

ISAS Brief

No. 442 – 10 August 2016

Institute of South Asian Studies
National University of Singapore
29 Heng Mui Keng Terrace
#08-06 (Block B)
Singapore 119620
Tel: (65) 6516 4239 Fax: (65) 6776 7505
www.isas.nus.edu.sg
<http://southasiandiaspora.org>



Tumultuous Telecom Times in India

India's turbulent telecommunications industry confronts three landmark issues that will change the nature of the business: the launch of a nationwide 4G network by Mukesh Ambani's Reliance Jio, a merger that is likely to hasten consolidation of the industry and huge auction of spectrum.

Robin Jeffrey¹

India's turbulent telecommunications industry confronts three landmark issues that will change the nature of the business before the end of the year.

First, a merger between the fourth and fifth largest of India's ten telecommunication companies will hasten the consolidation of the industry. The five remaining smaller providers will be forced to consider their next move. (See Table below).

Second, Reliance Jio of Mukesh Ambani's group of companies (RIL), which at the moment does not figure in the list of ten telcos, is launching a nationwide 4G-LTE network. Jio expects to transform India from a land of SMS, voice-calls and a few add-ons to a nation hooked on data and sophisticated hand-held devices. Connected through strong infrastructure and owning

¹ Professor Robin Bannerman Jeffrey is Visiting Research Professor at the Institute of South Asian Studies (ISAS), an autonomous research institute at the National University of Singapore. He can be contacted at isasrbj@nus.edu.sg. The author, not ISAS, is liable for the facts cited and opinions expressed in this paper.

the right device, Indians will be able to, download and use powerful applications, watch sport and news, send the world videos of themselves and consume limitless entertainment. For a price.

Third, a huge auction of radio-frequency spectrum, beginning on 29 September, is touted to earn the national government something up to USD 83 billion dollars and lock companies into long-term strategies that will make or break some of them.

The Reliance Jio plan is based on the rollout of “fourth generation” (4G) telecommunications technology, often referred to as LTE, “long-term evolution.” The terms 4G and LTE cover a range of electronic digital methods that allow more and more information to be packed into a single electro-magnetic wave and those waves to be generated faster and faster. Think of widening the nozzle of a tube of toothpaste and then squeezing the tube with ever greater force. More toothpaste equals more information, and more information in digital terms means the ability to watch a movie, surf the internet or, more important, use an “ap” – an application created to perform increasingly complicated tasks.

1G was the analogue technology that made mobile phones possible. 2G represented the switch to much more efficient digital telephony and SMS. 3G brought the ability to plug into the internet and transmit music and pictures. 4G does all of these at speeds that, if conditions are right, allow live sports events or feature-length films to be watched on a mobile device.

The technology, however, depends on access to the electronic highways of radio frequency spectrum, over which national governments claim control. Governments see themselves as the traffic cops and toll collectors of the digital world. They licence chunks of frequency for the exclusive use of corporations that usually bid for the rights at auction.

Telecom companies traditionally made money by selling customers the ability to talk on the telephone. In future, however, the real money lies in selling “data” – encouraging people to use aps, watch movies, listen to music and surf the internet. And it takes a lot of electro-magnetic waves to transmit even a colour photograph, never mind a full-length film or a football match.

The vast amounts of data that 4G technology is capable of carrying can be transmitted either by wireless (requiring hundreds of thousands of cell phone towers) or fibre-optic cable

(requiring hundreds of thousands of kilometres cable). Fibre-optic cable is better: it can carry immense loads, does not need vast quantities of diesel fuel to keep equipment running and is less subject to various kinds of interference. (The companies that operate India's 400,000-plus telecom towers are estimated to spend USD 1.4 billion a year on diesel). But fibre-optic cable only carries data as far as a tower or a building. An ethernet or Wifi connection finishes the job of connecting to individual devices, including of course "mobile phones."

The daring strategy of Mukesh Ambani's Reliance group (RIL) promises to shake up the industry and the way in which India consumes information. When the two brothers, Mukesh and Anil Ambani, quarrelled and divided family assets in 2005, Anil got the communications sector (Reliance Infocomm), which today has about 10 per cent of India's wireless subscribers. (See Table).

In 2007, Mukesh Ambani aimed to get back into the telecom industry. He founded Reliance Jio, and bought spectrum in all of India's telecom regions in the government auction of 2010. The intention was to dominate the coming era of 4G technology and profit from the hunger for data (i.e., entertainment and information) it would bring. The more a consumer downloads, the wider the smile of the company collecting the tolls on the digital highway.

Jio began laying fibre-optic cable across India. Today, it claims to have 250,000 kilometres of cable, capable of carrying vast amounts of data at lightning speed and ready in all major towns and cities and 100,000 villages. Jio also did a deal with Anil Ambani's Reliance Communications (RComm) to share spectrum and other fibre-optic lines. If the two brothers mellow and their companies cooperate, they are likely to dominate Indian telecommunications and provision of entertainment and information.

To generate and control some of the content for the digital superhighway, the Mukesh Ambani group acquired Network 18, probably the country's largest TV network, in 2014.

To put the technology in as many hands as possible, the company has launched its own smartphone brands, some selling for as little as Rs 3,000 (USD 60), no more than a month's wages even for relatively poor labourers in some parts of India.

The Reliance Jio 4G network has been offering previews for a few months, and its official launch may be as early as 15 August. One writer trialling the network enthused that it was “super-fast and super-reliable. I have been watching lots of Netflix and lots of YouTube, with no buffer at all.”² Jio is counting on such vast data downloads to become the rivers of digital gold that will surpass the classified advertisements of old-fashioned newspapers as bountiful cash-generators.

With this sort of elephant in the room and trumpeting its head off, other companies are trying to prepare. Aircel, controlled by the Malaysian telecom company, Maxis, and Anil Ambani’s RComm have been quivering on the brink of a much-talked-about merger. That would create a fourth substantial telco on a par with Vodafone of the UK (No. 2) and Idea of the Aditya Birla group (currently No. 3). (See Table). This would probably provoke other mergers, including of the government’s two stumbling companies, BSNL and MTNL. But this can’t happen until the spectrum auction ends sometime in October, according to an announcement by the government’s Department of Telecommunications.

Airtel, Vodafone and Idea have 4G services across the country and are offering attractive terms to lure customers. But they lack some of the advantages enjoyed by Jio which starts from scratch with a national network designed for 4G.

Meanwhile, India’s finance ministry licks its chops over the coming auction of spectrum, due to begin on 29 September and take about three weeks to complete. Telcos are expected to bid keenly for bandwidth to carry the anticipated volumes of data that 4G will generate. Spectrum auctions in 2015 pulled in about USD 16 billion (110,000 crores of rupees). However, the government’s purported target of USD 83 billion in the current round looks too optimistic.

The economic and business consequences of the impending changes will keep market analysts busy for months. Meanwhile, students of India’s society and politics will puzzle over what it will mean to have most of India’s 260 million households Facebooking, Googling and using downloaded applications with remarkable power to connect, analyse, transact and entertain.

² Saurabh Singh, *India Today Intech*, 6 August 2016, <http://goo.gl/wMMEeH>.

Table: Market Share of Wireless Subscribers, 31 May 2016

Company	% share	Chief ownership group/family
Bharti Airtel	24.6	Sunil Mittal
Vodafone	19.2	Vodafone/UK
Idea	17.0	Aditya Birla group
Reliance Communications	9.8	Anil Ambani
Aircel	8.5	Maxis/Malaysia
BSNL	8.5	Government
Tata	8.5	Tata
Telenor	5.1	Telenor/Norway
Sistema	0.7	Sistema/Russia and Shyam group
MTNL	0.4	Government
Quadrant	0.3	Punjab based, closely held

Source: TRAI, Press Release No. 74/2016, 29 July 2016, p. 6.
There were 932.5 million active wireless subscribers in May 2016.

.