

KEY TAKEAWAYS FROM 1st CONVERGENT CONFERENCE ON SUBSEA CABLES & DIGITAL CLOUD INFRASTRUCTURE

CONTEXT & BACKGROUND

Broadband India Forum organised the 1st Convergent Conference on Subsea Cable and Digital Cloud Infrastructure in Delhi on 24th Feb 2026 as a follow up of the 1st International Conference on Sub Sea Cables held in March 2025. Detailed programme and list of speakers is enclosed as attachment.

The conference underscored the convergence between subsea cable infrastructure and digital cloud ecosystems, highlighting that connectivity and compute are no longer independent layers but tightly interlinked components of a unified digital architecture.

India is at a decisive inflection point driven by the convergence of artificial intelligence (AI), exponential data growth, and accelerating investments in digital infrastructure. India today records among the highest per-user mobile data consumption globally, at approximately 27–36 GB per user per month. Total data traffic for mobile is at ~26,000 PB/month while for fixed line broadband the data traffic is ~20,000 PB/month. Fixed line broadband connections are only 4.5% of the total broadband connections in India, therefore, despite being miniscule number of fixedline customers the data usage is about 40% of total (Mobile + wireline) data usage. And thus, this surge is fundamentally reshaping digital infrastructure requirements. Further, AI is no longer merely an application layer but an important driver, requiring highly synchronized, low-latency, and high-capacity networks. Therefore, at the core of the digital transformation is the convergence of submarine cables, domestic fiber networks, and data centers.

Globally, Submarine Cables carry more than 95% of international data flows, underpinning nearly USD 10 trillion of daily global economic activity across approximately 1.4–1.5 million km of cable systems. The speakers emphasized that India must now build in three years what we built earlier over the last 25 years, particularly in scaling data centers and global connectivity.

India currently hosts around 18 submarine cable systems and 23 landing stations, largely concentrated in Mumbai and Chennai. Concurrently, it may be noted that Mumbai and Chennai account for approximately 55% and 20% of national data center capacity respectively. Submarine cable bandwidth demand is projected to grow at ~26% CAGR, with overall demand expected to double within three years. India's data center capacity has grown from ~540 MW in 2019 to ~1.4–1.7 GW today and is projected to reach 6–8 GW by 2030. Experts opined that the data center capacity has potential of rising to 10 GW due to AI adoption. And thus, infrastructure planning dynamics are also shifting: while data centers historically followed cable landing stations, new cable routes are increasingly being designed around data center demand.

In parallel, submarine cables have transitioned from being commercial telecom assets to strategic national infrastructure, now formally recognized as critical infrastructure under the Telecom Act. This shift reflects a broader redefinition of digital connectivity—not merely as a utility, but as a foundational pillar of economic growth, technological capability, and national resilience in the AI era.

KEY CHALLENGES

Drawing from the discussions and insights shared across multiple sessions, the conference highlighted a set of interrelated structural, operational, and strategic challenges as under:

- **Structural concentration and limited resilience of Subsea cables terminating in India:** Participants consistently highlighted the risks arising from the high concentration of infrastructure in Mumbai and Chennai, which creates systemic vulnerabilities for redundancy and network resilience. The issue is further accentuated by the fact that there are repeated cable cuts near Mumbai due to anchoring and fishing activity. Additionally, these risks are compounded by global chokepoints such as the Red Sea, Strait of Malacca, the Baltic and Egypt corridor.
- **Operational inefficiencies and delays:** Speakers noted that India experiences approximately six to seven submarine cable faults annually. However, average repair timeline is around 60 days, with nearly 50 days consumed by multi-agency regulatory approvals for imported repair vessel, crew, and repair cables etc. This reflects significant coordination challenges besides inordinate delays and underscores the need for swift, streamlined, single-window clearance mechanisms.
- **Capability gaps and external dependencies:** A key concern raised was India's limited domestic capability in subsea cable laying and repair. The country remains dependent on international providers such as E-Marine and SEACOMA, which constrains response times and raises concerns around long-term strategic autonomy.
- **High deployment timelines:** Deployment timelines for new subsea infrastructure have nearly doubled—from ~24 months to ~48 months due to complex approval processes, environmental clearances, and multi-jurisdictional coordination. As emphasized during the conference, "time is bandwidth," with delays directly impacting capacity creation and competitiveness. Therefore, there is need to work for improving on 'Ease of doing business' by introduction of single window for seeking multi-agency approvals.
- **Inadequacy of terrestrial infrastructure:** Discussions also highlighted that domestic fiber infrastructure remains a critical bottleneck. While India has approximately 1.44 million km of optical fiber, much of it is 15–25 years old and was designed for traditional telecom usage. It is not optimized for high-capacity, low-latency, data center-to-data center and CLS to Data center) traffic required for hyperscale workloads.
- **Imbalanced infrastructure development:** Speakers also emphasized that while hyperscale and private investments in data centers are accelerating rapidly, the expansion of supporting domestic terrestrial fiber infrastructure has not kept pace—particularly in rural and tier-2/3/4 regions. This imbalance risks constraining both resilience and inclusive digital growth.

SPECIFIC INTERVENTIONS

The conference identified a set of priority interventions required to align India's digital infrastructure ecosystem to meet the data demand in this era of AI proliferation. A key theme across discussions was the need for **integrated and coordinated development across subsea cables, terrestrial fiber networks, and data center infrastructure**, rather than isolated expansion of individual components.

- There is an urgent need to **streamline regulatory processes and improve inter-agency coordination**. Fully operational single-window clearance systems for submarine cable deployment, repair approvals, and data center projects must be implemented. Repair approval timelines—currently averaging around 50 days—need to be significantly reduced to say a maximum of 7 days, to ensure faster restoration of critical connectivity and avoid revenue loss to both enterprise and exchequer. At present, coordination across multiple agencies remains fragmented and process-driven, requiring greater alignment to support time-bound infrastructure deployment.
- In parallel, **expanding cable landing station diversity** is critical to improving overall system resilience. New landing points across both eastern and western coasts, including Visakhapatnam, Digha, Porbandar, and Alibaug, are essential to reduce overdependence on Mumbai and Chennai. This must be complemented by stronger integration with data center locations and high speed, low latency, high - capacity terrestrial connectivity for linking data centers across the country.
- Enabling **domestic submarine cable deployment** will further strengthen the ecosystem by improving reliability and reducing dependence on long-haul terrestrial routes. Policy initiatives under consideration—including provisions to allow submarine cables to land directly at data center facilities and reforms in the National Long Distance (NLD) licensing framework—are expected to support more integrated infrastructure planning. The recent reduction in NLD licence entry cost from ₹5 crore to ₹1 crore is a positive step in this direction.
- To support growing data flows, **strengthening domestic fiber corridors** is equally important. High-capacity, low-latency routes connecting major data center clusters such as Mumbai–Chennai, Delhi–Mumbai, Delhi–Chennai, and Mumbai–Hyderabad–Visakhapatnam—must be developed with high fiber counts, physically diverse paths, and strong service-level guarantees, ensuring seamless connectivity between cable landing points and compute infrastructure.
- Beyond domestic networks, **building global route diversity** is essential to enhance resilience. New subsea systems should be designed to bypass high-risk chokepoints such as the Red Sea, the Baltic and Strait of Malacca by leveraging alternative routes via Africa or the Pacific. Increasing routes, landing points, and vendor diversity will be key, with a need to scale subsea capacity by 4–5x to meet future demand and support India's emergence as a global data hub. From the geopolitical and strategic reasons there is need to have vendor diversity of subsea cable equipment and cables.
- At the same time, **developing domestic capabilities** in subsea cable engineering, laying, and repair remains critical. The need for an indigenous subsea cable construction and repair capability, including a dedicated repair vessel, was strongly highlighted. This could be developed either as a government-owned strategic asset or through a public-private partnership model, reducing external dependencies and improving response times.
- Finally, infrastructure expansion must be complemented by **more distributed and inclusive development**. Scaling edge data centers and state-level facilities across tier-2 and tier-3 cities, along with improving utilization of existing terrestrial fiber infrastructure through open-access frameworks, rational pricing, and streamlined right-of-way processes, will be essential to ensure balanced and inclusive growth across regions.

CONCLUSION

The conference highlighted a fundamental shift in the nature of digital infrastructure, where submarine cables, data centers, and terrestrial fiber networks are no longer seen as invisible utilities but as strategic assets underpinning economic growth, technological leadership, and national resilience. Their increasing convergence is giving rise to a new class of global digital highways, positioning India at a critical juncture in its digital evolution. As the country moves beyond being a large consumption market toward becoming a trusted global hub for AI, cloud, and digital services, it is expected to serve not only domestic demand but also key international markets across Asia, the Middle East, and Africa. Realizing this ambition will require tightly coordinated development across infrastructure layers, significantly faster deployment timelines, and a regulatory approach that prioritizes enablement, predictability, agility and ease of doing business. Ultimately, sustained focus on resilience, scalability, and trust will be essential to ensure that India's digital infrastructure expansion strengthens both global competitiveness and inclusive national development.
