Rs m)	12,998	11,802	10,825	11,309	13,434	16,139	21,778	29,449	38,619	33.
EBIDTA (%)	47.2%	46.7%	48.3%	50.4%	57.6%	53.1%	53.6%	54.0%	54.0%	
EBIDTA (% of consol)	4%	4%	4%	3%	3%	3%	3%	3%	4%	
Others incl DTH										
Subscribers end of period (000)	12,815	14,168	15,392	16,613	17,716	17,558	17,422	17,527	17,607	0.
ARPU (Rs/mon)	231	231	232	152	148	147	145	150	154	1.
Revenues (Rs m)	34,306	37,570	41,001	29,238	30,562	31,538	30,290	31,485	32,352	0.
EBIDTA (Rs m)	12,219	14,226	15,722	19,959	20,789	21,006	19,148	19,904	20,452	-0.
EBIDTA (%)	35.6%	37.9%	38.3%	68.3%	68.0%	66.6%	63.2%	63.2%		-0.
									63.2%	
EBIDTA (% of consol)	3%	5%	6%	6%	5%	4%	3%	2%	2%	

Exhibit 2: Key assumptions on subscribers and ARPU across businesses

Investment Thesis

Indian telecom industry – At the cusp of strong growth

India's telecom industry has come a long way from multiple operators and hyper competition to a handful of players, in recent times. From highs of fourteen operators in 2012, the industry is consolidated to four players with top three players controlling 94.1% share in FY22 end v/s 66% of top three players in 2012. Reduced competitive intensity is due to tough regulatory environment and Reliance Jio's entry into the fray.



Court rulings and Jio entry changed the course of industry

Over many years, the Indian telecom industry has seen major Supreme Court judgements which changed the course of industry and ushered significant changes. This resulted in exit of marginal players and pushed much needed industry consolidation. Some of the major changes include:

2G license cancelation (first round of attrition)

In 2012, Honorable Supreme Court ordered cancellation of all 122 unified access service licenses issued to eight companies in 2008 i.e. Uninor (a joint venture between Norway's Telenor and Unitech Group), Sistema Shyam (a JV between Russia's Sistema and Shyam Telecom), S Tel, Videocon, Idea Cellular, Tata Teleservices, Loop Telecom, Etisalat DB (a JV between the UAE's Etisalat and Swan Telecom) etc. 2G spectrum licenses were cancelled due to arbitrary nature of granting licenses. This judgement directly impacted many companies leading to first round of exit and sharp reduction in competitive intensity.

Jio launch- Landmark event in telecom industry

Jio launch in 2016 changed the face of Indian telecom industry, forever. The company announced sharp drop in tariffs, which boomed demand for data services in the country. With offerings of bundled tariffs, per capita data consumption increased from ~500MB in 2016 to Q1FY23 levels of ~20GB per month. Meanwhile tariffs collapsed to Rs5-7/GB from Rs 75/GB in 2016. This move resulted in massive financial stress for incumbents like Reliance Communication (Rcom), Vodafone, Idea cellular, Bharti etc. and severely impacted their ability to invest in network upgradation. Later Vodafone merged with Idea and Rcom exited from telecom.

AGR ruling broke the back of VI

Hon.Supreme Court (SC) rejected the plea by Bharti Airtel (along with VI and Tata Teleservices) for re-computation of their Adjusted Gross Revenue (AGR) related dues. While telecom providers believe that AGR should only include revenue from core operations, Department of Telecom (DoT) maintained that it should also embrace non-core revenue from sale of assets, interest on deposits, licence fee, spectrum usage charges, rental income etc.

Accordingly, AGR dues for VI were fixed at Rs582bn, while Bharti was directed to pay Rs438bn. The court allowed them to pay within ten years, while making an upfront payment of 10% of total dues. This Court ruling on AGR case dented financials of Vodafone Idea for a total debt of ~Rs2trn.

Favorable government policies to help industry

In order to improve viability of telecom industry, ease liquidity and spur overall growth, and to maintain a multiple player status in Indian market, the government took multiple initiatives. These included rationalization of AGR dues, moratorium in arrears payment, reduction in bank guarantee etc. These measures provided a much needed lifeline for survival of Vodafone but strengthened operations of Bharti and Jio significantly.

- Rationalization of Adjusted Gross Revenue (AGR): Definition of AGR has been the biggest bone of contention plaguing this sector. Accordingly, government clarified the definition and excluded non-telecom revenue on prospective basis. Bharti and VI have already paid Rs184bn and Rs78.5bn towards AGR dues. As of FY22 end, both of their outstanding dues stand at Rs238bn and Rs659bn respectively.
- Moratorium of four years: Government provided four years' moratorium for AGR and spectrum instalments due between Oct 21-Sept 25, in order to ease liquidity tightness. Both Bharti and VI have opted to defer their AGR dues upto FY19, within four years (i.e.FY22-25). However, Bharti has not opted for conversion of interest payment to equity. VI, on the other hand, has agreed to convert interest on AGR and deferred spectrum dues into equity amounting to Rs161.3bn, which will result in government holding of ~33% in Vodafone Idea.
- Reduction in Bank guarantee (BG) requirements: No requirements for multiple BGs in different Licenced Service Areas (LSAs). Accordingly, VI expects refund of Rs160bn towards spectrum and license fee guarantee.
- Spectrum usage charge: 1) No Spectrum Usage Charges (SUC) on new spectrum acquired through auctions and 2) no SUC on spectrum sharing.

Rising consolidation, ARPU hike drives telecom earnings

 Successive court orders have led to industry consolidation which aided reduction in competitive intensity and revival of pricing power. We expect sector ARPU to increase gradually to Rs208/month in FY25E from Rs134 in FY22. Industry has witnessed two rounds of ~20% tariff hikes - First in Dec-19 and Second in Nov-21. Going forward we expect this trend to continue, as competitive intensity has reduced significantly. We also expect wireless subscribers base to increase to 1,140mn for FY25E from FY22 levels of 1,110mn. Accordingly, sector's wireless revenue is expected to increase to Rs2.8trn in FY25E from FY22 levels of Rs1.8trn and Rs1.5trn in FY20 (Jio, Bharti, VI and BSNL).

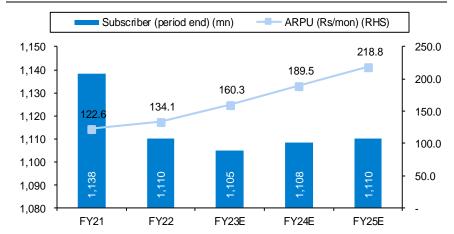


Exhibit 5: ARPU growth will be steep while subscriber rise will be steady

Source: Company, PL * Bharti, Jio, Vi and BSNL



Exhibit 6: Industry wireless revenues to grow at 17.7% CAGR over FY22-25E

Source: Company, PL * Bharti, Jio, Vi and BSNL

Top 2 players rule the space

The Indian telecom industry (led by consolidation) is currently gravitating towards duopoly with Jio and Bharti accounting for 84% of AGR and 72% of FY25E subscriber share (FY22: 78% and 68% respectively). Well leveraged balance sheet will further cement their position as the next phase of 5G capex gets underway– Jio will spend Rs1.1trn, while Bharti plans to invest bulk of above Rs750bn over next three years). VI and BSNL are likely to struggle with subscriber retention, given insufficient capex on network and infrastructure.

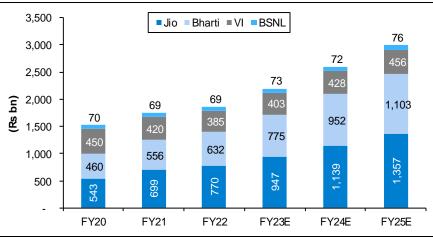
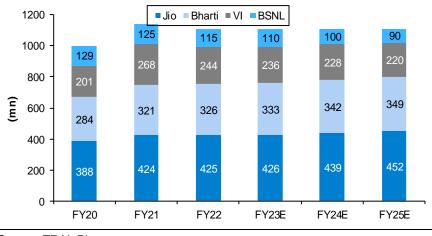


Exhibit 7: Revenues: Top 2 players to account for 84% of FY25E revenues

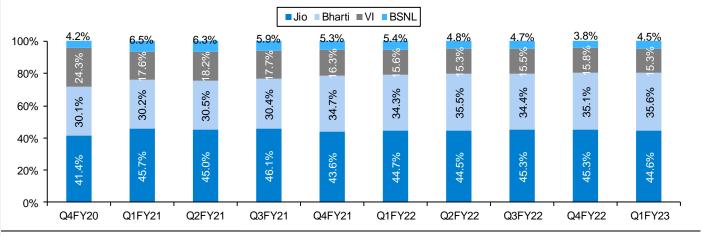
Source: TRAI, PL

Exhibit 8: Subscribers: Top 2 players to account for ~72% of FY25E subs



Source: TRAI, PL

Exhibit 9: Top two players have gained the VLR share from competitors



Source: TRAI, PL

P

Exhibit 10: Key Industry assumpti	ons: 66% increase in ARPU over	FY22-25 a key growth/ profit driver
-----------------------------------	--------------------------------	-------------------------------------

	FY18	FY19	FY20	FY21	FY22	FY23E	FY24E	FY25E
Industry revenues (Rs m)	10,41,262	11,93,096	14,52,398	16,74,078	17,86,979	21,25,374	25,20,022	29,15,216
EBIDTA (Rs m)	2,92,817	2,95,271	5,43,638	7,31,546	8,60,675	11,01,020	13,49,646	15,99,267
EBIDTA (%)	28%	25%	37%	44%	48%	52%	54%	55%
Subscribers end of period(mn)	797	908	1,001	1,138	1,110	1,105	1,108	1,110
Гор 2	490.8	589.5	671.2	745.4	751.4	759.0	780.6	800.3
Гор 2 (%)	62%	65%	67%	65%	68%	69%	70%	72%
ARPU (Rs/mon)	108.9	109.5	120.9	122.6	134.1	160.3	189.5	218.8
Revenue								
Тор 2	6,64,179	8,22,171	10,02,823	12,54,556	14,01,824	17,22,292	20,91,836	24,59,683
Top 2 (%)	64%	69%	69%	75%	78%	81%	83%	84%
Bharti India mobile business								
Subscribers end of period(mn)	304.2	282.6	283.7	321.4	326.0	333.3	341.8	348.8
,					29.4%			31.4%
ARPU (Rs/mon)	133.4	109.8	136.5	156.4	163.2	196.0	235.1	266.3
	4 00 000		4 50 000	F FF 070	0.00.054		0 50 445	44.00.004
Revenues (Rs m)	4,62,639	4,15,541	4,59,663	5,55,676	6,32,054	7,74,934	9,52,415	11,02,684
(% of industry)	44.4%	34.8%	31.6%	33.2%	35.4%	36.5%	37.8%	37.8%
EBIDTA (Rs m)	1,50,888	94,225	1,69,560	2,42,642	3,13,664	4,02,615	5,04,780	5,95,450
EBIDTA (%)	32.6%	22.7%	36.9%	43.7%	49.6%	52.0%	53.0%	54.0%
Jio								
Subscribers end of period(mn)	186.6	306.9	387.5	424.0	425.3	425.7	438.8	451.5
ARPU (Rs/mon)	138	130	131	144	150	186	218	252
Mobile Revenues (Rs m)	2,01,540	4,06,630	5,43,160	6,98,880	7,69,770	9,47,358	11,39,420	13,56,998
(% of industry)	19.4%	34.1%	37.4%	41.7%	43.1%	44.6%	45.2%	46.5%
Fiber revenues (Rs m)	-	-	-	-	-	44,100	67,500	1,00,800
EBIDTA (Rs m)	67,310	1,50,960	2,15,670	3,09,130	3,76,300	5,19,893	6,49,705	7,96,342
EBIDTA (%)	33%	37%	40%	44%	49%	55%	57%	59%
Voda Idea								
Subscribers end of period(mn)	195	189	201	268	244	236	228	220
ARPU (Rs/mon)	123	98	115	96	113	136	154	169
Mobile Revenues (Rs m)	2,82,789	3,70,925	4,49,575	4,19,522	3,85,155	4,03,082	4,28,186	4,55,533
(% of industry)	2,02,703	31.1%	31.0%	25.1%	21.6%	19.0%	17.0%	15.6%
EBIDTA (Rs m)	60,475	40,431	1,47,977	1,69,457	1,60,361	1,67,623	1,84,360	1,96,135
EBIDTA (%)	21.4%	10.9%	32.9%	40.4%	41.6%	41.6%	43.1%	43.1%
	21.470	10.070	02.070	40.470	41.070	11.070	40.170	-0.17
BSNL/MTNL		400.00	400 -0					
Subscribers end of period(mn)	111.85	128.89	128.59	125.06	115	110	100	90
ARPU (Rs/mon)	70	42	45	46	50	55	60	7(
Mobile Revenues (Rs m)	94,293	64,367	69,540	68,776	69,000	72,600	72,000	75,600
(% of industry)	9.1%	5.4%	4.8%	4.1%	3.9%	3.4%	2.9%	2.6%
EBIDTA (Rs m)	14,144	9,655	10,431	10,316	10,350	10,890	10,800	11,340
EBIDTA (%)	15%	15%	15%	15%	15%	15%	15%	15%

ARPU to ride on rising data growth and tariff hikes

Advent of bundled tariffs, free voice services along with affordable tariffs has led to surge in data consumption. Per capita data consumption has increased to 20GB in Q1FY23 for Jio from 11.3GB in Q4FY20 at the start of pandemic. Rising online data usage for Work-From-Home (WFH), online classes coupled with rise of ecommerce and OTP has fueled data consumption usage.

Higher per capita data usage is driving ARPU for telecom players, as bundled data package realizes 1.5-2x times voice packages. Higher data usage and penetration has pushed blended ARPUs higher supported by:

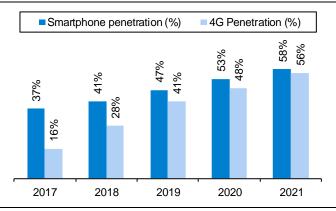
- Rising smartphone penetration
- Cheaper data tariffs
- Rising digitization trends in the country
- 5G plans

Rising smartphone penetration driving data usage

In India, 4G penetration has increased to 56% in CY21 vs 16% in CY16 given 1) primary usage of mobile broadband to access internet, given low fibre broadband penetration 2) fall in smartphone cost 3) rise in smartphone usage during pandemic for WFH and online classes for students and 4) rising preference for OTT.

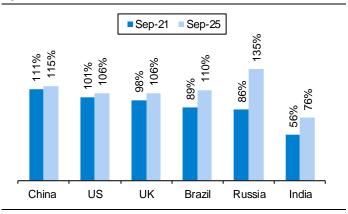
Over the years, Vi has seen drop in 2G customers from 294mn in Q1FY19 to 105mn in Q1FY23 while Bharti for same period has seen drop from ~250mn to 114mn.over last four years, Bharti and VI has seen 4G customer increase to 205.6mn (37% CAGR) and 119mn (20% CAGR) in Q1FY23 from 58mn and 57mn in Q1FY19. Going forward, introduction of new cheaper smartphones along with shift from 2G technology will help increase 4G penetration to 76% in 2025.

smartphone usage

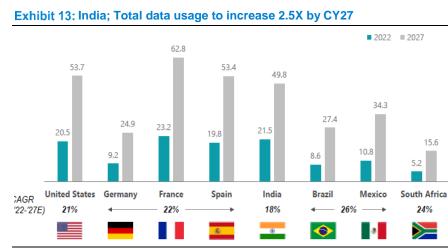


Source: Industry, PL

Exhibit 11: 4G penetration in India has increased with rising Exhibit 12: Digitization will increase 4G penetration to 76% by FY25E



Source: Industry, PL

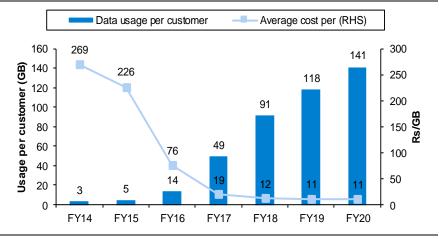


Source: Industry, PL

Cheaper data prices drive 4G usage

There was sharp drop in data tariffs due to entry of Jio in 2016 with fueled explosion of 4G penetration in India. Average data cost in India came down from Rs268.97/GB in 2014 to Rs 10.9/GB in 2020 (Source: TRAI). Current data rates are at ~Rs7/GB compared to tariff in US at ~Rs270/GB and UK at Rs140/GB. China has data tariffs of Rs50/GB.

Exhibit 14: Data prices have crashed post Jio entry into telecom space

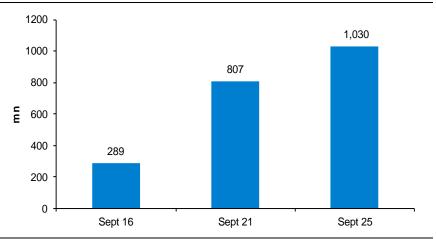


Source: TRAI, PL

Rising digitization trends increase internet penetration

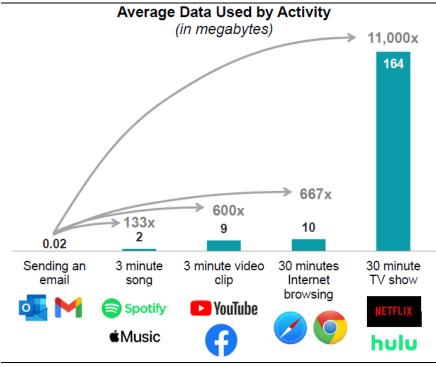
Rising digitization of governance and allied services along with UPI transfer and ecommerce have pushed smartphone and internet penetration in India. Rising awareness in rural and urban markets from available information online is helping in increased usage of data and smartphone. Total smartphone subscribers are likely to increase to 1030mn by Sept-25 from 289mn in Sept-16 (Source: GSMA Intelligence database).





Source: GSMA Intelligence database, PL

Exhibit 16: Use of advanced application driving demand for data



Source: Industry, PL

5G rollout: Companies spending aggressively for acquisition of 5G spectrum will drive ARPU growth of companies. While pricing plans are yet to be finalized, our discussion with experts suggests that tariffs are likely to be ~18-25% higher than corresponding 4G plans.

Bharti India mobile business - Growth Prospects Abound

Bharti Airtel is one such telecom giants of India, known for its distinct and engaging digital marketing strategies and campaigns. The company has adopted a number of customer focused strategies over the years to gain share. To improve customer experience, the company has reduced network related complaints by 40% in last two years, aided by AI/ML based tools mostly developed in-house. It has also developed its own Self Optimising Network (SON) which scales capacity (and power) in-line with traffic patterns, resulting in better customer experience/power saving. Also, with focus on premium customers, Bharti is mining customers across services like broadband, DTH, mobile etc.

Relentless focus on customers has helped Bharti to become India's second largest telecom player after Jio with FY22 subscriber and wireless revenue market share at 29.4% and 35.4% respectively. The company has managed to survive and thrive in hyper competitive markets. We expect industry consolidation trends to accelerate further, as these top 2 players will corner 72% and 84% of subscribers and revenues by FY25E.

We believe Bharti is well placed to benefit from **1**) favorable industry tailwinds of rising ARPU and presence across circles, **2**) continuous gains in subscriber share and **3**) convergence along with premiumisation.

Relentless march across circles

Based on Q1FY23 AGR revenues across 22 circles:

- Bharti steadily increased its share to 35.6% in Q1FY23 v/s 34.3% in Q1FY22 and 30.2% in Q1FY21.
- Jio's revenue share was at 44.6% in Q1FY23 v/s 44.7% in Q1FY22 and 45.7% in Q1FY21. Lower share was due to churn at lower end of customer base post tariff hikes.
- VI saw steady correction in revenue share i.e. 15.3% in Q1FY23 v/s 15.6% in Q1FY22 and 17.6% in Q1FY21.
- BSNL's Q1FY23 revenue share was at 4.5% vs 5.4%/6.5% in Q1FY22/Q1FY21.

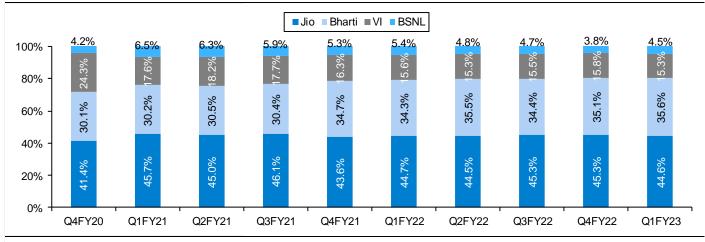


Exhibit 17: Bharti has seen steady rise in AGR share to 35.6% in Q1FY23

Source: TRAI, PL

Over a two-year period, Bharti has increased revenue share in 21 out of 22 circles, while Jio has lost share in 15 circles. VI lost revenue market share in 18 circles, while BSNL lost in twenty circles off a low base. VI and BSNL have seen revenue share loss, due to lack of investment in capacity enhancement and upgradation.

Exhibit 18: Bharti's has gained revenue market share (all but 2 markets) over competitors over past couple of years

Q1FY23	AGR revenues —	2 yr mkt share				1 yr mkt share			
Market rankings	AGR revenues —	Bharti	Jio	VI	BSNL	Bharti	Jio	VI	BSNL
Maharashtra	42,246	8%	2%	-8%	-3%	3%	2%	-1%	-4%
A.P.	40,701	5%	0%	-3%	-1%	0%	1%	0%	0%
T.N. & Chennai	38,674	5%	2%	-3%	-3%	1%	1%	-1%	2%
U.P.(E)	34,329	8%	-1%	-5%	-1%	2%	1%	-2%	1%
Bihar	32,776	8%	-5%	-2%	-2%	1%	0%	-1%	-2%
M.P.	30,882	4%	0%	-2%	-1%	0%	0%	0%	-2%
Karnataka	30,284	2%	1%	-2%	-2%	0%	1%	0%	-2%
Gujarat	30,124	7%	-2%	-3%	-1%	2%	-1%	0%	-1%
Rajasthan	26,423	6%	-2%	-3%	-2%	2%	-1%	0%	2%
U.P.(W)	24,302	9%	-2%	-5%	-1%	-1%	1%	-2%	0%
Delhi	21,956	-3%	-9%	12%	0%	0%	-4%	5%	2%
W.B.	21,802	4%	3%	-5%	-3%	2%	1%	-1%	-4%
Kerala	18,865	3%	2%	-1%	-4%	1%	4%	-4%	-3%
Punjab	16,314	9%	-7%	1%	-3%	3%	1%	0%	-1%
Mumbai	15,296	4%	-12%	5%	3%	3%	-10%	4%	3%
Odisha	12,953	4%	1%	-1%	-3%	1%	0%	0%	-1%
Assam	10,256	8%	-2%	-3%	-3%	4%	-1%	-1%	-4%
Haryana	9,252	11%	-2%	-1%	-8%	3%	1%	2%	0%
Kolkata	8,633	1%	-1%	-3%	3%	1%	-5%	0%	4%
N.E.	5,918	11%	-4%	-3%	-4%	6%	-2%	-1%	-1%
J&K	5,899	0%	5%	-1%	-4%	-1%	4%	-1%	-4%
H.P.	4,026	6%	-4%	1%	-4%	4%	-3%	0%	-2%

Source: TRAI, PL

Top ten circles (Profitable markets): Bharti has 36.3% share

Bharti gained market share steadily over last couple of years in top ten circles, which accounts for 69% of total revenues. The company commanded 36.3% share as of Q1FY23, while Jio still leads with 45.0% share.

Our analysis suggests that in Maharashtra circle which accounted for ~9% of overall market Bharti has gained ~800bps revenue market share over last two years and ~300bps over last one year. Similarly in AP, the second most lucrative circle, Bharti gained ~500bps gain over last two years even though the share was stagnant in last one year. Among key markets, in UP (W) circle, Bharti has lost 1% revenue market share in last one year.

Exhibit 19: Bharti has gained market share by 2-9% in top ten circles over two years and 1-3% in 6 markets in 1 year

Q1FY23		2 yr mkt share				1 yr mkt share			
Market rankings	AGR revenues —	Bharti	Jio	VI	BSNL	Bharti	Jio	VI	BSNL
Maharashtra	42,246	8%	2%	-8%	-3%	3%	2%	-1%	-4%
A.P.	40,701	5%	0%	-3%	-1%	0%	1%	0%	0%
T.N. & Chennai	38,674	5%	2%	-3%	-3%	1%	1%	-1%	2%
U.P.(E)	34,329	8%	-1%	-5%	-1%	2%	1%	-2%	1%
Bihar	32,776	8%	-5%	-2%	-2%	1%	0%	-1%	-2%
M.P.	30,882	4%	0%	-2%	-1%	0%	0%	0%	-2%
Karnataka	30,284	2%	1%	-2%	-2%	0%	1%	0%	-2%
Gujarat	30,124	7%	-2%	-3%	-1%	2%	-1%	0%	-1%
Rajasthan	26,423	6%	-2%	-3%	-2%	2%	-1%	0%	2%
U.P.(W)	24,302	9%	-2%	-5%	-1%	-1%	1%	-2%	0%

Source: TRAI, PL

Continuous gains in subscriber share

Bharti has been successful in subscriber addition, while VI has seen biggest loss over last two years. Our analysis of subscriber share data suggests that Bharti has steadily increased the industry share to 31.7% in Q1FY23 from 27.8% in Q1FY21, while Jio's subscriber share stands at 36.1% for Q1FY23 from 34.9% in Q1FY21.

VI has seen its subscriber share collapse to 22.4% for Q1FY23 from 26.8% in Q1FY21, while BSNL has been able to hold on to its share at ~10%.

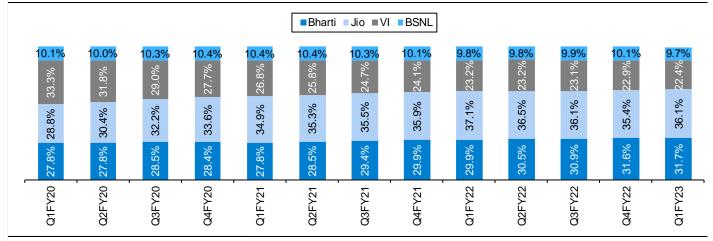


Exhibit 20: Bharti and Jio have increased subscriber share by 390bps and 730bps over last four years and VI lost 1,090bps

Source: TRAI, PL

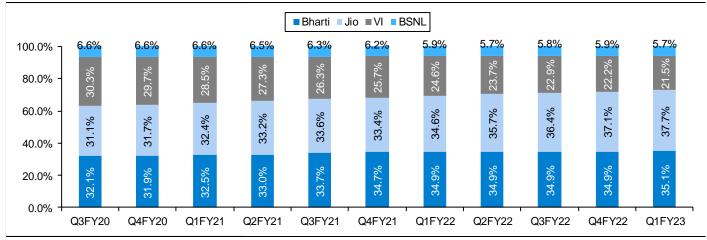


Exhibit 21: Bharti's Q1FY23 VLR (active subscriber) share is 340bps higher than 31.7% in overall subscriber share

Source: Company, PL

Subscriber share in top ten circles

Bharti has also seen steady growth in subscriber share amongst top 10 markets ranked by AGR revenues. As these markets account for 69% of industry, steady growth in subscriber share augur well for Bharti's future.

Exhibit 22: Bharti's subscriber share is varied as they gained 500bps, 490bps and 310bps in top 3 markets over 2 yrs

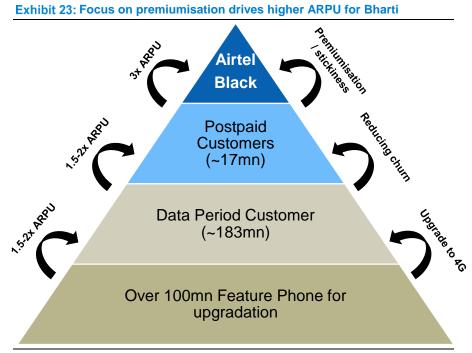
	Q1FY21	Q2FY21	Q3FY21	Q4FY21	Q1FY22	Q2FY22	Q3FY22	Q4FY22	Q1FY23
Maharashtra	17.1%	17.9%	19.2%	20.1%	20.5%	21.4%	21.7%	22.0%	22.1%
A.P.	33.0%	33.8%	34.7%	35.3%	35.6%	36.1%	37.0%	37.7%	37.9%
T.N. & Chennai	31.2%	31.7%	32.4%	32.8%	33.0%	33.9%	34.6%	34.8%	34.3%
U.P.(E)	31.5%	32.5%	33.9%	35.0%	35.3%	35.9%	35.8%	36.9%	36.7%
Bihar	40.3%	41.0%	41.4%	41.6%	41.7%	41.7%	41.9%	43.3%	43.1%
M.P.	17.9%	18.5%	19.5%	19.8%	19.6%	19.6%	19.7%	19.6%	19.8%
Karnataka	41.8%	42.9%	43.9%	44.6%	44.5%	45.3%	46.0%	47.4%	47.2%
Gujarat	15.0%	15.5%	16.9%	17.4%	17.3%	17.2%	17.4%	17.8%	17.3%
Rajasthan	31.8%	32.6%	33.1%	33.1%	33.2%	33.4%	33.9%	34.5%	34.9%
U.P.(W)	22.4%	23.8%	25.3%	26.6%	27.1%	27.8%	27.8%	28.9%	28.9%

Source: TRAI, PL

Convergence and premiumisation drive

The company is consciously targeting top 50mn high value households to increase its wallet share, as 30mn households are already using some of Airtel's services, for eg: 16.6mn use postpaid mobile, 17.7mn use digital TV customers and 3.0mn use home and broadband services.

Bharti's plan for premiumisation includes 1) upgrade to smartphone, 2) prepaid to postpaid and 3) upgrading to Airtel Black. It has also initiated cashback plans like **'Mera Pehla'** aimed at converting users to smartphone by giving Rs6000 as cashback.



Source: Company, PL

This partly explains Bharti's industry leading ARPU, as it constantly tries to maximize wallet share per customer. Going forward, we expect ARPU to inch towards management's stated goal of Rs300/month with focused investment in network augmentation.

Contrasting pricing by top 2 players

Top two players of the telecom industry have divergent pricing mechanism, as Bharti and VI have similar pricing and ~20% premium to Jio. Predatory pricing by Jio is aimed to garner maximum subscribers, while Bharti has followed premiumisation policy. Accordingly, Q1FY23 ARPU was at Rs183 v/s Rs176 for Jio. However, VI had ARPU of Rs128 despite similar tariff plans to Bharti, because of higher share of low ARPU 2G subscribers.

Exhibit 24: Airtel tariffs are at -25% premium compared to Jio plans

Nov 21	Validity days	Data	Voice	Airtel Tariff	VI Tariff	Jio Tariff	Airtel premium to Jio (%)
Tariff voice plans	28	200MB	Talktime of Rs99	99	99	91	8.8
	28	1GB/day		265	269	209	26.8
	28	1.5GB/day		299	299	239	25.1
	28	2GB/day		359	359	299	20.1
	28	3GB/day		599	601	601	-0.3
	56	1.5GB/day		479	479	479	0.0
Daily data plans	56	2GB/day	Unlimited	549	539	533	3.0
	84	1.5GB/day		719	719	666	8.0
	84	2GB/day		839	839	719	16.7
	365	1.5 GB/day			2899		Na
	365	2GB/day		2999		2879	4.2
	365	2.5 GB/day				2999	Na
	28	2 GB data		179	179	155	15.5
Cumulative data plans	84	6 GB data		455	459	395	15.2
	365	24 GB data		1799	1799	1559 (336 days)	

Source: Company, PL

Other segments offer strong tailwind

Bharti's other segments include businesses excluding India mobile business i.e. Africa mobile, enterprise, fixed broadband and DTH. The segments together account for 46%/45% of FY22 revenues and EBIDTA.

Airtel Africa- Steady growth ahead

Airtel Africa is a leading provider of telecommunications and mobile money services in 14 African countries mainly East Africa and Central & West Africa with ~128mn subscribers as on FY22 end. The Group offers complete range of services to its subscribers, including mobile voice and data services as well as mobile money services both nationally and internationally.

The Africa business has seen increased revenues from data and voice users to USD1.2bn in Q4FY22 from USD882mn in Q3FY20. During the same period, overall customer base increased to 128.4mn vs 107.1mn in Q3F20 and data customer base increased to 46.7mn from Q3FY20 levels of 32.9mn.

Data and voice ARPU have also increased to USD3.0/1.6 for Q1FY23 vs USD2.8/1.5 in Q1FY22. We estimate Airtel Africa's operational revenues to grow at a CAGR of 12.3% over FY22-25E from USD 4.7bn to USD 6.6bn. We have factored in margins of 46% v/s FY22 margins of 49.1%, as we have conservatively factored in higher cost.

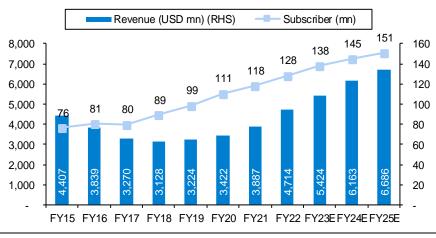


Exhibit 25: Africa revenues and subscribers to grow steadily

Source: Company, PL



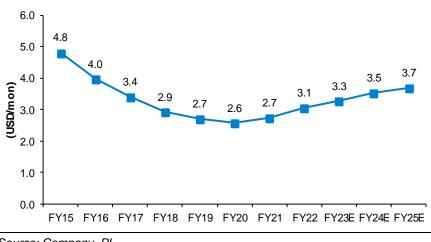




Exhibit 27: Data and total subscriber count is increasing

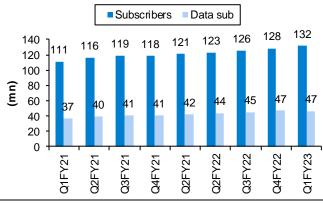
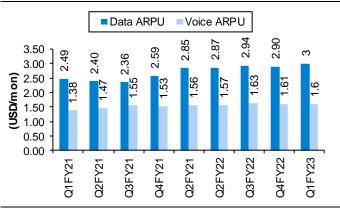


Exhibit 28: Africa ARPU has been steadily increasing



Source: Company, PL

Source: Company, PL

Enterprise business

Enterprise segment is a big market opportunity for non-mobile business of Bharti. The connectivity (mobility, voice, data) part of enterprise business is likely to increase to Rs277bn by FY25E from Rs267bn in FY22E. However, emerging part of the enterprise segment is likely to double to Rs703bn by FY25E from Rs363bn in FY22E. Key products of the emerging segment are data centre, cloud, security, CPaaS (Communications Platform as a Service), IoT, NaaS (Network as a Service) etc.

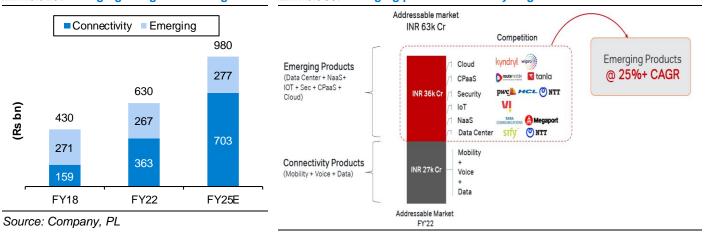
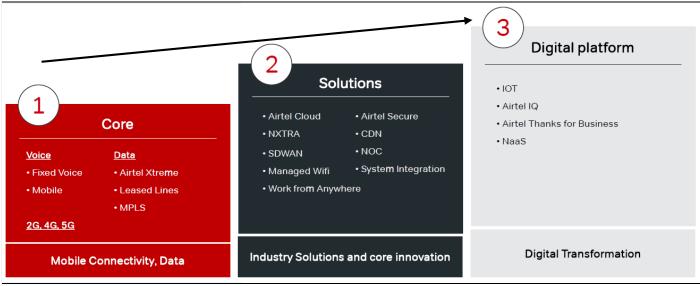


Exhibit 29: Emerging categories drive growth Exhibit 30: Emerging products are likely to grow at 25% CAGR

Source: Company, PL

Exhibit 31: Airtel product offerings for enterprise segment



Source: Company, PL

Airtel a leading force in enterprise segment

Bharti is a leader in enterprise services with 32% revenue market share and works with over 3,500 enterprises. Airtel is one of India's leading provider of **Information and Communication (ICT) services** to enterprises, governments and small & medium businesses. The company operates 12 data centres and plans to add another seven, over next four years for an investment of Rs50bn. Bharti expects Indian data centre market to be ~Rs140bn in FY22E with 22% CAGR growth of Rs498bn by FY25E. Airtel is a leader in the IoT space and powers 46.2% of India with 4,500 customers across 11mn devices.

In India, the need for data center infrastructures is growing exponentially, as cloud adoption and growing reliance on digital technologies, <u>5G rollout</u>, IoT-linked devices, cloud adoption, and data localization will drive demand for data centres.

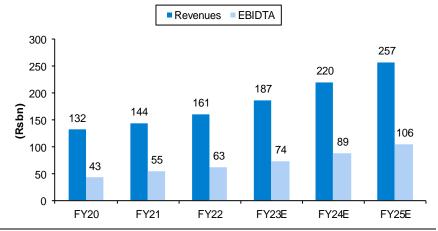
	Cloud communication	Data centre	Security and cloud	Adtech	Payments	Digital marketplace
Market size FY25E (Rs bn) CAGR (FY22-25E)	Rs 200bn 36%	Rs140bn 22%	Rs310bn 26%	Rs310bn 38%	300mn Financially underbanked	Large and unestimated
Airtel's positioning	Airtel IQ	Nextra from Airtel	Airtel secure, Airtel Cloud	184mn MAUs	Airtel payments bank 100mn Thanks users, 8mn merchant base	
Key clients	Over 185 marquee clients HDFC Bank, Havells, Swiggy	Working across clients	Over 230 brands Balckbuck, IDFC First Bank	over 135 brands Reckitt Benckieser, Blinkit	122mn customer base	Insurance, lending, content bundling

Exhibit 32: Airtel is well positioned in the high_growth segment of enterprise business

Source: Company, PL

We expect enterprise revenues to increase to ~Rs257bn by FY25E from Rs160bn in FY22, given its dominant presence in fast growing enterprise segment. We also expect margins to remain stable at ~40% and EBIDTA to reach ~Rs105.5bn in FY25E from Rs63bn in FY22. Bharti is also testing 5G potential in diverse industries like shipyard operations, healthcare (connected ambulance), airport security surveillance, inventory management etc. in order to benefit from new opportunities in the space.

Exhibit 33: Enterprise segment EBIDTA to rise at 18.8% CAGR over FY22-25E



Source: Company, PL

Home services and DTH business

Airtel's home services business includes fixed line and broadband business with 4.5mn subscribers as on FY22 end. Subscriber numbers have steadily increased from Q3FY20 levels of 2.3mn. However, due to rising competition ARPU has come off to Rs650/mon in Q4FY22 from Rs787/mon in Q3FY20. Bharti expects big growth in broadband industry and anticipates subscriber base to expand from current 27mn to 40mn by FY25E. We have factored in 31% CAGR EBIDTA growth over FY22-25E and expect EBIDTA of Rs36bn with ARPU and subscriber count at Rs775/mon and 8.1mon for FY25E.

Airtel's DTH subscribers are ~17.6mn with ARPU of Rs142/mon as of FY22 end. However, even as subscriber base has increased from Q3FY20 levels of 15mn, ARPU has corrected sharply from Rs231/mon due to higher competition. DTH industry has faced number of challenges like **1**) over regulation in the sector (for eg: same content is available on broadband or wireless and not subject to tariff orders which creates uneven playing field) **2**) availability of good content on free-to-air channels creating further problems and **3**) rising competition from OTT players. Accordingly, we have factored in just 1.0% CAGR EBIDTA growth over FY22-25E.

Airtel payments bank

Airtel payments bank is a purely digital payments bank having 129.4mn customers with over Rs1333bn GMV in FY22. Bank is uniquely positioned as the only profitable multi-segment fintech company (FY22 PAT of Rs104mn) that has built this scalable business model. The bank targets 300mn underbanked people in Tier-3 and smaller towns and has a readymade userbase of 350mn+ customers. It is well placed to capitalize on rising digital transactions.

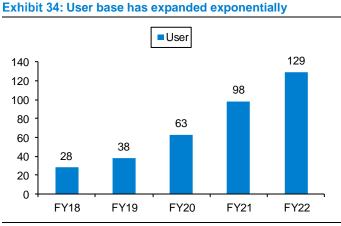
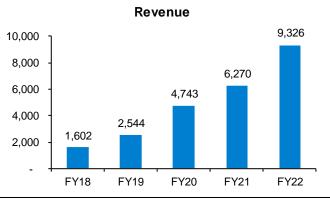


Exhibit 35: Revenues have also expanded with rising users



Source: PL, Company

Source: PL, Company

5G the next frontier

Competition to intensify, but payback likely to be backended

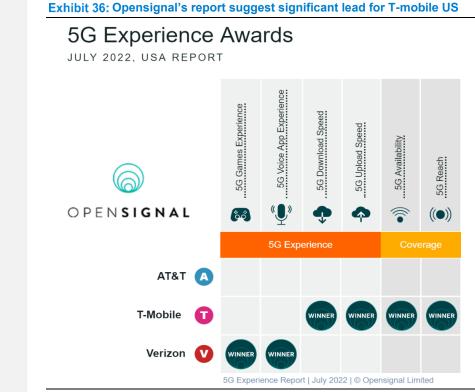
India's 5G auction concluded with over 51GHz spectrum auctioned for Rs1.5trn. The auction gave an insight into contrasting strategy of Jio and Bharti, who bid for Rs880bn and Rs430bn respectively. Both companies have aggressive plans for 5G launch with Bharti targeting to cover 5000 towns by FY24 end, while Jio likely to go for pan- India launch.

- Jio bid for expensive 700MHz band as it plans to launch standalone (SA) 5G network like T Mobile of US, while Bharti plans to use Non Standalone (NSA) format like Verizon and AT&T (given 5G ecosystem is still in its infancy).
- Bharti plans to use its existing 4G infrastructure, along with 3.5GHz spectrum won in the recent 5G auction. This will result in lower operating expense (50% lower as per company given use of existing 4G infrastructure) along with better uplink facility. Globally, our analysis suggests that mid band of 3.5GHz is a preferred band for speed and capacity. However, for coverage, low band of sub GHz is preferred (though it can't be used for speed).
- Accordingly, Bharti plans to use the existing 1800/2100 band for uplink (Jio to use 700MHz), while both will use 3.5GHz for downlink. For urban areas Bharti may use existing 850/900MHz band to reduce its operating and capital expenditure.

What US experience suggests for Indian players

US experience suggests that T mobile (which Jio is trying to follow) has gained significant coverage benefit due to use of sub Giga spectrum band and its coverage under Ultra Capacity 5G network covers 210mn by Dec-21 vs 106mn in Dec-20.

- Opensignal's July US report suggests that T-Mobile US provided the broadest availability, reach and download speeds as compared to Verizon AT&T.
- However, Verizon and AT&T are both aggressively rolling out mid-band spectrum in the 3.7 GHz-4 GHz band (C-Band) that they have lined up investments worth billions to bolster their 5G services.
- Verizon ended the second quarter covering 135 million potential customers with its C-Band spectrum, with plans to cover 175 million people by the end of the year. The carrier has already spent \$2.8 billion on C-Band capex, with plans to up to another \$6 billion for the rest of the year.
- AT&T has been more conservative with its C-Band plans, hitting around 70 million people covered at mid-year on its way to 200 million by the end of 2023. Accordingly, the lead for T-mobile US will come down going forward as mid band is deployed.
- For the Indian players, Jio and Bharti will rely on mid band for their 5G rollout. While Jio might have better coverage due to 700MHz spectrum band; mid band will support speed.



Source: Opensignal, PL

Accordingly, both players are very well placed to support superior 5G experience. Also we believe Bharti will need more small cells and towers to support superior coverage, which Jio can manage with 700MHz.

All in all, we believe while both players have contrasting strategies. Their capex intensity will depend consumer migration to 5G, as only 5-7% of smartphones support the 5G services.

	Airtel	Jio
Launch plan	Gradual launch. Target to cover 5k towns by FY24 end	Pan India launch
Spectrum usage	1800/2100 for uplink and 3500MHz for downlink	700MHz for uplink & 3500MHz for downlink
Technology peers globally	Non standalone (NSA)- AT&T, Verizon use NSA	Standalone (SA)- T mobile use SA
Capex	Front loading of overall capex	Aggressive capex to upgrade towers
Opex	Likely to be lower as existing 4G infra gets used	Likely to be higher as more radios, antennas are used

Exhibit 37: Contrasting 5G strategy of Bharti and Jio

Source:

5G for enterprise is the next big opportunity as it spurs innovation in industrial applications like machine to machine communication and artificial Intelligence across different sectors like automotive, healthcare logistics etc.

Bharti with 32% revenue share leadership in Indian enterprise segment, has an edge to capitalize on new 5G opportunities. Bharti continues to test its 5G potential in diverse industries like shipyard operations, healthcare (connected ambulance), airport security surveillance, inventory management etc. (Refer Annexure).

We believe Bharti is well placed in the industry, besides concerns on entry of technology players and companies in 5G spectrum are largely unfound. Also, technology adoption can hardly be back ended (as corporates evaluate the cost saving opportunity with new technology), hence we consider Bharti can leverage its strong relationship with corporates and upgrade to a new technology.

<u>Partnering leaders</u>- Bharti has also entered into partnership with global majors in respective fields to provide better customer experience.

Mapping the India 5G market size

Total 5G market opportunity in India will likely be at Rs580-1,300bn by CY27 across connectivity and enterprise market based on 40%-70% adoption.

Connectivity: In India 5G ecosystem is at infancy as only ~50mn devices are 5G ready however, the number is likely to jump to 500mn by CY27, as per Ericsson. Globally, companies are targeting more non-consumer use in enterprise, as and when 5G consumer ecosystem develops. Based on 500mn 5G phones by CY27, total connectivity market is estimated at ~Rs240-700bn based on incremental ARPU of Rs100-150/month and adoption rate of 40-70%. This calculation doesn't capture new smartphone users, where ARPU will be higher and not incremental.

Exhibit 38: Mapping 5G connectivity size by CY27

Incremental ARPU (Rs/mon)	100				125			150	
% of 5G smartphone opting for 5G services	40%	55%	70%	40%	55%	70%	40%	55%	70%
Mkt size (Rs bn)	240	330	420	300	412.5	525	360	495	630

Source: PL

Enterprise market: Domestic non-connectivity enterprise market is likely to double to Rs700bn by CY25E over CY22 levels as per Bharti. By CY27E, market can potentially increase further to over Rs850bn factoring in 10% growth from CY25E levels. Assuming 40-70% of market shifting to 5G, potential non connectivity enterprise market will likely be at Rs340-600bn by CY27E.

Strong Balance sheet (BS) to drive growth

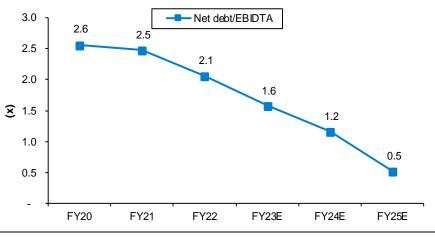
Bharti has raised ~Rs1trn from various financial instruments and stake sale in businesses which along with improving fundamentals has cut Bharti's BS Net debt/EBIDTA (ex lease) to 0.5x for FY25E from 2.1x in FY22. We have factored Rs156bn from rights issue in FY23E and also factored USD700m proceeds from Google in FY23E post regulatory approval. Bharti has prepaid Rs243bn to the Department of Telecommunication towards deferred spectrum liabilities with 10% interest rate acquired in FY14/15 and replaced with lower cost debt along with equity proceeds and internal fund generation.

Exhibit 39: Bharti has raised over Rs1trn in last five years to improve BS

	Year	Amount Raised (Rs bn)
Airtel Africa pre IPO	2018	92
Rights issue	2019	250
Airtel Africa IPO	2019	52
Perpetual bond	2019	69
QIP	2020	141
FCCB	2020	71
25% stake monetisation in Nxtra data	2020	18
Rights issue*	2021	210
Perpetual bond	2021	92
Airtel Africa tower stake sell	2021	13
Airtel Africa money stake sell	2021	41
Stake sale to Google	2022	75
Fund raise total		1,124

Source: Company, PL * 25% received as part of application money

Exhibit 40: Net debt/EBIDTA (ex lease) is to come down to 0.5x for FY25E



Source: Company, PL

Supported by strong business tailwinds we expect Bharti's ROE/ROCE to increase to ~22%/24% for FY25E from 7/%13/% in FY22E.

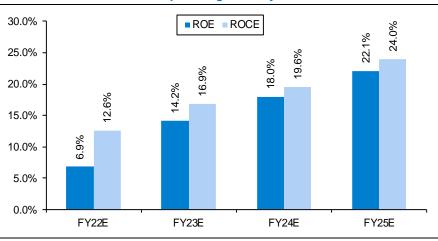
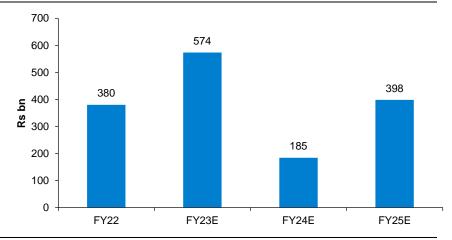


Exhibit 41: Return ratios to improve significantly for Bharti

Source: Company, PL

Capex intensity to increase, but healthy business growth to drive FCF

Led by strong business traction we expect Bharti's operating cash flow before working capital change to increase to ~Rs1.06trn by FY25E from Rs604.9bn in FY22. We have modelled capex at Rs340-380bn p.a over FY23-25E, as company steps up its investment for 5G rollout. Accordingly, we expect Free Cash flow (FCF) to be ~Rs398bn in FY25E vs Rs380bn in FY22.



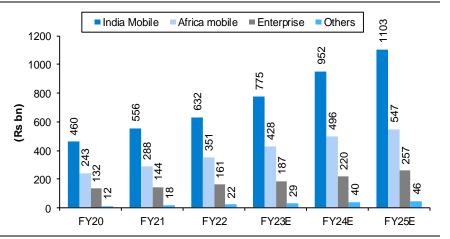


Source: Company, PL

Financials and Sensitivity

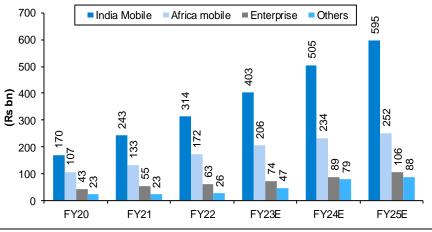
We expect Bharti's consolidated revenue to increase to 18.8% CAGR over FY22-25E led by strong growth momentum of India mobile business, African business and enterprise segment. Led by ARPU and subscriber addition 1) consolidated EBIDTA will increase to Rs1,040bn by FY25E from FY22 levels of Rs575bn (CAGR 21.8%) and 2) PAT will increase to Rs268.9bn by FY25E from Rs43.0bn in FY22 (CAGR 84.1%).

Exhibit 43: Consolidated revenue to increase at 18.8% CAGR over FY22-25E



Source: Company, PL

Exhibit 44: Consolidated EBIDTA to grow at 21.8% CAGR over FY22-25E



Source: Company, PL

Exhibit 45: Bharti EPS sensitivity to ARPU and subscriber change of India mobile business

	Base case assumptions (FY23)	Sensitivity	Base case EPS (FY23)	Sensitivity EPS (FY23)	(% chg.)
ARPU (Rs/mon)	196	ARPU higher by Rs10	20.4	23.2	13.5%
Avg Subscriber (mn)	333	Subscribers higher by 25mn	20.4	22	7.8%

Source: PL

Valuation and View

We value Bharti on SOTP based TP of Rs1,032 based on FY25E estimates. The India mobile business is ascribed 7.7x FY25E EV/E while assigning 4.0x to African **mobile business** (2.8x-4.5x for regional peers). **Enterprise segment** is valued at 8.0x FY25E EV/E in-line with valuation of Tata communication, while the Indus tower stake is valued at 5.0x EV/E consensus EBIDTA. **DTH and home services** are valued at 2.7x/5.5x EV/E FY25E.

At our PT, the stock will trade at PER of 22.9x FY25E and EV/E of 6.4x.

Exhibit 46: Bharti SOTP

P

Segment	Stake (%)	FY25E EBITDA	Multiple (x)	(Rs bn)	Valuation benchmark
India mobile business	100.0%	595	7.7	4,601	Discounted FY24E average valuation at 10%
Airtel Africa	55.5%	252	4.0	559	MTN/Vodacom trade at 2.8x/4.5x FY25E EV/EBITDA
Enterprise segment	100.0%	106	8.0	844	TCOM trades at EV/ EBITDA of 8.3x
Stake in Indus tower	47.7%	148	5.0	353	Consensus estimates
DTH business	100.0%	20	2.7	56	DISH TV trades at 1.6x FY25E EBITDA
Home service segment	100.0%	39	5.5	211	
EV				6,624	
Net debt				549	
Equity value (Rs bn)				6,075	
Equity value (Rs/share)				1,032	

Source: Company, PL

Exhibit 47: US Telecom Company Valuation

		P/E (x)		EV/E (x)				
	CY22	CY23	CY24	CY22	CY23	CY24		
T Mobile	62.7	21.6	14.5	9.3	8.6	7.8		
Verizon	8.4	8.2	8.1	6.9	6.7	6.6		
AT&T	7.1	7.2	7.2	6.6	6.6	6.4		

Key Risks

Increased competitive intensity: Given weak competitive intensity, top two players have already consolidated their share. However, Vi has plans to raise Rs100bn through equity shares or other financial instruments. Thus if competitors plan to ramp up their intensity, ARPU hikes will be more gradual.

Further, competition from 'technology players' and 'corporates in enterprise segment' is expected to increase, as the government has opened up markets for all players in 5G spectrum license bidding. However, Bharti's leadership position in the enterprise space is quiet good in order to upgrade customers to new technology.

Regulatory risk: Telecom is a highly regulated industry which has direct bearing on earnings profile. Therefore, any adverse decision regarding incentives for new entrants and reserve pricing can impact sector's profits.

P

Annexure – Spectrum holdings of telecom players

Exhibit 48: Bharti Airtel spectrum holding

	700mhz	800mhz	900mhz	1800mhz	2100mhz	2300mhz	2500mhz	3300mhz	26ghz
Andhra Pradesh	-	-	18.0	42.8	10.0	30.0	-	100.0	800.0
Assam	-	-	19.8	30.9	20.0	40.0	-	100.0	800.0
Bihar	-	-	22.4	36.0	25.0	40.0	-	100.0	800.0
Delhi	-	-	12.0	14.0	25.0	30.0	-	100.0	800.0
Gujarat	-	-	8.4	20.0	25.0	40.0	-	100.0	800.0
Haryana	-	10.0	-	20.0	25.0	40.0	-	100.0	800.0
Himachal Pradesh	-	-	20.0	35.0	10.0	40.0	-	100.0	800.0
Jammu & Kashmir	-	-	17.4	30.0	20.0	40.0	-	100.0	800.0
Karnataka	-	-	17.6	40.0	20.0	30.0	-	100.0	800.0
Kerela	-	-	9.2	20.0	25.0	30.0	-	100.0	800.0
Kolkata	-	-	14.0	25.0	-	30.0	-	100.0	800.0
Madhya Pradesh	-	10.0	-	30.0	20.0	30.0	-	100.0	800.0
Maharashtra	-	10.0	-	35.0	20.0	30.0	-	100.0	800.0
Mumbai	-	-	10.0	26.0	20.0	30.0	-	100.0	800.0
North-East	-	-	24.0	20.0	10.0	30.0	-	100.0	800.0
Odisha	-	-	22.4	34.0	10.0	40.0	-	100.0	800.0
Punjab	-	-	20.0	30.0	10.0	40.0	-	100.0	800.0
Rajasthan	-	-	12.0	20.0	30.0	40.0	-	100.0	800.0
Tamil Nadu	-	-	10.0	40.0	20.0	30.0	-	100.0	800.0
Uttar Pradesh (East)	-	-	22.4	32.8	10.0	40.0	-	100.0	800.0
Uttar Pradesh (West)	-	10.0	-	30.0	20.0	40.0	-	100.0	800.0
West Bengal	-	-	18.8	20.0	25.0	40.0	-	100.0	800.0
Total	-	40.0	298.4	631.5	400.0	780.0	-	2,200.0	17,600.0

Source: Company, PL

Exhibit 49: Reliance Jio spectrum holding

	700mhz	800mhz	900mhz	1800mhz	2100mhz	2300mhz	2500mhz	3300mhz	26ghz
Andhra Pradesh	10.0	20.0	-	20.0	-	40.0	-	100.0	1,000.0
Assam	10.0	15.0	-	20.0	-	40.0	-	100.0	1,000.0
Bihar	10.0	20.0	-	20.0	-	40.0	-	100.0	1,000.0
Delhi	10.0	20.0	-	20.0	-	40.0	-	100.0	1,000.0
Gujarat	10.0	20.0	-	30.0	-	40.0	-	100.0	1,000.0
Haryana	10.0	20.0	-	20.0	-	40.0	-	100.0	1,000.0
Himachal Pradesh	10.0	20.0	-	20.8	-	40.0	-	130.0	1,000.0
Jammu & Kashmir	10.0	15.0	-	20.0	-	-	-	130.0	1,000.0
Karnataka	10.0	20.0	-	20.0	-	40.0	-	130.0	1,000.0
Kerela	10.0	20.0	-	20.0	-	40.0	-	130.0	1,000.0
Kolkata	10.0	20.0	-	20.0	-	40.0	-	100.0	1,000.0
Madhya Pradesh	10.0	20.0	-	30.0	-	40.0	-	130.0	1,000.0
Maharashtra	10.0	20.0	-	30.0	-	40.0	-	100.0	1,000.0
Mumbai	10.0	30.0	-	20.0	-	40.0	-	100.0	1,000.0
North-East	10.0	15.0	-	20.0	-	40.0	-	130.0	1,000.0
Odisha	10.0	20.0	-	30.0	-	40.0	-	100.0	1,000.0
Punjab	10.0	20.0	-	20.0	-	40.0	-	100.0	1,000.0
Rajasthan	10.0	20.0	-	30.0	-	40.0	-	130.0	1,000.0
Tamil Nadu	10.0	20.0	-	20.0	-	40.0	-	100.0	1,000.0
Uttar Pradesh (East)	10.0	20.0	-	30.0	-	40.0	-	100.0	1,000.0
Uttar Pradesh (West)	10.0	15.0	-	20.0	-	-	-	130.0	1,000.0
West Bengal	10.0	20.0	-	21.2	-	40.0	-	100.0	1,000.0
Total	220.0	430.0	-	502.0	-	800.0	-	2,440.0	22,000.0

Exhibit 50: Idea Vodafone spectrum holding

	700mhz	800mhz	900mhz	1800mhz	2100mhz	2300mhz	2500mhz	3300mhz	26ghz
Andhra Pradesh	-	-	10.0	16.6	10.0	-	20.0	50.0	200.0
Assam	-	-	-	50.0	10.0	-	20.0	-	-
Bihar	-	-	-	35.6	10.0	-	10.0	50.0	-
Delhi	-	-	20.0	21.2	10.0	-	20.0	50.0	200.0
Gujarat	-	-	22.0	41.6	20.0	-	30.0	50.0	450.0
Haryana	-	-	24.4	31.6	30.0	-	20.0	50.0	400.0
Himachal Pradesh	-	-	-	22.4	10.0	-	10.0	-	-
Jammu & Kashmir	-	-	-	34.0	10.0	-	10.0	-	-
Karnataka	-	-	10.0	30.0	15.0	-	-	50.0	200.0
Kerela	-	-	24.8	40.0	20.0	10.0	20.0	50.0	800.0
Kolkata	-	-	14.0	30.0	20.0	-	20.0	50.0	200.0
Madhya Pradesh	-	-	14.8	37.2	10.0	10.0	20.0	50.0	400.0
Maharashtra	-	-	28.0	24.8	30.0	10.0	30.0	50.0	400.0
Mumbai	-	-	22.0	29.2	20.0	-	20.0	50.0	200.0
North-East	-	-	-	51.6	10.0	-	20.0	-	-
Odisha	-	-	10.0	34.0	10.0	-	20.0	-	-
Punjab	-	-	11.2	30.0	20.0	-	20.0	50.0	300.0
Rajasthan	-	-	12.8	20.0	30.0	-	20.0	50.0	300.0
Tamil Nadu	-	-	10.0	22.8	30.0	-	-	50.0	300.0
Uttar Pradesh (East)	-	-	11.2	20.0	40.0	-	20.0	50.0	250.0
Uttar Pradesh (West)	-	-	22.4	30.0	20.0	-	20.0	50.0	350.0
West Bengal	-	-	14.8	46.8	10.0	-	20.0	50.0	400.0
Total	-	-	282.4	699.4	395.0	30.0	390.0	850.0	5,350.0

Source: Company, PL

Exhibit 51: Bharti testing 5G opportunities for different industries



Warehouse/Manufacturing Drone based Smart Inventory

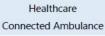


Retail/E-commerce AR Shopping



Warehouse/Manufacturing Anomaly Detection





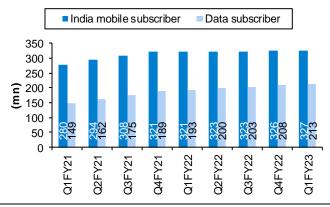


Shipyard Operations Digital Twin



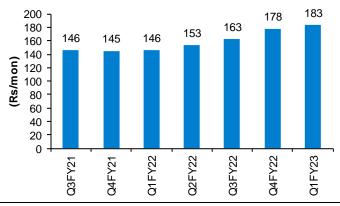
Video analytics Airport security surveillance

Exhibit 52: Bharti data customers up 43% over 2 yrs



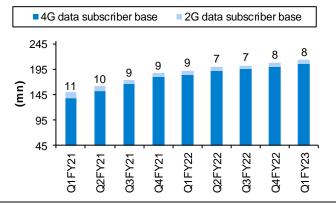
Source: Company, PL

Exhibit 54: Bharti ARPU increased with tariff hikes



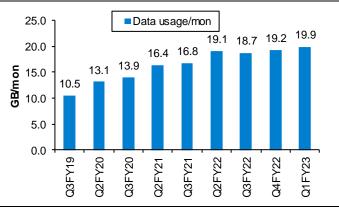
Source: Company, PL; ARPU adjusted for IUC charges

Exhibit 53: 4G accounted for over 96% of Q1 data customers



Source: Company, PL





Financials

Income Statement (Rs m)

Income Statement (Rs m)				
Y/e Mar	FY22	FY23E	FY24E	FY25E
Net Revenues	11,65,469	14,18,451	17,08,775	19,53,567
YoY gr. (%)	15.8	21.7	20.5	14.3
Cost of Goods Sold	-	-	-	-
Gross Profit	11,65,469	14,18,451	17,08,775	19,53,567
Margin (%)	1.0	1.0	1.0	1.0
Employee Cost	44,333	49,399	59,807	72,282
Other Expenses	64,310	76,064	76,064	76,064
EBITDA	5,75,339	7,29,348	9,05,785	10,40,580
YoY gr. (%)	26.8	26.8	24.2	14.9
Margin (%)	49.4	51.4	53.0	53.3
Depreciation and Amortization	3,30,433	3,56,975	4,32,625	4,46,375
EBIT	2,44,906	3,72,373	4,73,160	5,94,205
Margin (%)	21.0	26.3	27.7	30.4
Net Interest	1,66,162	1,65,254	1,57,985	1,56,313
Other Income	5,343	9,103	11,391	18,320
Profit Before Tax	84,087	2,16,222	3,26,567	4,56,212
Margin (%)	7.2	15.2	19.1	23.4
Total Tax	41,779	71,567	1,06,518	1,48,102
Effective tax rate (%)	49.7	33.1	32.6	32.5
Profit after tax	42,308	1,44,655	2,20,049	3,08,110
Minority interest	40,503	36,059	41,372	47,469
Share Profit from Associate	-	-	-	-
Adjusted PAT	43,023	1,15,407	1,86,193	2,68,937
YoY gr. (%)	(118.4)	168.2	61.3	44.4
Margin (%)	3.7	8.1	10.9	13.8
Extra Ord. Income / (Exp)	-	-	-	-
Reported PAT	43,023	1,15,407	1,86,193	2,68,937
YoY gr. (%)	(118.4)	168.2	61.3	44.4
Margin (%)	3.7	8.1	10.9	13.8
Other Comprehensive Income	-	-	-	-
Total Comprehensive Income	43,023	1,15,407	1,86,193	2,68,937
Equity Shares O/s (m)	5,492	5,664	5,884	5,884
EPS (Rs)	7.8	20.4	31.6	45.7

Source: Company Data, PL Research

Balance Sheet Abstract (Rs m)

Y/e Mar	FY22	FY23E	FY24E	FY25E
Non-Current Assets	1122	TIZJE	11246	TIZJE
Non ourient Assets				
Gross Block	22,53,815	25,03,815	27,53,815	30,03,815
Tangibles		25,03,815		
Intangibles	-	-	-	-
Acc: Dep / Amortization	13,48,090	16,09,760	19,12,679	22,29,349
Tangibles	13,48,090	16,09,760	19,12,679	22,29,349
Intangibles	-	-	-	-
Net fixed assets	9,05,725	8,94,055		
Tangibles	9,05,725	8,94,055	8,41,136	7,74,466
Intangibles	-	-	-	-
Capital Work In Progress	42,386	44,505	46,731	49,067
Goodwill	3,38,313	3,55,229	3,62,333	3,69,580
Non-Current Investments	-	-	-	-
Net Deferred tax assets	1,74,762	1,83,500	1,92,675	2,02,309
Other Non-Current Assets	91,562	96,140	1,00,947	1,05,994
Current Assets				
Investments	8,614	9,045	9,497	9,972
Inventories	3,750	4,486	5,315	6,108
Trade receivables	40,562	50,520	60,860	69,579
Cash & Bank Balance	1,34,943	3,02,562	2,48,448	6,48,068
Other Current Assets	1,17,152	1,28,867	1,41,754	1,55,929
Total Assets	36,36,560	41,49,246	43,02,847	46,00,177
Equity				
Equity Share Capital	27,950	29,457	29,457	29,457
Other Equity	6,37,593		10,77,509	
Total Networth	6,65,543		11,06,965	
Non-Current Liabilities				
Long Term borrowings	11,35,350	13,21,349	12,05,962	11,28,007
Provisions	4,639	5,103	5,358	5,626
Other non current liabilities	1,363	1,363	1,431	1,503
Current Liabilities				
ST Debt / Current of LT Debt	1,93,795	1,37,974	1,02,308	78,956
Trade payables	2,92,741	2,57,734	2,83,508	3,11,859
Other current liabilities	4,99,728	5,50,975	6,16,241	6,94,478
Total Equity & Liabilities	, ,	41,49,246		

Source: Company Data, PL Research

P

Bharti Airtel

Cash Flow (Rs m)				
Y/e Mar	FY22	FY23E	FY24E	FY25E
PBT	1,08,319	2,23,033	3,34,083	4,64,508
Add. Depreciation	3,30,433	3,56,975	4,32,625	4,46,375
Add. Interest	1,66,162	1,65,254	1,57,985	1,56,313
Less Financial Other Income	5,343	9,103	11,391	18,320
Add. Other	-	-	-	-
Op. profit before WC changes	6,04,914	7,45,262	9,24,693	10,67,196
Net Changes-WC	1,82,685	2,47,427	(2,51,740)	(1,38,567)
Direct tax	(30,331)	(71,567)	(1,06,518)	(1,48,102)
Net cash from Op. activities	7,57,268	9,21,122	5,66,435	7,80,527
Capital expenditures	(5,88,674)	(6,39,082)	(5,72,428)	(2,72,943)
Interest / Dividend Income	-	-	-	-
Others	437	(2,334)	(2,568)	(2,824)
Net Cash from Invt. activities	(5,88,237)	(6,41,416)	(5,74,995)	(2,75,768)
Issue of share cap. / premium	45,572	2,09,329	-	-
Debt changes	31,246	1,30,179	(1,51,053)	(1,01,307)
Dividend paid	(16,476)	(28,318)	(41,190)	(52,958)
Interest paid	(1,66,162)	(1,65,254)	(1,57,985)	(1,56,313)
Others	-	-	-	-
Net cash from Fin. activities	(1,05,820)	1,45,936	(3,50,227)	(3,10,578)
Net change in cash	63,211	4,25,642	(3,58,788)	1,94,182
Free Cash Flow	3,80,435	5,73,697	1,84,504	3,98,485

Quarterly Financials (Rs m)

Y/e Mar	Q2FY22	Q3FY22	Q4FY22	Q1FY23
Net Revenue	2,83,264	2,98,666	3,15,003	3,28,046
YoY gr. (%)	13.0	12.6	22.3	22.2
Raw Material Expenses	-	-	-	-
Gross Profit	2,83,264	2,98,666	3,15,003	3,28,046
Margin (%)	100.0	100.0	100.0	100.0
EBITDA	1,38,105	1,47,028	1,60,403	1,65,294
YoY gr. (%)	24.8	22.0	30.1	27.3
Margin (%)	48.8	49.2	50.9	50.4
Depreciation / Depletion	63,349	66,107	66,613	68,790
EBIT	55,858	61,646	74,577	77,480
Margin (%)	19.7	20.6	23.7	23.6
Net Interest	39,641	43,671	40,593	45,109
Other Income	1,088	1,971	186	1,922
Profit before Tax	17,305	19,946	34,170	34,293
Margin (%)	6.1	6.7	10.8	10.5
Total Tax	10,308	9,908	13,218	11,233
Effective tax rate (%)	59.6	49.7	38.7	32.8
Profit after Tax	6,997	10,038	20,952	23,060
Minority interest	8,641	8,211	17,072	8,619
Share Profit from Associates	5,988	6,161	7,136	1,628
Adjusted PAT	11,565	8,386	20,078	16,069
YoY gr. (%)	27.3	(112.2)	0.4	436.8
Margin (%)	4.1	2.8	6.4	4.9
Extra Ord. Income / (Exp)	(7,221)	(398)	(9,062)	-
Reported PAT	4,344	7,988	11,016	16,069
YoY gr. (%)	(54.6)	(134.9)	(29.3)	497.7
Margin (%)	1.5	2.7	3.5	4.9
Other Comprehensive Income	-	-	-	-
Total Comprehensive Income	4,344	7,988	11,016	16,069
Avg. Shares O/s (m)	-	-	-	-
EPS (Rs)	-	-	-	-

Key Financial Metrics Y/e Mar	FY22	FY23E	FY24E	FY25E
Per Share(Rs)				
EPS	7.8	20.4	31.6	45.7
CEPS	68.0	83.4	105.2	121.6
BVPS	121.2	169.9	188.1	224.8
FCF	69.3	101.3	31.4	67.7
DPS	3.0	5.0	7.0	9.0
Return Ratio(%)				
RoCE	12.6	16.9	19.6	24.0
ROIC	7.0	9.7	11.7	15.1
RoE	6.9	14.2	18.0	22.1
Balance Sheet				
Net Debt : Equity (x)	1.8	1.2	0.9	0.4
Net Working Capital (Days)	(137)	(103)	(90)	(84)
Valuation(x)				
PER	94.5	36.3	23.4	16.2
P/B	6.1	4.4	3.9	3.3
P/CEPS	10.9	8.9	7.0	6.1
EV/EBITDA	9.1	7.3	6.0	4.7
EV/Sales	4.5	3.8	3.2	2.5
Dividend Yield (%)	0.4	0.7	0.9	1.2
Source: Company Data, PL Rese	arch			

Key Operating Metrics

FY22	FY23E	FY24E	FY25E
326	333	342	343
163	196	235	255
74	79	81	82
	326 163	326 333 163 196	326 333 342 163 196 235

Source: Company Data, PL Research



Notes



Notes

Price Chart



Recommendation History

No.	Date	Rating	TP (Rs.) Share Price (Rs.)

Analyst Coverage Universe

Sr. No.	Company Name	Rating	TP (Rs)	Share Price (Rs)
1	Bharat Petroleum Corporation	Hold	331	331
2	GAIL (India)	BUY	180	140
3	Gujarat Gas	BUY	553	463
4	Hindustan Petroleum Corporation	Hold	247	251
5	Indian Oil Corporation	Hold	81	73
6	Indraprastha Gas	BUY	576	359
7	Mahanagar Gas	BUY	1,103	818
8	Oil & Natural Gas Corporation	BUY	160	139
9	Oil India	BUY	300	191
10	Petronet LNG	BUY	307	216
11	Reliance Industries	BUY	3,165	2,598
11	Reliance Industries	BUY	3,165	

PL's Recommendation Nomenclature

Buy		>15%
Accumulate	:	5% to 15%
Hold	:	+5% to -5%
Reduce	:	-5% to -15%
Sell	:	< -15%
Not Rated (NR)	:	No specific call on the stock
Under Review (UR)	:	Rating likely to change shortly

ANALYST CERTIFICATION

(Indian Clients)

We/l, Mr. Avishek Datta- MBA Research Analysts, authors and the names subscribed to this report, hereby certify that all of the views expressed in this research report accurately reflect our views about the subject issuer(s) or securities. We also certify that no part of our compensation was, is, or will be directly or indirectly related to the specific recommendation(s) or view(s) in this report.

(US Clients)

The research analysts, with respect to each issuer and its securities covered by them in this research report, certify that: All of the views expressed in this research report accurately reflect his or her or their personal views about all of the issuers and their securities; and No part of his or her or their compensation was, is or will be directly related to the specific recommendation or views expressed in this research report.

DISCLAIMER

Indian Clients

Prabhudas Lilladher Pvt. Ltd, Mumbai, India (hereinafter referred to as "PL") is engaged in the business of Stock Broking, Portfolio Manager, Depository Participant and distribution for third party financial products. PL is a subsidiary of Prabhudas Lilladher Advisory Services Pvt Ltd. which has its various subsidiaries engaged in business of commodity broking, investment banking, financial services (margin funding) and distribution of third party financial/other products, details in respect of which are available at www.plindia.com.

This document has been prepared by the Research Division of PL and is meant for use by the recipient only as information and is not for circulation. This document is not to be reported or copied or made available to others without prior permission of PL. It should not be considered or taken as an offer to sell or a solicitation to buy or sell any security.

The information contained in this report has been obtained from sources that are considered to be reliable. However, PL has not independently verified the accuracy or completeness of the same. Neither PL nor any of its affiliates, its directors or its employees accepts any responsibility of whatsoever nature for the information, statements and opinion given, made available or expressed herein or for any omission therein.

Recipients of this report should be aware that past performance is not necessarily a guide to future performance and value of investments can go down as well. The suitability or otherwise of any investments will depend upon the recipient's particular circumstances and, in case of doubt, advice should be sought from an independent expert/advisor.

Either PL or its affiliates or its directors or its employees or its representatives or its clients or their relatives may have position(s), make market, act as principal or engage in transactions of securities of companies referred to in this report and they may have used the research material prior to publication.

PL may from time to time solicit or perform investment banking or other services for any company mentioned in this document.

PL is a registered with SEBI under the SEBI (Research Analysts) Regulation, 2014 and having registration number INH000000271.

PL submits that no material disciplinary action has been taken on us by any Regulatory Authority impacting Equity Research Analysis activities.

PL or its research analysts or its associates or his relatives do not have any financial interest in the subject company.

PL or its research analysts or its associates or his relatives do not have actual/beneficial ownership of one per cent or more securities of the subject company at the end of the month immediately preceding the date of publication of the research report.

PL or its research analysts or its associates or his relatives do not have any material conflict of interest at the time of publication of the research report.

PL or its associates might have received compensation from the subject company in the past twelve months.

PL or its associates might have managed or co-managed public offering of securities for the subject company in the past twelve months or mandated by the subject company for any other assignment in the past twelve months.

PL or its associates might have received any compensation for investment banking or merchant banking or brokerage services from the subject company in the past twelve months.

PL or its associates might have received any compensation for products or services other than investment banking or merchant banking or brokerage services from the subject company in the past twelve months

PL or its associates might have received any compensation or other benefits from the subject company or third party in connection with the research report.

PL encourages independence in research report preparation and strives to minimize conflict in preparation of research report. PL or its analysts did not receive any compensation or other benefits from the subject Company or third party in connection with the preparation of the research report. PL or its Research Analysts do not have any material conflict of interest at the time of publication of this report.

It is confirmed that Mr. Avishek Datta- MBA Research Analysts of this report have not received any compensation from the companies mentioned in the report in the preceding twelve months

Compensation of our Research Analysts is not based on any specific merchant banking, investment banking or brokerage service transactions.

The Research analysts for this report certifies that all of the views expressed in this report accurately reflect his or her personal views about the subject company or companies and its or their securities, and no part of his or her compensation was, is or will be, directly or indirectly related to specific recommendations or views expressed in this report.

The research analysts for this report has not served as an officer, director or employee of the subject company PL or its research analysts have not engaged in market making activity for the subject company

Our sales people, traders, and other professionals or affiliates may provide oral or written market commentary or trading strategies to our clients that reflect opinions that are contrary to the opinions expressed herein, and our proprietary trading and investing businesses may make investment decisions that are inconsistent with the recommendations expressed herein. In reviewing these materials, you should be aware that any or all of the foregoing, among other things, may give rise to real or potential conflicts of interest.

PL and its associates, their directors and employees may (a) from time to time, have a long or short position in, and buy or sell the securities of the subject company or (b) be engaged in any other transaction involving such securities and earn brokerage or other compensation or act as a market maker in the financial instruments of the subject company or act as an advisor or lender/borrower to the subject company or may have any other potential conflict of interests with respect to any recommendation and other related information and opinions.

US Clients

This research report is a product of Prabhudas Lilladher Pvt. Ltd., which is the employer of the research analyst(s) who has prepared the research report. The research analyst(s) preparing the research report is/are resident outside the United States (U.S.) and are not associated persons of any U.S. regulated broker-dealer and therefore the analyst(s) is/are not subject to supervision by a U.S. broker-dealer, and is/are not required to satisfy the regulatory licensing requirements of FINRA or required to otherwise comply with U.S. rules or regulations regarding, among other things, communications with a subject company, public appearances and trading securities held by a research analyst account.

This report is intended for distribution by Prabhudas Lilladher Pvt. Ltd. only to "Major Institutional Investors" as defined by Rule 15a-6(b)(4) of the U.S. Securities and Exchange Act, 1934 (the Exchange Act) and interpretations thereof by U.S. Securities and Exchange Commission (SEC) in reliance on Rule 15a 6(a)(2). If the recipient of this report is not a Major Institutional Investor as specified above, then it should not act upon this report and return the same to the sender. Further, this report may not be copied, duplicated and/or transmitted onward to any U.S. person, which is not the Major Institutional Investor.

In reliance on the exemption from registration provided by Rule 15a-6 of the Exchange Act and interpretations thereof by the SEC in order to conduct certain business with Major Institutional Investors, Prabhudas Lilladher Pvt. Ltd. has entered into an agreement with a U.S. registered broker-dealer, Marco Polo Securities Inc. ("Marco Polo").

Transactions in securities discussed in this research report should be effected through Marco Polo or another U.S. registered broker dealer.

Prabhudas Lilladher Pvt. Ltd.

3rd Floor, Sadhana House, 570, P. B. Marg, Worli, Mumbai-400 018, India | Tel: (91 22) 6632 2222 Fax: (91 22) 6632 2209 www.plindia.com