Undersea Cable Industry Report (2025–2035)

This comprehensive report examines the rapidly evolving undersea cable industry from 2025 to 2035, with a focus on global trends and India's growing importance. Once dominated by telecom consortia, the industry is now being transformed by hyperscalers like Meta, Google, Microsoft, and Amazon. The global market, valued at approximately $31 billion in 2025, is projected to reach $57 billion by 2035, driven by exploding bandwidth demand from AI workloads, 5G rollouts, and increased data consumption. This document explores market dynamics, technological innovations, strategic shifts, and recommendations for industry stakeholders navigating this critical digital infrastructure sector.

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Global Market Overview

The undersea cable industry is experiencing robust growth, with the global market valued at $30.98 billion in 2025 and projected to reach $56.96 billion by 2035, representing a compound annual growth rate (CAGR) of 6.3%. This expansion is reshaping the digital infrastructure landscape worldwide as demand for high-capacity data transmission continues to accelerate.

The market is segmented into two primary categories: communication cables, which constitute approximately 85% of the market, and power cables (primarily for offshore wind farms and similar applications), which make up the remaining 15%. This distribution reflects the continued dominance of data transmission needs in driving industry growth.

$30.98B	$56.96B	6.3%
2025 Market Size	**2035 Projection**	**CAGR**
Current global valuation	Expected market value	Compound annual growth rate (2025-2035)

Several key factors are driving this significant market expansion. AI and machine learning workloads are creating unprecedented bandwidth demands, increasing requirements by 10 to 100 times compared to traditional applications. The continued development of the metaverse, edge computing technologies, and the global proliferation of 5G networks are further accelerating demand for robust undersea connectivity.

Perhaps most significantly, major hyperscalers are strategically shifting from leasing capacity to outright ownership of undersea cable infrastructure. This fundamental change in approach reflects the critical importance of these digital highways to their business models and represents a significant restructuring of the industry's traditional power dynamics.

AI-Driven Bandwidth Explosion

Artificial intelligence is fundamentally transforming bandwidth requirements across the global digital infrastructure. AI training and inferencing operations demand exceptionally high-capacity connections, typically ranging from 100 Gbps to 10 Tbps. This represents an order of magnitude increase compared to traditional data transmission needs. For example, one of the top 10 OTTs' India operations are projected to grow from their current 400 Gbps capacity to multi-terabit requirements in the near future.

The AI data lifecycle creates distinct bandwidth consumption patterns. Training large language models (LLMs) necessitates massive one-time data transfers as enormous datasets are ingested and processed. Once trained, the inferencing phase requires continuous, high-availability bandwidth to support real-time interactions with these models. This dual-phase approach creates both peak and sustained demand patterns that both terrestrial and undersea infrastructure must accommodate.

AI Training Phase

- Ingests massive datasets from distributed data centers
- Requires bulk international transfers (hundreds of petabytes)
- Examples include Meta's Llama 2 or OpenAI's GPT models trained on datasets exceeding 10-100 TB+

Fine-Tuning Phase

- Region-specific or use-case specific tuning (e.g., Indian language models)
- Increases east-west traffic between hyperscaler zones
- Creates new traffic patterns between regional data centers

Inference Phase

- Low-latency querying of trained models
- Requires continuous, high-availability bandwidth
- Connects cloud-hosted GPU clusters to global users

The technical requirements for AI deployment are driving significant enhancements in undersea cable capacity. AI models train on vast datasets—for instance, an Indian Telco's 25-year database represents yottabytes of information that may need to be transferred for analysis. Additionally, as GPU deployment locations diversify to even places in Africa, massive data movement from centers like India becomes necessary, further driving demand for high-capacity undersea fiber connections.

Hyperscaler Dominance & Strategy

The undersea cable industry has witnessed a dramatic shift in ownership and control, with technology hyperscalers now dominating the landscape. Google has emerged as the leader, owning or leasing nearly 50% of private cables globally. The collective impact of hyperscalers is even more striking—they now consume 71% of global undersea capacity, fundamentally altering the industry's structure and economics.

Company	Owned/Leased Cables	Notable Projects
Google	33	Blue Raman, Curie
Meta	22	2Africa Pearls, Bifrost
Amazon (AWS)	15	Bifrost, HAVFRUE
Microsoft	12	MAREA, Dunant

(numbers are indicative) Hyperscalers are pursuing several distinct investment models to secure their digital infrastructure needs. Direct ownership has become the preferred approach for achieving scale, control, and cost efficiency. "Open Cable Systems" represent another significant innovation, enabling direct sales of fiber pairs without requiring traditional telecom permission—a fundamental change to the industry's historical structure.

Each hyperscaler's strategy reflects their broader business objectives. Meta's investments aim to expand their global user base, while AWS and Google Cloud Platform focus on extending their cloud service footprints. Google's Blue Raman project demonstrates another strategic dimension: controlling landing routes to ensure reliable connectivity while navigating geopolitical complexities.

This shift to hyperscaler dominance represents more than just a change in ownership—it signals a fundamental restructuring of how global digital infrastructure is planned, financed and operated. Traditional telecom operators are increasingly finding themselves in supporting roles rather than as primary infrastructure owners, creating both challenges and opportunities as the industry continues to evolve.

India Spotlight

India is rapidly emerging as a critical hub in the global undersea cable network, driven by explosive growth in data consumption and digital services. The average per capita data consumption has exceeded 27 GB per month, a significant increase from 18 GB in 2023. This growth trajectory has positioned India with the fastest compound annual growth rate (CAGR) in undersea capacity among emerging markets at 7.2%, outpacing regional competitors.

Several major cable projects are currently underway or recently completed that will dramatically enhance India's connectivity to global networks. These projects represent substantial investments in high-capacity infrastructure designed to support India's digital economy for the next decade and beyond.

Project	Capacity	Route	Status (2025)
2Africa Pearls	180 Tbps	Africa–Middle East–India	Operational
Blue-Raman	218 Tbps	India–Oman–Israel	Launch Q2 2025
IAX / IEX	240 Tbps	India–Singapore–Europe	Operational Mar 2025
SEA-ME-WE 6	100 Tbps	Singapore–India–France	Under Construction

Hyperscalers are making significant direct investments in India's connectivity infrastructure. Players like Meta alone spends approximately $125 million annually on capacity to India, highlighting the country's strategic importance to global technology companies. The total hyperscaler wholesale revenue in India has reached approximately ₹3000 crores (roughly $350 million), creating a substantial economic impact.

These investments reflect India's growing importance as both a massive consumer market and an emerging hub for data center operations, cloud services, and AI development. As hyperscalers continue to expand their presence in the Indian market, the country's role in the global digital infrastructure landscape will only increase in significance, creating new opportunities for economic growth and technological advancement.

Telco Landscape Shifts

India Telecom Industry: Navigating the Hyperscaler Shift

ise of hyperscaler-owned undersea cables is reshaping the Indian telecom landscape. Traditional revenue streams such as IPLCs and legacy international cable systems are seeing reduced relevance, while newer infrastructure models are gaining ground.

Cable Landing Stations (CLS) have become strategic assets. With hyperscalers preferring neutral or partner-owned CLS access, operators who own or manage these stations now command recurring revenue and strategic positioning benefits.

Legacy cables are facing obsolescence. Older systems are seeing declining usage, and associated revenues are shrinking. Circuit prices are under pressure, with pricing expected to fall 20–30% due to increased competition and hyperscaler self-reliance.

Indian telecom players are being forced to rethink their strategies. Many are moving away from traditional bandwidth resale and toward value-added services like managed connectivity, edge computing, integrated data center solutions, and cloud enablement.

As hyperscalers expand their India footprint, they are looking for local partners with on-ground infrastructure, regulatory know-how, and last-mile capabilities. This is creating a new breed of partnerships blending global cloud scale with Indian telecom expertise.

These shifts are leading to the formation of a hybrid digital ecosystem. Traditional carriers are repositioning themselves as enablers of digital infrastructure, and partnerships are now central to unlocking future growth.

Industry Risks & Challenges

The undersea cable industry faces significant risks and challenges that can impact global connectivity and digital infrastructure reliability. These vulnerabilities range from geopolitical tensions to physical hazards, creating potential disruptions to the global internet backbone.

Geopolitical Chokepoints

Certain geographic regions represent critical vulnerabilities in the global undersea cable network. The Egypt crossing stands out as particularly significant, with 47% of all Asia-Europe traffic passing through this single corridor. This concentration creates substantial risk if political instability or conflict disrupts operations in the region.

Recent events highlight these vulnerabilities. In March 2024, Houthi attacks in the Red Sea region resulted in damage to 15 undersea cables, causing significant disruption to global internet traffic. Such incidents demonstrate how regional conflicts can have far-reaching consequences for global digital infrastructure.

Physical Vulnerabilities

Fishing activities and anchor damage account for 38% of all cable faults globally. These incidents typically occur in shallower waters near coastal regions, where human activities are most concentrated. Despite protective measures like cable burial and restricted zones, these remain persistent threats to cable integrity.

Natural Disasters

Earthquakes, underwater landslides, and tsunami events pose significant risks to undersea infrastructure. The industry suffers approximately $2 billion in losses annually from natural disasters. The 2023 Taiwan earthquake provides a recent example, causing multiple cable breaks that disrupted regional connectivity for weeks.

Security Concerns

Undersea cables face increasing security threats, including potential sabotage or espionage activities. The strategic importance of these assets makes them potential targets in both conventional and hybrid warfare scenarios. This has led to increased naval patrols and monitoring of critical cable routes by multiple nations.

These challenges are driving industry efforts to enhance resilience through route diversity, improved physical protection, and redundant systems. However, the fundamental geography of continents and oceans creates natural bottlenecks that cannot be entirely eliminated. As digital dependency increases globally, the strategic importance of addressing these vulnerabilities will only grow in significance.

Innovations & Sustainability

The undersea cable industry is experiencing a wave of technological innovation aimed at improving reliability, performance, and environmental sustainability. These advancements are reshaping how cables are designed, deployed, and maintained while reducing their ecological footprint.

AI & Automation

Artificial intelligence is transforming cable operations and maintenance. Predictive maintenance systems using AI can reduce cable downtime by up to 40% by identifying potential failures before they occur. Google has implemented dynamic routing algorithms that automatically optimize traffic flows to avoid congestion and route around damaged sections, significantly improving network resilience.

Green Cables

Environmental sustainability has become a priority in cable design and deployment. Solar-powered landing stations, such as Google's facility in Mombasa, reduce the carbon footprint of these energy-intensive operations. New marine-safe cable coatings minimize ecological impact on ocean ecosystems, addressing concerns about long-term environmental effects of undersea infrastructure.

Future Technologies

Emerging technologies promise to further transform the industry. Quantum encryption, currently being piloted in Toshiba-BT projects, offers unprecedented security for data transmission through undersea cables. Hybrid power-fiber cables, which combine data transmission with power delivery, are finding applications in offshore wind farm operations, creating dual-purpose infrastructure that maximizes efficiency.

These innovations are not merely technical improvements—they represent strategic responses to the evolving challenges facing the industry. As bandwidth demands increase exponentially due to AI workloads and other data-intensive applications, the need for more efficient, reliable, and sustainable infrastructure becomes critical. The industry's ability to deploy these technologies at scale will significantly impact global digital connectivity over the next decade.

Sustainability initiatives are particularly important as environmental concerns gain prominence in infrastructure planning. Beyond reducing ecological impact, these approaches often deliver operational benefits through reduced energy costs and improved reliability. This alignment of environmental and business objectives is accelerating the adoption of green technologies throughout the undersea cable ecosystem.

Strategic Recommendations

As the undersea cable industry continues its rapid transformation, stakeholders across the ecosystem must adapt their strategies to navigate changing market dynamics. The following recommendations provide guidance for key industry participants to maximize opportunities while mitigating risks in this evolving landscape.

For Telecommunications Companies

Traditional telcos should focus on monetizing Cable Landing Stations (CLS) and local loop infrastructure, which remain valuable assets even as hyperscalers own more capacity. Investing in edge infrastructure to co-host hyperscaler nodes can create new revenue streams while leveraging existing assets. Telcos should also explore strategic partnerships with hyperscalers that combine global reach with local expertise and regulatory relationships.

For Policy Makers

Government and regulatory bodies should prioritize policies that diversify connectivity away from vulnerable chokepoints like the Red Sea region. Enabling open CLS policies will attract global investment while ensuring national security interests are protected. Developing streamlined permitting processes for new cable landings can accelerate infrastructure deployment while maintaining appropriate oversight. Balancing national security concerns with the need for open, competitive markets remains a critical challenge.

For Hyperscalers

Technology giants should build local partnerships (such as the Airtel–Meta collaboration) to accelerate deployment and navigate regulatory complexities. Balancing ownership ambitions with regional political and regulatory sensitivities will be essential for sustainable growth. Hyperscalers should also consider investing in alternative routes to create redundancy for critical connections, reducing vulnerability to regional disruptions.

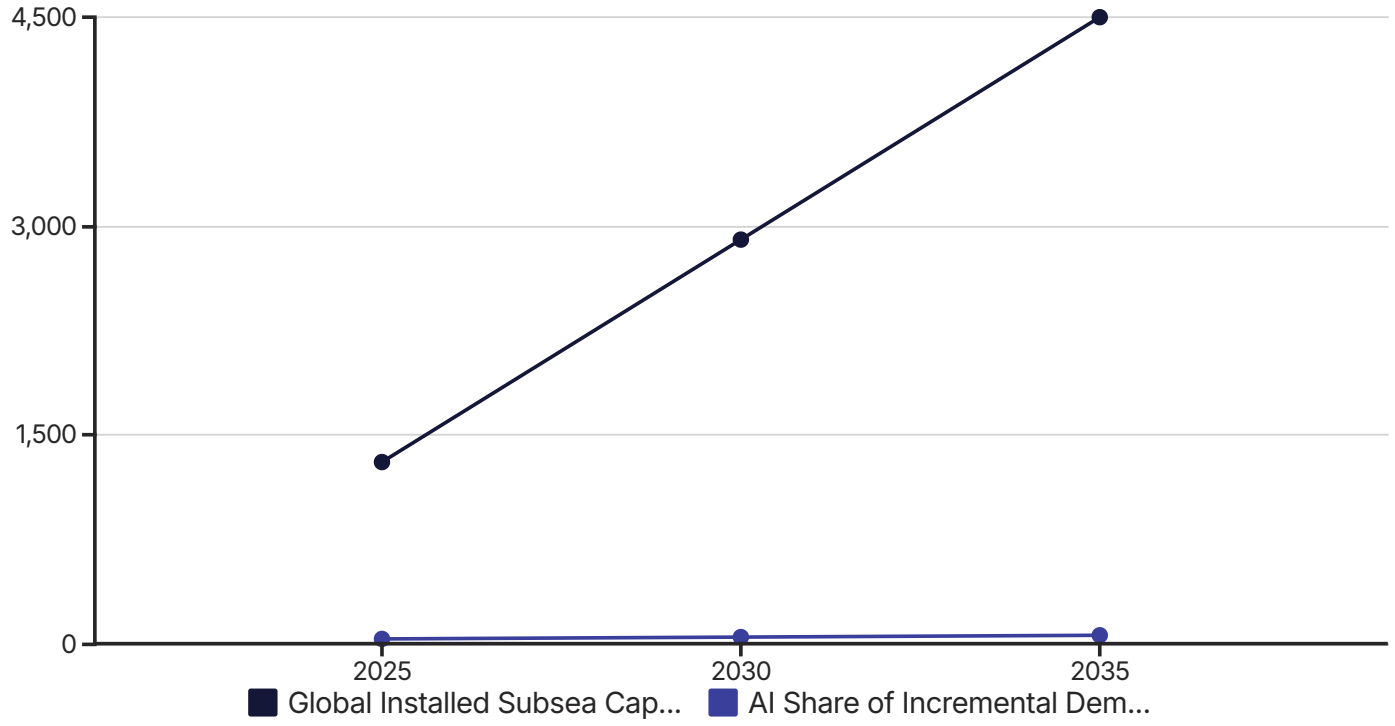
All stakeholders should recognize the strategic importance of undersea cables as critical national infrastructure. As digital dependency increases globally, these physical connections become more vital to economic security and development. Collaborative approaches that balance commercial interests with broader societal needs will be most effective in building resilient, sustainable digital infrastructure.

The industry should also prepare for the next generation of technological challenges, including quantum-secure communications, AI-optimized network management, and increasingly sophisticated cyber threats. Early investment in these emerging capabilities will position organizations advantageously as the digital landscape continues to evolve at an accelerating pace.

Conclusion

The undersea cable industry is undergoing a fundamental transformation that will reshape global digital infrastructure for decades to come. The shift from telco-dominated models to hyperscaler-led ecosystems represents more than a change in ownership—it signals a new approach to how connectivity is planned, financed, and operated on a global scale.

This transition creates both challenges and opportunities across the ecosystem. While traditional revenue streams for telecommunications companies are being disrupted, new possibilities are emerging in edge computing, data center integrations, and Cable Landing Station operations. The industry's future will be defined by those who can successfully navigate this changing landscape while delivering the massive capacity increases required by AI workloads and other data-intensive applications.



India's position at this inflection point is particularly significant. The country's connectivity boom, AI growth trajectory, and strategic geographic location place it at the heart of the next decade's digital infrastructure expansion. As India's data consumption continues to grow and its role in global AI development expands, its importance in the undersea cable ecosystem will only increase.

Looking ahead, the industry must balance commercial objectives with broader considerations of resilience, security, and sustainability. The undersea cable network has become critical national infrastructure for countries worldwide, making its reliability and security matters of strategic importance. Collaborative approaches that bring together private enterprise, government oversight, and technological innovation will be essential to building a digital infrastructure capable of supporting the next wave of global connectivity needs.