



India's digital infrastructure landscape: 2023 updates



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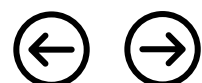
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Foreword

2023 brings an era where digital infrastructure and services have conspicuously become the backbone of global economies and trade. The preceding lockdowns worldwide led up to the frenzied global race – initially for digital scaling, and then autonomy and supremacy. By the start of 2023, digital infrastructure and solutions already secured recognition as valued assets for creating new business models and boosting intra-border and cross-border market growth and investment, in nearly all sectors.

We are seeing India, too, aiming to be a frontrunner in the digital infrastructure and services space – not just for its local enterprises and populace, but also as a global digital hub. Start-up and scaled-up businesses that now leverage digital connectivity and accessibility continue to emerge and take the place of traditional ones. Investor interest in this transforming Indian digital market thus remains at a high. The growing number of Indian unicorns in this sector corroborates this. From data centres to internet exchanges, satellite gateways to subsea cabling, and launch of 5G to adoption of emerging technologies like artificial intelligence and machine to machine service, the Indian market stands ready.

In India, the data centre market is driven by data centre operators, tech giants, financial sponsors, and Indian infrastructure / real estate developers. Data centre operators are partnering with financial sponsors or with local Indian real

estate or infrastructure players to set up data centres. Predominantly, India is witnessing greenfield development of data centres. Factors like growing demand for data, high bandwidth capacity, low cost of maintaining and operating data centres (as compared to other jurisdictions), availability of skilled workforce and continued regulatory support (through policies, reforms and incentives) indicate that India is well poised to be a global hub for data centres.

We note the Indian government's proactive approach recently, having set the 'Telecommunications' and the 'Technology' sectors onto a path of legal and regulatory transmogrification. A coast-to-coast revamp of the existing frameworks is on the cards, which we are closely watching.

We saw this year being heralded by landmark regulatory endeavors relating to digital infrastructure businesses. Among them, the Indian Telecommunication Bill 2022 (Telecom Bill) stands out significantly, covering the entire telecommunications landscape and recently floated for stakeholder consultations. Through a participative effort, the digital industry stakeholders and the Indian government anticipate the dissolution of archaic laws, along with drastic changes to the licensing frameworks. This bill will remain one of our focal areas.

The current Information Technology Act, 2000 is also under scrutiny and due for an overhaul, to support the evolving digital services industry with a more contemporary set of regulations that catalyse innovation. The proposed bill is yet to take shape, but it is likely that 2023 will see its initial form. This could also influence the digital infrastructure and digital services industries, both.

We expect these regulatory efforts to be largely aligned with the *Digital India* vision of making India a digital hub and promoting the 'ease of doing business' mantra of the Indian government.





New avenues for communications infrastructure

Current Backdrop

The content-driven digital information and communications technology (ICT) sector is thriving more than ever. As of 2022, the ICT sector and digital economy contributed over 13% to India's GDP, which is aimed to grow to 20% by 2025, according to the International Trade Administration. The need for digital communications after the pandemic, coupled with 5G roll-out, have raised the 'demand' for improved quality, efficiency and accessibility of ICT services. What has also grown is the 'reliance' of many sectors on ICT services for their business outreach, growth and expansion.

In this environment of ICT growth, the rising industry-wide concerns over outdated licensing and regulatory frameworks around ownership and operation of communications infrastructure, compliance burdens relating to submarine cable systems and cable landing stations, and ambiguities around sharing of digital infrastructure like fibres, towers and antennae (for efficient use of resources), have led the Indian government to take corrective action.

What's Next?

The Indian Government is gearing up to promote digital infrastructure connectivity in India with ambitious and visionary initiatives such as 'Digital India' and 'PM Gati Shakti - National Master Plan for Multi-modal Connectivity+', and now attempting an overhaul of the century-and-more old Indian Telegraph Act, 1885 with the proposed Telecom Bill (2022) for public consultation. The recent 2023 Budget has also emphasized digital connectivity through 5G expansion.

Road to 5G

The drive for '5G launch' in major Indian cities towards the end of 2022 had triggered massive efforts towards telecom network upgradation and densification. Telecom entities are now vying to complete their pan-India 5G launch by the end of 2023. This will be period of substantial capital expenditure in telecom infrastructure upgradation and establishment, and 5G equipment imports. Just this year alone, the telecom sector is expecting more than USD 18 billion worth of investments¹.

The Budget 2023 also provides impetus to '5G-enabled' infrastructure, providing relief in the customs duty on import of certain parts and inputs like camera lenses, which will reduce the cost (and promote the accessibility) of 5G-enabled services.

¹ Source: <https://economictimes.indiatimes.com/industry/telecom/telecom-news/telecom-space-set-for-5g-to-attract-rs-1-5-lakh-cr-investments-in-2023-tariff-hikes-likely-too/articleshow/96614727.cms>



Infrastructure sharing

The Telecom Regulatory Authority of India's (TRAI) recent consultations for industry views on telecom infrastructure sharing is also significant. Among other things, TRAI seeks to examine a new regime that will allow infrastructure providers to provide 'active' elements to telecom operators (in addition to 'passive' elements), on a multi-operator sharing basis. Although envisaged as a 'licensed' activity, TRAI has proposed no license fee. If adopted, we might see a flurry of new entrants in the sector (who would seek investments). It will also allow existing telecom operators to restructure or demerge their '*active infrastructure undertakings*' and monetise those assets by sharing it with other operators – without incurring license fee on those revenues – while also attracting substantial investments in the demerged entity. All such efforts would optimise the use of resources, enabling telecom service providers to divert their capital into infrastructure upgradation and network expansion, opening even more avenues for investments.

Submarine cables & cable landing stations

Acknowledging that submarine cables are "vital and core infrastructure of the digital age for any country", the TRAI has also recently issued a consultation paper to re-examine and simplify the regulatory regime relating to laying of submarine cables in India and setting up of cable landing stations. Considering that reportedly around 99% of the world's digital international communications transits through the global submarine cable network, such consultations can play a pivotal role in improving latency and efficiency of international data traffic and promote digital infrastructure businesses in India.

Autonomy

One other aspect on which we see 'big tech', 'big data' and many other industry players (especially those dealing with high volumes of data traffic) voicing their preference is for a freer framework allowing the autonomy and direct control over the ICT infrastructure, including for captive use. Presently, these entities remain dependent on 'licensed' or 'registered' service providers (burdened by heavy compliances and/or license fees) to commercially own, operate or provide different categories of infrastructure and services.

This is a watchout area for the industry and investors, in 2023. The Telecom Bill proposes additional licensing and registration requirements for services or entitlements that are currently non-licensed, including provision of passive infrastructure like dark fibers and telecom towers. However, with reports of a potential claw-back of some of these requirements, it will be essential to appropriately voice the stakeholders' concerns and seek for a more light-touch regime, before the proposed law takes final form.

A simplified regime may also provide a boost to investments in this sector and enable smaller players and start-ups to tread in this 'industry 4.0'. Going by the current trend of the government's effort to boost the telecom sector and reduce the barriers for potential market entrants, we envisage the industry can expect a favourable outcome.



Driving digital economy with internet exchanges and content delivery networks

Current Backdrop

Data centres, content delivery networks (CDN) and internet exchanges/ internet exchange points (IXP) play a crucial role in the ICT sector and transmission of content across different locations, especially with proliferation of 5G, Internet of Things, and artificial intelligence (AI). Increased adoption of the internet and demand for high 'quality of service' for rich media and heavy content formats has sparked the need for investment in this sector.

The national policies, and 'smart city' initiatives, to promote such services and systems are pushing the need for legal and regulatory tweaking. TRAI has acknowledged that the digital infrastructure ecosystem comprising of data centres, CDNs and internet exchanges goes beyond Tier-I cities and should be made accessible across India aligned with the vision and goals of 'Digital India'. This will birth new opportunities for investment.

The industry currently depends on telecom licensees to facilitate transmission of content, set up IXPs, peer and exchange IP traffic, etc. This often results in increased cost burdens and creates entry barriers for smaller players. With the growing data traffic and only a limited number of players controlling a significant proportion of internet traffic, TRAI is also wary of anticompetitive agreements between CDNs, ISPs/TSPs, and internet companies.

What's Next?

With one of the highest populations in the world and second largest user base for online services, the demand for content is at an all-time high. To promote digital infrastructure in India, TRAI is re-examining the regulatory framework and seeking stakeholder views on a number of issues in relation to data centres, CDNs and internet exchanges. Such consultations can be propitious opportunities for the industry to highlight modern challenges and key issues that must be addressed by the Indian Government to boost investments and facilitate ease of doing business in this sector.

TRAI is cognizant that tech companies, content providers and TSPs are co-dependent on each other for delivery of digital services to end users. Accordingly, there is a need to regulate competition to ensure equal access to CDNs, equitable and non-discriminatory interconnection options, regulating revenue sharing arrangements to avoid any abuse of dominance, among other things.

Thus, a 'light-touch' regime is being contemplated which may comprise of license and registration requirements for internet exchanges and CDNs. While this may aid in creating a level playing field, such providers may be monitored and be subject to a flurry of compliance requirements. Whether this will result in emergence of new business models and removing entry barriers, or the onset of onerous obligations and compliance burdens for such entities, remains to be seen. Again, participative efforts of the stakeholders is essential to put across industry concerns succinctly.



Accelerated growth of data centre market

Current Backdrop

The pandemic accelerated the digital transformation journey and pushed industries towards the use of cloud services, which in turn resulted in an increase in the need for data centres. The Indian data centre market is ever-growing and constantly evolving with a greater preference for cloud services and consumption and generation of data by half a billion users. Businesses are eager to acquire data management capacities to handle the plethora of data being generated and India is an attractive investment destination with the incentives offered to data centre operators and the investors in this space. With factors such as the advent of 5G and the fast-paced developments and utility of artificial intelligence, India's data centre market is primed for inevitable expansion.

What's Next?

With a vision of making India a key global player in the data centre market, the Indian government has released the Draft Data Centre Policy for the evolution and expansion of data centre infrastructure within the country. The policy emanates the clear intent to make India a key global player in data infrastructure by promoting investment in the sector and propelling digital economic growth. Recently, data centres have been granted the infrastructure sector status.

While this paves the way for foreign investors to opt for multiple routes for investment in data centre businesses, the entities involved in the data centre sector would also have the benefit of availing long-term credit from domestic and international lenders on more favourable terms as compared to other sectors.

Investment potential in data centres in India is flourishing. Entities across the world opting to shift their data processing activities and storage servers in India as the outsourcing industry, cloud storage and other communications infrastructure hub continues to propel in India. The Government in the currently proposed data protection bill, has not set out any specific data localisation requirements or the specific countries or territories outside India to which personal data may be transferred. Though these may be notified at a later stage, it will be significant from a business model perspective.

However, to galvanise greater investment in this sector and facilitate ease of doing business, the Government is mulling over 'data embassy policies' as part of the 2023 Budget. Based on public statements made by Government officials, it can be expected that the data embassies will enjoy certain immunities from local laws to "build a trusted data storage ecosystem in India", ease geopolitical concerns and ensure 'digital continuity' with the world.

Liberalised framework to pave the way for satellite communications in India

Current Backdrop

With the growing demand for satellite network communications, the space industry has also witnessed tremendous growth, catalysed by heavy investments, forward-looking policy initiatives, and ample prospects to ramp-up private sector participation. Satellite and space launch services from Indian Space Research Organisation and private space startups are projected to grow the fastest, with a compound annual growth rate of 13% in the next three years².

Industry opportunities continue to arise for satellite communications to play a more expansive and integrated role in large scale socio-economic development, establishing connectivity in remote areas, facilitating mission-critical applications like disaster-management, emergency medical care, defence, etc.

Persistent efforts are also under way on the regulatory front to keep the legal landscape up to date with the changing dynamics of technology.

Under the existing framework for providing satellite communications, a 'telecom license' is required for establishing an earth station gateway.

The provider also needs to establish multiple gateways to control multiple 'beams'. Licensees thus bear the brunt of excessive costs, heightened compliance burdens and sub-optimal utilisation of resources.

What's Next?

The Indian government has beckoned for a new arrangement based on 'gateway sharing' by satellite constellation operations among different licensees. Following an elaborate stakeholder consultation process, a new licensing framework for Satellite Earth Station Gateways (SESG) is likely to be soon rolled out detailing the various financial, technical, operational and commercial parameters.

The new framework is expected to cater to the growing demand for satellite communications bandwidth – by opening doors for potential entrants, establishing a level-playing field in the market, increasing investments including FDI in the sector and promoting ease of doing business. While most of the finer aspects relating to the framework (e.g., scope and applicability) are still being crystallised, the new framework will likely provide a huge impetus to the players in the satellite communications industry.

² Source: <https://www.livemint.com/technology/tech-news/satellite-services-to-lead-india-to-13bn-space-economy-by-2025-11665403644966.html>

Evolving cybersecurity regime in India

Current Backdrop

As the Indian Government takes on endeavours like 'India's Trillion Dollar Digital Opportunity' and scope for digital infrastructure and services expands in India, cyber-security becomes critical. Today, users are tremendously conscious of their privacy and data. Vulnerabilities in cyber and digital systems can pose grave consequences for businesses including their overall reputation, goodwill and user trust.

In 2022, the Indian Government tightened the noose on cybersecurity by issuing directions with mandatory reporting requirements and strict timelines for various cyber security incidents, synchronisation of ICT systems clocks, maintenance of logs, among other compliances. The Indian Government also included a set of additional compliances for data centres, virtual private server providers, cloud service providers and virtual private network (VPN) service providers. Through these directions, the Indian Government seeks to reinforce the idea of an open, safe, trusted and accountable internet.

What's Next?

Despite the novel objectives, in 2023, entities with digital infrastructure are still re-examining their current infrastructure set-ups and incident response management procedures. Industry stakeholders have also raised concerns about practical difficulties with the new requirement, although enforcement for non-compliance has been bleak. Until further clarity emerges, entities in this sector continue to grapple with the legal and regulatory requirements and implement appropriate technical and operational measures.

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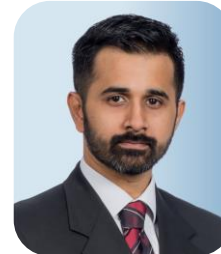
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