KAUSHAL किरण

TSSC NEWSLETTER

2025 | Q4 EDITION

Circular Economy and Sustainability

are redefining the future of the telecom sector, driving a fundamental shift in how networks, infrastructure, and resources are designed, deployed, and managed. As telecom becomes the backbone of digital inclusion, 5G expansion, and smart connectivity, sustainability is no longer optional, it is a strategic imperative.

The adoption of circular economy principles in telecom promotes responsible resource utilisation, lifecycle extension of equipment, energy-efficient networks, and effective e-waste management. From sustainable network planning and green manufacturing to asset refurbishment, recycling, and renewable energy integration, the sector is moving towards low-carbon, resilient, and environmentally responsible operations.

For India's rapidly growing digital ecosystem, this transition demands a skilled workforce capable of embedding sustainability across telecom value chains. Professionals must understand green network design, energy optimisation, circular supply chains, regulatory compliance, and ESG-driven innovation.

In this edition, Telecom Sector Skill Council (TSSC) explores how circular economy frameworks and sustainable practices are reshaping the telecom industry, the emerging green skill requirements, and the pathways to building industry-aligned talent that supports India's vision for a sustainable and future-ready digital infrastructure.

CONNECTING THE UNCONNECTED

OUR SPECTRUM OF ACTIVITIES

GOVERNMENT SCHEMES

TSSC drives skill development under MSDE, MeitY, DoT, and State Skill Missions, empowering youth with industry-relevant training and bridging the demand-supply gap in India's fast-evolving workforce.

CORPORATE BESPOKE PROGRAMS

TSSC offers skilling solutions through RPL under government schemes and tailored corporate programs, led by certified trainers with practical learning to keep telecom and tech teams competitive and future-ready.

GLOBAL PARTNERSHIP

TSSC cultivates global partnerships, collaborating with bodies such as MICT SETA South Africa to enable knowledge exchange, advanced skilling, and cross-border opportunities that strengthen the international telecom ecosystem.

CSR/COE

TSSC builds capacity through Centres of Excellence with advanced labs for training in emerging technologies. It also partners with leading organizations on CSR initiatives to promote skill development and livelihood enhancement.

DIGITAL SKILLING | TELCOLEARNING.COM

TelcoLearning.com, TSSC's eLearning platform, makes skill development innovative and accessible with courses on digital technologies and Industry 4.0 skills for today's evolving digital landscape.

PLACEMENTS | APPRENTICESHIP

TSSC, under PM NAPS, drives telecom apprenticeships and placements through TelcoJobs.in, equipping youth with industry-relevant skills and practical training while bridging the demand-supply gap for employers and industries.

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14 Lakh+
Lives Impacted

50+
NSQF Aligned Courses

1000+
Training Centers

6000+
Certified Trainers

Pan India Presence
28 States | **500+** Districts

FROM THE CEO'S DESK

Welcome Readers,

As we conclude a defining year for India's telecom and digital connectivity ecosystem, I am pleased to address you at a moment when sustainability and circular economy principles are fundamentally reshaping how networks are conceived, deployed, and managed. With telecom serving as the backbone of digital inclusion and economic growth, environmentally responsible and resource-efficient operations are no longer optional—they are imperative.

Our continued engagement with policymakers, industry leaders, telecom operators, OEMs, and academic institutions underscores a shared conviction: the future of telecom will be sustainable, resilient, and low-carbon. From energy-efficient network architectures and renewable energy integration to equipment lifecycle optimisation, recycling, and responsible e-waste management, the sector is actively embedding green practices across the value chain.

This transformation calls for a workforce equipped with advanced competencies in sustainable network planning, energy optimisation, circular supply chains, regulatory frameworks, and ESG-aligned operations.

At Telecom Sector Skill Council (TSSC), we remain steadfast in our mission to build a future-ready workforce that can support and accelerate this transition. Through our Centres of Excellence, industry-aligned curricula, and immersive training programmes, we are preparing talent to power India's sustainable telecom infrastructure.

This year also marked a significant milestone in our journey. TSSC proudly celebrated its 13th Founder's Day on 8th January 2026, commemorating thirteen years of unwavering commitment to skilling excellence, industry partnership, and national capacity building in the telecom and digital communications domain.

Guided by its vision to develop a world-class skilled workforce capable of meeting both current and emerging demands across the rapidly evolving telecom ecosystem, TSSC will continue to work closely with industry stakeholders and State Skill Missions to ensure skilling initiatives remain aligned with sustainability imperatives, technological advancement, and national development priorities.

This edition of Kaushal Kiran captures the momentum, insights, and achievements that reflect our collective progress toward strengthening India's sustainable telecom workforce and advancing a digitally empowered, environmentally responsible nation.

Warm regards,

Lt Gen Kulbhushan S Gawas, PVSM, VSM (Retd)
Chief Executive Officer
Telecom Sector Skill Council

TELECOM SECTOR SKILL COUNCIL

SUB SECTORS AND QUALIFICATION PACKS

Device Manufacturing

- Line Assembler - Telecom Products (15)
- Hand Soldering Technician - Telecom Boards (15)
- Surface Mount Technology - Telecom Technician (18)

Network Services

- In-Building Wireless Solution Technician (14)
- Telecom Technician - IoT Devices/Systems (17)
- Optical Network Terminal Technician (17)
- Telecom Field Operations Coordinator (21)
- Technician 5G - Active Network Installation (17)
- Project Supervisor - 5G Networks (21)
- Machine Learning Telecom Architect (18)
- Technician - Last Mile Active Network (15)
- Smart Devices Installation Operator (13)
- AI & ML – Jr. Telecom Data Analyst (15)
- AI Devices Installation Operator (13)
- Network Cloud – Jr. Architect (16)
- IoT Technical Service Operator with 4 Electives (13)

Drone Technology

- Dron-o-Grapher (14)
- Drone Data Processor (18)
- Drone Monitoring and Maintenance Associate (13)
- Drone - Based Telecom Operations Manage (18)
- Telecom Infrastructure Inspection Engineer (Drone-based)(19)
- Radio Frequency Engineer – Drone-Based Surveys (19)

Entrepreneurship

- Handheld Devices Technician (16)
- Telecom Grameen Udhyami (20)

Passive Infrastructure

- Telecom Tower Site Maintenance Technician (17)
- Wireless Technician (17)
- Fiber Installation, Testing Technician (17)
- Fiber to-the Home (FTTH/X) Installer (15)
- Telecom Rigger - 5G and Legacy Networks (14)
- Optical Fiber Technician (16)
- Infrastructure Technician-5G Networks (17)
- 5G System Integrator (19)
- Telecom Electrician (Basic) (13)
- Telecom Electrician (Advanced) (15)
- Broadband Technician (15)
- Optical Fiber Splicer (13)

Semiconductor

- Assembly Process Technician – Wafer Testing (15)
- Reliability & Quality Control Manager (22)
- Substrate Design and Process Manager (20)
- Assembly Process Supervisor- Wafer Dicing (19)
- Assembly Process Sr. Technician – Laser Marking (18)
- Assembly Process Sr. Technician – Wafer Thinning & Lapping (18)

SATCOM

SATCOM Operation Technician (19)

Circularity/Green Telecom

- Telecom E-waste Handler (14)

Micro Credentials

- Height & Rescue Training (HART) (0.5)
- Rope Operations, Tactics and Rescue (ROTAR) (2)
- WeCare- Electrical Safety (Telecom Equipment) (0.25)

As per New Education Policy (2020) , every Qualification Pack carries credits that can be added to the Academic Bank of Credits. (Credits mentioned in brackets)

INDIA MOBILE CONGRESS

About India Mobile Congress 2025

IMC 2025 positions innovation as the engine of India's progress, driving transformation across telecom, industry, infrastructure, society, and sustainability while guiding the nation's journey towards Viksit Bharat by 2047. As a global platform, it brings together leaders, startups, investors, and partners to foster collaboration, showcase India's strengths in telecom, electronics, and digital inclusion, and prepare the country to lead in 5G, 6G, AI, satcom, quantum, electronics manufacturing, and cybersecurity, building an inclusive, self-reliant, and globally prominent Bharat.

Telecom Sector Skill Council as the Skilling Partner

As the skilling partner, TSSC showcased its leadership in telecom skilling, future technologies, industry-academia collaboration and reaffirmed its role as the apex body driving skill development across emerging areas such as 5G, IoT, AI, and Telecom Infrastructure, aligned with the Government's vision of a Viksit Bharat.

IMC Post Event Updates

- Progress in telecom skilling, corporate training, and digital learning. Engagement with industry, academia, and government stakeholders was strengthened.
- New initiatives including Telecom Safety Programs, AR/VRbased training, IoT Labs, Corporate Training Solutions were presented by partners Britco & Bridco, MediHSE & AISECT.
- The booth welcomed over 1,000 visitors from Government, Academia, Industry, and the Armed Forces.
- Discussions with IIT Kanpur focused on potential collaboration.
- TSSC partners with Guwahati University to offer 5G program son campus, equipping students with industry-ready skills

On 9th October 2025 at India Mobile Congress 2025, TSSC led a panel on "Synergizing Telecom and Skills to Align with Viksit Bharat," highlighting the role of telecom, 5G, and emerging technologies like AI, IoT, and 6G in building a future-ready workforce for Viksit Bharat 2047.

1000+ Unique Visitors

TSSC'S CENTRE OF EXCELLENCE

The Telecom Sector Skill Council, together with academia and industry partners, creates Centres of Excellence, state-of-the-art skill labs offering high-end training, blended learning, and outreach programs. These centres empower learners with experiential upskilling in contemporary and niche telecom technologies. By combining hands-on practice with industry-driven curricula, they equip professionals with future-ready capabilities, enhance employability, and support the growth of a skilled workforce for the telecom sector

Delhi Skill and Entrepreneurship
University Okhla, Delhi

Kaushalya Skill University
Gujarat

National Institute of Technology
Patna, Bihar

Indira Gandhi Delhi Technical
University for Women

BRBRAITT, Jabalpur,
Madhya Pradesh

Government Girls
College, Gurgaon

CSR/COE UPDATES

Jabalpur | Center of Excellence

Under the vision of **Shri Jyotiraditya Scindia, Union Telecom Minister** and guidance of **DoT**, **BSNL** signed MoUs with **Ericsson, Qualcomm, Cisco & Nokia** to train **2,000 students** in **5G, AI, ML, Networking** & digital technologies at BRBRAITT, Jabalpur.

"TSSC signed MoUs with Ericsson & Nokia to establish a Centre of Excellence and deliver training programs, with agreements valid for one year and renewable for three years"

- **Ericsson:** TSSC establishing a 5G lab for Advanced 5G Competence Training. (2 batches completed)
- **Nokia:** TSSC setting up AI/ML and 5G labs to train candidates on AI/ML Foundation & Advanced courses, as well as 5G Advanced training on IoT applications. (October 2025)
- **Qualcomm:** Supporting capacity building by training trainers and candidates' employees by Qualcomm Academy.
- **Cisco:** Leveraging its Networking Academy to provide skills in networking, cybersecurity, and IT infrastructure, offering free online resources.

COE Updates | BRBRAITT

Course: 5G Overview
Lives Impacted: **100+**

Course: AI/ML
Course: 5G Advance/ IOT
Lives Impacted: **120+**

PMKVY

50+ Trainers
BSNL Trainers Trained
(Nov – Dec 2025)

Job Roles:

- Broadband Technician
- Wireless technician
- Optical Fiber Splicer
- Optical Fibre Technician
- Broadband Network Technician
- Wireless Network Technician

CSR/COE UPDATES

Samsung Innovation Campus ————

Samsung Innovation Campus (SIC) is a Corporate Social Responsibility initiative by Samsung, implemented by Telecom Sector Skill Council (TSSC), aimed at developing future-ready skills among students in Haryana, Punjab, Delhi, and Maharashtra.

The program focuses on emerging technology domains such as Artificial Intelligence, Big Data, and Coding & Programming, and delivers an industry-aligned curriculum. SIC aims to bridge the gap between education and industry by equipping students with practical, job-ready skills.

Samsung Innovation Campuses ————

- Guru Gobind Singh Indraprastha University East Delhi Campus
- Maharaja Agrasen Institute of Technology (MAIT)
- USICT,GGSIPU, Dwarka
- Dr. Akhilesh Das Gupta Institute of Professional Studies, New Delhi
- Guru Tegh Bahadur 4th Centenary Engineering College (GTB4CEC), New delhi
- Bhagwan Parshuram Institute of Technology
- Amity University
- State Institute of Engineering and Technology, Nilokheri
- Rao Birendra Singh State Engineering College
- SGT University
- Central University of Haryana
- AIMT, Ambala
- Gandhi Memorial National College Ambala
- St. Andrews Institute of Technology and Management,Farukhnagar , Gurgaon
- Dyal Singh College, Karnal
- APIIT SD India, Panipat
- Govt College for Women, Karnal
- Pt. Chiranji Lal Sharma Govt College, Karnal
- KVA DAV College For Women, Karnal
- National Institute of Technology Kurukshetra
- Savitribai Phule Pune University
- Pimpri Chinchwad University
- Anjuman-I-Islam's Kalsekar Technical Campus
- D. Y. Patil University's Ramrao Adik Institute of Technology
- Chandigarh University

CANDIDATE TESTIMONIALS

AYUSH KUSHWAHA · 3rd+
I am an electronics & telecommunication Diploma Engineer, Currently Pursuin...
1d · Edited · 🌐

📢 I'm happy to share that I've completed the 5G Advanced Competence Training, recognized by Ericsson India and BSNL under TSSC.
This experience deepened my understanding of modern telecom architecture, 5G ecosystem, and the direction in which communication technologies are heading. Each step like this moves me closer to building a strong career in next-generation networks and telecom innovation. Excited to keep learning, exploring, and growing.
#5GLearning #TelecomJourney #NextGenNetworks
#SkillDevelopment #EngineeringLife #ECE
#ContinuousLearning #Careergrowth Devadas Pai Baidebettu BSNL India Ericsson Telecom Sector Skill Council (TSSC)

9   1 comment

Aanchal Deode · 3rd+
B.Tech IT Student @Jabalpur Engineering College | DSA Enthusiast | MERN Sta...
3d · 🌐

I'm happy to share that I have successfully completed the 5-day Advanced AI/ML Training – Telecom Data Analytics program, organized by Nokia, and implemented by the Telecom Sector Skill Council (TSSC).
This opportunity was extended to a select batch of 30 students and I feel truly privileged to be a part of it.
Throughout the program, we gained hands-on exposure to how the telecom industry handles massive and continuously growing data, including:
- Data cleaning and preprocessing
- ETL pipelines
- Churn rate calculation
- Telecom data analytics
- Dashboarding and insights using Power BI

The sessions were extremely insightful and industry-oriented, giving us a real-world perspective of telecom data analytics.
A heartfelt thank you to Ishan Marwah sir, our trainer, for his clear explanations, patience,warm and welcoming presence, and practical approach to teaching complex concepts.
Special thanks as well to Biswajit Chatterjee, Project Manager, for smooth coordination and support throughout the program.
Grateful to Nokia, Bharat Sanchar Nigam Limited, and Telecom Sector Skill Council (TSSC) for providing such a valuable learning opportunity. Looking forward to applying these insights in future projects and professional endeavors
🚀 #TelecomAnalytics #AI #MachineLearning #DataAnalytics #PowerBI #Nokia #BSNL #TSSC

Robin Gharde · 3rd+
Previously attended SVKM's NMIMS MPSTME, Shirpur. Currently an Undergra...
5d · Edited · 🌐

Learning Journey So Far at Samsung Innovation Campus's Artificial Intelligence in Ramrao Adik Institute of Technology

Today there was a good moment to reflect on my AI learning journey so far. From understanding core AI and Machine Learning concepts to building strong foundations in mathematics for data science—including clustering, probability, linear algebra, calculus, and hands-on coding—each session has added a new layer to how I think about intelligent systems.

AI is not just about algorithms or tools—it's about strong fundamentals, logical thinking, and continuous practice. Every concept, when paired with hands-on application, makes learning deeper and more meaningful.

Grateful for the guidance and support of our trainers, mentors Dr. Supriya Bhuran (Yadav) and NEHA MAHAJAN, and the learning environment that encourages curiosity, questions, and practical understanding. Also thankful to my batchmates—learning alongside motivated peers makes the journey even more inspiring.
Dr Mukesh D. Patil Dr. Sharad P. Jadhav
Telecom Sector Skill Council (TSSC)

Consistency, curiosity, and strong fundamentals are shaping my path in AI—excited to keep learning, building, and growing one day at a time.

#SamsungInnovationCampus #SIC_INDIA_2025 #AI_Batch2
#ArtificialIntelligence #LearningJourney #Grateful #FutureInAI #Consistency #Growth
#TechInnovation #SkillIndia #FutureReady #DigitalTransformation #EmergingTech #LearningJourney #Innovation #TechLeaders #AIForGood #NextGenTech

Vasu Watts · 3rd+
Building the Future with Tech. Innovation. and Insight.
1w · 🌐

I am truly honored to begin my journey with the Samsung Innovation Campus program, a significant milestone in my pursuit of excellence in emerging technologies and advanced digital skills. This opportunity allows me to deepen my technical expertise while learning and collaborating with driven peers who share a passion for innovation. Samsung's commitment to empowering the next generation of technology leaders is both inspiring and motivating, and I am excited to embrace new challenges, push boundaries, and contribute toward building a smarter, future-ready, technology-driven world.

#SamsungInnovationCampus #SIC_India_2025 #AI #ArtificialIntelligence #TechInnovation #SkillIndia #FutureReady #DigitalTransformation #EmergingTech #LearningJourney #Innovation #TechLeaders #AIForGood #NextGenTech

Circular Economy

A circular economy is a sustainable economic model that focuses on maximizing the value of resources by extending product lifecycles through reuse, repair, refurbishment, and recycling. It moves away from the traditional "take-make-dispose" approach, aiming to reduce waste, improve efficiency, and support long-term economic and environmental sustainability.

INDUSTRY ARTICLE

Author

DR. SANDIP CHATTERJEE

Senior Advisor, Sustainable Electronics Recycling International (SERI)
Ex. Group Coordinator, Ministry of Electronics and Information Technology (MeitY)

SERI

CIRCULAR ECONOMY IN ELECTRICAL AND ELECTRONICS EQUIPMENT

AN ECONOMIC OPPRTUNITIES FOR INDIA

The Fourth Industrial Revolution, enabled by digitalisation, data-driven systems, and Industry 4.0 technologies, is reshaping electronics, ICT services, and digital infrastructure. While these advancements are accelerating economic growth, they are also driving higher consumption of electrical and electronic equipment, shorter product lifecycles, and a rapid increase in e-waste.

India's expanding digital economy, supported by ICT services, data processing, connectivity, and emerging technologies such as AI and IoT, demands faster production, higher processing capacity, and frequent replacement of electronic equipment. As a result, India generated 4.17 million metric tonnes of e-waste in 2022, making it the third-largest generator globally. However, nearly 90 to 95 percent of this waste is processed by the informal sector, leading to environmental damage, health risks, and loss of valuable materials.

A circular economy approach to electrical and electronic equipment focuses on extending product life through repair, refurbishment, recycling, and recovery of secondary raw materials. This transition requires a skilled workforce across the product lifecycle, including dismantling, material recovery, reverse logistics, environmentally sound recycling, and compliance with regulatory standards.

The electronics and ICT sectors depend on complex materials such as copper, aluminium, precious metals, and rare earth elements, making skilled resource recovery critical for sustainability and resource security. Circular economy practices offer strong job creation potential through activities like manual disassembly, refurbishment, recycling, and advanced processing. Formalising these processes through training and skill development can integrate informal workers, improving productivity, safety, and material recovery.

India's policy frameworks including the E-Waste Management Rules, 2022, National Policy on Electronics 2019, Production Linked Incentive schemes, and NITI Aayog's Circular Economy Action Plan promote sustainable design, recycling, use of secondary materials, and lifecycle management. Together, they support the development of skilled manpower essential for electronics manufacturing, telecom infrastructure, and digital services.

As digital adoption and electronics usage grow, embedding circular economy principles across the electronics and ICT ecosystem can enhance resource efficiency, generate employment, and drive sustainable economic growth.

ABOUT THE AUTHOR

Dr Sandeep Chatterjee is a global policymaker and techno-administrator with 30+ years of experience in translating R&D into commercial and policy impact. A recognised expert in materials, e-waste, circular economy and resource efficiency, he has 50+ publications and 1,000+ speaking engagements. He has led national initiatives in emerging technologies, established 22+ Centres of Excellence, and shaped India's policies on additive manufacturing, circular economy and data protection. **Currently, he promotes sustainable electronics practices globally, works with SERI, and serves as Adjunct Professor at IIT Mandi.**

Circular Economy: The Next Frontier

The circular economy in telecom focuses on designing out waste, extending asset lifecycles, and regenerating natural systems. By shifting from a linear "build-use-dispose" model to circular practices, telecom networks become more resilient, cost-efficient, and environmentally responsible, supporting long-term digital growth while reducing carbon and material footprints.

Sustainability in Telecom: Building Responsible Connectivity

Telecom operators are embedding sustainability across network planning, infrastructure deployment, and service delivery. Circular practices such as equipment refurbishment, energy optimisation, and responsible sourcing are transforming how networks are built and operated. With rising data demand and 5G expansion, sustainability is becoming central to reliable and future-ready connectivity.


Market Size & Investments

India's green telecom market is growing, aligned with a **$2 trillion circular economy opportunity by 2050.** Operators are investing in energy-efficient networks, renewables, and circular supply chains to cut costs and meet sustainability goals.

Use Cases: Real-World Impact

- **The Network Equipment Reuse & Refurbishment**: Extending the life of radios, routers, and devices reduces e-waste and CAPEX.
- **Energy-Efficient Networks**: AI-enabled power management, sleep modes, and modern hardware lower energy consumption.
- **Renewable-Powered Sites**: Solar and hybrid power solutions for towers reduce diesel dependency and emissions.
- **E-Waste Management & Recycling**: Responsible recovery of metals and components strengthens circular supply chains.
- **Sustainable Customer Devices**: Trade-in, repair, and recycling programs encourage responsible consumption.
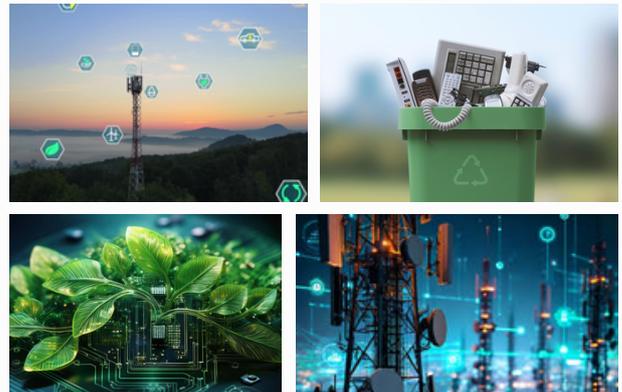
Policy & Regulatory Push: Enabling Sustainable Telecom

India's Green Telecom vision, outlined in the draft National Telecom Policy 2025 (NTP-25) and driven by DoT and TRAI, integrates sustainability into national connectivity goals. The policy targets the 30-30-30 objectives, including a 30% reduction in carbon emissions and 30% renewable energy adoption across telecom towers by 2030.

It promotes energy-efficient networks, circular economy practices, responsible e-waste management, and AI-driven optimization to reduce environmental impact while supporting scalable and resilient digital infrastructure.

SUSTAINABILITY & CIRCULARITY

Google | Seri: Mobile Accelerator Program

TSSC is pleased to launch the Mobile Repair Accelerator Program, with TSSC as the Certification Partner. Delivered by Britco & Bridco and supported by Google and SERI, the program equips learners with industry relevant skills to become Handheld Devices (Mobile & Accessories) Technicians.

The initiative is further supported by Stellar Information Technology Pvt. Ltd., which provides specialised training in secure data sanitisation using BitRaser Data Erasure & Diagnostics, certified software for mobile diagnostics and data erasure.

TSSC successfully **assessed and certified the first batch of the program,** marking the beginning of a transformative journey toward sustainable careers and entrepreneurship opportunities within the mobile technology ecosystem.

TSSC's Participation at the Panel on Circular Economy and Skilled Talent

At a panel on **"Building Circularity through Behavioural Change and Skilled Talent,"** Sumit S. Munjal from Telecom Sector Skill Council emphasized behavioural change, public awareness, and industry-aligned skilling to build future-ready talent and drive circular economy outcomes.

Separately, the **Google – SERI Mobile Repair Warriors Accelerator Program**, held at T-Hub, Hyderabad on 16 March 2026, highlighted mobile repair as a pathway to sustainability and jobs. The program included training, a skill competition, and awards with Google Pixel smartphones, alongside a panel featuring Lt Gen Kulbhushan H. Gawas on employment opportunities and industry collaboration.

GREEN TELECOM| INDUSTRY UPDATES

DoT and UNDP Host National Workshop on Advancing Circular Economy in Telecom

The Department of Telecommunications (DoT) and UNDP organized a workshop emphasizing sustainable product design, resource efficiency, lifecycle management, e-waste reduction, and digital tools like AI and blockchain to foster regenerative systems and multi-stakeholder collaboration for sector resilience.

Circular Consumption Redefining India's Tech Economy

Amid rising costs and environmental concerns, India's telecom sector is shifting to circular models like reuse, refurbishment, and subscriptions to extend device lifecycles, reduce e-waste, lower emissions, and create jobs through new value chains focused on reverse logistics and data-driven platforms.

India's Telecom Sector Powers Sustainability with Renewables and Energy Optimization

Under the draft NTP 2025, targets include 30% emission reductions and renewable power for towers by 2030, with operators like Vodafone Idea and Airtel adopting AI traffic management, solar sites, and hybrid PPAs to enhance efficiency and decarbonization.

Sustainability by Design: India's Telecom Moves Past Optics

The industry is embedding green practices, including renewable energy, AI efficiencies, network sharing to cut emissions by up to 10%, modular hardware for longevity, and circular principles, with examples like Airtel's green towers and Nokia's energy-optimizing solutions.

India's Telecom Sector Adopts Circular Economy for Sustainability

Highlighted at IMC2025, the sector is embracing circular principles to minimize environmental impact and boost resource efficiency, as discussed in a DoT panel, supporting sustainable innovation for a greener digital ecosystem.

India Advances Transition to Circular Economy in Electronics Sector

With GEF and UNDP support, initiatives target e-waste management in telecom-related electronics, promoting eco-design, safe recycling, regulatory strengthening, and formalizing workers to reduce toxins, recover materials, and cut emissions equivalent to 600,000 tonnes of CO_2.

INDIASKILLS & WORLDSKILLS 2026

India skills **worldskills**

Skill: Information Network Cabling

Divya Umesh Godse
Russia - 2019

Vaisakh P
Japan - 2022
Medallion of Excellence

Amit Kumar
France - 2024

IndiaSkills is a biennial national skill competition for youth aged 16–25, **organized by MSDE** and **NSDC**, leading to WorldSkills Asia and WorldSkills International, a global platform with **85+ countries and 60+ skill categories**, where India competes in Telecom Skills including **ICT Network Infrastructure and IT Network System Administration in 2025–26.**

MEET OUR WORLDSKILLS INDIA EXPERTS

ICT NETWORK INFRASTRUCTURE EXPERT

Mr. Ninad Desai, At-Large Director at BICSI, brings over 20 years of global ICT infrastructure expertise spanning design, consulting, audits, training, and talent development. As India's first RCDD and a WorldSkills India Expert, he blends technical excellence with skills leadership, advancing future-ready, secure, and competitive ICT capabilities worldwide.

IT NETWORK SYSTEMS ADMINISTRATION EXPERT

Dr. Amit Oberoi, Co-Founder & CEO of Carnot Research Pvt. Ltd. and a WorldSkills India Expert, brings 25+ years of leadership across the Indian Army, IT, cybersecurity, data analytics, and AI. He specializes in NLP, threat intelligence, and complex solution design, advancing innovative, people-centric, and future-ready technology capabilities.

INDIASKILLS UPDATE | TRACK II

The **IT Network System Administration – Track II competition was held on 29 December 2025 at KIET Group of Institutions, Ghaziabad, in collaboration with Aurira Software Lab Private Limited**. The event provided participants with a rigorous platform to demonstrate their technical expertise and practical problem-solving capabilities in network systems administration.

Following this, **the ICT Network Infrastructure – Track II competition took place on 31 December 2025 at Pratap Academy of Learning Sciences, Indore.** This competition focused on evaluating participants' skills in designing, deploying, and managing robust ICT network infrastructure, reinforcing industry-relevant standards and excellence in emerging network technologies.

The event highlighted the technical competence, discipline, and problem-solving abilities of India's emerging network professionals.

Initiatives like IndiaSkills continue to inspire young talent, strengthen industry-ready capabilities, and prepare India's workforce to compete confidently on the global skills stage.

INDIASKILLS UPDATE | REGIONAL COMPETITION

The I**ndiaSkills Competition Regional Competitions 2025–26** were successfully conducted across the **Eastern, Southern, and Western regions**, showcasing the capabilities of India's emerging skilled workforce in the telecom domain.

Under the aegis of **Telecom Sector Skill Council (TSSC)**, competitions were held in the job roles of **ICT Network Infrastructure and IT Network Systems Administration**. Participants demonstrated strong technical proficiency, problem-solving ability, and adherence to industry standards through rigorous skill-based assessments.

The competitions highlighted the growing talent pool of trained youth across regions who are equipped to contribute to India's evolving digital and telecom ecosystem. The **North Regional Competition is scheduled to be held in Agra from 11–14 March 2026**, continuing the momentum of identifying and promoting skilled talent across the country.

TSSC congratulates all winners and participants for their dedication, professionalism, and commitment to skill excellence.

INTERNATIONAL PARTNERSHIPS

International: South Africa

TSSC Partnership with MICT SETA to skill South African youth & ICT professionals in 4IR competencies

Focus on:

- Adapting TSSC's NSQF aligned curriculum for South Africa
- Capacity building & Trainer development
- Industry partnerships for International Placements
- Training infrastructure & establishments of CoEs

TSSC virtually attended the Annual General Meeting of MICTSETA on, 5th December 2025. The session highlighted MICTSETA's performance achievements, future plans, and its continued progress in shaping South Africa's digital future.

We note the re-instatement of Mr. Matome Madibana as Chief Executive Officer of MICTSETA.

With this development, TSSC looks forward to strengthening its collaboration with MICTSETA and jointly exploring innovative skilling solutions to empower South Africa's youth and build a future-ready workforce.

Matome Madibana
Chief Executive Officer
MICTSETA

Kukje India | TSSC

Telecom Sector Skill Council (TSSC) has signed an MoU with Kukje India Group to enable international training and placement opportunities for TSSC-certified telecom professionals across multiple global regions.

The collaboration aims to create structured and transparent overseas career pathways by aligning skilled talent with global employer requirements and supporting candidates through deployment and pre-departure orientation for a smooth transition to international workplaces.

Kukje Overseas, part of Kukje India Group, is a New Delhi-based, MEA-approved and ISO-certified overseas recruitment agency with over 12 years of experience, working with 125+ clients across more than 20 countries and specializing in end-to-end skilled manpower recruitment.

This partnership marks a significant step in positioning India's telecom professionals for global opportunities while ensuring quality, compliance, and long-term career growth.

FOSTERING STATE LEVEL ENGAGEMENT

TASK Hyderabad

Lt Gen Kulbhushan H Gawas, PVSM, VSM (Retd) had the privilege of visiting the Telangana Academy for Skill and Knowledge (TASK), a flagship initiative of the Government of Telangana that exemplifies the effective convergence of academia, industry, and government in enhancing youth employability and technical excellence.

During the visit, TSSC CEO engaged in a constructive and forward-looking discussion with Mr. Shrikant Sinha, Chief Executive Officer of TASK. The deliberations focused on TASK's critical role in developing future-ready talent and explored potential areas of collaboration between TASK and TSSC. Key areas of discussion included the strategic deployment of CSR resources, the establishment of Centres of Excellence, the implementation of Recognition of Prior Learning (RPL) initiatives under PMKVY and CSR frameworks, and the introduction of Faculty Development Programmes aimed at strengthening institutional capacity.

The CEO was accompanied by Mr. Sumit S. Munjal, Senior General Manager, and Mr. Srikanth B, State Head - Andhra Pradesh, Telangana, and Karnataka. The interaction reaffirmed a shared commitment to advancing the national skilling agenda through meaningful partnerships and sustained institutional synergy.

Uttarakhand Skill Mission - Dehradun

CEO, TSSC met with the Skill Dy. Director – Chandrakanta Rawat | UKSDM to discuss programs on Circulatory . Strong interest was shown on 2 courses Handheld technician and E-Waste Collector.

Haryana Skill Mission – Chandigarh

CEO, Telecom Sector Skill Council (TSSC) held a focused discussion with Mr. Vivek Agarwal, Managing Director, Haryana Skill Development Mission, along with training partners, on integrating futuristic, industry-aligned courses within the school education ecosystem.

The interaction emphasised building future-ready skills at the foundational level. Following the meeting, a detailed proposal has been formally submitted for evaluation, reinforcing TSSC's commitment to strengthening early skilling pathways through collaboration with state stakeholders.

EVENTS & UPDATES | TSSC LEADERSHIP

Magnus Institute of Technology

TSSC CEO visited Magnus to launch the Hackathon, encouraging student innovation and strengthening institutional collaboration

Britcon 2025

TSSC CEO and Praveen Sirohi, AVP represented the council at Britcon 2025, highlighting telecom skilling and industry partnerships.

CEO TSSC Visits IoT School Lab, Noida

Lt Gen Kulbhushan H. Gawas, PVSM, VSM (Retd), CEO, TSSC, visited the IoT School Lab at Shri Krishna Inter College, Noida, interacting with students of Grades 11 and 12 pursuing IoT upskilling. He was accompanied by Mr. Gaurav Sharma, Senior General Manager, and Dr. Shashank Dwivedi, Project Manager, during the visit.

CEO TSSC Reviews Samsung Innovation Campus at Chandigarh University

Lt Gen Kulbhushan H. Gawas, PVSM, VSM (Retd), CEO, TSSC, visited Chandigarh University on 7 November 2025 to review the ongoing Samsung Innovation Campus batches and ensure smooth progress of training activities. Samsung merchandise was also distributed to students and the on-ground team, adding enthusiasm to the visit.

The visit was joined by Praveen Sirohi, AVP, reaffirming TSSC's commitment to delivering high-quality telecom skilling across India.

TSSC Explores Samsung Innovation Campus Collaboration with USAR

LTSSC met with the University School of Automation and Robotics (USAR), GGSIPU, to discuss establishing a Samsung Innovation Campus Training Centre aimed at building industry-ready skills in emerging technologies.

The discussion was led by Mr. Gaurav Sharma, Senior Manager, Dr. Shashank Dwivedi, Project Manager, and Ms. Akshita Khokhar, Project Coordinator, TSSC.

EVENTS & UPDATES | TSSC LEADERSHIP

TSSC Reviews 5G Training at Ericsson Hub, Agra

Lt Gen Kulbhushan H. Gawas, PVSM, VSM (Retd), CEO, TSSC, visited the Ericsson Hub for 5G Training at Government ITI, Balkeshwar, Agra, with Mr. Gaurav Sharma, Senior General Manager, TSSC, to review this key skilling initiative.

The visit included interactions with trainees and a review of their practical work, showcasing strong discipline, focus, and commitment to acquiring industry-relevant telecom skills.

CEO TSSC at APAC National Skill Conclave

Lt Gen Kulbhushan H. Gawas, PVSM, VSM (Retd), CEO, TSSC, participated as a key panelist on "Sectoral Skill Gaps and Action Plan for Industry 4.0 Job Roles" at the 6th APAC National Skill Conclave, Uttar Pradesh. He highlighted the importance of future-ready skilling and industry alignment to strengthen India's workforce.
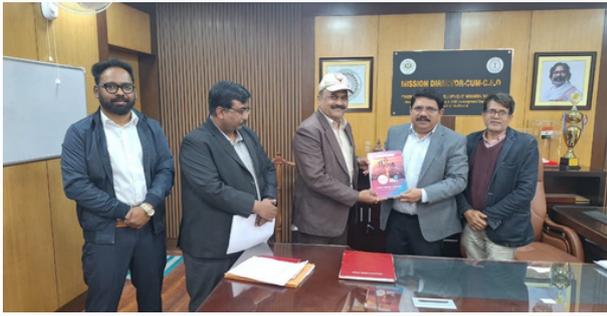

DIDAC Skills 2025 | 18-20 November 2025

Telecom Sector Skill Council participated in DIDAC Skills 2025 from 18-20 November at Yashobhoomi, Dwarka, New Delhi. The three-day event featured focused discussions, purposeful networking and meaningful industry collaboration.

Lt Gen Kulbhushan H. Gawas, PVSM, VSM (Retd) at closed-door Industry-Academia-Policy Roundtable on "The Future of Work", engaging with leaders from the skilling ecosystem and heads of multiple Sector Skill Councils.

He shared practical insights on aligning academic curricula with the requirements of an AI-enabled workplace—emphasizing digital tools, emerging skills and real industry exposure.

EVENTS & UPDATES | TSSC LEADERSHIP

Visit to Jharkhand Skill Development Mission Society and Mega Skill Centre, Bundu

Lt Gen Kulbhushan H Gawas visited Jharkhand and held discussions with Shailendra Kumar Lal and Vishwaroop Thakur of the Jharkhand Skill Development Mission Society on the state's skilling priorities and future direction.

He also visited the Mega Skill Centre at Bundu, where youth from across the state are receiving structured training in the Customer Care Executive job role.

The visit included interactions with trainees and trainers, and participation in the distribution of certificates and offer letters to successful candidates.

Discussions were further held with training partners on future-ready telecom job roles, international placement opportunities, and stronger industry alignment. Engagements were also undertaken with representatives from Central Mine Planning and Design Institute and Central Coalfields Limited to explore potential avenues for CSR collaboration.

Visit to Pune: Industry-Aligned Skilling Discussions

Lt Gen Kulbhushan H Gawas visited Pune and held discussions with Anupama Pawar on the District Skill Development Plan and the need to identify future-ready job roles aligned with evolving industry demands.

He also visited Pimpri Chinchwad University, where the Samsung Innovation Campus is being implemented with Telecom Sector Skill Council, training students in AI and Coding & Programming, and interacted with university leadership and training partner USDC Technology Pvt. Ltd. on strengthening industry-aligned skilling initiatives.
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EVENTS & UPDATES | FOUNDER'S DAY

TSSC FOUNDERS

Telecom Sector Skill Council marked its **13th Founder's Day on 8 January 2026,** celebrating over a decade of skilling excellence and impacting more than **1.4 million live**s. The occasion featured a focused Manthan, bringing teams together for open dialogue to reflect on the organization's journey and shape its future direction.

The discussions centered on key themes including:

- Skill Gap Studies and development of new Qualification Packs
- PMKVY 5.0 priorities and strengthening industry engagement
- Building TSSC as a great place to work
- Expanding global collaborations and international placements
- Deepening state-level engagement and partnerships with private training companies
- IT enablement and digital transformation
- Enhancing the value and recognition of TSSC certifications

The Manthan reaffirmed Telecom Sector Skill Council's collective vision to remain agile, industry-aligned, and impact-driven. As TSSC moves forward, the focus remains on strengthening partnerships, embracing digital transformation, expanding global opportunities, and continuously enhancing the quality and recognition of its certifications.

With a shared sense of purpose and collaboration across teams and stakeholders, TSSC is poised to build on its legacy and drive the next decade of inclusive growth, innovation, and workforce readiness for the telecom sector.

EVENTS & UPDATES

AISECT Panel Discussion

Srikanth B., State Head (Andhra Pradesh, Telangana, Karnataka), had the honour of participating in a panel discussion on "Bridging Academia and Employment through NEP, Skills, Internships & CSR Synergy", organized by AISECT

All India Sainik Camp

TSSC participated in the All India Sainik Camp held across Maharashtra, Delhi, and Karnataka in September 2025. The sessions introduced cadets to the role of telecom in everyday life and emerging career pathways, highlighting job opportunities, salary structures, and real-world case studies.

The initiative also showcased platforms like WorldSkills and IndiaSkills, positioning TSSC as a key enabler of future-ready talent in 5G, IoT, AI, and cybersecurity.

PM-NAPS Awareness Workshop in Nagaland

Salil Nath, Head – NER, TSSC, participated in the PM-NAPS awareness workshop held on 11 September 2025 at Women ITI Seithekema, Chumukedima, Nagaland, organised by the Directorate of Employment, Skill Development and Entrepreneurship, Government of Nagaland.

The workshop brought together SSCs, TPAs, industry representatives, government agencies, and students, and focused on strengthening the apprenticeship ecosystem. Salil Nath led a session on how apprenticeship programmes can enable strong career pathways for students in the telecom sector.

Strengthening Rural Connectivity through Skill Development

TSSC certified Broadband Technicians in Kunnur and Optical Fibre Technicians in Ernakulam under the NABARD initiative, supporting rural upskilling and strengthening digital connectivity.

EVENTS & UPDATES

TSSC Wins 'Bharat Nirman' Award at MIECA 2025

Telecom Sector Skill Council (TSSC) was recognised as a winner in the 'Bharat Nirman' category at the Making India Employable Conference & Awards (MIECA) 2025, held on 7 November 2025 at Novotel Mumbai International Airport.

The award was received by Dr. Ashutosh S. Yadav, AGM, TSSC, in recognition of TSSC's exemplary efforts in enhancing employability across India, reaffirming its commitment to building a future-ready, skilled workforce.

Industry Engagement at Electronics Expo, Gandhinagar

Anand Banke, Business Development Manager, TSSC, attended the Electronics Expo in Gandhinagar, engaging with technology-focused industry representatives.

The interactions focused on networking, exchange of business cards, and exploring new opportunities for collaboration and partnerships with TSSC.

Kaushal Rozgar Mahotsav | Dehradun

Represented by Ankit Demta, TSSC engaged with youth at Kaushal Rozgar Mahotsav, promoting telecom career pathways.

UPSDM's Sector Skill Council Meet | Lucknow

The workshop highlighted sectoral progress, with AGM Ankit Demta showcasing TSSC's initiatives in Uttar Pradesh, including the MeitY SwaYaan Programme in Meerut under the Drone Data Processor course.

POSH TRAINING

TSSC conducted an Employee Awareness Session and an Internal Committee (IC) Session on 12th November 2025 as part of its annual compliance under the POSH Act for the year 2025. The sessions were attended by all employees and staff members and was delivered by Ms. Shambhavi Rai, External Committee Member from Equilibrio (LLB).

MEMBERS

Ketki Seth | Presiding Officer | TSSC

Shruti Saxena | Member | TSSC

Gaurav Sharma | Member | TSSC

Shambhavi Rai | External Member | Equilibrio (LLB)

TELECOM FACT SHEET

Network Infrastructure
- 9 lakh telecom towers across India
- 31.72 lakh Base Transceiver Stations (BTS)
- 5.08 lakh 5G BTS installed
- 36% of towers are fiberised; target includes 12 lakh towers
- Optical fibre length grew from 19.35 lakh route km (2019) to 42.36 lakh route km

5G Rollout
- 5G available in all States & UTs
- Covers 99.9% of districts and 85% of population
- July 2025: record 6,450 new 5G BTS added in one month
- Total 5G BTS: 4,92,520 (July 2025)
- 5G subscribers: 290 million (2024) → projected 980 million by 2030
- 90% 5G population coverage target by 2030 (Draft NTP-25)

Subscriber Base & Tele-density
- Total subscribers: 1.21 billion (June 2025)
- Tele-density: 86.09% (June 2025)
- Urban tele-density: ~133%
- Rural tele-density: 59.43% (June 2025)
- Wireless users: 1,170.88 million (96.1%)
- Wireline users: 44.6 million (3.9%)
- Rural connections up 42.9% since 2014

Data Usage
- Wireless data usage:
  - FY24: 1,94,774 PB
  - FY25: 2,28,779 PB (+17.46%)
- Q4 FY25: 59,447 PB → Q1 FY26: 65,009 PB (+9.36%)
- FY25 usage split:
  - 4G: 74.57%
  - 5G: 24.93%

India leads world in mobile data usage: 32 GB per smartphone/month (2024)

Internet & Broadband
- Internet users: 979 million (June 2025)
- Wireless internet: 935 million
- Wired broadband: 44.69 million
- Broadband growth: 149.75 million (2016) → 979 million (2025)
- 2,14,843 Gram Panchayats connected with broadband
- BharatNet: 13,01,193 FTTH connections in villages
- PM-WANI hotspots: 3,33,300 (June 2025)

India ranks as the world's **2nd-largest telecom market** (2025), **3rd in annual telecom investment** (2024) and domestic market size, and is among the l**argest internet markets with 979 million users.**

TELECOM FACT SHEET

Internet & App Economy

- App usage time:
    - 2022: 841 billion hours
    - 2023: 991 billion hours
    - 2024: 1.12 trillion hours
- OTT users: 547 million; 60% consume on mobile
- Avg platforms per user: 2.5

Market Size & Investment (India)

- Telecom revenue:
    - FY24: US$ 39.22 billion
    - FY25: US$ 43.42 billion (+10.72%)
- FDI inflow: Rs. 3,43,360 crore (2000–March 2025)
- 4th largest sector in FDI equity inflows (March 2025)
- Budget FY26 (DoT & IT): Rs. 81,005 crore

Manufacturing & Exports

- India: world's 2nd-largest telecom market (2025)
- 3rd-largest mobile phone exporter globally
- Exports CY24: Rs. 1,75,665 crore (US$ 20.5 bn)
- Smartphone market share by value: 7.9% (H1 CY25)
- 100% FDI allowed via Automatic Route

Policy & Schemes

- PLI for telecom & networking: Rs. 12,195 crore
- Draft National Telecom Policy 2025:
- Double annual telecom investment to Rs. 1,00,000 crore by 2030
- 100% 4G coverage, 90% 5G population coverage
- 6G Innovation Group formed by DoT
- Bharat 6G Alliance partnering with Europe

Renewable Energy & Digital Link

- India achieved 50% non-fossil power capacity in June 2025
- Non-fossil capacity: 262.74 GW (51.5%) by Nov 2025
- Renewable addition in one year: 44.51 GW (record)
- Solar capacity: 132.85 GW

Special Initiatives

- North-East villages with mobile connectivity:
    - 42,093 of 45,934 villages
    - 40,663 with 4G
- IoT push: oneM2M standards recommended (Aug 2025)
- 5G labs planned in 100 engineering colleges
- Rural connectivity via Digital Bharat Nidhi and BharatNet

EMPOWERING THE WORKFORCE, ADVANCING THE NATION'S DIGITAL FUTURE.