ICAI

Technical Guide on Valuation of Business in Telecom Tower Industry

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Valuation Standards Board
and
ICAI Registered Valuers Organisation
The Institute of Chartered Accountants of India
(Set up by an Act of Parliament)
New Delhi

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Foreword

The Valuation Standards Board (VSB) was formed to formulate ICAI Valuation Standards with a view to ensuring consistent, uniform and transparent valuation policies for the members undertaking Valuation Assignments and to set up concepts, principles and procedures which are generally accepted internationally having regard to legal framework and practices prevalent in India. The Board also Interacts/ Represents on issues relating to Valuation with Government/IBBI.

Continuing with the joint endeavours for the benefit of the Valuation Professionals in India, the Valuation Standards Board of ICAI and ICAI Registered Valuers Organisation are bringing out this publication *"Technical Guide on Valuation of Business in Telecom Tower Industry".* The technical guide aims to provide guidelines for valuation of business in telecom tower industry and includes the key issues that are impacting the valuation of business in this industry.

I extend my appreciation to the entire Valuation Standards Board as well as ICAI Registered Valuers Organisation and also to CA. Mangesh Pandurang Kinare, Chairman and CA. Cotha S. Srinivas, Vice-Chairman of the Board for bringing out this Technical Guide for the benefit of members and other stakeholders.

I am confident that this publication would be of great help to the members, and other stakeholders in all their professional endeavours.

CA. (Dr.) Debashis Mitra
President, ICAI
Director, ICAI RVO

June 30, 2022
Place: New Delhi

Preface

Valuation is one of the most exciting professions within the finance domain as it offers a dynamic profile with exposure to different industries. Each assignment is different from the other and offers exposure to different valuation techniques. Valuation, in its entirety, is the most decisive and the most important aspect on which the entire decision-making process is dependent. A Valuer is hence expected to have the adequate expertise & the technical skills to carry out the assignment in that industry.

Keeping this in mind and to deal with industry specific issues, the Valuation Standards Board of ICAI in association with the ICAI Registered Valuers Organisation has decided to publish Technical Guides for Valuation of Business in different industries. To begin with, the Valuation Standards Board of ICAI together with ICAI Registered Valuers Organisation has decided to bring out "Technical Guide on Valuation of Business in Telecom Tower Industry".

Telecommunication is one of the growth pillars across the globe and will continue to play a crucial role in the way people live and business operates. Telecom companies are dependent on the telecom infrastructure for which they either rent or share the tower infrastructure through telecom tower companies. This publication aims to provide guidelines for valuation of business in telecom tower industry and includes the study of overall telecom industry including telecom operators and telecom tower industry, business valuation methodology, Industry's history and future outlook and the key drivers impacting the valuation in this industry.

We take this opportunity in thanking the President ICAI and Director ICAI RVO CA. (Dr.) Debashis Mitra, and the Vice President ICAI CA. Aniket Sunil Talati for their thought leadership and continued encouragement in bringing out the publication.

We would also like to express our gratitude towards the Board of ICAI RVO comprising of Shri Rajeev Kher, Chairman of the Board and other Directors, Shri Pawan Singh Tomar, Prof. Anil Saini and Shri Rakesh Sehgal for joining in the constant efforts of the Board.

Most importantly, we also thank CA. T. V. Balasubramanian, CA. Drushti Desai and CA. Parag Kulkarni for their vital contribution towards this Technical Guide.

We would like to put on record the efforts put in CA. Sarika Singhal, Secretary VSB, ICAI and Officiating CEO, ICAI RVO, Ms. Seema Jangid, Assistant Secretary ICAI and CA. Pragya Agrawal, Assistant Project Officer ICAI for initiating this publication and for providing the technical and administrative support.

We also sincerely appreciate the support and guidance of all members, co-opted members, special invitees of the Valuation Standards Board of ICAI which encourages us to bring such publications regularly.

We sincerely believe that the members of the profession, valuers, industries and other stakeholders will find this publication immensely useful

CA. Mangesh Pandurang Kinare
Chairman
Valuation Standards Board, ICAI

CA. Cotha S Srinivas
Vice Chairman
Valuation Standards Board, ICAI

Place: New Delhi

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Chapter 1
Brief about Overall Telecom Industry

Introduction

As the countries upswing from the pandemic and social and economic activities begin to improve, connectivity will continue to play a crucial role in the way people live and business operates. Digital services, strengthened by high speed and high-performance networks, are set to become more integral to society in a post-pandemic world. In this context, unconnected populations will be at greater risk of exclusion from many life-enhancing services online. The mobile industry has been instrumental in extending connectivity to people around the world. In 2021, the number of mobile internet subscribers reached 4.2 billion people globally.[1]

The telecom market can be broadly split into three segments – 1) Mobile (wireless), 2) Fixed Line (wireline) and 3) Internet services. The wireline consists of companies that operates and maintains switching and transmission facilities to provide direct communication through landlines, microwave or a combination of landlines and satellite link-ups whereas wireless comprises companies operating and maintaining switching and transmission facilities to provide direct communication via airwaves. Internet services include Internet Service Providers (ISPs) that offer broadband internet connections through consumer and corporate channels.

Telecom Subscribers in India

Below is the summary of Telecom Subscribers in India as on 31st March, 2022.

Particulars	Wireless	Wireline	Total (Wireless+ Wireline)
Total Telephone Subscribers (Mn)	**1142.1**	**24.84**	**1166.93**
Net Addition in March, 2022 (Mn)	0.57	0.32	0.89
Monthly Growth Rate	0.05%	1.31%	0.08%

[1] The Mobile Economy 2022 by GSM Association

Particulars	Wireless	Wireline	Total (Wireless+ Wireline)
Urban Telephone Subscribers (Mn)	**624.23**	**22.88**	**647.11**
Net Addition in March, 2022 (Mn)	-0.95	0.31	-0.64
Monthly Growth Rate	-0.15%	1.37%	-0.10%
Rural Telephone Subscribers (Mn)	**517.86**	**1.96**	**519.82**
Net Addition in March, 2022 (Mn)	1.52	0.01	1.53
Monthly Growth Rate	0.29%	0.58%	0.30%
Overall Tele-density*(%)	**83.07%**	**1.81%**	**84.88%**
Urban Tele-density*(%)	130.17%	4.77%	134.94%
Rural Tele-density*(%)	57.85%	0.22%	58.07%
Share of Urban Subscribers	54.66%	92.12%	55.45%
Share of Rural Subscribers	45.34%	7.88%	44.55%
Broadband Subscribers (Mn)	**761.05**	**27.25**	**788.3**

Internet and broadband penetration in the country is increasing steadily. The overall tele density in the country is at 83.07%. While the rural tele density is at 57.85%, the urban tele density is at 130.17%. Out of the total subscriber base of 1166.93 million, 761.05 million access internets through wireless connections and 27.25 million through wireline connections.

Wireless Network

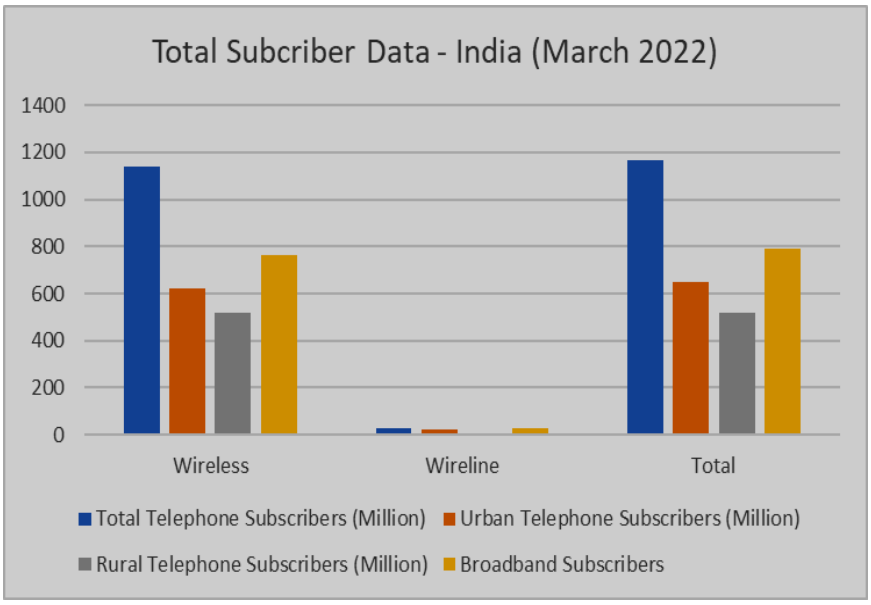
Particulars	31/03/22	31/03/21	Change
Total Telephone Subscribers (Million)	1142.09	1180.96	-38.87
Urban Telephone Subscribers (Million)	624.23	645.2	-20.97
Rural Telephone Subscribers (Million)	517.86	535.75	-17.89
Broadband Subscribers (Million)	761.05	755.35	5.70
Overall Tele-density*(%)	83.07%	86.68%	-3.61%
Urban Tele-density*(%)	130.17%	137.08%	-6.91%
Rural Tele-density*(%)	57.85%	60.08%	-2.23%
Share of Urban Subscribers	54.66%	54.63%	0.03%
Share of Rural Subscribers	45.34%	45.37%	-0.03%

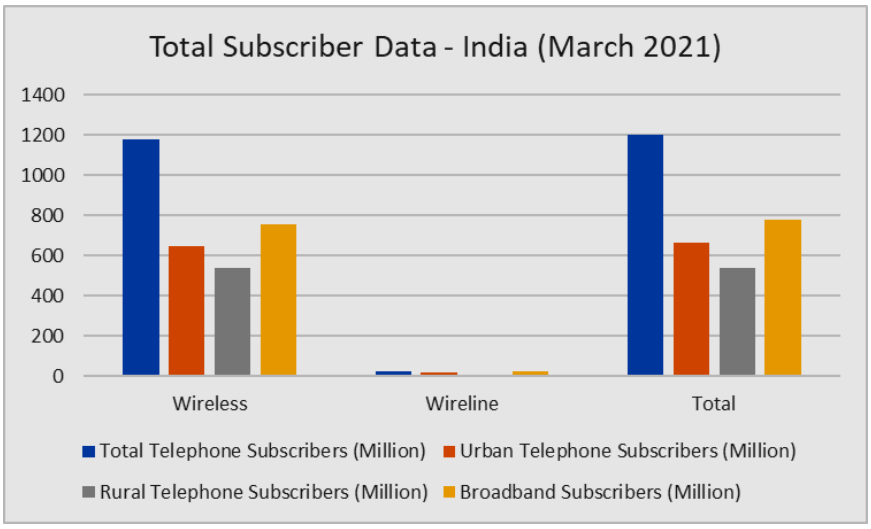
Wireline Network

Particulars	31/03/22	31/03/21	Change
Total Telephone Subscribers (Million)	24.84	20.24	4.60
Urban Telephone Subscribers (Million)	22.88	18.57	4.31
Rural Telephone Subscribers (Million)	1.96	1.67	0.29
Broadband Subscribers (Million)	27.25	22.75	4.50
Overall Tele-density*(%)	1.81%	1.49%	0.32%
Urban Tele-density*(%)	4.77%	3.95%	0.82%
Rural Tele-density*(%)	0.22%	0.19%	0.03%
Share of Urban Subscribers	92.12%	91.76%	0.36%
Share of Rural Subscribers	7.88%	8.24%	-0.36%

Total Network

Particulars	31/03/22	31/03/21	Change
Total Telephone Subscribers (Million)	1166.93	1201.2	-34.27
Urban Telephone Subscribers (Million)	647.11	663.77	-16.66
Rural Telephone Subscribers (Million)	519.82	537.42	-17.60
Broadband Subscribers (Million)	788.3	778.1	10.20
Overall Tele-density*(%)	84.88%	88.17%	-3.29%
Urban Tele-density*(%)	134.94%	141.03%	-6.09%
Rural Tele-density*(%)	58.07%	60.27%	-2.20%
Share of Urban Subscribers	55.45%	55.26%	0.19%
Share of Rural Subscribers	44.55%	44.74%	-0.19%





Tower companies are dependent on the penetration of telecommunication companies or mobile network operators (MNO), and hence, it is imperative for a valuer to understand and evaluate growth of urban, rural, total, and broadband subscribers. Historical subscriber data can help a valuer understand short-term, mid-term, and long-term growth trends in the industry.

Chapter 2
Background about the Telecom Tower Industry

Telecommunication is one of the growth pillars across the globe and it embraces continuously evolving technology. Telecommunication is currently dependent on the telecom infrastructure, which inter alia comprises telecom towers. This space of tower infrastructure is also susceptible to changing technology, which continues to adopt easier and cheaper alternatives to existing tower infrastructure.

Mobile network operators (MNOs) either rent or share the tower infrastructure to enable provision of good mobility services. While in densely populated areas cell sites can be seen mounted on rooftops and bridges, whereas, in more open spaces wireless connectivity is established using tower structures that can be shared by many operators at the same time.

Telecom companies prefer to lease towers from the tower companies as it helps them to reduce operational costs and allows them to focus on their core marketing activities. Leasing towers from tower companies also enables Mobile Network Operators to rollout services in record times.

The tower companies form the backbone of India's digital dreams as the rural penetration and internet penetration for telecom industry is rapidly increasing and is dependent on the support from the telecom tower companies. The growth of these companies is essential to cover a larger part of the population, across the length and breadth of the country.

The telecom tower companies build, own and operates telecom towers and provides the passive infrastructure to the Mobile Network Operators under lease agreements. The Mobile Network Operators in turn installs their active infrastructure on these towers for providing mobile and data services to their customers. These leasing contracts are known as Master Service Agreements (MSA) and are usually entered for a long-term period ranging from 10 to 15 years for the anchor tenant and around 5 years for new tenants. The contracts also carry punitive charges in case of violation of the period undertaken for hire by the operators.

One can see great diversity in Telecom Tower Industry's business models too. On one hand there are Telecom Tower Companies which are either

owned by one or more Mobile Network Operators like Indus Towers Limited, while on other hand there are many independently owned companies also like American Tower Company (ATC) or Tower Vision Pvt. Ltd. There also are many towers which are captively owned by a Mobile Operator Company like Reliance Jio.

Broadly the tower companies can be categorized into

(i) Operator owned tower companies;

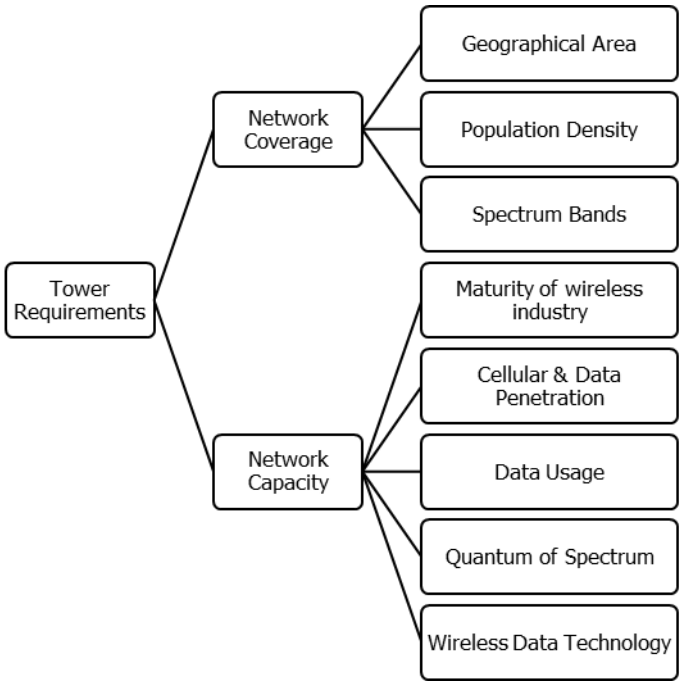
(ii) Towers owned by Government operators and

(iii) Independent tower companies.

Indus Towers Limited post-merger with Bharti Infratel Limited owns more than 40% of the installed tower base in India while other key players are ATC, Tower Vision, BSNL, Suyog Telematics and others.

Chapter 3
Business Model of Tower Companies

Telecom towers form the backbone of wireless networks and provide last mile connectivity to subscribers. Tower requirements usually depend on Network Coverage (which, in turn, depends upon geographical area, population density and spectrum bands) and Network Capacity i.e. maturity of wireless industry, cellular and data penetration and data usage per subscriber, quantum of spectrum and wireless data technology (whether it is 2G/3G/4G/5G) or IOT.



As the number of tenants on a tower increase, tower companies are able to generate incremental revenue and EBITDA. Consequently, from the valuation perspective, the key driver of tower revenue growth is tenancy. Apart from tenancies, tower company revenues are also influenced by the pricing charged per tenant.

Two Key Drivers of Valuation of Telecom Tower Companies are:

(i) Tenancy (i.e. number of tenants on a tower)

(ii) Pricing charged per tenant

Operating cost components for the tower business are site rentals, repairs and maintenance, security charges, insurance and cost of outsourced resources. As major expense items are fixed in nature, cost for additional tenant is minimal. Hence, the tenancy ramp-up results in a significant percentage of incremental revenues, ROI and cash flow.

Valuation Matrix – Key Considerations	
Cash Inflow	**Cash Outflow**
(i) Tenancy (ii) Pricing Charged Per Tenant	(i) Site Rentals (ii) Repairs & Maintenance (iii) Security Charges (iv) Insurance (v) Outsourcing Cost

Hence, the operating efficiency of telecom towers is highly dependent on the increase in the number of towers ("Coverage") and an increase in the number of tenants ("Densification"). The tower infrastructure has its own unique challenges and depending on the location of the towers the cost of maintenance varies. Remote locations are exposed to higher upkeep cost on account of frequent site downtime, security, power supply infrastructure and monitoring. Managing the extensive list of passive infrastructure available at these sites is a subject of critical concern.

To gain market penetration and 4G Network expansion at optimal cost, Telcos continues to rent towers from Tower Companies, thereby considerably reducing costs while allowing them to focus on their core business. Renting towers from Tower Companies also enabled the Telcom companies to go to market within a short time.

Some key features of the Telecom Tower Industry in India are as under:

(i) They are capable of hosting multiple technologies such as 2G/3G/4G LTE/5G/IOT and enterprise data systems;

(ii) Their growth is linked with expansion of wireless networks and technology upgradation;

(iii) It is annuity driven business model;

(iv) Long term (up to 15 years, usually renewable) contracts with Telcom Companies are there, with built-in annual escalation clause;

(v) Fixed energy management contracts with Telcom Companies;

(vi) Relatively fixed cost structure and low level of maintenance expenses / costs;

(vii) Predictability in free cash flows exists;

(viii) Additional tenancies (post anchor tenant) lead to higher EBITDA margins and higher percentage of revenue translating to cash flow.

Chapter 4
Recent Developments and Future Outlook of the Industry

Consolidation in the telecom industry has changed the dynamics of telecom tower industry. Until 2017-18, due to the presence of many new Mobile Network Operators the tower industry witnessed exponential growth as the number of towers increased manifolds and also the tenancy ratio in the industry jumped significantly. As discussed earlier, Tenancy Ratio represents how many operators does a telecom tower company rent each of its towers to. With increased competition and reducing tariffs the Mobile Network Operators focused on increasing profitability and market penetration with limited capex and opex expenditure which in turn helped the tower companies to grow substantially.

In 2017, with entry of a new operator and its almost free of cost service, the dynamics of Telecom Industry in India changed significantly. This led to massive consolidation in the Telecom Industry which in turn changed the dynamics of tower companies, as they lost massive tenancy on their towers. Many new and small Mobile Network Operators went out of business and the remaining started merging for survival through cost synergy gains. For instance, merger of Vodafone and Idea has resulted in over 57,000 tenancy losses as the Mobile Network Operators started exiting their co-located sites/towers i.e. towers where both Idea and Vodafone were tenants under separate agreements with the tower cos. While exit penalties partially offset the revenue loss, the impact of tenancy losses had long term impact.

With the reduction in no. of players in the telecom sector the tenancy ratio also reduced significantly. This has put pressure on rent revenue per tower and the overall profitability of the tower companies. It has also impacted the future growth potential of the tower companies as adding new tenancy is challenging and increasing tariffs has become difficult.

Going forward, loaded sites are expected to account for a higher proportion of incremental tenancies. As per the MSA, telecom companies are required to pay additional charges for any additional equipment or technology they deploy on site beyond an agreed limit, this is known as loading charges.

In addition, rentals might come under pressure during contract renewals as telcos have higher bargaining power. This is because telcos' return on capital

employed (RoCE) is less than ~2%, compared with tower companies' RoCE, which is as high as 19-20%. The passive infrastructure charges paid to telecom tower companies still makes up a large part of a Telecom Operator's expenditure. It is, therefore, something that the Operators will seek to target/reduce wherever possible.

The telecom industry worldwide is following the trend of infrastructure sharing as a business process to keep their investments low and to compete for the economy of scale. India's Department of Telecommunications (DoT) has amended the commercial VSAT license rules to enable sharing of satellite infrastructure and backhaul connectivity for cellular mobile services and access service providers via Corrigendum No. 20-271/2010 AS-I (Vol.-III) dated 27.09.2021. According to DoT, Mobile Network Operators will now be able to share active infrastructure, including core networks following the new amendments. Growth for independent tower companies is being underpinned by the trend for outsourcing tower infrastructure. Increasing the number of customers siting equipment on each tower is the main growth driver behind the high multiples being paid in Europe by Cellnex, American Towers and others.

- Passive infrastructure sharing allows operators to share the non-electrical, civil engineering elements of telecommunication networks. This might include rights of way or easements, ducts, pylons, masts, trenches, towers, poles, equipment rooms and related power supplies, air conditioning, and security systems. Passive sharing is usually defined as the sharing of space or physical supporting infrastructure which does not require active operational co-ordination between network operators.
- Active infrastructure sharing involves sharing the active electronic network elements – the intelligence in the network– embodied in base stations and other equipment for mobile networks and access node switches and management systems for fibre networks. Sharing active infrastructure is a much more contested issue, as it goes to the heart of the value-producing elements of a business. Active infrastructure sharing is sharing of electronic infrastructure of the network including radio access network (consists of antennas/transceivers, base station, backhaul networks and controllers) and core network (servers and core network functionalities).

Chapter 5
Business Valuation Methodology

In order to carry out the business valuation of a company there are several steps that must be taken by a Valuer during the process. It is necessary to make an in-depth analysis both of the past performance of the company and the best key indicators for determining the growth and the future expansion strategy expectations. This should be done through an adequate monitoring of the company performance and its macroeconomic environment, which will have a direct influence on future expectations and assumptions.

ICAI Valuation Standard 301 – Business Valuation, prescribes that while performing a valuation assignment, a valuer shall: -

(a) define the premise of the value;

(b) analyse the asset to be valued and collect the necessary information;

(c) identify the adjustments to the financial and non-financial information for the valuation;

(d) consider and apply appropriate valuation approaches and methods;

(e) arrive at a value or a range of values; and

(f) identify the subsequent events if any

In analysing the asset to be valued, the valuer shall gather, analyse and adjust the relevant information necessary to perform a valuation, appropriate to the nature or type of the engagement. Such information shall include:

(a) non-financial information;

(b) ownership details;

(c) financial information; and

(d) general information.

In case the Valuer relies on the information available in public domain, the Valuer has to assess the credibility/reliability of such information taking into account, the purpose of valuation, and materiality vis-à-vis the valuation conclusion.

Chapter 6
Key Drivers in Valuation of Telecom Tower Companies

A Valuer is required to carry out relevant analyses and evaluations through discussions, inspections, survey, calculations and such other means as may be applicable and available to that effect. He needs to understand the business and fundamental factors that affects the income generating capacity including strength, weakness, opportunity and threat analysis.

In case of Telecom Tower Companies some of the key drivers that a Valuer needs to assess are as under: -

(i) Customer Dynamics

The Telecom Tower Companies are highly customer dependent as major revenue is contributed by two to three key telecom players. Post consolidation in the telecom sector the customer dynamics has changed tremendously. Hence a Valuer shall carefully study following considerations forming part of the customer dynamics while undertaking a valuation assignment: -

- Contract period;
- Potential continuity;
- Credit risk;
- Potential to add more telecom companies to the tower in that area – technical feasibility (design of the tower) / market potential;
- Potential at the tower base for expansion of telco equipment in future;

(ii) Inflows

Tower portfolios generate revenue by leasing space on the structures to their customers (MNOs and others). Organic lease revenue growth comes from two main areas – an increase in the number of towers and an increase in the amount of tenants' equipment sited on the towers. Typically, these revenues result from long-term (10 -15 years) contracts with the mobile operators and renewal terms at the option of the customers. The contracts also provide for stiff exit clauses and operators have to pay penalties and charges (fees) for the unexpired period in case they decide to terminate the contract. Key

drives to be considered while assessing the inflows of a tower companies are as under: -

- Master Service Agreements - Deep analysis of the agreements i.e. Rental Rates, Escalation, Loading Charges for additional equipment, penalties etc.
- No. of Business Lines they operate in: - like Passive Infra, Small Cells, Optic Fibre etc.
- Expected useful life of the tower and passive infrastructure; and already expired life period of the tower and other passive infra
- Ageing and Quantum of Customer Billing Disputes and Debtor Outstanding
- Potential for other towers coming up in the area (due to restrictions whether legal or otherwise)
- Competing towers companies in the region
- Free Standing Tower vs Rooftop Tower
- Location of the towers – rural / urban etc.

(iii) Outflows

- The primary operating cost for a tower business is its rental or lease cost that it pays to site land-owners. Dealing with hundreds of landlords in a country where the legal and regulatory framework is not necessarily favourable to the tower company.
- Security is an important consideration. Poor security may entail significant additional CAPEX as well as ongoing OPEX spend. Security issues and site access challenges contributes to lower multiples in many developing countries.
- Another significant operating cost is power. Portfolios where the majority of sites are connected to the electricity grid are far cheaper to run than those with sites where power has to be provided by generators, which in turn need to be refuelled and maintained by contractors.
- Power source for the towers i.e. electricity, solar, battery back-up, DG set etc.

(iv) Other Key Considerations/ Drivers

- Ability to migrate to newer technologies and provide space for the same
- Lease arrangements in place for the tower sites and longevity of the same
- Whether the company / business leases only the towers or also the active equipment to the Mobile Network Operators (such as BTS, Antennae etc.,)
- Ability to explore new business opportunities
- Ability further monetises its massive real estate assets
- Ageing and Quantum of Customer Billing Disputes
- Green Energy Initiatives towards Sustainability

Chapter 7
Valuation Approaches and Methods

Generally, the following three main valuation approaches are adopted to perform the business valuation in correlation with the valuation approaches and methodologies prescribed under ICAI Valuation Standard 103: Valuation Approaches and Methods:

(a) Market approach;

(b) Income approach; and

(c) Cost approach.

A Valuer shall select and apply appropriate valuation approaches, methods and procedures to the extent relevant for the engagement. Valuation though backed by research and analysis, involves significant amount of judgment, hence, the Valuer needs to select the most appropriate approach or method very responsibly as there is no single approach or method that is best suited in every situation.

(i) The valuation approaches and methods shall be selected in a manner which would maximise the use of relevant observable inputs and minimise the use of unobservable inputs.

(ii) The key factors that a valuer needs to consider while selecting an approach are as under:

- nature of asset to be valued;
- availability of adequate inputs or information and its reliability;
- strengths and weakness of each valuation approach and method; and
- valuation approach/method considered by market participants.

(iii) Another very important element in selection of appropriate valuation methods is the purpose/ base of valuation.

The above three approaches are globally accepted valuation approaches and each one relies on different criteria for valuation and have their own advantages and short comings. **The Valuer may consider adopting a single approach or might also choose multiple approaches to arrive at a liable conclusion.** Using more than one approach is specially recommended

under scenarios when there are insufficient factual inputs for a single method to arrive at a reliable value. While adopting multiple approaches, the Valuer needs to assign weights to different approaches as considered appropriate in the given situation.

As a best practice, the values under the different approaches adopted should not be at a significant variance from each other. If the initial workings are not meeting this criterion, the Valuer should revisit his or her analysis before concluding.

Chapter 8
Market Approach

Market approach is a valuation approach that uses prices and other relevant information generated by market transactions involving identical or comparable (i.e., similar) assets, liabilities or a group of assets and liabilities, such as a business. This approach is appropriate in a going concern scenario.

The following are the common methodologies for the market approach:

(a) Market Price Method;

(b) Comparable Companies Multiple Method; and

(c) Comparable Transaction Multiple Method.

Instances where Market Approach is applicable

- where the asset to be valued or a comparable or identical asset is traded in the active market;
- there is a recent, orderly transaction in the asset to be valued; or
- there are recent comparable orderly transactions in identical or comparable asset(s) and information for the same is available and reliable.

8.1 Market Price Method

In Market Price method, a valuer considers the traded price observed over a reasonable period while valuing assets which are traded in the active market. A Valuer also considers the market where the trading volume of asset is the highest when such asset is traded in more than one active market. Further, the Valuer should consider using weighted average or volume weighted average to reduce the impact of volatility of any one-time event in the asset.

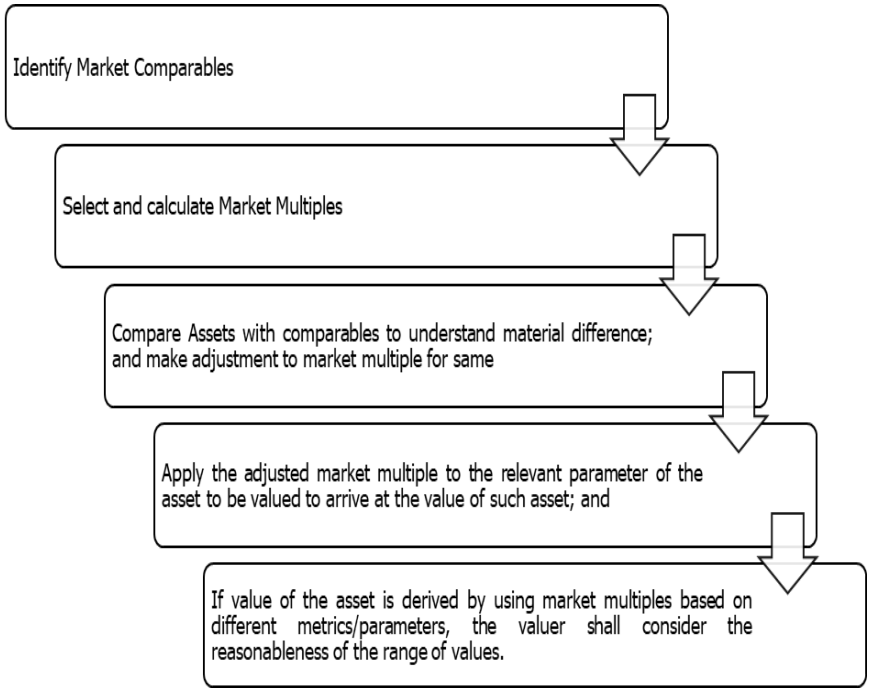
Telecom tower company like Indus Tower Limited, Tata Teleservices Ltd. and GTL Infra Ltd. which are listed in one or more stock exchange can be valued using this method.

8.2 Comparable Companies Multiple (CCM) Method

CCM Method involves valuing an asset based on market multiples derived from prices of market comparables traded on active market and is also

known as Guideline Public Company Method. A comparable company/assets selection is based on various factors including operational processes, cash flows, growth potential and risk similar to the company being valued.

8.2.1 The following are the major steps in deriving a value using the CTM method:



8.2.2 A Valuer shall consider following factors in identifying the market comparables:

- Industry to which the asset belongs;
- Geographic area of operations;
- Similar line of business, or similar economic forces that affect the asset being valued;
- Other parameters such as size (for example - revenue, assets, etc.), stage of life-cycle of the asset, profitability, diversification, etc. This list is not an exhaustive list, there may be certain other factors which a valuer shall consider while identifying and selecting the market comparables.

Multiples are a ratio of the enterprise value or equity value over different financial parameters like Revenue, Earnings before Interest, Tax, Depreciation and Amortisation ("EBITDA"), Profit after Tax ("PAT"), Earnings per Share ("EPS"), book value etc., with some being preferred over the others. For example, EBITDA multiple is preferred over PAT multiple so as to eliminate the effect of differences in depreciation policies and the impact of leveraging.

8.2.3 Computation of Market Multiples for Telecom Tower Industry

The market multiples are generally computed on the basis of following inputs:

- trading prices of market comparables in an active market; and
- financial metrics such as Earnings Before Interest, Tax, Depreciation and Amortisation (EBITDA), Profit After Tax (PAT), Sales, Book Value of assets, etc.

In valuing the asset under consideration one could take guidance from the market price of peer set of companies in listed space into the business of telecom tower infrastructure. However, in doing so one should make adjustments for all the other assets and liabilities note related to the subject business.

Under this approach one should derive the enterprise value per tower for the listed peers based on the market value of the stock and the debt. The market value considered for benchmarking should be after adjusting for fair value of non-operating assets and other businesses that may be comprised in the peer company.

The market multiple so arrived at would also need to be adjusted for various factors like number of tenants, location of towers, age of towers and various other factors deemed necessary.

8.3 Comparable Transaction Multiple Method

Comparable Transaction Multiple Method, also known as 'Guideline Transaction Method' involves valuing a business based on transaction multiples derived from prices paid in transactions of asset to be valued /market comparables (comparable transactions).

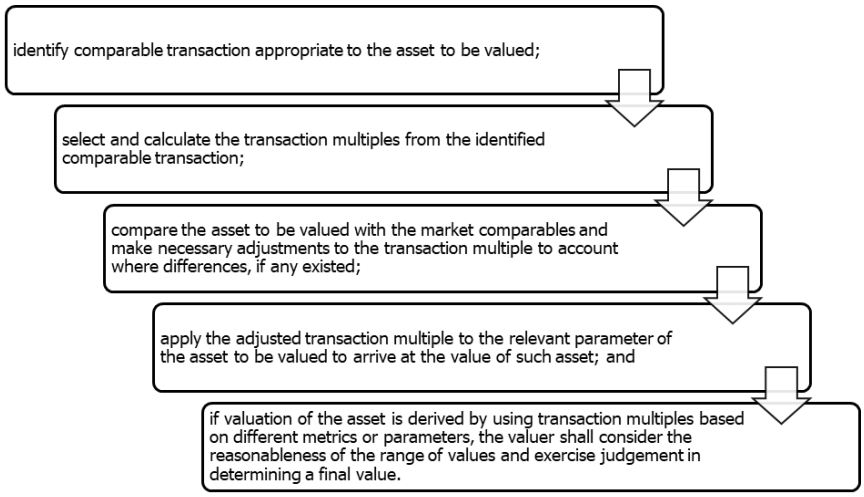
It is a variant of the Comparable Companies Multiple Method and uses transaction multiples in place of trading multiples. Transaction multiples, as the name suggests, are the multiples implied in the recent acquisitions/ disposals of comparable companies/business.

This method is especially useful if there are limited comparable companies. Also, it incorporates the market sentiments in a better way, as the multiples, unlike trading company multiples which are affected by the inefficiencies of the market, are based on an informed negotiation between buyers and sellers.

This method suffers from limitation of data availability, as the requisite information relating to transactions, especially about private companies, is seldom available.

The price paid in comparable transactions generally include control premium, except where transaction involves acquisition of non-controlling/minority stake. This method is also affected by the implications of differences in deal structure (such as secondary transaction vs. primary transaction), acquirer specific synergies which may have been involved in the negotiated price determination etc.

8.3.1 The following are the major steps in deriving a value using the CTM method:



8.3.2 While identifying and selecting the comparable transaction, a Valuer may consider the factors such as-

(a) transactions that have been consummated closer to the valuation date are generally more representative of the market conditions prevailing during that time;

(b) the selected comparable is an orderly transaction;

(c) availability of sufficient information on the transactions to enable the valuer to reasonably understand the market comparable and derive the transaction multiple; or

(d) availability of information on transaction from reliable sources such as regulatory filings, industry magazines, Merger & Acquisition databases, etc.

CTM multiples available for other instances would need to be adjusted for various factors like number of tenants, location of towers, age of towers and various other factors deemed necessary.

Summary of Trading Multiples of Companies in Telecom Industry

Revenue multiple	31/03/20	31/03/21	31/03/22
Bharti Airtel Ltd.	2.79	2.81	3.61
Vodafone Idea Limited	0.20	0.63	0.81
GTL Infrastructure Limited	0.19	0.71	1.29
HFCL Ltd	0.30	0.73	2.27
Indus Tower Ltd	4.39	4.73	2.16
ITI Ltd.	2.81	4.55	4.85
Tata Teleservices (Maharashtra)Ltd.	0.33	2.64	29.82
Tejas Network Ltd	0.77	2.91	9.09
Tata Communication Ltd	0.39	1.77	2.09

EBIDTA multiple	31/03/20	31/03/21	31/03/22
Bharti Airtel Ltd.	6.72	6.17	7.27
Vodafone Idea Limited	1.10	2.55	1.94
GTL Infrastructure Limited	1.54	3.38	4.14
HFCL Ltd	2.32	6.01	15.61
Indus Tower Ltd	8.91	10.58	4.00
ITI Ltd.	38.46	90.91	83.08
Tata Teleservices (Maharashtra)Ltd.	0.97	6.26	69.75
Tejas Network Ltd	-	81.88	-
Tata Communication Ltd	2.36	8.02	8.28

Market Cap per tower (Rs.)	31-03-2020	31-03-2021	31-03-2022
GTL Infrastructure Limited	99,606.80	3,83,949.40	Not Available
Indus Tower Ltd	17,51,087.68	36,83,970.16	32,26,855.92

Revenue per tower (Rs.)	31-03-2020	31-03-2021	31-03-2022
GTL Infrastructure Limited	5,20,761.51	5,41,393.35	Not Available
Indus Tower Ltd	3,98,989.36	7,78,591.16	14,94,615.71

EBIDTA per tower (Rs.)	31-03-2020	31-03-2021	31-03-2022
GTL Infrastructure Limited	64,728.58	1,13,572.47	Not Available
Indus Tower Ltd	1,96,488.80	3,48,299.62	8,05,777.39

Please refer to company specific data points in Annexure in order to calibrate and then use these multiples to be comparable company multiple.

One can observe from the above matrices, each of these numbers are not really comparable with each other. Dissimilar ratios present dissimilar nature of the business composition. Some companies from the above sample are conglomerates and their revenue represents income from multiple sources (and not only from tower related business). Some companies are having different sources of financing and thereby different capital composition. Hence, while multiple based approach can be used to value unlisted tower company, it is important to perform calibration while adopting comparable company multiples of listed companies by performing adjustment for dissimilar features such as different revenue mix, margins, capital composition etc. For company specific key performance indicators of sample companies from above, refer to annexure.

Chapter 9
Income Approach

Income approach is the valuation approach that converts maintainable or future amounts (e.g., cash flows or income and expenses) to a single current (i.e. discounted or capitalised) amount. The fair value measurement is determined on the basis of the value indicated by current market expectations about those future amounts.

The basic Time Value of Money Formula is as under

$$FV = PV \times \left(1 + \frac{i}{n}\right)^{t \times n}$$

wherein;

FV = Future value of money (after earning interest)

PV = Present value of money

i = interest rate

n = number of compounding periods per year (investment period / loan period)

t = number of years (the time period for which money is held)

Some of the instances where a Valuer may apply the income approach:

(i) where the asset does not have any market comparable or comparable transaction;

(ii) where the asset has fewer relevant market comparables; or

(iii) where the asset is an income producing asset for which the future cash flows are available and can reasonably be projected

The most commonly used income approach is Discounted Cash Flow (DCF) Method.

Steps to be carried out in DCF Method

- Analyse the historical performance of the business
- Determine what you are valuing
- Develop financials projections (generally for 3-5 years)
- Calculate 'free cash flows' for the projection period – FCFF or FCFE

- Calculate the discount factor - WACC or Cost of Equity
- Discount free cash flows by the appropriate factor. Sum of the discounted free cash flows during the projection period is termed as the 'primary value'
- Estimate the terminal growth rate and calculate the terminal value
- Add the primary and terminal values to arrive at the 'Enterprise' or 'Equity' value (depending upon whether FCFF or FCFE was used)
- Deduction of net debt from enterprise value results in equity value

Valuation utilizing the Discounted Cash Flows is thus based on following three factors majorly;-

(i) Discount Rate

(ii) Cash Flow Projections

(iii) Terminal Value

9.1 Discount Rate

The discount rate measures the risk associated with the investment, i.e., the danger of low returns, and it determine what should be the idle expected rate of return to compensate for the danger or risk undertaken. This together with the risk-free market rate of return forms the Discount rate for DCF.

- **The Cost of Equity ("COE")** reflects the return expected by the equity shareholders, to compensate for the risk assumed through their investment in the business.
- **The Cost of Debt ("COD")** is based on the current or expected borrowing rate for the company, which may be provided by the management of the company and is generally assumed to be the market rate.
- **The Weighted Average Cost of Capital ("WACC")** is based on the proportionate weights of each component of the source of capital, i.e., weighted average of COE and COD wherein the ratio of Equity/Debt on total capital is the proportionate weights.

In deciding the cost of capital one could consider the industry debt equity. Depending on the situation triggering the need to value the asset, one could consider an appropriate cost of funds viz. cost of equity and debt. To illustrate, in case the value is required for raising further capital by way of equity or debt then one should consider the asset specific cost of funds and

anticipated mix of funds. Whereas in case the situation is for transfer of asset where the buyer is not identified, one could take an industry mix and cost of capital. If the case is of an identified buyer for a highly levered asset, one could also consider the mix and cost of funds that the acquirer has projected. Valuer needs to be cognizant of the impact of the above combinations on the key inputs that go to build the cost of equity and debt. This would have a significant impact on value and hence, be considered carefully.

9.1.1 Capital Asset Pricing Model (CAPM)

Capital Asset Pricing Model (CAPM) is the most commonly used method for determining COE. It is based on the fact that investors have an idea of market risk and must be compensated for it. The compensation is usually greater than the risk-free rate known as Risk Premium.

The formula for calculating cost of equity under CAPM is:

$$K_e = R_f + (R_m - R_f) \times \beta$$

K_e = Cost of equity

R_f = Risk free rate of return

$R_m - R_f$ = Market risk premium

β = Risk Index for systematic risk (regression coefficient)

(i) Risk Free Rate of Return

Most Valuers considers yields on long term default free government bonds, of the country where company's headquarter is located as the Risk-Free Rate of Returns. However, this is not applicable in case of Multi-National Companies because two different companies that compete is same markets on a global basis, which are exposed to the same risks and use same functional currency (e.g., USD), should always be valued on the basis of same cost of capital regardless of the country where they are headquartered.

(ii) Equity Risk Premium

It is the additional returns required by an investor to move his assets from a risk-free investment to an average risk investment. The most common method of valuing same is Historical approach, wherein historical data for a group of stocks (Eg: Index like Sensex or Nifty) is used to determine by how much the average return on equity exceeds the Risk-free rate of returns. This should always be based on long term data to avoid any periodic economic impact.

(iii) Beta Coefficient

It is the sensitivity of the stock or asset to the market and is measured as under:

Beta of an asset = Covariance of asset with Market Portfolio/Variance of the market portfolio

The methods to arrive at beta is by taking the company's returns over a time period and compare the Index returns say Sensex or Nifty for the same period. Once we have both data sets, we take the co-variance of the stock returns and the index returns for the same period and divide it by the variance of the index returns. This gives us a coefficient which measures the relative risk of concerned company with respect to the market, for example if the coefficient is 1.5, then if the index moves by 1% up or down then company moves 1.5% in the respective direction.

Hence, the assets that are riskier than average will have betas that are greater than one and assets that are safer than the average will have betas that are less than one. Every intelligent strategy to deliver high average returns ends up delivering high market beta.

9.2 Free Cash Flow Projections

Some of the important points to be kept in mind with regards to cash flow projections are stated below:

- While projecting cash-flow it is recommended to project the income statement and balance sheet as same gives the complete and holistic picture with all the pieces of projection fitting in. However, in certain cases, if balance sheet and income statement are not available, details of future capital expenditure and working capital requirements may also suffice along with the revenue and expense projections.
- In Cash Flow Projections since the historical data is used so the first step shall be ensuring that effective due diligence has been carried out for authenticating same.
- The next step is to project cash flow projections during the extraordinary growth period.

  This has to take into account the period of existing tenancies as also a probability of likely future tenancies. In deciding this one should also factor in the technological developments in the field. In deciding the period of cashflows one should also take a call on what could be the

cashflows from alternate usage of the infrastructure where possible. This would factor in the utility of the infrastructure over its useful life.

- Effects of change in the policy of the company may be taken into account by the Valuer if they are known in advance and the effects are capable of being reliably quantified. These can include changes associated with the utilisation of productive capacity, organisational set-up, product-mix, financing policy. Their treatment in the projection of future profits will depend entirely upon the effect, which in the opinion of the Valuer, such changes will have on such future profits.
- An appropriate allowance must be made for capital expenditure in projections. They should not include capital expenditure only for capacity expansion or growth but also for maintenance of the existing operations.
- Working capital requirement forms another important component. Projections should appropriately account for working capital needs of the business in its different phases.
- Income tax outflow also impacts the value of a business and should incorporate any tax benefits like tax holiday, accumulated losses, etc.

Key Considerations for Cash Flow Projection in Telecom Tower Industry	
Cash Inflow	**Cash Outflow**
(i) Tenancy (ii) Pricing Charged Per Tenant	(i) Site Rentals (ii) Repairs & Maintenance (iii) Security Charges (iv) Insurance (v) Outsourcing Cost

9.3 Terminal Value

Terminal Value represents the present value at the end of explicit forecast period of all subsequent cash flows to the end of the life of the asset or into perpetuity (if the asset has an indefinite life).

There are three commonly used methods for estimating terminal value, they are as under:-

(i) Gordon (Constant) Growth Model

(ii) Exit Multiple

(iii) Salvage or Liquidation Value

9.3.1 Gordon (Constant) Growth Model

Gordon Growth Model or Perpetual growth model assumes that a business has an infinite life and a stable growth rate of cash flows. Terminal value is derived mathematically by dividing the perpetuity cash flows (cash flows which are expected to grow at a stable pace) with the discount rate as reduced by the stable growth rate.

Terminal Value(n) = Expected FCF(n+1) / (Discount Rate – Expected Growth Rate)

Estimation of the stable growth rate is of great significance because even a minor change in the stable growth rate assumption can have a profound impact on the terminal value and hence, the overall business value. Various factors like the size of a company, existing growth rate, competitive landscape, profit reinvestment ratio, etc. have to be kept in mind while estimating the stable growth rate.

9.3.2 Exit Multiple

The estimation of terminal value under this method involves application of market multiple (EV/EBITDA, EV/Sales, etc.) to the perpetuity earnings/ income. This method undercuts the notion of intrinsic value, which is what DCF method is designed to measure. The multiple that is used to estimate the terminal value comes from looking at what peer group companies are trading in the market. Although, this approach is comparatively very simple but since multiple has a huge impact on valuation hence, it is extremely critical how it is being obtained.

9.3.3 Salvage or Liquidation Value

This method is used in case we see the firm is not a going concern and might cease operations and go into liquidation. The terminal value is calculated by determining the salvage or realizable value of all the assets less costs to be incurred for disposing such an asset.

Terminal value is estimated to be the liquidation value, which is based on the book value of the assets typically adjusted for inflation, but this does not reflect the earning power of the assets. Alternatively, discounting expected cash flows from sale of such assets at an appropriate discount rate would provide a better estimation of liquidation value.

However, liquidation or salvage value is usually lower than the book value and market value. Using this approach to estimate the terminal value will suppress the value of the business.

9.4 Other Considerations Critical to Valuation of Tower Companies under Income Approach

Due to advent of new technologies like Internet of Things (IoT), Artificial Intelligence (AI), Machine Learning (ML), cloud, video consumption etc., the data surge got accelerated. This necessitates augmentation of capacity at the tower sites. In order to achieve such higher capacities and to support new technologies, fibre needs to be deployed across all tower sites as traditional microwave will not be able to provide such high speeds. As per industry reports, the site count for 5G networks will double from the current 0.5 Million (FY2020-21) to around 1 Million by 2022 (Projected FY 2021-22). The new sites will require network densification, including the deployment of small cells and increased fiberisation of tower sites.

In the era of 5G, telecom companies stand to earn 70% of their revenue from core beneficiaries of 5G. Currently, they earn 30% from enterprises. While implementation and rollout of 5G is still some time away, the standards and ecosystem on 5G have already gathered pace with more and more use cases coming into picture. During the year, Telcos have announced various updates on their 5G initiatives in plans. In fact, few Telcos have already started testing 5G trials in various cities.

Post COVID-19 related lockdown, work from home may become a new normal for many organizations, thus creating opportunities for different telecommunication services across the spectrum- fixed line, broadband, enterprise solutions besides pure mobile connectivity.

The Government of India has introduced Digital India Program where sectors such as healthcare, banking, will be connected through internet providing ample opportunities for growth in the sector.

In the last few years, intense price competition, regulatory pay-outs including AGR dues and spectrum related payments have put financial stress on telecom operators. According to the Cellular Operators Association of India (COAI), the telecom industry, which facilitated wide-spread digital adoption during the pandemic, continues to be financially stressed and seeks government support on issues like liquidity, rationalisation of levies, AGR and spectrum pricing (Source: Indian Express). Thus, strained cash flow position of telecom operators can affect their ability to pay for infrastructure services

rendered by tower companies. There are already delays and defaults by few Telcos in payment of dues of Tower Companies.

Any unfavourable terms such as lower pricing upon renewal of agreements with telecom operators are likely to have adverse impact on cash flow of the Company.

Various developments in Indian Telecom sector during last few years including forced consolidation and exits have resulted in telecom operators (regional and national) reducing from 18 to 4. Any further consolidation amongst Operators can lead to material reduction in demand for additional sites. Also, telecom tower operators have to deal with monopolistic customer base that possess higher negotiating power.

Few Telcos have strategic interest in Tower Cos. It is expected that these Tower Cos will get preference of new sites from such Telcos.

If spectrum sharing is allowed in India, it may negatively impact the additional site requirements across operators.

Due to large traffic volumes expected in next 4 to 5 years, operators are expected to off load large amount of traffic onto micro sites, small cells and Wi Fi. This action may render lesser than expected growth in macro site tenancy.

Chapter 10
Cost Approach

Cost approach is a valuation approach that reflects the amount that would be required currently to replace the service capacity of an asset (often referred to as current replacement cost).

The following are the commonly used valuation methods under the cost approach:

(i) Replacement Cost Method; and

(ii) Reproduction Cost Method.

10.1 Replacement Cost Approach

Replacement Cost Method, also known as 'Depreciated Replacement Cost Method' involves valuing an asset based on the cost that a market participant shall have to incur to recreate an asset with substantially the same utility (comparable utility) as that of the asset to be valued, adjusted for obsolescence.

The following are the major steps in deriving a value using the Replacement Cost method:

(a) estimate the costs that will be incurred by a market participant for creating an asset with comparable utility as that of the asset to be valued;

(b) assess whether there is any loss on account of physical, functional or economic obsolescence in the asset to be valued; and

(c) adjust the obsolescence value, if any as determined under (b) above from the total costs estimated under (a) above, to arrive at the value of the asset to be valued.

10.2 Reproduction Cost Approach

Reproduction Cost Method involves valuing an asset based on the cost that a market participant shall have to incur to recreate a replica of the asset to be valued, adjusted for obsolescence.

The following are the major steps in deriving a value using the Reproduction Cost method:

(a) estimate the costs that will be incurred by a market participant for creating a replica of the asset to be valued;

(b) assess whether there is any loss of value on account of physical, functional or economic obsolescence in the asset to be valued; and

(c) adjust the obsolescence value, if any as determined under (b) above from the total costs estimated under (a) above, to arrive at the value of the asset to be valued.

In case of an undertaking which is not transferred as a going concern one could look at the liquidation value of the infrastructure viz. scrap value of the assets. However, this approach can only be used if the company is not a going concern or infrastructure has outlived its useful life.

10.3 Procedure for Valuation of an entity Under Cost Approach

This approach tends to determine the business value on the basis of value of assets of the business. It is specifically useful for asset intensive firms, valuing holding companies as well as distressed entities that are not worth more than their overall net tangible value. The cost approach is based on the inherent assumption that the value of a business or investment can be determined based on the cost to rebuild or replace the business.

The steps necessary for valuation using Cost Approach /Underlying Asset basis are:

- Audit/Examine the Balance Sheet and Other Financial records
- Ascertaining value of assets.
- Ascertainment of value of liabilities (including contingent liabilities).

Value of Equity Capital = (Value of Assets – Value of Liabilities)/No. of Equity Shares

10.3.1 Valuation of Assets

(i) Fixed Assets

- Estimate replacement or reproduction cost of Asset
- Estimate total economic life and effective age;
- Depreciate replacement/reproduction cost new over economic life to reflect obsolescence related to effective age; and
- Adjust for additional functional/economic obsolescence.

(ii) Investments

Shares and securities that are regularly traded in stock exchange may be valued on the basis of the prices quoted thereat. It must, however, be seen that there is regular trading in those scrips, as an isolated transaction may lead to erroneous results. In cases of quoted shares with isolated transactions and unquoted shares, a secondary valuation may be necessary, if the amount is material. Such unquoted shares and infrequently traded shares may be valued using relative valuation methods or income approach methods of valuation.

(iii) Inventory

Depending on the purpose and need for valuation, it could be based on cost with due allowance/adjustment should be made for any obsolete, unusable or unmarketable stocks held by the company or based on current market prices or net realisable value on sale of such inventory.

(iv) Sundry Debtors

As debtors are reflected as money receivable, it could be valued considering the time value of recovery and after making appropriate allowance/ adjustment credit risk (any bad debts and debts which are doubtful of recovery).

(v) Contingent Assets

If the company has made escalation claims, insurance claims or other similar claims, then the possibility of their recovery should be carefully made on a conservative basis, particularly having regard to the time frame in which they are likely to be recovered.

(vii) Intangible assets

Intangibles Assets of a company have also to be considered, no matter whether they are reflected in the books or not. Intangible assets generally consist of goodwill, patents, trademarks, copyrights, etc. Their book value/net replacement cost/net realisable value/fair value, as the case may be, has to be considered. Goodwill is generally inseparable from business, and it can fetch a price only if the business is sold on a going concern basis.

10.3.2 Valuation of Liabilities

The amount of liabilities reflected in the books of companies may generally be accepted after proper scrutiny. Due consideration should, however, be

given to contingent liabilities if any, necessary, legal opinion should be sought for ascertaining the sustainability of claims or contingent liabilities.

Where liability for taxation has not been provided in the accounts, appropriate amount should be included in the liability. Similar adjustment may be required for proposed dividend.

In case the company has set aside any specific reserves to meet any future losses, it should be ascertained whether they are reserves or provisions. If there is a definite reason to regard them as provisions, they should either be included in liabilities or deducted from the related assets.

While valuing equity shares, the dues of preference shareholders have also to be reduced from the enterprise value to determine the value attributed to the equity share holders. These dues can be ascertained from the terms of issue. Where such shareholders also have a right to participate in the surplus, the applicable amounts of such surplus should be included as liabilities, together with the paid-up value of such preference shares.

Annexure to Guidance Note

Bharat Sanchar Nigam Limited

About Company

Bharat Sanchar Nigam Ltd. provides various telecom services in India. The company's enterprise voice and mobility services include EPABX, voice Virtual Private Network (VPN), PRI/BRI (ISDN), Centrex, 2G/3G mobile, and Blackberry services; and enterprise Internet data center services that comprise managed colocation, managed/hosting, managed IT, and cloud services. Its enterprise data services include leased circuit, MPLS VPN, Internet leased line, very small aperture terminal, VPN, and submarine cable bandwidth leasing services; enterprise broadband services include Wi-Max, Wi-Fi, EVDO, DSL/FTTH broadband services; and enterprise managed services comprise managed network services, managed global audio conferencing, managed software as a service, and Internet data center services. In addition, the company's other enterprise services include web colocation, fleet tracking, video conferencing, video surveillance, web hosting, USOF project, and hosting of other enterprise business solution services. Further, it offers landline services, such as telephone facilities, intelligent network services, PCOs, PRI/BRI/dial-up Internet, and other services; and mobile services, including GSM mobile, CDMA mobile and fixed, CDMA data card, and Wi Max services. Additionally, the company provides broadband services comprising landline, mobile, Wi-Max, fiber, and CDMA broadband services, as well as dial up Internet/Wi-Fi services; and 100G optical transport network services across India. Bharat Sanchar Nigam Ltd. has a strategic collaboration with Coriant. Bharat Sanchar Nigam Ltd. was incorporated in 2000 and is based in New Delhi, India.

Financial Highlights

Key Financials				
	2019 FY	***2020 FY***	***2021 FY***	***2021 FQ4 LTM***
Period Ended	31/03/19	31/03/20	31/03/21	31/03/21
Reported Currency Code	INR	INR	INR	INR
Total Revenue (□M)	1,77,611	1,78,861	1,74,521	1,74,521

Total Revenues, 1 Year Growth (%)	(21.65)	0.70	(2.43)	(2.43)
Gross Profit (□M)	21,598	26,730	95,153	95,153
Gross Profit Margin (%)	12.16	14.95	54.52	54.52
EBITDA (□M)	(93,280)	(80,904)	(2,887)	(2,887)
EBITDA Margin (%)	(52.52)	(45.23)	(1.65)	(1.65)
EBIT (□M)	(1,51,033)	(1,39,044)	(55,568)	(55,568)
EBIT Margin (%)	(85.04)	(77.74)	(31.84)	(31.84)
Earnings from Cont. Ops. (□M)	(1,49,043)	(1,54,996)	(74,411)	(74,411)
Earnings from Cont Ops Margin (%)	(83.92)	(86.66)	(42.64)	(42.64)
Net Income (□M)	(1,49,043)	(1,54,996)	(74,411)	(74,411)
Net Income Margin (%)	(83.92)	(86.66)	(42.64)	(42.64)
Diluted EPS Excl. Extra Items (□)	(29.81)	(31.00)	(14.88)	(14.88)
Diluted EPS Before Extra, 1 Year Growth (%)	86.41	3.99	(51.99)	(51.99)

Subscriber & Revenue Highlights

Subscriber & Revenue Matrix	***2017 FY***	***2018 FY***	***2019 FY***	***2020 FY***	***2021 FY***
Wireless Telecom Operating Metrics					
Subscribers - Total Wireless (000)	1,13,155.04	1,23,659.73	NA	NA	NA
Net Additions - Total Wireless (000)	15,813.47	10,504.69	NA	NA	NA
Buildout and Penetration Metrics					
Miles Passed (1000 miles)	489.51	509.11	NA	NA	NA
Subscriber Data (000)					
Subscribers - Broadband	21,779.03	21,136.71	NA	NA	NA
Subscribers - Telephony	13,689.00	12,256.00	NA	NA	1,25,060.00

Net Additions - Broadband	1,246.94	(642.32)	NA	NA	NA
Net Additions - Telephony	(1,073.00)	(1,433.00)	NA	NA	NA
Revenues Breakdown (□M)					
Revenues - Broadband	54,048	49,041	40,888	35,055	29,622
Revenues - Telephony	93,899	85,097	70,432	67,911	68,177
Revenues - Wireless	1,14,319	72,199	47,177	54,078	54,975
Revenues - Other	21,772	20,341	19,114	21,816	21,747
Revenues - Total	2,84,037	2,26,678	1,77,611	1,78,861	1,74,521
Capital Investment and Acquisition Cost Items (□M)					
Capital Investment - Cable	6,780	14,099	21,511	16,532	5,913

Bharti Airtel Limited

About Company

Bharti Airtel Limited operates as a telecommunications company in 18 countries across Asia and Africa. It operates through Mobile Services India, Mobile Services Africa, Mobile Services South Asia, Airtel Business, Tower Infrastructure Services, Homes Services, Digital TV Services, and other segments. The company's product offerings include 2G, 3G, and 4G wireless services, as well as mobile commerce, fixed line services, high speed home broadband, DTH, and enterprise services, including national and international long-distance services to carriers. It also provides conferencing, cloud, network integration, data centers, managed services, enterprise mobility applications, and digital media solutions. In addition, the company operates submarine cable system; and provides telecom towers and related infrastructure. As of March 31, 2021, it had approximately 471 million customers across its operations. The company was formerly known as Bharti Tele-Ventures Limited and changed its name to Bharti Airtel Limited in April 2006. The company was incorporated in 1995 and is headquartered in New Delhi, India.

Financial Highlights

Key Financials				
	2020 FY	***2021 FY***	***2022 FY***	***2022 FQ4 LTM***
Period Ended	31/03/20	31/03/21	31/03/22	31/03/22
Total Revenue (□M)	8,62,122	10,12,586	11,70,812	11,70,812
Total Revenues, 1 Year Growth (%)	6.29	17.45	15.63	15.63
Gross Profit (□M)	4,49,459	5,57,016	6,98,027	6,98,027
Gross Profit Margin (%)	52.13	55.01	59.62	59.62
EBITDA (□M)	3,57,901	4,60,246	5,80,682	5,80,682
EBITDA Margin (%)	41.51	45.45	49.60	49.60
EBIT (□M)	86,957	1,66,200	2,49,775	2,49,775
EBIT Margin (%)	10.09	16.41	21.33	21.33
Earnings from Cont. Ops. (□M)	(3,36,180)	(2,34,207)	83,052	83,052
Earnings from Cont Ops Margin (%)	(38.99)	(23.13)	7.09	7.09
Net Income (□M)	(3,21,832)	(1,50,835)	42,549	42,549
Net Income Margin (%)	(37.33)	(14.90)	3.63	3.63

Diluted EPS Excl. Extra Items (□)	(69.23)	(47.93)	7.63	7.63
Diluted EPS Before Extra, 1 Year Growth (%)	NM	(30.77)	NM	NM
Owned/Operated Same Store Sales Growth (%)	NA	NA	NA	NA

Subscriber & Revenue Highlights

Subscriber & Revenue Matrix	*2017 FY*	*2018 FY*	*2019 FY*	*2020 FY*	*2021 FY*	*2022 FY*
Wireless Telecom Operating Metrics						
Subscribers - Total Wireless (000)	3,55,673.00	3,95,722.00	NA	3,94,271.00	4,39,566.00	4,54,471.00
Net Additions - Total Wireless (000)	13,633.00	40,049.00	NA	NA	45,295.00	14,905.00
Number of Cell Sites (actual)	NA	NA	4,17,613	5,03,883	6,06,783	8,44,440
Number of Wireless Towers (actual)	NA	NA	1,81,079	1,94,409	2,16,901	2,68,848
Buildout and Penetration Metrics						
Miles Passed (1000 miles)	NA	NA	NA	NA	226.81	226.81
Subscriber Data (000)						
Subscribers - Video	12,815.00	14,168.00	15,400.00	16,600.00	17,700.00	17,558.00
Subscribers - Broadband	NA	NA	NA	NA	2,32,270.00	2,59,665.00
Subscribers - Satellite	12,815.00	14,168.00	15,400.00	16,600.00	17,700.00	17,558.00
Subscribers - Telephony	1,900.00	1,760.00	NA	NA	NA	NA
Subscribers - Total	16,680.00	18,100.00	NA	29,016.00	31,796.00	36,789.00
Net Additions - Basic	1,090.00	1,353.00	1,232.00	1,200.00	1,100.00	(142.00)

Subscriber & Revenue Matrix	***2017 FY***	***2018 FY***	***2019 FY***	***2020 FY***	***2021 FY***	***2022 FY***
Net Additions - Satellite	1,090.00	1,353.00	1,232.00	1,200.00	1,100.00	(158.00)
Net Additions - Broadband	NA	NA	NA	NA	NA	27,395.00
Net Additions - Telephony	(32.29)	(140.00)	NA	NA	NA	NA
Voice Subscribers/ Video Subscribers (%)	14.83	12.42	NA	NA	NA	NA
Cable ARPU and Churn Data						
ARPU: Satellite (□/sub)	231.00	231.00	NA	NA	NA	NA
Revenues Breakdown (□M)						
Revenues - Broadband	27,223	25,056	22,235	22,287	23,292	NA
Revenues - Telephony	94,855	98,244	1,03,235	1,10,980	1,25,060	1,91,092
Revenues - Satellite	34,240	37,505	40,935	29,201	30,562	31,538
Revenues - Wireless	7,69,192	6,31,152	6,09,239	6,84,297	8,27,244	9,86,535
Revenues - Other	29,173	34,431	32,158	NA	NA	(43,696)
Revenues - Total	9,54,683	8,26,388	8,07,802	8,46,765	10,06,158	11,65,469
Capital Investment and Acquisition Cost Items (□M)						
Capital Investment - Cable	45,399	35,669	36,708	42,159	42,966	58,483
Additional Telecommunications Data						
Minutes of Use - Long Distance (min 000)	NA	NA	NA	NA	71,50,00,000	3,29,51,000

Vodafone Idea Limited

About Company

Vodafone Idea Limited provides mobile telecommunication services in India. It offers voice and data services on 2G, 3G, and 4G technologies; broadband services; content services; digital and Internet of thing services; and other value-added services, including entertainment, voice and SMS based, and utility services. The company also provides long distance and ISP services; passive infrastructure services; manpower services; fiber infrastructure services; and business and enterprise services. It also trades in mobile handsets, data cards, and related accessories. As of March 31, 2021, it had approximately 255.7 million mobile subscribers. The company was formerly known as Idea Cellular Limited and changed its name to Vodafone Idea Limited in August 2018. Vodafone Idea Limited was incorporated in 1995 and is based in Mumbai, India.

Financial Highlights

Key Financials				
	2020 FY	***2021 FY***	***2022 FY***	***2022 FQ4 LTM***
Period Ended	31/03/20	31/03/21	31/03/22	31/03/22
Total Revenue (□M)	4,49,167	4,19,382	3,84,984	3,84,984
Total Revenues, 1 Year Growth (%)	21.38	(6.63)	(8.20)	(8.20)
Gross Profit (□M)	1,76,666	1,88,206	1,68,736	1,68,736
Gross Profit Margin (%)	39.33	44.88	43.83	43.83
EBITDA (□M)	80,978	1,04,301	1,60,361	1,60,361
EBITDA Margin (%)	18.03	24.87	41.65	41.65
EBIT (□M)	(94,642)	(66,969)	(75,482)	(75,482)
EBIT Margin (%)	(21.07)	(15.97)	(19.61)	(19.61)
Earnings from Cont. Ops. (□M)	(7,38,781)	(4,42,331)	(2,82,454)	(2,82,454)
Earnings from Cont Ops Margin (%)	(164.48)	(105.47)	(73.37)	(73.37)

Net Income (□M)	(7,38,781)	(4,42,331)	(2,82,454)	(2,82,454)
Net Income Margin (%)	(164.48)	(105.47)	(73.37)	(73.37)
Diluted EPS Excl. Extra Items (□)	(27.26)	(15.40)	(9.83)	(9.83)
Diluted EPS Before Extra, 1 Year Growth (%)	28.83	(43.51)	(36.17)	(36.17)

Subscriber & Revenue Highlights

Subscriber & Revenue Matrix	***2017 FY***	***2018 FY***	***2019 FY***	***2020 FY***	***2021 FY***	***2022 FY***
Wireless Telecom Operating Metrics						
Subscribers - Total Wireless (000)	1,90,000.00	NA	NA	NA	2,55,700.00	2,43,800.00
Net Additions - Total Wireless (000)	15,000.00	NA	NA	NA	NA	(11,900.00)
Number of Cell Sites (actual)	2,41,540	NA	NA	NA	6,32,650	NA
Number of Wireless Towers (actual)	NA	NA	NA	NA	1,80,000	NA
Buildout and Penetration Metrics						
Miles Passed (1000 miles)	NA	NA	NA	NA	233.65	NA
Subscriber Data (000)						
Subscribers - Broadband	42,233.00	NA	1,46,300.00	1,39,500.00	1,39,900.00	NA

Subscriber & Revenue Matrix	*2017 FY*	*2018 FY*	*2019 FY*	*2020 FY*	*2021 FY*	*2022 FY*
Net Additions - Broadband	(1,786.00)	NA	NA	(6,800.00)	400.00	NA
Revenues Breakdown (□M)						
Revenues - Wireless	3,53,034	2,82,420	3,69,865	4,49,123	4,19,331	3,84,895
Revenues - Other	2,724	369	1,060	452	191	260
Revenues - Total	3,55,757	2,82,789	3,70,925	4,49,575	4,19,522	3,85,155
Capital Investment and Acquisition Cost Items (□M)						
Capital Investment - Cable	NA	NA	NA	NA	37,981	44,900

Reliance Jio Infocomm Ltd.

About Company

Reliance Jio Infocomm Limited provides wireless telecommunication services in India. The company has a strategic alliance with ZEE Entertainment Enterprises Ltd. to release ZEE's content library on Jio's platforms. The company was formerly known as Infotel Broadband Services Limited and changed its name to Reliance Jio Infocomm Limited in January 2013. The company was incorporated in 2007 and is based in Mumbai, India. Reliance Jio Infocomm Limited is a subsidiary of Reliance Industries Limited.

Financial Highlights

(Limited data points are available as company is unlisted entity)

Key Financials				
	2018 FY	***2019 FY***	***2020 FY***	***2020 FQ4 LTM***
Period Ended	31/03/18	31/03/19	31/03/20	31/03/20
Total Revenue (□M)	2,03,550	4,08,760	5,44,930	5,44,930
Total Revenues, 1 Year Growth (%)	NM	100.82	33.31	33.31
Gross Profit (□M)	1,00,280	1,75,730	2,60,070	2,60,070
Gross Profit Margin (%)	49.27	42.99	47.73	47.73
EBITDA (□M)	68,310	1,53,180	2,02,120	2,02,120
EBITDA Margin (%)	33.56	37.47	37.09	37.09
EBIT (□M)	32,010	88,480	1,42,770	1,42,770
EBIT Margin (%)	15.73	21.65	26.20	26.20
Earnings from Cont. Ops. (□M)	7,460	29,820	55,990	55,990
Earnings from Cont Ops Margin (%)	3.67	7.30	10.28	10.28
Net Income (□M)	7,460	29,820	55,990	55,990
Net Income Margin (%)	3.67	7.30	10.28	10.28
Diluted EPS Excl. Extra Items (□)	NA	NA	NA	NA
Diluted EPS Before Extra, 1 Year Growth (%)	NA	NA	NA	NA
Owned/Operated Same Store Sales Growth (%)	NA	NA	NA	NA

Subscriber & Revenue Highlights

Subscriber & Revenue Matrix	***2017 FY***	***2018 FY***	***2019 FY***	***2020 FY***
	Current/Restated	Current/Restated	Current/Restated	Current/Restated
Period Ended	31/03/17	31/03/18	31/03/19	31/03/20
Financial Filing Date	07/09/18	20/02/20	27/08/20	27/08/20
Spot Exchange Rate	1.000000	1.000000	1.000000	1.000000
Average Exchange Rate	1.000000	1.000000	1.000000	1.000000
Reported Currency Code	INR	INR	INR	INR
Wireless Telecom Operating Metrics				
Subscribers - Total Wireless (000)	NA	NA	NA	3,87,500.00
Net Additions - Total Wireless (000)	NA	NA	NA	80,800.00
Subscriber Data (000)				
Subscribers - Broadband	NA	NA	NA	3,87,500.00
Net Additions - Broadband	NA	NA	NA	80,800.00
Revenues Breakdown (□M)				
Revenues - Wireless	1,139	2,39,150	4,81,480	6,41,600
Revenues - Other	NA	(35,600)	(72,720)	(96,670)
Revenues - Total	1,139	2,03,550	4,08,760	5,44,930

GTL Infrastructure Limited

About Company

GTL Infrastructure Ltd. (GTL Infra) is engaged in the business of Shared Passive Telecom Infrastructure in India. They deploy, own and manage telecom towers and communication structures that are shared by the Wireless Telecom Operators. The company has a portfolio of about 26,000 towers located across all the 22 Telecom Circles in India.

GTL Infra is also associated with the projects being promoted by DoT (Department of Telecommunications) and COAI such as USO (Universal Services Obligation Fund) for rural telecom infrastructure and MOST (Mobile Operator Shared Tower). GTL Infra is a publicly listed company (BSE: 532775 & NSE: GTL Infra).

Financial Highlights

	2020 FY	*2021 FY*	*2022 FY*	*2022 FQ4 LTM*
Period Ended	31/03/20	31/03/21	31/03/22	31/03/22
Total Revenue (□M)	14,169	14,097	14,627	14,627
Total Revenues, 1 Year Growth (%)	(5.55)	(0.51)	3.76	3.76
Gross Profit (□M)	5,888	5,819	5,199	5,199
Gross Profit Margin (%)	41.55	41.28	35.54	35.54
EBITDA (□M)	1,761	2,957	4,576	4,576
EBITDA Margin (%)	12.43	20.98	31.28	31.28
EBIT (□M)	(3,290)	(1,356)	(456)	(456)
EBIT Margin (%)	(23.22)	(9.62)	(3.12)	(3.12)
Earnings from Cont. Ops. (□M)	(18,635)	(12,708)	(14,747)	(14,747)
Earnings from Cont Ops Margin (%)	(131.52)	(90.15)	(100.82)	(100.82)
Net Income (□M)	(18,635)	(12,708)	(14,747)	(14,747)
Net Income Margin (%)	(131.52)	(90.15)	(100.82)	(100.82)
Diluted EPS Excl. Extra Items (□)	(1.46)	(0.99)	(1.14)	(1.14)
Diluted EPS Before Extra, 1 Year Growth (%)	21.06	(32.18)	14.89	14.89

Tower & Revenue Highlights

	2017 FY	2018 FY	2019 FY	2020 FY
Period Ended	31/03/17	31/03/18	31/03/19	31/03/20
Financial Filing Date	27/04/17	29/08/19	08/09/20	06/09/21
Wireless Telecom Operating Metrics				
Number of Wireless Towers (actual)	27,759	27,707	27,553	27,209
Revenues Breakdown (□M)				
Revenues - Other	6,329	16,678	9,038	8,449
Revenues - Total	6,329	16,678	9,038	8,449

HFCL Limited

About Company

It was incorporated in the late 1980s as India's homegrown telecom equipment manufacturer. Over the last three decades, it has emerged as a leading integrated technology enterprise.

HFCL is a leading manufacturer of optical fiber cables, optical transport, power electronics and broadband equipment for the telecommunication industry. The Company has production facilities at Solan (Himachal Pradesh), Goa, and Chennai (Tamil Nadu) and caters to both Indian and global markets. HFCL, in Joint Venture with a Canadian enterprise DragonWave, supplies full range of Point-to-Point Microwave Radio Links (IP radios up to 23Ghz).

Their operations span the entire communication network value chain – from manufacturing high-tech, quality and cost-competitive products to implementing integrated network solutions on the ground for both private and government organizations across the telecom, defence, railways and security & surveillance sectors.

Financial Highlights

	2020 FY	2021 FY	2022 FY	2022 FQ4 LTM
Period Ended	31/03/20	31/03/21	31/03/22	31/03/22
Total Revenue (□M)	38,389	44,230	47,700	47,700
Total Revenues, 1 Year Growth (%)	(18.97)	15.21	7.85	7.85
Gross Profit (□M)	8,975	10,142	12,713	12,713
Gross Profit Margin (%)	23.38	22.93	26.65	26.65
EBITDA (□M)	5,000	5,381	6,930	6,930
EBITDA Margin (%)	13.03	12.17	14.53	14.53
EBIT (□M)	4,673	4,814	6,147	6,147
EBIT Margin (%)	12.17	10.88	12.89	12.89
Earnings from Cont. Ops. (□M)	2,373	2,462	3,259	3,259
Earnings from Cont Ops Margin (%)	6.18	5.57	6.83	6.83

	2020 FY	2021 FY	2022 FY	2022 FQ4 LTM
Net Income (□M)	2,273	2,390	3,131	3,131
Net Income Margin (%)	5.92	5.40	6.56	6.56
Diluted EPS Excl. Extra Items (□)	1.76	1.86	2.38	2.38
Diluted EPS Before Extra, 1 Year Growth (%)	0.57	5.73	27.90	27.90

Indus Towers Ltd.

About Company

Indus Towers Limited is formed by the merger of Bharti Infratel Limited and Indus Towers. This combined strength makes Indus one of the largest telecom tower companies in the world.

Indus Towers Limited has over 185,447 towers and 335,791 co-locations (as on 31st March 2022) and a nationwide presence covering all 22 telecom circles. Indus' leading customers are Bharti Airtel (together with Bharti Hexacom), Vodafone Idea Limited and Reliance Jio Infocomm Limited, which are the leading wireless telecommunications service providers in India by revenue.

Financial Highlights

	2020 FY	2021 FY	2022 FY	2022 FQ4 LTM
Period Ended	31/03/20	31/03/21	31/03/22	31/03/22
Total Revenue (□M)	67,430	1,39,543	2,77,172	2,77,172
Total Revenues, 1 Year Growth (%)	(1.22)	106.95	98.63	98.63
Gross Profit (□M)	38,320	75,635	1,53,325	1,53,325
Gross Profit Margin (%)	56.83	54.20	55.32	55.32
EBITDA (□M)	33,207	62,424	1,49,429	1,49,429
EBITDA Margin (%)	49.25	44.74	53.91	53.91
EBIT (□M)	22,809	43,158	96,177	96,177
EBIT Margin (%)	33.83	30.93	34.70	34.70
Earnings from Cont. Ops. (□M)	32,987	37,790	63,731	63,731
Earnings from Cont Ops Margin (%)	48.92	27.08	22.99	22.99
Net Income (□M)	32,987	37,790	63,731	63,731
Net Income Margin (%)	48.92	27.08	22.99	22.99
Diluted EPS Excl. Extra Items (□)	17.84	17.52	23.65	23.65
Diluted EPS Before Extra, 1 Year Growth (%)	32.27	(1.82)	35.03	35.03

ITI Ltd.

About Company

ITI Ltd is a Public Sector Undertaking under Department of Telecommunication, Government of India. The company has a diverse suite of products including manufactured products like Gigabit Passive Optical Network (GPON), Managed Leased Line Network (MLLN) products, Stand Alone Signaling Transfer Point(SSTP), Wi-Fi Access Point, Radio Modem, SMPS, Set Top Box, Defence products like multi-capacity encryption units, Bulk encryption Units (BEU), Terminal End Secrecy Devices (TESD), Passive infrastructure products such as Optical Fiber Cable, HDPE duct, Antenna, diversified products such as smart energy meters, smart cards, solar panels, mini personal computers.

The company has manufacturing facilities in Bengaluru, Naini, Rae Bareli, Mankapur and Palakkad along with an R&D centre in Bengaluru and 25 Marketing, Services & Projects (MSP) centers in India, which are located at Bengaluru, Bhubaneshwar, Chennai, Hyderabad, Kolkata, Lucknow, Mumbai, New Delhi and 17 other places spread across the country. Besides offering the telecom turnkey solutions and customized support, ITI has a dedicated Network System Unit for executing turnkey projects for installation and commissioning of telecommunication networks.

Financial Highlights

	2020 FY	2021 FY	2022 FY	2022 FQ4 LTM
Period Ended	31/03/20	31/03/21	31/03/22	31/03/22
Total Revenue (□M)	20,589	23,622	18,607	18,607
Total Revenues, 1 Year Growth (%)	23.41	14.73	(21.23)	(21.23)
Gross Profit (□M)	4,745	4,526	4,255	4,255
Gross Profit Margin (%)	23.05	19.16	22.87	22.87
EBITDA (□M)	1,506	1,182	1,087	1,087
EBITDA Margin (%)	7.31	5.00	5.84	5.84
EBIT (□M)	1,087	764	586	586
EBIT Margin (%)	5.28	3.23	3.15	3.15
Earnings from Cont. Ops. (□M)	1,457	95	1,197	1,197
Earnings from Cont Ops Margin (%)	7.08	0.40	6.43	6.43
Net Income (□M)	1,457	95	1,197	1,197
Net Income Margin (%)	7.08	0.40	6.43	6.43
Diluted EPS Excl. Extra Items (□)	1.62	0.10	1.28	1.28
Diluted EPS Before Extra, 1 Year Growth (%)	119.21	(93.70)	NM	NM

Tata Teleservices (Maharashtra) Limited (TTML)

About Company

Tata Teleservices (Maharashtra) Limited (TTML) is a leading player in the connectivity and communication solutions market for enterprise customers. Their services are ranging from Connectivity, Collaboration, Cloud & SaaS, Security and Marketing solutions, we offer a comprehensive portfolio of ICT solutions for businesses in India under the brand name Tata Tele Business Services (TTBS). Their solutions allow enterprises to be resilient and maintain business continuity in a flexible, scalable and secure manner.

Financial Highlights

	2020 FY	2021 FY	2022 FY	2022 FQ4 LTM
Period Ended	31/03/20	31/03/21	31/03/22	31/03/22
Total Revenue (□M)	10,777	10,437	10,938	10,938
Total Revenues, 1 Year Growth (%)	(15.62)	(3.16)	4.80	4.80
Gross Profit (□M)	4,584	5,073	4,676	4,676
Gross Profit Margin (%)	42.53	48.60	42.75	42.75
EBITDA (□M)	3,624	4,403	4,676	4,676
EBITDA Margin (%)	33.63	42.19	42.75	42.75
EBIT (□M)	2,267	3,215	3,074	3,074
EBIT Margin (%)	21.04	30.81	28.11	28.11
Earnings from Cont. Ops. (□M)	(37,141)	(19,967)	(12,150)	(12,150)
Earnings from Cont Ops Margin (%)	NM	(191.32)	(111.08)	(111.08)
Net Income (□M)	(37,141)	(19,967)	(12,150)	(12,150)
Net Income Margin (%)	NM	(191.32)	(111.08)	(111.08)
Diluted EPS Excl. Extra Items (□)	(19.00)	(10.21)	(6.22)	(6.22)
Diluted EPS Before Extra, 1 Year Growth (%)	NM	(46.24)	(39.10)	(39.10)

Tower & Revenue Highlights

	2017 FY	2018 FY	2019 FY	2020 FY
	Current/Restated	Current/Restated	Current/Restated	Current/Restated
Period Ended	31/03/17	31/03/18	31/03/19	31/03/20
Financial Filing Date	30/08/18	19/08/19	21/08/20	03/06/21
Wireless Telecom Operating Metrics				
Subscribers - Total Wireless (000)	7,900.00	6,100.00	2,807.00	804.00
Net Additions - Total Wireless (000)	(2,000.00)	(1,800.00)	(3,293.00)	(2,003.00)
Subscriber Data (000)				
Subscribers - Telephony	782.00	NA	NA	NA
Net Additions - Telephony	(20.00)	NA	NA	NA
Revenues Breakdown (□M)				
Revenues - Wireless	26,491	18,402	12,454	10,524
Revenues - Other	538	283	318	253
Revenues - Total	27,029	18,685	12,772	10,777
Capital Investment and Acquisition Cost Items (□M)				
Capital Investment - Cable	852	792	1,073	1,366

Tejas Networks Ltd.

About Company

Tejas Networks is an optical, broadband and data networking products company based in India. The company designs, develops and sells its products to telecom service providers, internet service providers, utilities, security and government entities in 75 countries. The company has built many IPs in multiple areas of Telecom networking and has emerged as an exporter to other developing countries including Southeast Asia and Africa.

Tejas Network made a beginning with the development of Intelligent Network technologies. These networks transferred data between two points at the precise speed as per the requirements of the customer. The network also rerouted and cleaned the traffic in case of disruptions.

Tejas Networks went public on BSE and NSE in June 2017 with a valuation of Rs 2301 crore (23,010,000,000). The organization is considered to be the first listed player in the optical networking equipment space in India.

Financial Highlights

	2020 FY	2021 FY	2022 FY	2022 FQ4 LTM
Period Ended	31/03/20	31/03/21	31/03/22	31/03/22
Total Revenue (□M)	3,962	5,279	5,506	5,506
Total Revenues, 1 Year Growth (%)	(56.00)	33.24	4.30	4.30
Gross Profit (□M)	1,904	2,571	2,398	2,398
Gross Profit Margin (%)	48.07	48.71	43.56	43.56
EBITDA (□M)	(755)	188	(805)	(805)
EBITDA Margin (%)	(19.05)	3.56	(14.61)	(14.61)
EBIT (□M)	(890)	41	(1,572)	(1,572)
EBIT Margin (%)	(22.46)	0.77	(28.56)	(28.56)
Earnings from Cont. Ops. (□M)	(2,371)	375	(627)	(627)
Earnings from Cont Ops Margin (%)	(59.85)	7.11	(11.39)	(11.39)
Net Income (□M)	(2,371)	375	(627)	(627)
Net Income Margin (%)	(59.85)	7.11	(11.39)	(11.39)
Diluted EPS Excl. Extra Items (□)	(25.76)	3.99	(5.97)	(5.97)
Diluted EPS Before Extra, 1 Year Growth (%)	NM	NM	NM	NM

Tata Communications Ltd

About Company

Tata Communications Limited is an Indian telecommunications company previously known as Videsh Sanchar Nigam Limited (VSNL). It was previously government owned under the ownership of Department of Telecommunications, Ministry of Communications, Government of India. It was sold by Department of Telecommunications, Ministry of Communications, Government of India to Tata Group.

Tata's communications network spans more than 500,000 kilometres (310,000 mi) of subsea fibre and more than 210,000 kilometres (130,000 mi) of terrestrial fibre. The company has invested $1.19 billion in its global subsea fibre network.[2] It provides network services and software-defined network platforms, such as Ethernet, SD-WAN, content delivery networks (CDNs), the internet, Multiprotocol Label Switching (MPLS), and private lines. It has more than 400 points of presence (PoPs) with a data centre, Cloud (Private Cloud and Puiblic Cloud Management) and co-location in 44 sites.

It is listed on the Bombay Stock Exchange and the National Stock Exchange of India. It also holds a stake on its Sri Lankan subsidiaries, Tata Communications Lanka.

Financial Highlights

	2020 FY	2021 FY	2022 FY	2022 FQ4 LTM
Period Ended	31/03/20	31/03/21	31/03/22	31/03/22
Total Revenue (□M)	1,70,680	1,71,001	1,67,247	1,67,247
Total Revenues, 1 Year Growth (%)	3.28	0.19	(2.20)	(2.20)
Gross Profit (□M)	54,604	59,657	74,849	74,849
Gross Profit Margin (%)	31.99	34.89	44.75	44.75
EBITDA (□M)	28,145	37,739	42,267	42,267
EBITDA Margin (%)	16.49	22.07	25.27	25.27
EBIT (□M)	9,592	19,467	20,222	20,222
EBIT Margin (%)	5.62	11.38	12.09	12.09
Earnings from Cont. Ops. (□M)	(848)	12,515	14,847	14,847
Earnings from Cont Ops Margin (%)	(0.50)	7.32	8.88	8.88
Net Income (□M)	(860)	12,506	14,818	14,818
Net Income Margin (%)	(0.50)	7.31	8.86	8.86

Diluted EPS Excl. Extra Items (□)	(3.02)	43.88	51.99	51.99
Diluted EPS Before Extra, 1 Year Growth (%)	4.36	NM	18.48	18.48

Tower & Revenue Highlights

	2017 FY	2018 FY	2019 FY	2020 FY
	Current/Restated	Current/Restated	Current/Restated	Current/Restated
Period Ended	31/03/17	31/03/18	31/03/19	31/03/20
Financial Filing Date	16/07/18	08/07/19	06/08/20	07/06/21
Revenues Breakdown (□M)				
Revenues - Broadband	1,03,397	51,561	54,488	57,512
Revenues - Telephony	67,583	53,113	38,703	33,762
Revenues - Other	(64)	58,005	67,181	74,362
Revenues - Total	1,70,916	1,62,679	1,60,372	1,65,636
Capital Investment and Acquisition Cost Items (□M)				
Capital Investment - Cable	12,562	17,724	19,214	21,049

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