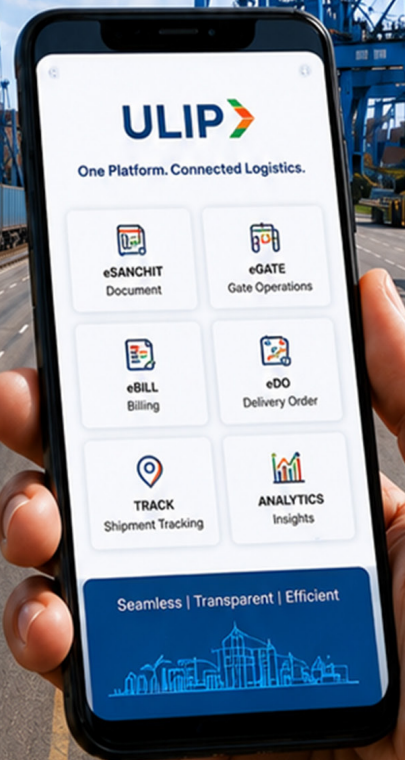


Logistics Focus[®]

ULIP: Building India's Digital Backbone for Integrated Logistics

June 2026



Logistics Focus[®]

ULIP: Building India's Digital Backbone for Integrated Logistics

June 2026



This publication is a part of KNIT, a knowledge dissemination initiative of TCI Group. We believe in sharing insights and knowledge with the industry, to encourage best practice replication.

TABLE OF CONTENT

Foreword **03**

ens

ULIP's Role in Building a Connected, Efficient Logistics Network in India **05-18**

Avinash Kumar Singh, Co-Founder - ENS Enterprises



How ULIP is Quietly Rewiring India's Road Freight Sector **20-23**

Srihari Icharapu, Founder and CEO - Cargo Exchange



FreightFox

What ULIP Actually Changes: Notes From Three Years of Building on India's Logistics Data Backbone **25-30**

Nitish Rai, Founder & CEO - FreightFox

Foreword

“In the twenty-first century, connectivity is not merely about moving goods, it is about moving information with speed, accuracy and purpose.”

As India charts its course toward becoming a global manufacturing powerhouse and a leading trade hub, the conversation around logistics is evolving. The focus is no longer confined to highways, ports, rail corridors and warehouses. Equally transformative is the emergence of a digital ecosystem that enables these physical assets to operate as an integrated whole. In an era where visibility drives velocity and intelligence shapes competitiveness, data has become the new infrastructure of logistics.

This edition of Logistics Focus, titled **“ULIP: Building India’s Digital Backbone for Integrated Logistics,”** explores the transformative role of the Unified Logistics Interface Platform (ULIP) in redefining the nation’s logistics landscape. Conceived under the National Logistics Policy, ULIP represents a landmark step toward creating a unified, interoperable and intelligence-driven logistics ecosystem, one that connects stakeholders, systems and modes of transport through a common digital architecture.

The articles in this edition examine how ULIP is dismantling long-standing information silos and enabling unprecedented levels of transparency, efficiency and collaboration across supply chains. They delve into its role in facilitating multimodal logistics, enhancing operational visibility, streamlining compliance, fostering innovation and empowering businesses to make more informed and agile decisions. Together, these perspectives underscore a fundamental shift: from fragmented operations to connected ecosystems and from transactional logistics to strategic logistics intelligence.

The significance of this transformation extends far beyond operational efficiency. It signals the emergence of a logistics framework that is more resilient, sustainable and future-ready, one capable of supporting India’s aspirations of becoming a globally competitive economy. As physical infrastructure and digital infrastructure converge, the opportunities to unlock productivity, reduce costs, strengthen supply chain resilience and accelerate innovation are immense.

The future of logistics will belong not merely to those who move freight efficiently, but to those who harness information intelligently. ULIP is laying the foundation for that future.

We hope this edition serves as a valuable source of insight for policymakers, industry leaders, technology innovators, logistics professionals and all stakeholders committed to shaping the next chapter of India’s logistics transformation.

Happy Reading!

Marketing Communications Team
Transport Corporation of India Ltd.



ULIP's Role in Building a Connected, Efficient Logistics Network in India

Avinash Kumar Singh, Co-Founder - ENS Enterprises

 ens

A Personal Reckoning with Fragmentation

Let me start with something that happened to me a few years ago not in a boardroom, but on the ground.

A supplier we worked with was moving a batch of goods from a manufacturing plant in the outskirts of Pune to a distribution centre in Gurgaon. Standard stuff. The goods left on a Tuesday. By Friday, nobody—not the transporter, not the plant dispatch team, not even the logistics broker who had booked the truck could say with any certainty where the vehicle was. Not approximately. Not roughly. Nobody knew.



This wasn't negligence. This was just the way things worked. The truck had crossed into a new state. The FASTag data sat in one ministry's system. The e-Way Bill was in another. The driver had a phone but the number had changed. The broker was working three other shipments. And the manufacturer's ERP system, which had cost crores to implement, had no integration with any of these external realities. It was a beautifully designed internal system that simply stopped at the factory gate.

That experience and countless variations of it that anyone in India's supply chain industry will recognise immediately is the founding problem that ULIP was built to solve. Not in theory. In practice. Every day.

The Scale of the Problem India Was Trying to Fix

To appreciate what ULIP represents, you have to sit with the scale of the problem first.

India's logistics sector is one of the largest and most complex in the world. The country moves over 4,600 million metric tons of goods annually across a road network of 6.4 million kilometres, 68,000 kilometres of railway lines, 12 major and 200+ non-major ports, and a rapidly expanding civil aviation cargo network. And yet, for decades, this entire system functioned without a common nervous system. Each mode of transport generated its own data. Each ministry managed its own systems. Each regulatory touchpoint demanded its own paperwork. The same truck, on the same journey, would encounter FASTag systems, e-Way Bill portals, state check-post records, VAHAN databases, and customs systems none of which had any awareness of the others.

The cost of this fragmentation was staggering. India's logistics cost sat at 13–14% of GDP for years, nearly double the global benchmark of 7–8%. In absolute numbers, that gap represented hundreds of thousands of crores in annual waste in idle trucks, delayed consignments, redundant documentation, and lost time. And this wasn't a problem sitting in isolation. It was a direct drag on manufacturing competitiveness, a hidden tax on every Indian product sold domestically or exported abroad.



The other number that tells the story brutally is this: 30–40% of trucks on Indian roads run empty. Think about that. Nearly every second truck you see on a national highway is either half-full or returning without a load, burning diesel and adding to emissions, simply because nobody had the information to match an available truck with an available load in real time. The trucking sector had volume but no intelligence. It was a market with enormous potential, operating at a fraction of its natural efficiency.

India also had 11 ministries each holding critical logistics data—railways freight information, port dwell times, customs clearance records, vehicle registration status, vehicle fitness certificates, driving licence validity, import/export documentation, and more. Each of these ministries had digitized their own operations over time, often admirably so. But they had digitized in silos. The result was a country with islands of data, surrounded by an ocean of disconnection.

That is the world that ULIP was designed to fundamentally change.

What ULIP Is—And Why It Was Designed the Way It Was

ULIP, the Unified Logistics Interface Platform, is India's national logistics data integration layer. Conceptualized by NITI Aayog and formally launched under the National Logistics Policy on September 17, 2022, it is operated by NICDC Logistics Data Services Ltd. (NLDSL). But the formal description doesn't quite capture what makes this platform interesting.

What ULIP actually does is deceptively simple: it provides a single API gateway through which any authorized stakeholder—a manufacturer, a logistics company, a startup, an MSME exporter can securely query government logistics data from multiple ministries in one call. You don't have to knock on 11 different doors anymore. You knock on one door, present your credentials, and the system retrieves what you need from across the government's data ecosystem.



The architecture choice here is worth pausing on. The government could have built a centralized data warehouse, a giant database that absorbs all logistics data from all ministries in one place. Many countries have tried this. It almost always fails, for predictable reasons: data governance battles, ministry turf wars, security concerns, massive upfront cost, and the near-impossibility of maintaining a central repository across systems with wildly different formats, update frequencies, and ownership structures.

NLDSL chose something smarter. ULIP is a federated system, it does not store data centrally. It builds a translation and routing layer on top of existing ministry systems, connects them through standardized APIs, filters out personally identifiable information through a rule-based engine before any data leaves the platform, and returns structured responses to authorized queries. The ministries keep their own data. The platform just creates a common language for them to be queried together.

This is why the UPI comparison is not just rhetorical. UPI didn't replace your bank. It created an interoperability layer between banks. ULIP doesn't replace ministry systems. It creates an interoperability layer between them. The architectural principle is the same, and the potential impact is comparably transformational.

Today, ULIP integrates 44 systems from 11 ministries through 129 APIs, providing access to over 1,800 data fields. The ministry integrations span the entire logistics chain-Road Transport (FASTag, Vahan, Sarathi), Indian Railways (FOIS-Freight Operations Information System), Major Ports (Port Community Systems), Civil Aviation (ACMES, ACCS), Customs (ICEGATES), DGFT, GSTN, and several others. Over 1,600 companies are registered on the platform. More than 200 applications have been built by the private sector on top of ULIP's data infrastructure. By October 2025, the platform had crossed 200 crore API transactions, a number that was zero in September 2022.

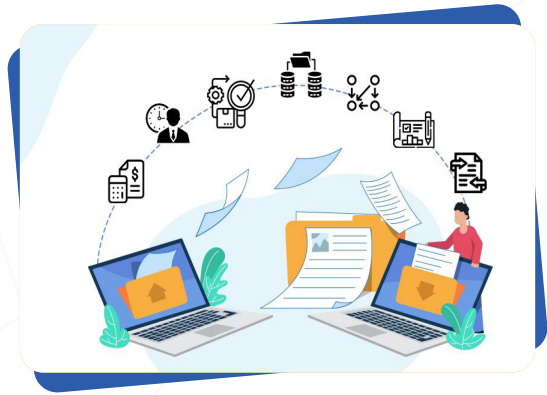
What the Data Actually Enables: Five Real Shifts on the Ground

It's easy to list APIs and transaction counts. What matters is what they enable. Here are five concrete shifts that ULIP has made possible, going beyond the standard talking points:



1. Transporter Verification—Solving One of Logistics' Oldest Trust Problems

you've worked in procurement or supply chain, you know the anxiety that comes with onboarding a new transporter. Is the vehicle registered and fit for the road? Is the driver's licence valid? Does this truck actually exist, or are we being quoted an asset that will be substituted on the day of pickup? In India's trucking market, where over 90% of fleet owners have fewer than five trucks and the market is almost entirely unorganized, these weren't hypothetical concerns. Fraud, document substitution, and unfit vehicle deployment were routine risks.



ULIP's integration with VAHAN (vehicle registration), SARATHI (driving licences), and the Fitness Certificate database means any company can now verify a transporter's entire compliance profile in seconds, through a single API call. Companies like Prism Johnson, Asian Paints, and Tata Steel are already doing this at scale using ULIP for automated transporter verification before dispatching goods. What used to be a two-day manual process involving phone calls and document photography has become a sub-second API query. The trust infrastructure for freight contracting has fundamentally improved.

2. Multi-Modal Visibility—Seeing the Whole Journey for the First Time

Before ULIP, visibility in India's supply chain meant you had visibility within a mode. If your freight was on an Indian Railways wagon, you could track it through FOIS. If it was at a port, you could query the Port Community System. If it was on a truck, you might have GPS or you might have nothing. But nobody had a single view that stitched these modes together into one coherent shipment journey.

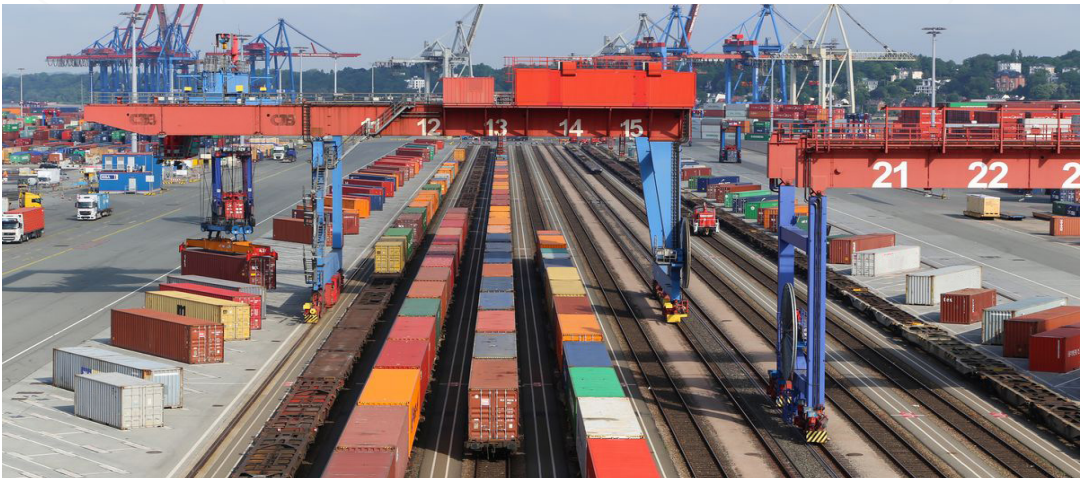
ULIP's API ecosystem enables exactly this, a consolidated query that pulls shipment status from rail, road, ports, and air cargo systems into one response. For manufacturers managing complex supply chains with multiple handoffs, this is not an incremental improvement. It is a qualitative change in how planning and exception management work. When you can see the full picture, you can intervene at the right point. You can call a warehouse manager to expedite handling before a vessel arrives, not after the shipment goes into port detention. You can reallocate production schedules based on actual rail arrival times, not hoped-for ones.

3. Empty Truck Problem—Where ULIP Becomes a Market Intelligence Layer

One of the most interesting and least discussed applications of ULIP is its potential to address India's chronic empty-miles problem. As mentioned earlier, 30–40% of Indian trucks run empty in one direction. This is not a driver behaviour problem. It's an information problem. A fleet owner in Ahmedabad has no reliable way of knowing that a shipper in the industrial estate 40 kilometres away needs a truck on the same corridor his driver is about to return empty.

Startups building on ULIP's data are beginning to crack this. AI-powered load-matching platforms that draw on ULIP's real-time vehicle location data (via FASTag and Vahan APIs) can now match available trucks with available loads in near-real-time. One Gurugram-based startup, TrucksUp, has already onboarded 215,000+ truckers and moves 2 million tons of freight monthly using exactly this kind of data-driven matching. The infrastructure enabling this is ULIP. When you have government-verified real-time location and status data on commercial vehicles at scale, you have the substrate for a genuine freight exchange, not just an app, but a data-backed market.

4. EXIM Visibility – Serving India's Export Ambitions



India has set an ambitious \$2 trillion export target by 2030. Reaching that target requires India's export infrastructure to work reliably enough that global buyers trust it with their supply chains. That trust is built, one shipment at a time, through visibility and predictability.

The Logistics Data Bank (LDB), which operates alongside ULIP and has now synced with ULIP APIs as LDB 2.0, has tracked over 75 million EXIM containers across 101 Inland Container Depots. For an exporter, this means container-level visibility from the factory gate all the way to the port of loading. For a foreign buyer, it means their Indian supplier can provide shipment status updates that are backed by official government data, not just the transporter's word.

The integration with ICEGATE (customs) through ULIP has also begun to reduce one of the most painful friction points in India's EXIM logistics: customs documentation and clearance. When a customs officer can query a shipment's full compliance history through ULIP, and when a freight forwarder can verify that all documentation is in order before the truck even reaches the port gate, the number of hold-ups at port entries begins to fall. In a sector where a single day's delay in a container can cost tens of thousands of rupees, this is not abstract value creation.

5. Carbon Visibility – The Sustainability Shift Nobody Saw Coming

This one is quietly significant. The TCI-IIMB Supply Chain Sustainability Lab at IIM Bangalore has integrated India's first ISO 14083-certified Transportation Emissions Measurement Tool (TEMT) directly into ULIP via a dedicated Carbon Emissions API. What this means in practice is that a company using ULIP for freight tracking can, in the same query that gives it shipment location and ETA, also get the carbon emissions profile of that shipment.

Until now, green logistics in India was largely aspirational. Companies made broad modal-shift commitments “we will move X% of freight to rail” without the data to know whether those commitments were actually being met, or whether the rail option was actually greener in a given corridor and season. ULIP’s carbon API makes this real. A shipper can now compare road versus rail versus coastal shipping on both cost and emissions, for a specific lane, in real time. TCIL is already using this capability to evaluate and adopt greener transport alternatives.

As Scope 3 emissions reporting becomes mandatory for large companies under ESG frameworks, and as global supply chains face increasing scrutiny for their climate footprint, this carbon visibility layer will become one of ULIP’s most commercially significant features. What is today a progressive choice will, within a few years, be a compliance requirement. The infrastructure is already in place.



The Ecosystem ULIP Is Embedded In

ULIP doesn’t exist in a vacuum. Understanding its full significance requires placing it within India’s broader logistics policy architecture, a coordinated set of reforms that, when viewed together, represent the most ambitious logistics transformation India has ever attempted.



PM GatiShakti National Master Plan, launched in October 2021, addressed the planning–coordination failure in infrastructure, the old problem of highways built without rail connections, ports developed without adequate road access. By bringing 57 ministries and 36 states/UTs onto a single geospatial platform with 1,700+ data layers, GatiShakti created the physical infrastructure coordination layer. Projects that used to take months to plan because they required physical site surveys and inter-ministerial coordination can now be evaluated and aligned in weeks.



The National Logistics Policy (NLP), launched in September 2022 alongside ULIP, set the policy goals: bring logistics costs to under 10% of GDP, achieve a top-25 rank in the World Bank Logistics Performance Index by 2030, and build a professional, digitally-enabled logistics workforce. Three years on, NLP has delivered measurable results, logistics costs have dropped to 7.97% of GDP in FY2023–24, ahead of most projections. India ranked 38th in the World Bank Logistics Performance Index in 2023, up from 44th in 2018 and 54th in 2014.



The Dedicated Freight Corridors (DFCs), the Eastern and Western DFCs are fundamentally changing the economics of rail freight in India, offering higher speeds, greater reliability, and double-stacking capability that makes rail genuinely competitive with road on major industrial corridors. When ULIP’s FOIS integration gives shippers real-time visibility of freight wagon status on DFCs, it removes one of the key psychological barriers to rail adoption: the uncertainty about where your goods are.



The E-Logs (Ease of Logistics) portal gives industry a structured escalation mechanism to raise operational bottlenecks directly with government. Unlike typical grievance portals that disappear feedback into bureaucratic silence, E-Logs has a real-time dashboard that senior logistics officials monitor. It has driven resolution of over 1,000 operational issues since its launch. In a sector where regulatory friction is a daily reality, this feedback loop matters enormously.



ONDC (Open Network for Digital Commerce) is where the most interesting future integration lies. ONDC has opened up India's digital commerce infrastructure to millions of MSMEs who previously had to operate exclusively within closed platforms. As ONDC-enabled sellers access new geographies and new customers, their logistics complexity increases proportionally. A handloom cooperative in Varanasi selling on ONDC to a customer in Bangalore needs logistics intelligence it has never had access to before. ULIP is the natural fulfillment backbone for ONDC's commerce ambition. The convergence of ONDC's demand signals with ULIP's supply chain visibility would create India's most complete end-to-end commerce infrastructure.

The Startup Ecosystem That ULIP Has Unlocked

Something I find genuinely exciting about ULIP and I say this as someone who has worked with open networks at the infrastructure level is what the platform has done for India's logistics technology ecosystem.

Government-built data platforms, in my experience, often create a mismatch between what gets built and what the market actually needs. ULIP's open API model, combined with the ULIP Logistics Hackathon series, has deliberately inverted this dynamic. Rather than building every application itself, NLDL opened the platform to the startup community and the startup community responded.

The ULIP Hackathon 2.0, organized by NLDL in partnership with NITI Aayog's Atal Innovation Mission and Startup India, drew hundreds of teams building real applications on ULIP's data. CargoFL, one of the national-level winners, demonstrated enterprise-scale transport automation using ULIP's integrated APIs, solving real enterprise visibility and compliance challenges. Other participants built solutions for agri-cold-chain monitoring, MSME freight financing (using ULIP's cargo data as collateral intelligence), driver wellness platforms, and AI-driven demurrage prediction at ports.

What this hackathon model achieves is something policy documents can't: it puts real-world problem solvers in front of real-world data and says "show us what's possible." The 200+ applications built on ULIP today didn't come from a central product team. They came from companies and individuals who spotted a specific problem, found that ULIP's data was the missing ingredient, and built the solution. That's a healthier innovation model than top-down platform development, and it's exactly how ONDC has also built its ecosystem.



The Road Ahead: What the Next Five Years Should Look Like

India has built the foundation. The question now is what gets built on it.

AI and predictive intelligence at national scale. The 200 crore+ API transactions ULIP has processed represent an extraordinary longitudinal dataset about how India moves goods which corridors are most congested, at what times, in which seasons; which port combinations deliver the most reliable dwell times; which transporter profiles correlate with on-time performance. Machine learning models trained on this data can generate predictive ETAs, forecast bottlenecks before they materialise, and recommend modal and routing decisions that no human planner could compute at scale. The data is there. The models are improving fast. By 2027, a logistics manager at an Indian manufacturer should be able to receive an AI-generated recommendation every morning on which shipments are at risk that day and what the optimal mitigation is all fed by ULIP data.

Blockchain for freight trust at scale. India's logistics market suffers from a fundamental trust deficit that manifests in endless paper trails, manual verification rituals, and the reluctance of sophisticated shippers to work with unproven small transporters. Blockchain-based tamper-proof documentation for cargo manifests, proof of delivery, vehicle fitness histories, and driver records can create a shared truth layer that every stakeholder in a freight transaction can rely on without trusting any single intermediary. ULIP's data becomes even more powerful when it's paired with an immutable audit trail. The technology is mature enough. The use case is proven in pilots. What's needed is a standardization initiative that the government can drive, with NLDL as the natural convener.

ULIP as a cross-border trade infrastructure. India's logistics ambitions don't stop at its borders. As India positions itself as an alternative global manufacturing hub, the ability to offer seamless, digitally transparent cross-border logistics to multinational buyers and global freight forwarders becomes a competitive differentiator. ULIP's architecture is fundamentally extendable to cross-border scenarios connecting India's customs systems with counterpart agencies in partner countries, enabling pre-arrival clearance, and providing end-to-end visibility for international shipments from factory in India to distribution centre abroad. Several SAARC neighbours and ASEAN partners face similar logistics digitization challenges. India's ULIP model could become a template for South-South logistics cooperation.



Conclusion:

The Quiet Architecture of a Logistics Superpower

The loudest moments in India's logistics story have been the physical ones, the opening of the Eastern Dedicated Freight Corridor, the launch of major ports, the inauguration of expressways. These are visible, tangible, photogenic moments that rightfully attract attention and celebration.

But the transformation that may matter most in the long run is quieter. It lives in a 129-API platform, processing a crore of transactions every week, connecting ministries and manufacturers and startups and MSMEs in a shared data ecosystem that didn't exist three years ago.

India's logistics cost has dropped from 13–14% of GDP to 7.97%, the lowest in the country's modern economic history. India's Logistics Performance Index rank has climbed from 54th to 38th in a decade. Two hundred crore API transactions have been processed on a platform that was zero in September 2022. These are not just statistics. They are evidence of structural change of a logistics ecosystem slowly learning to think of itself as one connected network rather than a collection of independent actors operating in the dark.

ULIP is not finished. No infrastructure of this ambition ever is. The digital divide is real. The data quality gaps are real. The last-mile infrastructure deficits are real. The cybersecurity challenges are real. Anyone who tells you ULIP has solved India's logistics problem is either uninformed or overselling.

But here is what is equally real: India now has, for the first time, a working interoperability layer for its logistics data ecosystem. It has a proof point that public-private collaboration on digital public infrastructure can work at scale. It has a data substrate on which AI, blockchain, green logistics, and commerce convergence can be built. And it has a growing community of startups, enterprises, and policymakers who are invested in making it better.

The UPI story took years to play out. The ONDC story is still being written. The ULIP story is in its early chapters. The architecture is sound. The momentum is real. And if the logistics community carriers, manufacturers, technology builders, policymakers, and shippers stays engaged and honest about both the progress and the gaps, what India builds on this foundation could genuinely become a model for the world.



References

1. <https://solwerindia.com/blog/2025/predictive-maintenance-equipment-management/>
2. <https://www.drishtiiias.com/daily-updates/daily-news-editorials/infrastructure-and-logistics-the-engine-of-indias-competitive-growth>
3. https://www.linkedin.com/posts/shiva-krishna-236392182_indianlogistics-trucking-returnload-activity-7414893595012546561-ciaA - Bottom Line The return-load problem is not a truck problem—it's a network problem. ... trucks return...
4. <https://www.linkedin.com/pulse/revolutionizing-indias-logistics-how-ulips-100-crore-api-sai-pothuri-nwuyc>
5. <https://www.superprocure.com/blog/ulip-api-impact-on-indian-logistics-comprehensive-discussion/>
6. <https://cargotalk.in/ulip-gets-terrific-response-from-industry-stakeholders/>
7. <https://cargotalk.in/how-nldsl-made-ulip-a-public-private-digital-success/> - ULIP is a rare case study where public-private collaboration in India has worked and set the governm...
8. https://www.linkedin.com/posts/nicdclogistics_ulip-activity-7389954648205348864-mG9Q
9. <https://www.devdiscourse.com/article/business/3313664-ulip-empowers-logistics-sector-with-100-crore-api-transactions>
10. <https://www.ibef.org/news/unified-logistics-interface-platform-ulip-surpasses-100-crore-application-programming-interface-api-transactions-enabling-seamless-smart-and-sustainable-logistics>
11. https://www.linkedin.com/posts/virendrayaduvanshi_ailoadmatching-emptymilesreduction-logisticsai-activity-7401606084555378688-KnXQ
12. <https://www.facebook.com/yourstorycom/posts/indias-trucking-sector-faces-a-major-challenge-40-of-trucks-return-empty-wasting/1086214946873812/>

13. <https://www.drishtias.com/daily-updates/daily-news-editorials/logistics-for-india-s-global-trade-ambitions>
14. <https://static.pib.gov.in/WriteReadData/specificdocs/documents/2025/nov/doc20251127708301.pdf>
15. <https://www.investindia.gov.in/team-india-blogs/infrastructure-logistics-backbone-indias-next-decade-growth>
16. <https://tcil.com/wp-content/uploads/2024/12/TCI-IIMB-Supply-Chain-Sustainability-Lab-at-IIM-Bangalore-Becomes-the-First-Organization-in-India-to-Achieve-ISO-14083-The-emission-factors-API-is-now-available-on-ULIP-platform.pdf>
17. <https://www.linkedin.com/pulse/indias-logistics-leap-2025-supply-chain-milestones-2026-outlook-pxcmc>
18. <https://www.pib.gov.in/PressReleasePage.aspx?PRID=2167224®=48&lang=2>
19. <https://www.drishtias.com/daily-updates/daily-news-analysis/logistics-performance-index-2023>
20. <https://www.pib.gov.in/PressReleasePage.aspx?PRID=2082674®=48&lang=2>
21. <https://www.allcargologistics.com/insights/news-press-releases/nlp-3-transforming-india-s-global-trade-strategy>
22. <https://www.cargofl.com/post/unlocking-the-future-of-logistics-what-ulip-is-and-why-cargofls-win-matters>
23. <https://blog.hack2skill.com/ulip-logixtics-hackathon-20-driving-innovation-in-indias-logistics-landscape>
24. <https://www.ijcms2015.co/file/2023/aijra-vol-8-issue-3/aijra-vol-8-issue-3-74.pdf>
25. <https://www.fr8.in/blog/unified-logistics-interface-platform-ulip-india/>
26. <https://cargoinsights.co/from-vision-to-resilience-how-execution-will-define-indias-logistics-future/>
27. <https://www.linkedin.com/pulse/indias-digital-logistics-growth-2026-building-connected-intelligent-l9vxc>

Disclaimer:

The views expressed are solely that of the author.

The logo for ENS Enterprises, featuring the lowercase letters 'ens' in white on an orange rectangular background.

Company Profile

ENS Enterprises Limited is a leading digital transformation and technology consulting company headquartered in Noida, India. Established in 2016, the company specializes in delivering innovative software solutions, e-commerce platforms, enterprise applications, mobile app development, cloud services, and emerging technology solutions.

With expertise across Shopify Plus, ONDC integration, AI/ML, IoT, DevOps, and custom software development, ENS Enterprises helps businesses accelerate their digital journey, enhance customer experiences, and drive operational efficiency. The company serves clients across diverse industries, including retail, e-commerce, manufacturing, logistics, and financial services.

Recognized by Startup India and certified under ISO 27001:2022, ENS Enterprises combines technology expertise, agile delivery, and a customer-centric approach to build scalable and future-ready digital solutions for organizations in India and global markets.



Avinash Kumar Singh

Co-Founder, ENS Enterprises

Author Profile

Avinash Kumar Singh is a technology leader and Co-Founder of ENS Enterprises. He specializes in open network integration, digital commerce infrastructure, and supply chain digitization. His expertise spans ONDC implementation, B2B marketplace architecture, D2C commerce technology, and logistics technology solutions for MSMEs.



How ULIP is Quietly Rewiring India's Road Freight Sector

Srihari Icharapu, Founder and CEO - Cargo Exchange



We used to measure a nation's economic strength by physical infrastructure, the depth of its ports, the gauge of its rail lines, or the sheer length of its paved highways. Today, competitiveness is about data visibility. In India, the backbone of this transition is the Unified Logistics Interface Platform (ULIP), and its biggest impact is being felt where the country needs it most: on our roads.

Road transport has always carried the heaviest load in India, handling nearly two-thirds of all freight tonnage. Yet, for decades, it operated in the dark. When the National Logistics Policy (NLP) came out with a target to drastically slash logistics costs, many in the industry were skeptical. But today, four years into ULIP's rollout, that skepticism has faded. What started as an ambitious policy initiative has quietly become the operating system running India's trucking industry.

Cracking the "Black Box" of Indian Trucking

Historically, dispatching a truck was an exercise in trust and constant phone calls. Once a vehicle left the factory gate, it effectively entered a black box. Fleet managers spent half their day calling drivers to figure out where they were and if they would make their delivery windows.

ULIP changed this by doing something simple but massive: it tied together over 45 disparate government databases including Vahan, Sarathi, FASTag, and e-Way bills into a single API-driven ecosystem.

Today, if you're tracking a shipment from Delhi to Chennai, you aren't just looking at a GPS dot on a map. You have immediate visibility over FASTag toll crossings, vehicle fitness certificates, driver licenses, and customs status in one place.

For a manufacturer, this visibility is a game-changer. If a company in Coimbatore knows exactly when their container will hit Mundra Port, they can plan production schedules tighter and cut down on expensive safety stock.

Leveling the Playing Field for the Small Transporter

The real success of ULIP isn't how it helps massive, multinational logistics firms; it's how it works for the small, independent operator. India's trucking market is highly fragmented, made up of maximum no of operators who own fewer than five trucks. Historically, these small players couldn't afford expensive fleet management software or real-time tracking systems.



ULIP has leveled that playing field. Because the platform acts as an open-access digital public good much like UPI did for payments, local startups are building simple, affordable apps on top of it.

A transporter in Hosur with a handful of trucks can now easily find backhaul loads, generate digital invoices, and verify driver credentials instantly. Eliminating "dead miles" (driving empty on return trips, say from Vijayawada back to Hyderabad) directly protects their tight margins.

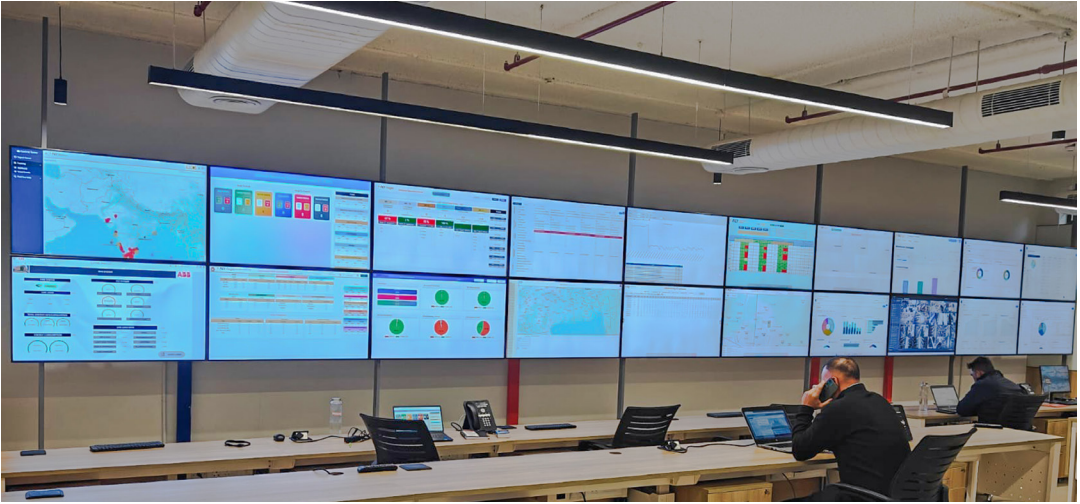
Making "Multimodal" More Than a Buzzword

We've talked about "multimodal logistics" for years, but the execution on the ground was always messy. In India, almost every journey begins and ends on a road. Transitioning a container from a truck to a train and back to a truck meant dealing with a mountain of paperwork and endless coordination.

By working alongside the PM Gati Shakti National Master Plan, ULIP has simplified this handoff. The integration of ICEGATE, e-Way bills, and railway systems means digital documentation can seamlessly follow a container from a Dedicated Freight Corridor (DFC) rail terminal straight onto a last-mile delivery truck.

This reduction in friction isn't just about saving hours; it also helps businesses run cleaner. When logistics companies can easily plan routes and switch between rail and road, they naturally burn less fuel. It also makes managing electric fleets for last-mile deliveries in congested cities a practical reality rather than a logistical nightmare.





Predictive Routing and Driver Welfare

Now that the baseline infrastructure is in place, the industry is starting to use the massive volume of data ULIP generates for predictive planning. We are moving away from merely tracking where a truck is to predicting where it should go. Startups and logistics teams are using this data to forecast highway congestion, plan around seasonal harvest rushes, and optimize routes during monsoon season.

Crucially, this is also beginning to impact driver welfare. India's eight million-plus truck drivers work under grueling conditions. By tracking trip durations and rest-stop usage through integrated platforms, companies can better manage driver shifts, reduce fatigue, and make highways safer.

The next natural step is expanding this cross-border. For India to scale its exports, our domestic logistics network needs to tie directly into global trade routes. Pilot projects are already exploring how to link ULIP with international freight networks, allowing a shipment to be tracked seamlessly from a warehouse in Nagpur to a port in Europe.

The Cultural Shift Ahead

Ultimately, the success of ULIP isn't just about the technology, it requires a cultural shift. It requires a highly fragmented industry to move from a mindset of hoarding operational data to one of sharing it.

While ULIP has provided the digital plumbing, the physical challenges remain. We still need better roadside amenities, a more supported driver workforce, and continued investment in highway infrastructure. But with a unified digital layer finally running under our fleet, Indian logistics has a clear path forward to becoming a globally competitive, trillion-dollar driver of the economy.

Disclaimer:

The views expressed are solely that of the author.



Company Profile

Cargo Exchange India Private Limited is a logistics technology company founded in 2014 and headquartered in Hyderabad, India. It provides a cloud-based Transportation Exchange Platform (TEP) designed to digitize and automate end-to-end transportation operations across supply chains. The platform enables businesses to optimize freight procurement, improve operational efficiency, gain real-time shipment visibility, and enhance decision-making through advanced analytics and business intelligence.

Serving shippers, transporters, brokers, and logistics service providers, Cargo Exchange offers solutions for transportation management, route optimization, fleet management, freight sourcing, tracking, e-way bill generation, and digital control tower operations. Its technology-driven approach helps organizations reduce logistics costs, improve service levels, and scale operations efficiently through automation and centralized orchestration.



Srihari Icharapu

Founder and CEO of Cargo Exchange

Author Profile

Srihari Icharapu is the Founder and CEO of Cargo Exchange, a leading logistics technology platform focused on digitizing and optimizing transportation and supply chain operations. With a strong background in technology, enterprise solutions, and logistics innovation, he has been instrumental in developing Cargo Exchange's cloud-based Transportation Exchange Platform (TEP), enabling businesses to improve freight procurement, visibility, operational efficiency, and logistics decision-making through data-driven intelligence.

A recognized thought leader in the logistics and supply chain industry, Srihari frequently speaks at industry forums and conferences on topics such as multimodal logistics, transportation visibility, digital ecosystems, and supply chain optimization. Through his leadership, Cargo Exchange has emerged as a key enabler of digital transformation in India's logistics sector, helping organizations build more efficient, transparent, and resilient supply chains.



What ULIP Actually Changes: Notes From Three Years of Building on India's Logistics Data Backbone

Nitish Rai, Founder & CEO - FreightFox



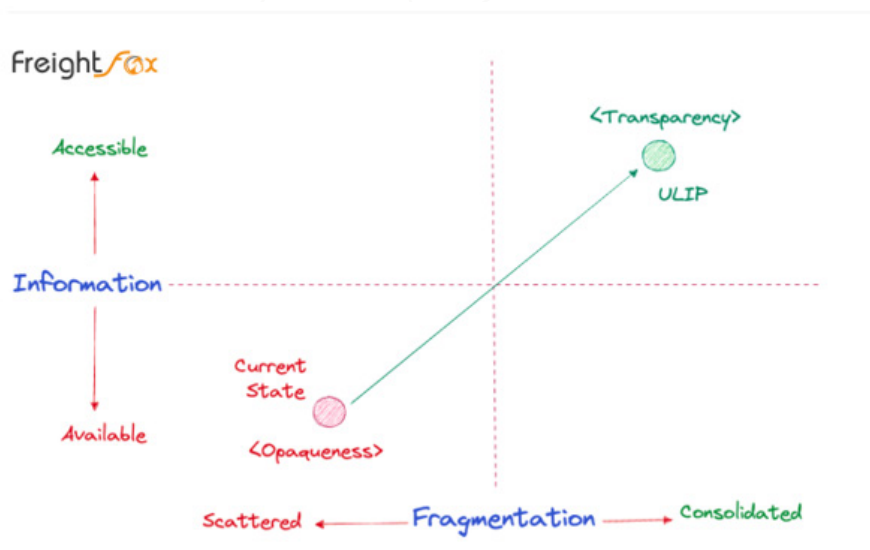
A practitioner's perspective on the Unified Logistics Interface Platform and why the bigger story is not the platform itself, but what it forces every logistics operator in the country to confront about their own data maturity.

The problem that nobody wanted to name

Before the Unified Logistics Interface Platform existed, an honest description of Indian freight intelligence would have read something like this: every meaningful piece of data about a truck, a driver, a consignment, a corridor, or a port lived in a different system, in a different ministry, in a different format, behind a different access regime. A manufacturer dispatching from Pune to Guwahati had no structural way to answer questions that should have been trivial for eg. *Is this vehicle compliant? Is this driver real? Is this lane congested today? Is this rate fair? What is my actual carbon footprint per trip?* etc. Without stitching together inference from third parties, partial telemetry, and a great deal of phone-call archaeology.

This is not a complaint about the past. It is a description of the inheritance. The Indian logistics sector was built corridor by corridor, ministry by ministry, regulator by regulator. The data fragmentation was the natural shadow of how the physical infrastructure itself had evolved and unsurprisingly, it had cost. The frequently-quoted figure that India's logistics cost as a share of GDP runs significantly above developed-economy benchmarks has many causes, but information asymmetry is the quiet, compounding one. When the buyer of freight cannot see, the seller cannot be fairly priced; when the seller cannot see, the buyer cannot be fairly served. Both sides build buffers into rates, into schedules, into contracts. The buffers are the cost.

ULIP, launched in September 2022 as part of the National Logistics Policy, is the first time the Indian state has treated this fragmentation as a solvable engineering problem rather than a policy aspiration.



What the platform actually is

The temptation, for anyone reading official descriptions, is to treat ULIP as a portal. It is not. It is a gateway to a piece of public digital infrastructure that exposes data already held across VAHAN, FASTag, SARATHI, FOIS, customs, port systems, waterways, civil aviation, and more, behind a single set of authenticated APIs governed by an NDA-bound use-case review process. By the time of the platform's most recent public updates, integrations had grown well past the original 30-system baseline, with millions of API hits processed and several hundred companies onboarded.

The architectural decision to expose ministerial data through APIs rather than to build yet another centralised database, or yet another government-owned application is the most important thing about ULIP, and the part most easily missed. APIs are infrastructure. They allow private innovation without forcing private players to lobby, integrate point-to-point, or wait for inter-ministerial committees. The state stays in the role it should occupy: custodian of the data, guarantor of access and lets the market build the applications.

If you have been in Indian logistics long enough to remember what it took to verify a single permit, this is not an incremental improvement. It is a structural one.

Why this matters more for manufacturers than for anyone else

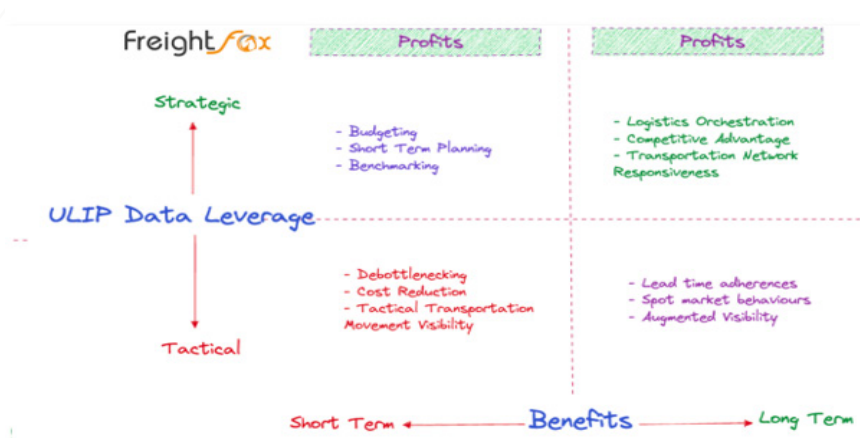
Most public commentary on ULIP focuses on logistics service providers, startups, fleet operators, 3PLs. That focus is understandable but partial. The deeper beneficiary is the Indian manufacturer.

A manufacturer's logistics function does three things: it spends money procuring freight, it commits service to internal and external customers, and it carries the consequences of every trip which is financial, operational, and increasingly, environmental. All three of these activities are bottlenecked not by trucks, but by information. How does a CFO assess whether their freight rate negotiation was fair without an external benchmark? How does a supply chain head respond to a corridor disruption without knowing whether it's their issue or the network's? How does a sustainability team report Scope 3 transport emissions credibly when the underlying vehicle telemetry has historically lived only with the transporter?

The reason ULIP is, at heart, a manufacturer's tool is that it converts each of these questions from a vendor-mediated guess into a measurable, auditable signal that provided someone builds the layer that translates raw API responses into management answers.

That translation layer is the work. And it is harder than it looks.

ULIP = Unleashing Logistics Intelligence for Profits!





The hackathon was a forcing function, not the destination

In 2022, when the first ULIP LogiXtics Hackathon was hosted by NITI Aayog, NICDC, and NLDS, more than five hundred teams entered. By the time the prototype stage closed, twenty-two prototypes were standing. Three were felicitated at the final stage; FreightFox was placed first. We have written about that elsewhere, and I do not propose to relitigate it here.

What I want to extract from that experience is the part that turned out to matter long after the trophy: the discipline of having to start from data, not from the product. We submitted three questions, deliberately framed in the language of a manufacturer rather than a technology vendor. *Can a manufacturer see freight cost movements at the level of a corridor or industry, before negotiating a contract? Can demand and capacity imbalance be read as a national signal rather than a regional rumour? Can a country measure its on-road emissions intensity at granular enough resolution to actually act on it?*

Each of those questions, individually, would have been speculative without ULIP. With ULIP, combining VAHAN registration data, FASTag movement data, and SARATHI driver data, they became answerable, with caveats and bounds. We built a national-level freight index prototype, a corridor mobility view, and a vehicle-age based emissions intensity map. None of those views were impossible before. They were just impossible to do credibly without the data backbone the platform had created.

The lesson we carried out of the hackathon was not “we can win contests.” It was: *the platform does not give you intelligence. It gives you the right to ask better questions.* Intelligence is what you must build.

The maturity curve we now see across enterprises

Three years on, having now built ULIP-enabled features into our procurement, visibility, and sustainability modules and having watched several large manufacturers go through their own integration, I would describe what we see as a four-stage maturity curve. It applies as much to a transporter as to a Tata Steel or an UltraTech.

Stage 1: Access. A team gets the NDA signed, gets the API credentials, and pulls a few responses. This stage feels productive but produces almost no insight. Raw API responses from VAHAN or FASTag are not management information. They are exhaustive.

Stage 2: Integration. The team threads the API responses into existing operational workflows, vehicle and driver verification on dispatch, FASTag-based positional fallback when GPS is silent, automated document validation. Costs go down by small but compounding amounts. This is the stage where most successful adopters live today.

Stage 3: Intelligence. The team builds derived signals, corridor congestion indices, vehicle-cohort emissions footprints, lane-rate fair-value bands, capacity-tightness indicators and feeds these back into commercial decisions. This requires data engineering competence, not just integration competence. Most enterprises are not yet here.

The sectoral specificity gap is real. Coal, cement, fertiliser, food-grain, FMCG, autos, chemicals, each of these sectors has logistics requirements that are not satisfied by a generic vehicle-and-route data layer. The next horizon of ULIP value will come from sector-specific data overlays and sector-specific application development, not just horizontal integrations.

Adoption inside enterprises is the gating constraint. Technology is the easy part. The hard part is convincing a freight procurement team(s), long accustomed to negotiation as private craft, that an externally derived rate signal is a tool rather than a threat. This is organisational change, and no platform can do it for the customer.

What this means for the next two years

For founders and operators reading this, the practical takeaway is straightforward. The platform is here. The data is accessible. The governance is workable. The remaining work is to build the layer that turns API access into management insight, and management insight into operating discipline.

For policymakers, the message is similarly straightforward. ULIP has crossed the integration threshold; the value-creation threshold is the next one. Sector-specific data products, sharper consent and observability, and explicit benchmarks for adoption maturity (not just registration counts) will determine whether this becomes the foundational layer it is capable of becoming.

For Indian manufacturers, the framing we have come to use internally is this: visibility is your ability to see, agility is your ability to respond. Without the data backbone, you had neither. With ULIP, you can have both but only if you treat the platform as the start of a build, not the end of a procurement.

A closing note

We named our internal frame for what ULIP enables, somewhat tongue-in-cheek, *Unleashing Logistics Intelligence for Profits*. The phrasing was meant to be deliberately commercial because the only way a platform of this kind survives and deepens is if it produces measurable, defensible profit for the people who build on it. Public digital infrastructure that does not generate private return decays. ULIP, like UPI before it, will be measured not by how elegantly it was launched but by how thick the application layer above it grows.

That layer is being built right now, by a few hundred companies, in increments most outsiders cannot yet see. The strategic implication for the country is not that data has been opened. It is that, for the first time, the freight economy has been rendered legible enough to be optimised.

What we choose to do with that legibility is the actual question. And it is a question for the industry, not the platform.

Disclaimer:

The views expressed are solely that of the author.



FreightFox

Company Profile

FreightFox is a full-stack Transportation Management System (TMS) that helps Indian manufacturers run their entire freight Procure-to-Pay cycle on. The platform leverages data intelligence and technology to streamline freight procurement and management, making logistics seamless, sustainable, and cost-effective. It serves industries such as Alcohol & Beverages, Fast-Moving Consumer Goods (FMCG), Automotive, etc. & is trusted by leading businesses such as ABLNBev, Coca-Cola, JK Tyre, Bridgestone, Brembo, Atul etc.

Its advanced TMS offers top-tier supply chain management & visibility features, including scalability across complex, distributed networks, ensuring tailored solutions for diverse industry needs. By implementing FreightFox's solutions, clients have achieved significant operational improvements, including a 70% reduction in man-hours required for procurement, over 10% decrease in unplanned transportation costs, and approximately 8-15% reduction in overall freight budgets.



Nitish Rai

Founder & CEO, FreightFox

Author Profile

Nitish works closely with enterprise manufacturers and logistics teams, bringing a deeply practical, on-ground perspective to freight visibility and cost discipline. His understanding of freight economics in the Indian market is rooted in real operational experience, not theory.

A manufacturing industry veteran, Nitish has held leadership roles at Kirloskar, Thermax, and Fortum, gaining global exposure across complex supply chains. He is driven by a strong focus on solving real-world logistics challenges at scale.

Before founding FreightFox, he played a key role in scaling UdChalo and launched its defence logistics arm, Black Trunk Logistics. Today, he leads FreightFox in building a data-driven platform that enables Indian enterprises to make smarter, more efficient freight decisions.

Disclaimer

2026 Edition

© Publishers

No part of this publication can be reproduced or transmitted in any form or by any means, without prior permission of the Publishers.

Published by

Transport Corporation of India Ltd.

69 Institutional Area, Sector-32, Gurugram -122 001, Haryana, India

Tel: +91 124 238 1603-7

This magazine is being published on the condition and understanding that the information, comments and views it contains are merely for guidance and reference and must not be taken as having the authority of, or being binding in any way on, the author, editors, publishers, who do not owe any responsibility whatsoever for any loss, damage, or distress to any person on account of any action taken or not taken on the basis of this publication. Despite all the care taken, errors or omissions may have crept inadvertently into this publication. The publishers shall be obliged if any such error or omission is brought to their notice for possible correction in a future edition.

Credit goes to all original producers. In no way, we claim that this information has been originally generated by us. This is just a compilation for easy reference of the logistics fraternity.

All trademarks, products, pictures, copyrights, registered marks patents, logos, holograms, names, belong to respective owners.

All disputes are subject to the jurisdiction of competent courts in Delhi.

INTEGRATED MULTIMODAL LOGISTICS



ROAD

First-mile & Last-mile Connectivity



RAIL

Reliable, Cost-effective Long-haul Movement




SEA

Global Reach with Cost Advantage



WHY MULTIMODAL LOGISTICS ?

- 

Every shipment has a journey.
The challenge is ensuring that every transition is efficient, reliable, and uninterrupted.
 - 

At TCI, we bring together road, rail, and sea into one integrated logistics network, creating smarter, faster, and more cost-effective supply chain solutions.
- Optimized Transit Times
 - Improved Cost Efficiency
 - Greater Reliability & Visibility
 - Reduced Operational Complexity
 - Sustainable Freight Movement

POWERED BY



Advanced Control Towers



Real-Time Visibility



Intelligent Route Planning



Strong Warehousing & Hub Network



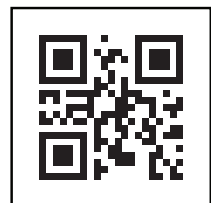
Strategic Transport Partnerships

By selecting the right mode at the right time, we engineer seamless cargo movement from first-mile pickup to final delivery.

Transport Corporation of India Limited

TCI House, 69 Institutional Area, Sector 32, Gurugram - 122001 | Tel.: +91 - 124 - 2381603-07

Web.: www.tcil.com | E-mail Id: corporate@tcil.com | CIN: L70109TG1995PLC019116



To Know more,
Scan the QR Code



Transport Corporation of India Limited

TCI House, 69, Institutional Area, Sector 32, Gurugram-122 001

Tel: 0124-238 1603-07 | **CIN :** L70109TG1995PLC019116

Email: corporate@tcil.com | **Website:** www.tcil.com



Online Presence