SUMMARY REPORT

WORKSHOP ON ACCELERATING THE SHIFT: TRANSITION TO ZERO-EMISSION TRUCKS

September 27, 2024, ITC Kohenur, Hyderabad

WORKSHOP OVERVIEW

'Accelerating the Shift: Transition to Zero Emission Trucks,' the Zero Emission Truck (ZET) Enablement Workshop, held under the Telangana Mobility Valley initiative, showcased Telangana's commitment to advancing sustainable logistics. Organized by Smart Freight Centre (SFC) India and the Industries & Commerce Department of the Government of Telangana in collaboration with key knowledge partners, the Centre for Energy Studies (CES), Administrative Staff College of India (ASCI), and Rocky Mountain Institute (RMI).

This workshop is a part of a pan India campaign under Niti Aayog's e-FAST initiative aimed at enhancing the regional ecosystem readiness with curated knowledge share and deliberations on Zero Emission Trucks, covering topics across technological and operational aspects, global ecosystem developments, Government of India e-truck initiatives, city level ZET adoption opportunities, operational risks and deployment SOPs.

The workshop's objectives were threefold:

- Introduce ZETs and the Medium and Heavy-Duty Truck (MHDT) freight sector to the audience.
- Identify the current challenges in the adoption of ZETs.
- Gather insights on the awareness levels and barriers faced by ecosystem stakeholders.

Enablement Layer – Stakeholders

Regional/ City Public Offices
- District Collectors Office
- Regional Transport Authorities
- Traffic Police Department
- Municipal Corporation
- Pollution Control Board
- Environment Dept officials
- Town Planning department
- Department of Industrial policy and investment

Public Infrastructure Offices
- PWD
- Regional NHAI Offices
- DISCOM(s) & Electricity Boards

First Responders
- Hospitals and Emergency health Services
- Fire Department
- Police Department

Regional Industry Representatives
- Shippers, LSPs, Larger fleet operators and OEM representatives
- Energy Infra Companies (Fuel stations-Gasoline, CNG, LNG)
- Charge Point Operators
- eMaaS* & CaaS Providers**
- Regional Transport Associations

Ecosystem Partners
- Banks, NBFCs
- Real Estate Sector representative
- Civil Society organisations

Public and Private Institutional Buyers
- Public Utilities (Power, Waste, Water)
- Local Industries

SPEAKER SUMMARIES

Welcome Address by Vijay Jaiswal, SFC India

The workshop began with an introductory address from Vijay Jaiswal, Director of Smart Freight Centre (SFC) India, setting the stage for the discussions that followed. He emphasized the need for a collaborative, multi-stakeholder approach to overcome the existing challenges in the transition to electric freight trucks. Vijay highlighted that SFC India, along with 17 knowledge partners under the e-FAST (Electric Freight Accelerator for Sustainable Transport) platform, is working to scale zero-emission truck pilots not just in Telangana but across India. The initiative aims to provide a structured roadmap for the transition, focusing on policy development, industry partnerships, and technical advancements in the trucking sector.

The address also stressed the importance of government support in accelerating ZET adoption and the role of industry partners in creating a robust ecosystem that can sustain large-scale deployment of ZETs. This ecosystem includes Original Equipment Manufacturers (OEMs), fleet operators, energy providers, and charging infrastructure developers, all of whom play a pivotal role in driving the transition towards sustainable logistics.

Special Address by Sri Jayesh Ranjan, IAS

Sri **Jayesh Ranjan**, Principal Secretary of Industries & Commerce, delivered the keynote address, providing insights into Telangana's ambitious goals for sustainability and mobility. He underscored the state's commitment to achieving net-zero emissions ahead of schedule, emphasizing that electric mobility, particularly in the trucking sector, will play a crucial role in this transition.

He mentioned that Telangana's strategy involves leveraging knowledge-based industries such as Artificial Intelligence (AI)

and advanced technologies to build a comprehensive mobility ecosystem over the next few years. The state is also focusing on launching ZET pilots, with an initial focus on heavy-duty trucks in sectors like cement and mining, which are major contributors to carbon emissions. Upcoming initiatives include the Telangana Mobility Valley, which will serve as a hub for electric vehicle manufacturing and innovation and green skill partnerships aimed at developing the talent pool required to support this transition.

He also highlighted efforts to improve the state's charging infrastructure and the upcoming MSME policy aimed at facilitating the adoption of electric trucks. With a focus on economic development alongside sustainability, he stressed that electric trucks, combined with the development of a regional ring road and other infrastructure projects, would contribute significantly to Telangana's sustainable growth.

Presentation by Gopalkrishnan VC – Government of Telangana

Gopalkrishnan VC, Director Automotive, the Government of Telangana, presented the state's EV Policy, which is currently under revision with the support of think tanks such as ASCI and RMI. The revised policy will focus on engagement with shippers, OEMs, CPOs, and LSPs to accelerate the transition to electric trucks. The presentation also emphasized the Telangana Mobility Valley's four pillars:

- Manufacturing: Aiming to attract ₹5,000 crore in investments through strong incentives.
- Innovation: Setting aside 550 acres for vehicle design and digitization.
- Skilling: Developing centres of excellence and upskilling over 200 ITIs.
- Industry 4.0: Integrating technology-driven solutions to advance mobility.

He also highlighted the ongoing efforts to create opportunities for ZET pilots and identify ecosystem players who can support these pilots. Understanding the economics of scaling ZETs was emphasized as a critical component in building a viable roadmap for their large-scale adoption.

Presentation by Amartya Awasthi – ASCI

Amartya Awasthi from ASCI presented insights on the electrification of mine haul trucks. These trucks account for 35% of long-haul trucks in the country and consume 50-60% of the sector's total fuel. The representative discussed the significant fuel consumption of trucks with a Gross Vehicle Weight (GVW) of over 100 tonnes, which operate for 16-18 hours per day, consuming 30-35 litres of fuel per hour.

He emphasized the immense potential for ZET adoption not only in on-road segments but also in off-highway sectors such as mining and heavy industries. He concluded by discussing ASCI's role in promoting clean energy, test tracks for electric vehicles, and skilling initiatives for the next generation of workers in the EV sector.

Presentation by Suganth KS – RMI India

Suganth KS from RMI India presented on the Zero Emission Trucking Accelerator, launched as part of the Telangana Mobility Valley. This platform brings together OEMs, fleet operators, and infrastructure providers to deploy ZET pilots in Telangana. The initiative aims to address operational barriers and foster collaboration among stakeholders to scale ZET adoption in sectors such as cement, mining, and FMCG.

The presentation outlined the goals of the accelerator, including identifying operational barriers, fostering collaboration among stakeholders, and providing recommendations for scaling ZET pilots. RMI India highlighted the potential for Telangana to become a model state for ZET adoption, with lessons learned from these pilots being used to inform national policy and industry practices.

Remarks by Amegh Gopinath, GIZ India

Amegh Gopinath, who leads electric mobility and transport initiatives in Asia at GIZ India, provided a global perspective on ZET adoption. He highlighted the need for inter-sectoral and inter-ministerial cooperation to deploy electric trucks at the state level. He emphasized the importance of supporting private sector operators in overcoming the high upfront costs associated with ZETs.

He also discussed GIZ's ongoing collaboration with Telangana state departments, including the Municipal Corporation and the Transport Department, to create a conducive environment for ZET adoption. He referenced the PM E-DRIVE and e-FAST initiatives as examples of national-level schemes designed to facilitate the electrification of the trucking sector.

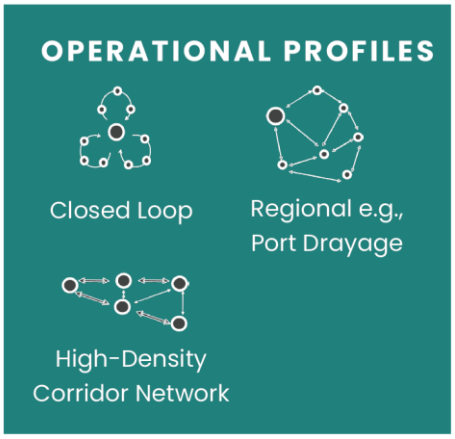
Context-Setting Presentation by SFC India

SFC India's presentation focused on the environmental and economic challenges posed by the freight sector in India. While MHDTs account for only 3% of the vehicle population, they contribute 53% of particulate matter emissions. The presentation underscored the urgent need to address these emissions by adopting ZETs, which can significantly reduce air and noise pollution. Battery electric ZETs bought today correspond to GHG emission savings of 65% or more over their life cycle compared to conventional ICE. The presentation also highlighted the environmental and socio-economic impact. At the current technology maturity, ZETs have higher upfront costs than diesel trucks, but the operating costs per ton-km of ZETs are significantly lower.

Value Framework & Messaging

Stakeholders	Key Value Driver	Messaging
Regional Public Offices • State Govt. and City Administration officials • Regional Transport Authorities • Traffic Police Department • Environment Dept officials	• Environmental • Social, • Economic	Environmental Benefits and Social Impact (quality of life, livelihood, public health and welfare)
Public Infrastructure Offices • PWD • Regional NHAI Offices • DISCOM(s) & State Electricity Boards	• Operational	Operational Challenges and Opportunities
First Responders • Hospitals and Emergency health Services • Fire Department • Police Department	• Operational	Operational Challenges and Opportunities, **Safety Protocols**
Regional Industry Representatives • Shippers, LSPs, Larger fleet operators and OEM representatives • Energy Infra Companies (Fuel stations-Gasoline, CNG, LNG) • Charge Point Operators • eMaaS* & CaaS Providers** • Regional Transport Associations	• Operational • Technological • Business	Business, **Technological,** and Operational Challenges and Opportunities
Ecosystem Partners • Banks, NBFCs • Real Estate Sector representative • Civil Society organisations	• Technological • Environmental • Social	Market Perspective (size, scale, opportunity, present state, future prospects), Environmental Benefits and **Social Impact** (quality of life, livelihood, public health and welfare)
Public and Private Institutional Buyers • Municipal Corporations • Public Utilities (Power, Waste, Water) • Local Industries	• Technological • Operational • Business	Environmental Benefits, **Technological**, and Operational Challenges and Opportunities

The latter half of the presentation focused on the Ecosystem barriers for ZETs, including Technology, Operations, Finance, and Policy. The participants also got a glimpse into the playbook for ZET deployment, a step-by-step walkthrough into the operations, TCO metrics, Charging infrastructure assessment, financing, implementation, and KPIs.



Finally, the presentation was concluded with two informative videos: one on the Safety aspects of Battery Electric Trucks for Drivers and the other on the Safety aspects for First Responders. The Centre of Excellence for Zero Emission Trucking (CoEZET), IIT Madras, shared these video materials.

Workshop outcomes by Participating organizations

- **Telangana EV Policy 2020**: The Telangana government is revising its EV policy with inputs from think tanks, focusing on the electrification of trucks and other vehicles. This involves collaboration with shippers, charging point operators (CPOs), original equipment manufacturers (OEMs), and logistics service providers (LSPs).

- **Manufacturing Incentives**: Telangana's EV policy offers strong incentives, targeting ₹5000 crore in investments for the manufacturing sector. Additionally, 550 acres of land have been allocated for vehicle design and prototyping, leveraging digital tools for innovation.
- **Charging Stations**: The government has identified 600 locations for charging stations in Hyderabad, with 450 covered statewide. The land is being provided to CPOs for industrial charging setups.
- **Charging Infrastructure Development**: Telangana is focusing on developing charging infrastructure along key industrial corridors, including Pune, Nagpur, Bangalore, and Vijayawada.
- **E-Waste Disposal**: As EV adoption grows, concerns are rising regarding the proper disposal of e-waste, particularly old batteries and electronic components.
- **Telangana Mobility Valley**: This initiative focuses on sustainable mobility, emphasizing manufacturing, innovation, skilling, and Industry 4.0. The state is also launching Zero Emission Truck (ZET) accelerators to pilot new opportunities, identify key ecosystem players, and explore scalability.
- **GPS Utilization for Charging**: A suggestion was made to use GPS data to identify common truck halting points across the state and country and to set up fast-charging infrastructure at these locations, which could be shared by both buses and trucks.
- **Charging Depots at Logistics Hubs**: Since logistics parks and industrial hubs are regulated, the discussion group suggested to mandate the set up of depot-based and shared charging stations at these locations.
- **Government-Led Electrification**: The government can set an example by electrifying garbage collection vehicles, as they have low mileage (under 100 km per day), making them ideal for early adoption.
- **Carbon Credit Monetization**: Carbon credits could be used to monetize CO2 emissions reductions through carbon credits, which could help offset some of the government's EV subsidies.
- **Power Infrastructure Coordination**: There is a need for better coordination and planning among agencies involved in power generation, transmission, and distribution to ensure they can ramp up the infrastructure required for widespread EV adoption.
- **Transportation of Cement**: Participants suggested exploring the use of ZETs for transporting cement from manufacturing plants to railway stations.

ANNEXURE I – Glimpses from the Workshop

Working Teams of 5– 6 attendees in each group brainstorming

ANNEXURE II – List of Participating Organisations

1. Amazon
2. ASCI
3. ASSOCHAM
4. BlueDart
5. Calstart
6. CoEZET
7. Darda Advisors
8. Evretron Energies India
9. GE
10. GHMC
11. GIZ
12. ICCT
13. IEEFA
14. Mahindra Logistics
15. Navata Road Transport
16. Network Carrying Company Private Limited
17. Olectra
18. RMI
19. SafeExpress
20. Sinnovance
21. Telangana PCB
22. Telangana RTO
23. TGSPDCL
24. TSRTC
25. TSTRANSCO
26. Urban Mass Transit Company

Smart Freight Centre India

ANNEXURE III – Media Coverage of the Event

Business Standard
Wednesday, October 30, 2024 | 09:25 AM IST EN | Hindi

Driving towards net zero: India's strategic push for sustainable trucking

India's net-zero carbon strategy has focused intensely on sectors such as automotive, power, steel, aviation, cement, and agriculture, which collectively contribute significantly to carbon emissions

Automotive • 3 Min Read

SFC India with Telangana Govt. conducted a zero emission trucks workshop to accelerate adoption

Smart Freight Centre India, in collaboration with the Government of Telangana, hosted a ZET Enablement Workshop to discuss the adoption of Zero Emission Trucks in the medium and heavy-duty freight sector. The event aimed to address challenges, share insights, and promote sustainable freight practices in India through knowledge-sharing and collaboration.

ETManufacturing Desk • ETManufacturing
Updated On Sep 28, 2024 at 03:14 PM IST

నవతెలంగాణ

స్మార్ట్ ఫ్రైట్ సెంటర్ ఇండియా ZET ఎనేబుల్మెంట్ వర్క్‌షాప్

October 2, 2024 | 5:48 pm

నవతెలంగాణ హైదరాబాద్: తెలంగాణ ప్రభుత్వంతో కలిసి స్మార్ట్ ఫ్రైట్ సెంటర్ ***(SFC)*** ఇండియా ఈరోజు ***ZET*** ఎనేబుల్‌మెంట్ వర్క్‌షాప్‌ను నిర్వహించింది. ఇందులో మీడియం, హెవీ డ్యూటీ ట్రక్ ***(MHDT)*** సరుకు రవాణా రంగం, జీరో ఎమిషన్ ట్రక్ ***(ZET)*** స్వీకరణలో సవాళ్లు మరియు ఈ పర్యావరణ వ్యవస్థపై ముఖ్యమైన విషయాలు గురించి చర్చించడానికి కీలకమైన వాటాదారులు సమావేశమయ్యారు. ఈ వర్క్‌షాప్ ***ZET*** స్వీకరణ యొక్క సవాళ్లు, అవకాశాలను పరిష్కరించడంపై దృష్టి పెట్టింది.

COVERAGE UPDATE			
Sr. No	**Date**	**Publication**	**Headline**
Article placement			
1	NA	Business Standard	Driving towards net zero: India's strategic push for sustainable trucking
Press Release			
1	30.09.2024	United News of India	SFC India conducts ZET Enablement Workshop to accelerate adoption of ZETs in India
2	28.09.2024	ET manufacturing	SFC India with Telangana Govt. conducted a zero emission trucks workshop to accelerate adoption
3	28.09.2024	ET Auto	SFC India with Telangana Govt. conducted a zero emission trucks workshop to accelerate adoption
4	28.09.2024	CSR Journal	Smart Freight Centre India conducted a ZET Enablement Workshop to accelerate adoption of ZETs in India
5	28.09.2024	APN News	Smart Freight Centre India conducted a ZET Enablement Workshop to accelerate adoption of ZETs in India
6	30.09.2024	Manufacturing Today India	Telangana and SFC India collaborate to accelerate zero emission truck deployment
7	01.10.2024	The Hans India	Smart Freight Centre India conducted a ZET Enablement Workshop to accelerate adoption of ZETs in India
8	02.10.2024	Visalandhra	Smart Freight Center India ZET Enablement Workshop (Snapshot attached)
9	02.10.2024	Nava Telangana	స్మార్ట్ ఫ్రైట్ సెంటర్ ఇండియా ZET ఎనేబుల్మెంట్ వర్క్‌షాప్
10	03.10.2024	Suryaa	Smart Freight Center India ZETEnablement Workshop (Snapshot attached)
11	02.10.2024	Mana Telangana	SFC India workshop to promote ZET (Snapshot attached)
12	03.10.2024	Andhra Prabha	ZET Enablement Workshop (Snapshot attached)
13	02.10.2024	South Indian Times	Smart Freight Centre India conducted a ZET Enablement Workshop to accelerate adoption of ZETs in India (Snapshot attached)
14	30.09.2024	CMV 360	SFC India and Telangana Govt. Host Zero Emission Trucks Workshop to Boost Adoption

15	01.10.2024	News Dogs	Smart Freight Centre India conducted a ZET Enablement Workshop to accelerate adoption of ZETs in India
16	01.10.2024	Chronicle News Live	Smart Freight Centre India conducted a ZET Enablement Workshop to accelerate adoption of ZETs in India
17	01.10.2024	News Crazy	Smart Freight Centre India conducted a ZET Enablement Workshop to accelerate adoption of ZETs in India
18	01.10.2024	First News	Smart Freight Centre India conducted a ZET Enablement Workshop to accelerate adoption of ZETs in India
19	01.10.2024	News Drinker	Smart Freight Centre India conducted a ZET Enablement Workshop to accelerate adoption of ZETs in India
20	01.10.2024	News Files	Smart Freight Centre India conducted a ZET Enablement Workshop to accelerate adoption of ZETs in India
21	01.10.2024	News Keeda	Smart Freight Centre India conducted a ZET Enablement Workshop to accelerate adoption of ZETs in India
22	01.10.2024	News Views Club	Smart Freight Centre India conducted a ZET Enablement Workshop to accelerate adoption of ZETs in India
23	01.10.2024	Perfect News Live	Smart Freight Centre India conducted a ZET Enablement Workshop to accelerate adoption of ZETs in India
24	01.10.2024	News in Asia	Smart Freight Centre India conducted a ZET Enablement Workshop to accelerate adoption of ZETs in India
25	01.10.2024	Ponga Pandit	Smart Freight Centre India conducted a ZET Enablement Workshop to accelerate adoption of ZETs in India
26	01.10.2024	Prime Time News	Smart Freight Centre India conducted a ZET Enablement Workshop to accelerate adoption of ZETs in India
27	01.10.2024	Report 365	Smart Freight Centre India conducted a ZET Enablement Workshop to accelerate adoption of ZETs in India
28	01.10.2024	Think News Today	Smart Freight Centre India conducted a ZET Enablement Workshop to accelerate adoption of ZETs in India
29	01.10.2024	Upcoming News	Smart Freight Centre India conducted a ZET Enablement Workshop to accelerate adoption of ZETs in India
30	01.10.2024	Value News Today	Smart Freight Centre India conducted a ZET Enablement Workshop to accelerate adoption of ZETs in India
31	01.10.2024	Current New	Smart Freight Centre India conducted a ZET Enablement Workshop to accelerate adoption of ZETs in India
32	02.10.2024	Trucks Dekho	Smart Freight Centre India with Telangana State Government Conduct Zero Emission Trucks Workshop 2024
33	03.10.2024	Telugu Prabha	The goal of the government is to achieve zero emission status (Snapshot Attached)

34	07.10.2024	Rahnuma E Deccan	ZET Enablement Workshop (Snapshot Attached)
35	07.10.2024	Nava Telangana	Smart Freight Center India ZET Enablement Workshop (Snapshot Attached)
36	08.10.2024	Vaartha	ZET Enablement Workshop (Snapshot Attached)

ABOUT SMART FREIGHT CENTRE

WHO WE ARE

Smart Freight Centre is dedicated to promoting sustainable freight and logistics practices globally. Our mission is to reduce greenhouse gas emissions and improve the efficiency of freight transport, contributing to a low-carbon economy.

CURRENT MARKET SITUATION

India has the world's fourth-largest trucking industry, presenting significant opportunities for sustainable transportation. A shift towards Zero-Emission Trucks is essential for a greener future.

OUR VISION

We envision an efficient, sustainable global freight system with low carbon emissions.

OUR MISSION

To facilitate the adoption of sustainable practices in the freight sector, driving collaboration among businesses, governments, and stakeholders.

Disclaimer

The views expressed in this summary report are those of SFC workshop attendees, staff, consultants, and ecosystem players and do not necessarily reflect the views of the Board of Trustees of Smart Freight Centre. Smart Freight Centre does not guarantee the accuracy of the data included in this publication and does not accept responsibility for the consequences of their use.

Acknowledgments

This summary report was written by Smart Freight Centre, India.

About Smart Freight Centre

Smart Freight Centre (SFC) is a global non-profit organization dedicated to an efficient and zero-emissions freight sector. We cover all freight and only freight. SFC works with the Global Logistics Emissions Council (GLEC) and other stakeholders to drive transparency and industry action – contributing to Paris Climate Agreement targets and Sustainable Development Goals. Our role is to guide companies on their journey to zero emissions logistics, advocate for supportive policy and programs, and raise awareness. Our goal is that 100+ multinationals reduce at least 30% of their logistics emissions by 2030 compared to 2015 and reach net-zero emissions by 2050.

Contact

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