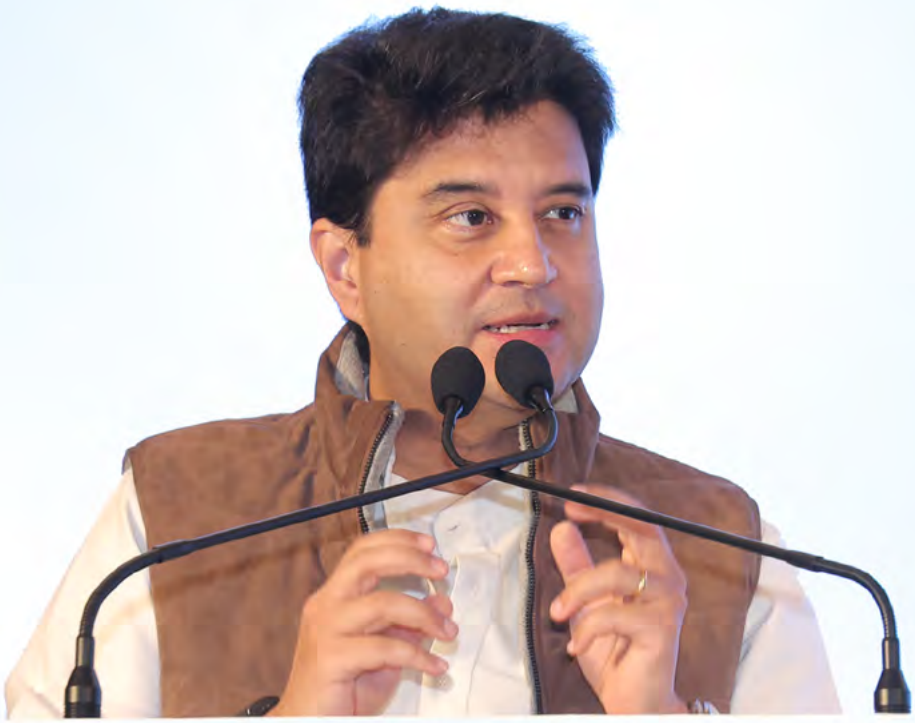
COAI

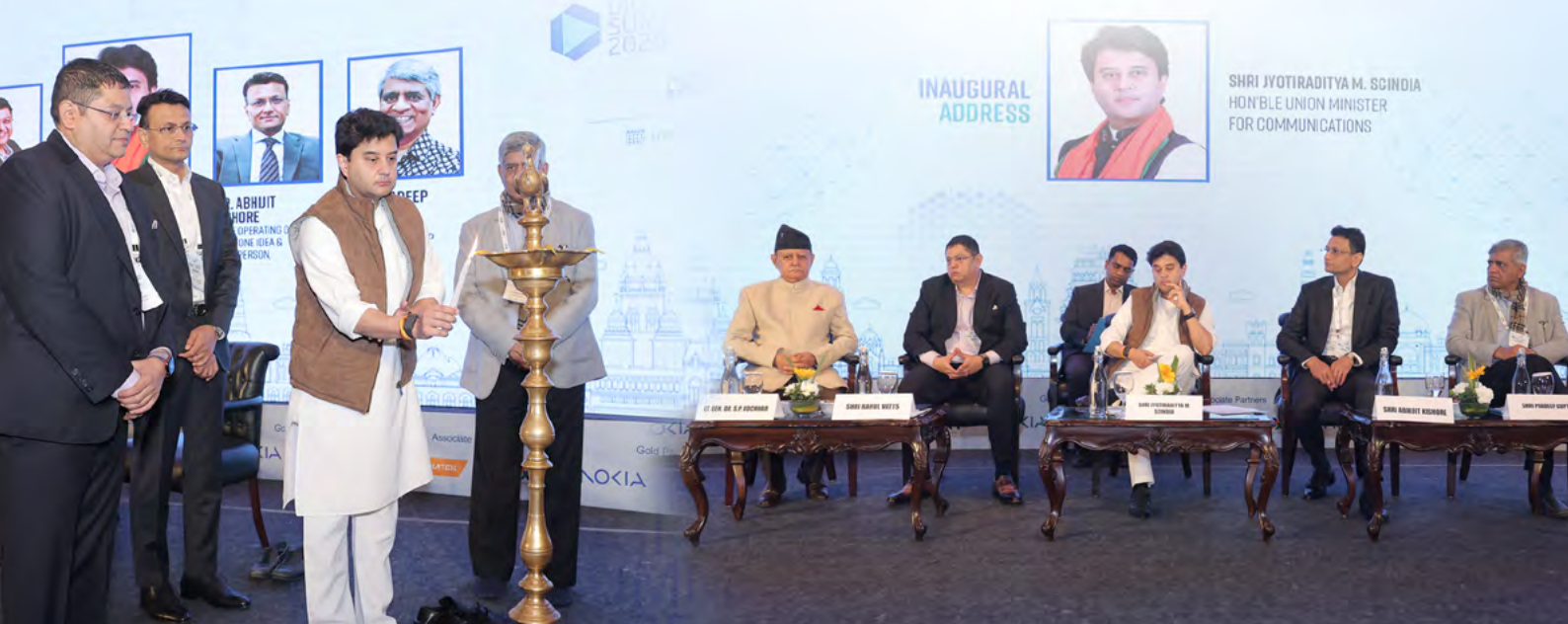
DIGICOM SUMMIT 2025

EMPOWERING VIKSIT BHARAT

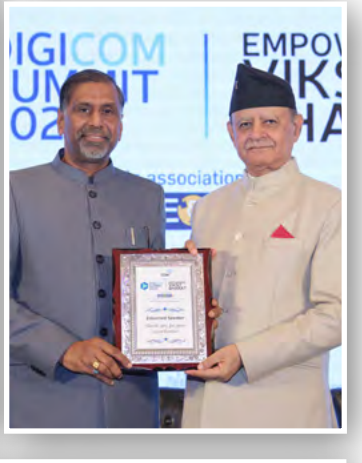
17 January 2025

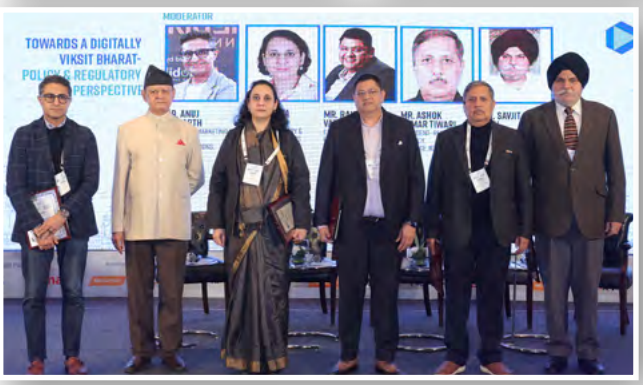


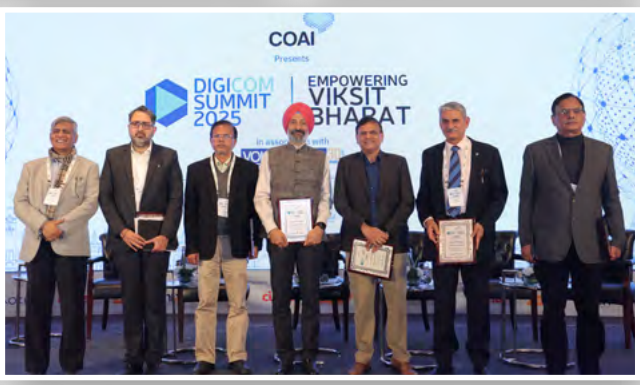
"... telecom is a value added horizontal sector..."
- Shri Jyotiraditya M. Scindia, MoC

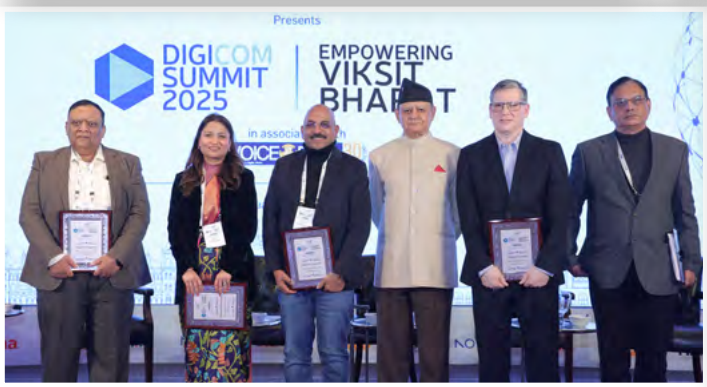



Presents
DIGICOM
SUMMIT
2025

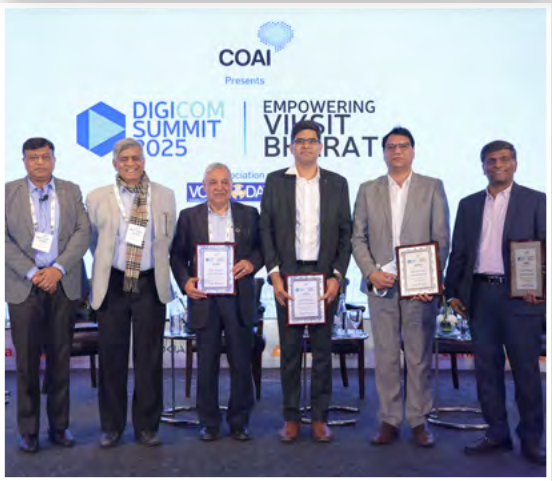



MODERATOR
TOWARDS A DIGITALLY
VIKSIT BHARAT-


COAI
Presents
DIGICOM
SUMMIT
2025
EMPOWERING
VIKSIT
BHARAT


Presents
DIGICOM
SUMMIT
2025
EMPOWERING
VIKSIT


DIGICOM
SUMMIT
2025
EMPOWERING
VIKSIT


COAI
Presents
DIGICOM
SUMMIT
EMPOWERING
VIKSIT

Index

Background

With the advent of 5G, there has been a renewed focus on network proliferation, data handling, utilization of telecom networks and security – all these have to work under a framework of sound, flexible and adaptable policies and regulations. However, the end result of all these ingredients mentioned above is to usher in greater avenues of livelihood for the citizens and to improve the economic condition of the country as a whole.

It was therefore identified that for the theme chosen, i.e., "Empowering Viksit Bharat", the following segmentation would be a 360 degrees approach:

a. Looking at the changing face of the telecom vertical as a whole – Inaugural Session.

b. Examining and discussing contextual policy and regulatory matters.

c. Identifying emerging technologies which can/are playing a major role in the ICT space and discussing it with all stakeholders from the Government and the Industry.

d. Bringing in complimentary discussion with other-than TSP stakeholders for the growth of the ecosystem.

e. Drawing on the ensuing discussions and basing this session's discussion on the realities of livelihood generation - conducting a brainstorming session to identify areas where employment generation can happen most and thereafter drawing lessons of the way forward.

Objectives of the Summit

The objectives of the summit were to broadly examine the new role of telecom, its implication on policy and regulations, technology and data, how non-TSPs view the ensuing change and thereafter, identify ease of doing business going forward for the benefit of the citizens and the country within the Government pronounced strategies.

The sub-heads that were touched upon in addition to the above were as under:

- **Problem Solving** - Identifying challenges, analyzing their root causes and developing effective solutions to overcome obstacles and proceed towards the "Viksit Bharat" goal.
- **Innovation** - Transforming creative ideas into impactful solutions, driving progress, improving efficiencies and creating new opportunities in telecom and allied sectors.
- **Collaboration** - Collaboration unites perspectives, technologies and resources fostering creativity, enhancing problem-solving. Exploring such collaborations among the various components of the ecosystem to increase productivity and efficiency.
- **Livelihood** - Influencing the demand for work-related developments, whether self-sustaining through employment or self-sufficiency, ensuring access to basic needs and improving quality of life for several people in the country.

Inaugural Chapter

Participants:

- Lt. Gen. Dr. S.P. Kochhar, Director General, COAI – Welcome Address
- Mr. Rahul Vatts, Chief Regulatory Officer, Bharti Airtel & Vice Chairperson, COAI – Industry Address
- Mr. Abhijit Kishore, Chief Operating Officer, Vodafone Idea & Chairperson, COAI – Industry Address
- Shri Jyotiraditya M. Scindia, Hon'ble Union Minister for Communications and the Minister of Development of North Eastern Region, Government of India – Keynote Address by Chief Guest

Excerpts from the addresses:

Lt. Gen. Dr. S.P. Kochhar
Director General, COAI

While welcoming the Chief Guest, the Guests, the delegates and the press, he emphasized that telecom has evolved from being a vertical industry to becoming a horizontal enabler, serving as a critical backbone for empowering numerous services and industries. The key components in today's ecosystem are identified as robust networks, the seamless flow of data across these networks, on-demand compute power available in required capacities, and comprehensive security measures. These elements are encompassed within a framework of policies and regulations, which must be dynamic and adaptable to the rapidly changing environment to ensure sustainable growth and innovation.

Mr. Rahul Vatts
Chief Regulatory Officer, Bharti Airtel &
Vice-Chairperson, COAI

Mr. Vatts stated that the telecom industry has emerged as a pivotal enabler of economic and socio-economic transformation, playing a crucial role in powering the country's digital economy. He highlighted that with significant investments exceeding ₹2.5 lakh crore in network rollouts, the industry is now prioritizing future 5G deployments and expanding fiberisation across the nation. A key focus for the sector is fostering collaboration, including with OTT platforms, which must share responsibilities in securing a robust digital future. Trust and safety remain fundamental pillars for the telecom industry, underscoring the importance of collective efforts to mitigate fraud and spam.

Mr. Abhijit Kishore

Chief Operating Officer, Vodafone Idea &
Chairperson, COAI

Mr. Kishore highlighted that COAI is working in close collaboration with the Government ministries and other stakeholders to address challenges, advocating for robust policy frameworks and fostering an environment which is conducive to growth and innovation in the telecom sector. He mentioned that the joint efforts which are focused on ensuring connectivity that promotes equitable access and supports initiatives to drive new and evolving businesses in this dynamic industry. While 4G and 5G are currently revolutionizing connectivity, the focus must extend to future technologies like 6G and the Internet of Things, which promise to redefine how people live, work and interact, creating a hyper-connected world with unprecedented possibilities. The progress achieved in the telecom sector has been made possible through the support and vision of the Government, the industry, academia and civil society.

Shri Jyotiraditya M. Scindia

Hon'ble Union Minister for Communications and and the Minister of Development of North Eastern Region, Government of India

Keynote Address by Chief Guest

Shri Jyotiraditya M. Scindia delivered his visionary address wherein he projected the future of telecom in shaping the destiny of the country and its citizens. He clearly and concisely articulated that the telecom sector has now become an enabling horizontal that adds all types of value to all their verticals, citing examples while saying this. He clearly brought out that the key to success in digital transformation lies in innovation, implementation and inclusivity.

Emphasizing his points, he said that over the past decade, broadband users in India have increased from 60 million to nearly 942 million. Broadband speeds have improved tenfold, and data consumption has risen from 10 GB to 22 GB per user — one of the highest in the world. He emphasized that the telecom sector contributes approximately 7% to India's GDP and has been growing at a decadal compound annual growth rate (CAGR) of 14%-16%.

He went on to laud India's strides in digital connectivity. He stated that the Government introduced the ambitious Production Linked Incentive (PLI) scheme, which has achieved significant milestones over the past three years. This initiative has led to production worth nearly ₹70,000 crore and the creation of approximately 25,000 jobs. He stated that a decade ago, India's telecom product exports were valued at ₹8,400 crore, a figure that has now surged to over ₹25,000 crore. Additionally, the country has attracted $25 billion in foreign direct investment (FDI) and achieved a compound annual growth rate (CAGR) of 32% in domestic production and consumption. By 2030, the vision is to transform India into a leading telecom product manufacturing nation. Discussions are actively underway with major telecom companies and original equipment manufacturers (OEMs) to establish a telecom manufacturing zone and develop a comprehensive ecosystem within India.

Further, he stated that India is home to 1.7 lakh startups, creating almost 20 lakh jobs. Sectors like e-commerce, edtech and fintech will thrive on the robust telecom infrastructure we are building. By 2030, the e-commerce industry in India is projected to grow to $325 billion, while our digital

economy, currently valued at approximately $537 billion, is expected to cross $1 trillion. This growth represents a tremendous opportunity for the telecom sector.

The Hon'ble Minister highlighted the success of the National Broadband Mission (NBM) 1.0 and the implementation of NBM 2.0. This initiative aims to digitally connect 2.7 lakh villages across India using optical fiber cables (OFC) or alternative technologies. Over the past decade, India's OFC network has expanded significantly, growing from 10 lakh kilometres to nearly 41 lakh kilometres. This expansion is a critical driver of the country's digital transformation, serving as a foundation for accelerating India's economic growth.

Setting the tone for the future, the Hon'ble Minister articulated that the sector's policy frameworks have undergone a complete transformation, serving as the foundation for India's digital revolution. Enhanced ease of doing business has fostered innovation across various domains, while digital connectivity has played a pivotal role in uplifting livelihoods. Under the leadership of Prime Minister Narendra Modi, the telecom sector has powered a transformative trinity, enabling 531 million previously unbanked individuals to open electronic bank accounts and serving as the backbone of India's thriving startup ecosystem.

He highlighted the sector's progression, noting, "We followed the world in 4G, are marching alongside in 5G, and aim for India to lead the world in 6G". With a commitment to contributing 10% of global 6G patents by India, the telecom industry continues to drive value across every sector. He emphasized the importance of collaborative policymaking, citing the example of reforms in Right of Way (RoW) processes, which were shaped by industry feedback. Looking ahead, he expressed a vision for India to transform into a leading telecom product manufacturing nation by 2030, with dedicated telecom manufacturing zones and a robust ecosystem.

The Hon'ble Minister, very aptly, chose this event to declare that according to the Inter-Ministerial Group (IMG), India will require 2000 MHz of spectrum by 2030. Currently, across 2G, 3G, 4G and 5G technologies, we have approximately 900 MHz of spectrum. So, he agreed that there is a projected deficit of 1100 MHz by 2030. He announced that the Cabinet has approved the refarming of 687 MHz of spectrum for industrial use. This increases the total available spectrum from 900 MHz to 1587 MHz. Out of this, 320 MHz will be released immediately, with additional allocations planned for the end of next year and by 2028–2029, ensuring readiness for 2030. A Cabinet-approved initiative will refarm 687 MHz of spectrum for industrial use, with phased releases ensuring readiness for future demand. The second phase of this initiative is underway, with the Committee of Secretaries (CoS) preparing a follow-up report, expected by mid-year. The Minister assured that the Government is committed to taking all necessary steps to eliminate bottlenecks and ensure the continued growth of India's digital telecom landscape.

Highlights

1. By 2030, the e-commerce industry in India is projected to grow to $325 billion, while the digital economy, currently valued at approx. $537 billion, will cross $1 trillion.
2. Over the past ten years, the country's OFC network has expanded from 10 lakh km to nearly 41 lakh km.
3. Telecom is contributing to about 7% of India's GDP and growing at a decadal CAGR of between 14%-16%.
4. 531 million people that were out of the banking networks, today have electronic bank accounts and telecom is also the backbone of our thriving startup system.
5. The Cabinet has approved the refarming of 687 MHz of spectrum for industrial use. This increases the total available spectrum from 900 MHz to 1587 MHz. Out of this, 320 MHz will be released immediately, with additional allocations planned by 2028–2029, ensuring readiness for 2030.

Chapter 1 - Towards a Digitally Viksit Bharat - Policy & Regulatory Perspective

Keynote Address by

Shri Anil Kumar Lahoti
Chairperson, TRAI

Shri Anil Kumar Lahoti, Chairman, TRAI started off his keynote speech by highlighting an ICRIER study, where India has been ranked as the third-most digitized economy. In the area of cybersecurity, the country has achieved Tier 1 status in the ITU's Global Cybersecurity Index 2024, placing it among the ranks of role-model nations. Currently, 97% of villages in India are covered by 4G connectivity, while over 99% of districts have access to 5G networks. Through BharatNet, over 2.14 lakh gram panchayats have been connected via optical fiber networks and more than 5,000 gram panchayats have been connected using satellite links. Additionally, approximately 1.1 million fiber-to-the-home (FTTH) connections and over 100,000 public Wi-Fi hotspots have been established, significantly enhancing digital access. Monthly data consumption in India has surged to an impressive 132 petabytes (132 million gigabytes). To further this progress, the Government has allocated $16.6 billion for the implementation of BharatNet.

He stated that the digital economy now contributes approximately 12% to the nation's GDP and is projected to grow to 20% by 2026–2027. While the Government has set an ambitious target of a USD 1 trillion digital economy by 2027–2028, the telecom user base has grown to approximately 1.2 billion, with 944 million broadband users. Notably, rural While broadband subscriptions have seen over 100-fold growth in the last decade, with regions such as Assam, Bihar, Himachal Pradesh, Odisha and Uttar Pradesh East recording higher rural broadband connections than urban areas.

The TRAI Chairman emphasized that apart from connectivity, attempts are underway to augment the delivery of digital services under the Common Service Centres program and to inculcate entrepreneurship at the village levels in the country. At the same time, he mentioned that while India generates 20% of the global data traffic, it has only 3% of the data center capacity. However, the country's data centre capacity of 977 megawatts, the second-highest in the Asia-Pacific and 13th globally, is expected to grow fivefold, with 2.32 gigawatts already planned. To our credit, India hosts over 250 data centres, 40 internet exchange points and 23 embedded cloud service providers. Investments of a huge USD 27 billion in the past three years also indicate a surge to 17 gigawatts by 2030.

Mr. Lahoti further mentioned that India plays a key role in the global submarine cable network and hosts around 17 international subsea cables across 17 district landing stations. Further, attaining synergy between the digital and brick-and-mortar economy is vital to realize the goal of Viksit Bharat. He was hopeful that India's diverse skill capabilities, coupled with digital means, may open new vistas of growth for traditional sectors.

Keynote Address by

Mr. Tarun Chhabra

SVP and India Country Head, Nokia

Mr. Tarun Chhabra's address highlighted the transformative role of technology in driving inclusive growth, fostering sustainability and empowering digital entrepreneurship across India. He opined that robust broadband infrastructure or rather Broadband for Everyone, including 5G and beyond, is critical to bridging the urban-rural divide by ensuring equitable access to education, healthcare and employment opportunities. Advancements in AI, ML and IoT are not only driving efficiency but also supporting sustainability efforts through innovations like precision agriculture, real-time soil testing and environmental monitoring. He further expressed that digital highways are creating unprecedented opportunities for entrepreneurs, enabling innovative business models and significantly boosting the economy.

Mr. Chhabra also underscored the need to realize the scope of immersive technologies such as AR and VR as they remain underutilized in comparison to their ability to revolutionize education, gaming and entertainment, making high-quality experiences accessible to all. The potential of how these tools could revolutionize experiences, from remote learning in schools to immersive stadium-like gaming experiences is interesting. Additionally, the importance of robust cybersecurity frameworks, with AI and ML enabling automatic threat detection and mitigation to ensure secure and resilient networks was emphasized by him. By leveraging these advancements, India is positioned to foster collaboration among stakeholders, secure its digital infrastructure and build a sustainable, inclusive and innovative digital future.

Panel Discussion: Towards a Digitally Viksit Bharat - Policy & Regulatory Perspective

Panelists

1. Mr. Rahul Vatts, Chief Regulatory Officer, Bharti Airtel & Vice Chairperson, COAI
2. Mr. Ashok Kumar Tiwari, President - Regulatory & Policy, Reliance Jio
3. Ms. Ambika Khurana, Chief Regulatory & Corporate Affairs Officer at Vodafone Idea
4. Brig. Savjit S. Soin, Deputy Director General - Regulatory, COAI
5. Mr. Anuj Sidharth, Director – Marketing & Corporate Communications, MediaTek

The session emphasized the critical need for aligning ease of doing business with reduced compliance burdens to achieve the goals of Digital Bharat. Regulatory frameworks must ensure that these objectives complement each other, enabling a streamlined path to India's digital transformation. Connectivity was highlighted as a foundational pillar across sectors like banking, education and healthcare, underscoring its role in driving competitiveness and progress within the telecom industry. The significant growth of India's contribution to the digital economy — from 4.5% in 2015 to 11% in 2024, with a projection of 20% by 2026—further amplifies the telecom sector's responsibility toward achieving the vision of Viksit Bharat.

From an infrastructure perspective, the sector remains a high CAPEX, high OPEX and low ROCE industry, necessitating strategies to unlock capital, including leveraging the Digital Bharat Nidhi for maximum impact. Progressive measures such as easing regulatory requirements, addressing Right of Way (RoW) bottlenecks, and revising EMF guidelines are vital for India to leap ahead.

The session highlighted the need for sharing infrastructure, such as ducts and cables, to optimize resources and accelerate connectivity rollout. TRAI's recommendation to lower license fees for wireline businesses was deemed essential for nationwide fiber expansion. However, challenges such as lack of parity among industry players, OTT platforms evading license fees and the misalignment of EMF norms with ICNIRP standards were flagged as areas requiring urgent attention.

Additionally, the regulator's advanced blockchain-based mechanisms for combating spam and telemarketing issues were lauded, though concerns about spam shifting to OTT channels and the lack of obligations for OTT entities were raised. The session concluded with a call for equitable regulations and collaborative approaches to address these pressing challenges and drive India's digital growth.

Session Takeaways

1. The telecom sector requires large investments, but profits are low. Using funds like Digital Bharat Nidhi and reducing legal hurdles can help.
2. Telecom companies should share resources like underground cables and ducts to expand networks faster and at lower costs.
3. Telecom companies follow strict rules, but OTT platforms providing similar services do not. The industry needs fair rules for all.
4. While India is considering global EMF (radiation) standards, the current limits may slow 5G growth if not adjusted properly.
5. India has the second-highest data center capacity in Asia-Pacific and ranks 13th globally. This is expected to grow five times soon.

Chapter 2 - Towards a Digitally Viksit Bharat – Technology Perspective

Panelists

1. Shri V.J. Christopher, Wireless Advisor, WPC
2. Mr. Randeep Sekhon, Chief Technology Officer, Bharti Airtel
3. Mr. Anku Jain, Managing Director, MediaTek India
4. Col. Prashant Choudhary (Retd.), HCL
5. Col. Vikram Tiwathia, Deputy Director General - Technology, COAI
6. Mr. Rahul Hakeem, Partner, KPMG

Artificial Intelligence (AI) is revolutionizing telecom operations. AI-powered tools can detect potential scams and spam, enabling real-time customer warnings, a feat unimaginable in the past. Additionally, AI optimizes network efficiency by reducing operational expenses (OPEX) through innovations like adjusting tower capacity during off-peak hours. It also facilitates precise capital expenditure (CAPEX) planning, capacity forecasting and fiber deployment, creating cost-effective and efficient networks.

From managing data centers to delivering high-speed, low-latency connectivity, telcos are pivotal in building an infrastructure that supports India's burgeoning AI ecosystem. This includes edge AI applications, enhancing device performance in areas like noise reduction and camera functionality.

Spectrum refarming is a key milestone, ensuring its optimal utilization for technologies like 5G Advanced and the upcoming 6G. The Department of Telecommunications (DoT) has made significant strides, such as allocating 100 MHz of spectrum to telecom service providers (TSPs), facilitating India's positive journey towards 5G exploitation. The cost-efficiency of 5G, enabled by technologies like MIMO, has made data significantly cheaper compared to 4G, while Fixed Wireless Access (FWA) has addressed challenges in last-mile fiber connectivity, making broadband more accessible and affordable.

To maximize the benefits of telecom advancements, ensuring smartphone adoption is critical and affordable devices are essential for inclusivity.

India's telecom ecosystem, with contributions from industry, Government and OEMs, now offers a 5G experience among the top 10 globally. The nation's start-up ecosystem is also thriving, with a surge in fabless start-ups contributing to a promising future. Patents for technologies like terahertz frequencies and non-terrestrial communications are opportunities for entrepreneurs as we progress toward 6G.

6G is on the horizon, with spectrum identification processes underway at the ITU and expected finalization by WRC 2027. Technologies like terahertz communications and real-time AI will be integral to 6G, requiring global and regional harmonization to avoid spectrum-related impediments. The 5G India Forum in COAI continues to play a critical role in setting technical standards, ensuring the ecosystem's alignment with international benchmarks.

Session Takeaways

1. AI helps detect spam and scams instantly and makes networks work better while cutting costs. It also improves how telecom companies invest, expand and manage network capacity.
2. Refarming spectrum is helping 5G grow and India is preparing for 6G with smart planning.
3. To fully benefit from telecom advancements, more people need access to low-cost smartphones.
4. The startup ecosystem is booming, especially in chip-making (fabless startups), helping develop new technologies like terahertz and non-terrestrial communications.
5. Work is already underway to identify spectrum for 6G, with global coordination efforts ensuring smooth implementation by 2030.

Chapter 3: Ease of Doing Business for Viksit Bharat

Panelists

1. Shri D. Manoj, Principal Advisor (F&EA), Telecom Regulatory Authority of India
2. Dr. Kamal Kapoor, DDG, National Institute of Communication Finance, Government of India
3. Dr. Jaijit Bhattacharya, President, Centre for Digital Economy Policy Research
4. Mr. Debashish Chakraborty, Senior Director - Advocacy and Industry Engagement, GSMA

The vision of Viksit Bharat encapsulates achieving a USD 5 trillion economy by 2028, emphasizing Atmanirbhar Bharat, where reliance on imports is minimized, and exports, especially technology-driven, are maximized. This vision aligns with evolving infrastructures like 5G and emerging technologies such as AI, ML and IoT. It supports national initiatives in areas like smart cities, clean energy, healthcare, modern agriculture and ease of doing business, driving comprehensive growth.

Telecom serves as the foundation for the digital economy, enabling and accelerating advancements across industries. In return, the digital economy contributes to the growth of telecom, creating a symbiotic relationship. The transformative power of digital technology is reshaping businesses and necessitates skilled professionals to harness these advancements effectively.

The Telecom Sector Skill Council (TSSC) report highlights a talent gap of 2.4 million, projected to grow to 9 million by 2030. Alarmingly, only 40% of STEM graduates are currently employable. To address this, the National Institute of Communication Finance (NICF) has initiated faculty development programs in 5G and IoT, with additional skilling initiatives in the pipeline. These efforts aim to build a skilled workforce capable of driving the nation's technological ambitions.

India has been proactive in bridging the standardization gap by training officers through ITU Field Office programs, ensuring national interests are represented internationally. Similarly, workshops on WTO negotiations, particularly ITA1 and ITA2, have been conducted to safeguard India's stance in trade and technology discussions.

The NICF has established a Centre for Policy and Research, a think-tank focused on cutting-edge research in communication finance, spectrum economics and valuation. This center supports evidence-based policymaking to strengthen India's telecom and digital ecosystem. Furthermore, the publication of 120 courses on the Integrated Government Online training (iGOT) platform across various fields ensures the continuous upskilling of Government officers.

Social trust is a critical pillar of the digital economy. It requires robust mechanisms that ensure trust in digital processes, fostering confidence in successive advancements. If telecom companies are not allowed to compete equitably with OTTs and other digital ventures, trust in the ecosystem may erode.

The Data Protection and Digital Privacy (DPDP) Act, while promising, has areas of ambiguity. Issues such as access to children's data and AI regulation highlight the need for clear, actionable frameworks. As India expands its AI capabilities, addressing these gaps becomes crucial for sustainable and equitable digital transformation.

Session Takeaways

1. India needs more skilled workers in telecom as there is a growing talent gap.
2. India is improving its global telecom position with personnel being trained to ensure India's interests are represented in international trade and technology discussions.
3. Telecom companies need fair competition with OTT Communication platforms, both in terms of regulation, security and business model, to maintain trust in digital services.
4. The DPDP Act needs clearer rules as issues like protecting children's data and AI regulation must be addressed to ensure safe and fair digital growth.

Chapter 4 - Navigating the Future - Evolution of ISPs in a Digital-First Era

Panelists

1. Mr. Satyaprakash Singh, Chief Operating Officer, ONEOTT iNTERTAINMENT Ltd.
2. Mr. Anand Sigh Chandel, General Manager (Value Added Business), RailTel
3. Dr. Satya N. Gupta, Executive Chairman, Bluetown India
4. Mr. Sujith Babu, Director - Enterprise & Government, Ciena
5. Mr. Shubhendu Parth, Editor, Voice&Data

Connectivity and the internet have become indispensable pillars of modern systems, functioning as a digital highway for essential operations and services. This foundational role underscores the growing reliance on robust and high-quality networks to power daily life and business operations.

India's broadband market, with 900 million subscribers, is supported by over 500 authorized Internet Service Providers (ISPs). However, just 25 ISPs cater to approximately 60% of this vast consumer base. The evolution of ISPs is crucial as they transition from serving home broadband needs to catering to MSMEs and mid-market segments, reflecting the increasing demands for diverse and scalable solutions.

Cloud providers are driving a transformative revolution in connectivity, enabling businesses and individuals to access advanced services with greater efficiency and scalability. These providers are instrumental in reshaping how connectivity is delivered and experienced.

Today's consumers demand high-quality broadband services characterized by responsiveness, proactive support and reliability. Broadband consumption significantly outpaces mobile data usage. Expanding FTTH and broadband adoption will lead to exponential growth in data consumption.

Emerging technologies such as Wi-Fi, Li-Fi, and the New Internet (IPv6) are critical for ISPs. IPv6 offers near unlimited addresses and enhanced security features, ensuring seamless connectivity for the growing number of devices and users.

ISPs must focus on extending connectivity to underserved rural areas, emphasizing fixed-line solutions. Initiatives like Bharat Net Phase 3 aim to proliferate data access at regional levels, while RailTel's 100 edge data centers will bring connectivity to unconnected population in rural India.

Creating a future-ready network architecture requires focusing on three core elements:

1. Speed and Sustainability: Optical and IP-based networks must optimize speed while reducing power and space requirements.
2. Advanced Routing: IP routers capable of covering large distances efficiently.
3. Automation: Automated systems to detect and resolve issues with minimal user impact.

For ISPs to remain competitive, business models must emphasize increased efficiency and cost reduction. By aligning technological advancements with customer-centric strategies, ISPs can ensure sustainable growth and meet the evolving demands of the digital age.

Session Takeaways

1. With the number of broadband subscribers bound to increase, the carriage of data will increase multi-fold for the available bandwidth. Thus, improving service quality and adopting new technologies will be must for the networks.
2. Telecom networks should focus on speed, sustainability, long-distance routing and automation for a smoother service.

Chapter 5: Digital Connectivity - Impacting Livelihoods

Keynote Address by

Shri Rohit Sharma

Member (Services), Department of Telecommunications, Government of India

Shri Rohit Sharma highlighted India's remarkable achievements in digital connectivity, underscoring its position as a global leader with 1.2 billion connections and the world's lowest data tariff of $0.17 per GB. With one of the fastest 5G rollouts globally, covering 88% of the population and 40% of customers already using 5G, India is advancing rapidly. However, he noted that 61% of rural users still rely on 2G/3G services, emphasizing the importance of ensuring digital inclusion without leaving anyone behind, particularly the elderly. Digital literacy has significantly improved nationwide, driven by initiatives like Jan-Dhan Yojana, which facilitated the opening of over 50 crore bank accounts, and DigiLocker, now utilized by 500 million people. Tools like the Aarogya Setu app gained global recognition during the COVID-19 pandemic, while 16 million farmers have benefited from digital platforms such as e-NAM and e-Choupal. Additionally, 120 million students have transitioned to online education, with 1.3 billion citizens actively engaging with Digital India initiatives.

Furthermore, the Member (Services) emphasized the challenges of transitioning rural users to 4G/5G smartphones while maintaining affordability and profitability for operators. While rural per capita income is 40% lower than urban areas, 32% of rural households now own smartphones, spending 20% of their income on mobile devices. Thus, this underscores the need for local language content to be vitalised for greater consumption and participation.

Infrastructure advancements, including optical fiber, microwave and satellite solutions, have facilitated connectivity in hilly and remote regions. Financial inclusion and digital growth are evident in UPI transactions, which have reached 16.73 billion, with an average daily transaction amount of ₹74,990 crore, contributing to India's 37% share of global digital transactions. Submarine cables now carry local and international traffic, further supporting data proliferation. With one of the world's highest wireless data consumption rates at 21 GB per user and Government revenue doubling to ₹27.28 lakh crore in a decade, Shri Sharma reiterated the commitment to enhancing digital connectivity, reducing operational burdens and fostering an inclusive digital economy.

Panel Session: Digital Connectivity - Impacting Livelihoods

Panelists

1. Mr. Abhay Savargaonkar, CTO - Global Sales, Cloud and Network Services, Nokia
2. Mr. A. Gururaj, MD, Optiemus Electronics Limited
3. Mr. Dilip Chenoy, Chairman, Bharat Web3 Association
4. Col. Prashant Choudhary (Retd.), HCL
5. Ms. Radhika Gupta, Sr. Director & Head of Data Acquisition, GSMA

India faces a critical shortage of 10 million skilled workers in the telecom and IT sectors, underscoring an urgent need to address this challenge through targeted skilling initiatives. In the seven layer OSI model, the focus is now on the Application layer. In the emerging 5G and 6G ecosystem, it is this layer that will provide maximum opportunities to Indian entrepreneurs for developing API based applications and also SDKs. Thus, a need for skills as well as technology innovations is clearly seen.

The largest skill gap exists among consumers due to limited digital literacy. Despite 25% of e-commerce transactions occurring in rural areas, many applications remain underutilized due to a lack of user familiarity. Simplifying interfaces, such as shifting from English typing to verbal commands, can significantly enhance accessibility and adoption. Additionally, educating consumers about the full potential of mobile broadband and smartphone applications is crucial, especially given that 670 million Indians remain disconnected from mobile broadband.

The telecom sector's talent pool needs a boost, with greater focus on:

- Industry-Academia Partnerships: Collaborative programs can align academic training with industry needs.
- Affordable External Training: Skill training outside organizations is more cost-effective than in-house programs, making it a viable solution for industry-wide adoption.
- Faculty Development: Internship programs for educators in Tier 2 and Tier 3 institutions can expose them to corporate practices, improving the overall quality of training.

Collaborations between skill councils can help create more productive skilling programs. Similarly, engaging communities, industries and Governments in a collective effort is necessary to close skill gaps. CSR initiatives with tax concessions for skilling programs could also incentivize industries to invest in workforce development.

Some allocation of the Digital Bharat Nidhi Fund can be directed toward skilling initiatives to close these gaps. Massive community participation, alongside industry and Government efforts, is vital for success.

Awareness campaigns highlighting the transformative potential of mobile broadband can drive greater adoption and utilization. Rural and urban areas alike must be equipped to explore the diverse use cases of mobile broadband, improving the socio-economic landscape.

Session Takeaways

1. India needs more skilled workers in telecom and IT as there is a shortage of 10 million skilled professionals, especially in advanced technologies like 5G and 6G.
2. Consumers need better digital literacy as many people, especially in rural areas, are not fully using digital services. Making apps easier to use, like using voice instead of typing, can help.
3. Industry, academia and Government must work together to improve training programs and create job-ready professionals.
4. The Digital Bharat Nidhi Fund and CSR tax benefits can potentially help increase training efforts.

Key Learnings from the Summit

i. Emerging technologies like terahertz frequency, non-terrestrial communications and real-time AI, combined with 6G, are set to redefine connectivity, work and lifestyles, creating a hyper-connected world with unprecedented possibilities. This would, however, require strategic planning for spectrum allocation and global collaboration.

ii. Challenges such as high CAPEX, high OPEX and low ROCE require innovative approaches, including leveraging the Digital Bharat Nidhi to unlock latent capital and scaling infrastructure development.

iii. Broadband connectivity remains a cornerstone for bridging the urban-rural divide, enabling equitable access to education, healthcare and employment opportunities. Increasing fixed-line connectivity in underserved villages and enhancing FTTH penetration are crucial steps for growth.

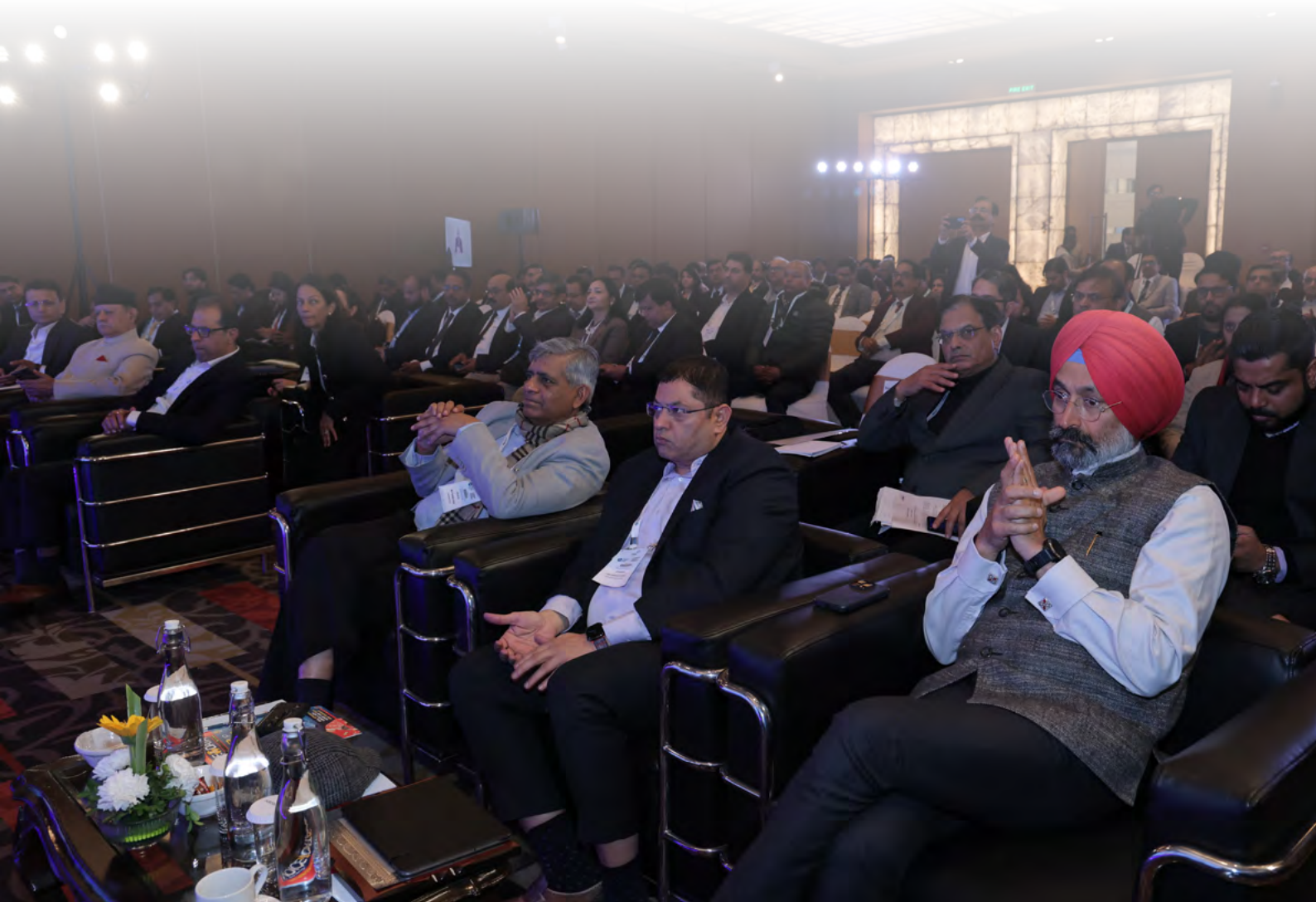
iv. India faces a shortfall of 10 million skilled workers in telecom and IT, especially in advanced fields like AI, 5G and 6G. Strengthening Industry-Academia partnerships, faculty training programs, and digital literacy initiatives is essential to maximize India's digital potential.

v. The need for parity among telecom players and OTT platforms is critical to ensure fair competition, given that many OTTs operate without adhering to licensing or security norms.

Way Forward

The DIGICOM Summit 2025 showcased India's commitment to becoming a "Digitally Viksit Bharat", emphasising how technology and collaboration can bridge divides and foster inclusive growth. Therefore, the succeeding paragraphs are suggested as follow-up deliberations:

- In view of the advent of technologies like AI, IoT and 5G, there is an emphasis to deliberate upon the importance of regulatory reforms, infrastructure sharing and intuitive technologies in driving sustainable development and empowering underserved regions.
- Given the emerging Digital Connectivity, there is a need to brainstorm how various stakeholders like LTGs, ISPs, etc. can contribute collectively for bringing digital parity between all geographies and all segments of society in a collaborative manner.
- A major concern is that despite various efforts over the years, the skill gap continues to grow, impacting livelihoods.
- As India advances towards a USD 1 trillion digital economy, there will be a requirement of centre-staging the startup ecosystem in India, duly boosted by Make in India initiatives. This requires brainstorming between all stakeholders to provide a workable solution.



Acknowledgements

COAI, as a responsible, mature and nationalistic Association, took note of the strategic flow outs and visionary statements and discussions led by Shri Jyotiraditya M. Scindia, Hon'ble Minister of Communications and the Minister of Development of North Eastern Region; Dr. Chandra Sekhar Pemmasani, Hon'ble Minister of State for Communication and Rural Development; Dr. Neeraj Mittal, Secretary, DoT and Shri Anil Kumar Lahoti, Chairman, TRAI, to curate and conduct an event which led to the key learnings as outlined in this report.

COAI gratefully acknowledges the active participation and support by Shri Jyotiraditya M. Scindia, Hon'ble MoC, in the event and for delivering an all-encompassing visionary talk in the inaugural session, which set the tone for the day's proceedings.

About COAI

COAI was constituted in 1995 as a registered, non-governmental society. The Association is dedicated to the advancement of modern communication through the establishment of world-class mobile infrastructure, products and services and to delivering the benefits of innovative and affordable mobile communication services to the people of India.

Industry Policy

COAI has emerged as the official voice of the Indian telecom industry that interacts directly with ministries, policy makers, regulators, financial institutions and technical bodies. It provides a forum for discussion and exchange of ideas between these bodies and the service providers, who share a common interest in the development of mobile telephony in the country.

Telecom Issues

COAI collaborates with other industry associations such as CII, FICCI, ASSOCHAM, GSMA, ISPAI, etc., with the objective of presenting an industry consensus to the Government on crucial issues related to the growth and development of the Indian telecom industry.

New Technologies

COAI is determined to encourage the confluence of technologies to facilitate the move towards complete convergence in communications as this could greatly help India mitigate the problems of low fixed line penetration and help realize the country's vision of becoming an Information Society.

Thought Leadership

COAI aims to dispense information and spread awareness among the national and international entities and consumers on issues pertaining to service quality and other value-added services provided by the operators to their subscribers.

Team COAI
DIGICOM Summit 2025

COAI

14, Bhai Veer Singh Marg, New Delhi-110001

+91 11 2334 9275 +91 11 2334 9276/77 contact@coai.in www.coai.com

ConnectCOAI COAI Cellular Operators Association of India - COAI @coaialbum coai_india

For further details, contact 9205566184