



TECHNOVAA

Experience the power of
KNOWLEDGE

ISO 9001:2008 | CRISIL MSE *5



COMPANY OVERVIEW

1.1 About Technovaa

Technovaa Software and Hardware Solutions Pvt. Ltd., headquartered in Indore, Madhya Pradesh, India, was established in 2010. Since its inception, Technovaa has earned a solid reputation as a trusted provider of end-to-end solutions across a range of intelligent transportation and infrastructure systems.

We specialize in TMS (Traffic Management Systems), ATMS (Advanced Traffic Management Systems), Smart Parking Solutions, Toll Plaza Electrification Systems, and Highway Electrification. Our commitment to reliability, innovation, and compliance has made us a go-to partner for government and private infrastructure projects across India.

To be India's leading provider of intelligent, reliable, and future-ready toll and traffic management solutions, driving seamless mobility and digital transformation across transportation networks."

1.2 Vision, Mission & Values

To design and deliver cutting-edge software and hardware solutions for Toll Management Systems (TMS), Advanced Traffic Management Systems (ATMS), and Smart Highway infrastructure.

1.3 Industry Experience & Milestones

Since its establishment in 2010, Technovaa has emerged as a recognized industry player in the domain of Toll Management Systems (TMS), Advanced Traffic Management Systems (ATMS), and Smart Highway Electric Infrastructure.

Technovaa has actively contributed to projects under: with emerging technologies, regulatory standards (IHMCL

MSRDC, MPRDC TNRDC, NHAI, NHIDCL), Various non-government and private concessionaires across India

TECHNOVAA – CORE SERVICE AREAS

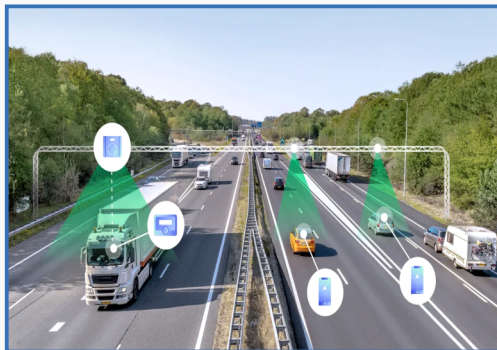
At Technovaa, we deliver comprehensive, high-performance solutions across key infrastructure and smart mobility domains.

Our core expertise includes:

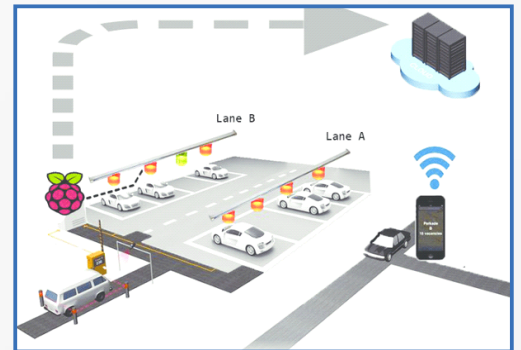
- 1. Traffic Management Systems (TMS)**
- 2. Advanced Traffic Management Systems (ATMS)**
- 3. Smart Parking Solutions**
- 4. Toll Plaza Automation & Integration/Migration**
- 5. Highway & Plaza Electrification**
- 6. Solar and EV Integration for Plaza and Charging Station**



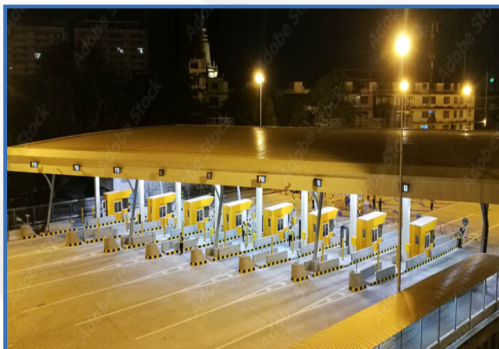
**Traffic Management Systems
(TMS)**



**Advanced Traffic Management
Systems (ATMS)**



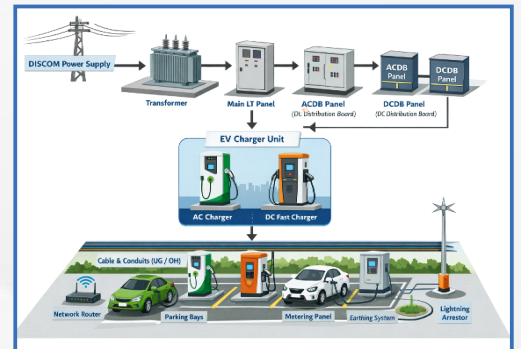
Smart Parking Solutions



**Toll Plaza Automation
& Integration/Migration**



**Highway &
Infrastructure Electrification**



Hybrid EV Charging Station

CORE SERVICES AREA

ADVANCED TRAFFIC MANAGEMENT SYSTEM (ATMS)

At Technovaa Software and Hardware Solutions Pvt. Ltd., we specialize in delivering end-to-end Advanced Traffic Management System (ATMS) solutions that enhance traffic safety, visibility, enforcement, and real-time decision-making on highways and urban corridors.

Our ATMS offerings are engineered to meet the demands of national highway authorities, state infrastructure bodies, and urban mobility missions, ensuring data-driven, intelligent traffic operations across India's growing road networks.

At Technovaa, we ensure that all equipment used in Advanced Traffic Management System (ATMS) projects meets the highest quality and regulatory standards. This includes critical hardware such as ANPR Cameras, Vehicle Incident Detection Systems (VIDS), Variable Message Signboards (VMS), and Emergency Call Boxes (ECB). Every component and system is carefully selected, tested, and deployed to guarantee performance, durability, and compliance with industry norms and government specifications.

Key ATMS Solutions We Provide

- 1. Automatic Number Plate Recognition (ANPR)**
- 2. Speed Detection & Enforcement Systems (VSDS)**
- 3. Vehicle incident Deduction system (VIDS)**
- 4. Variable Message Signboards (VMS)**
- 5. Emergency Call Box Systems**
- 6. CCTV Surveillance & Video Analytics**
- 7. Automatic Traffic Classification & Counting (ATCC)**
- 8. Govt. E-Challan**
- 9. Portable WIM/VMS**
- 10. Radio Communication/ RF**
- 11. Environmental & Weather Monitoring Sensors**
- 12. Data Centers & Control Room Integration**

TOLL MANAGEMENT SYSTEM (TMS)

At Technovaa Software and Hardware Solutions Pvt. Ltd., our core specialization lies in delivering end-to-end solutions for Toll Management Systems (TMS) advanced software with rugged, reliable hardware. Toll Management System (TMS)

What Makes Technovaa Stand Out

Integrated Hardware & Software Expertise

We design and develop both the software and embedded lane controller hardware, ensuring complete compatibility, reduced downtime, and faster implementation across toll plazas

Advance TSS TMS Module

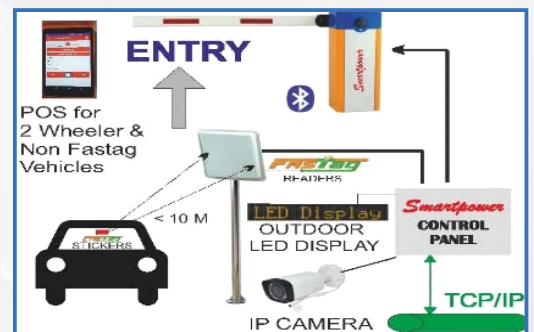
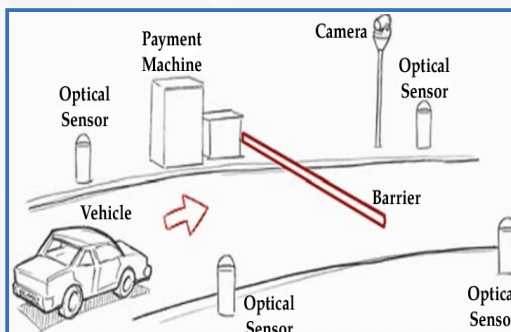
- Biometric Lane Login
- ANPR Booth Module for each Transaction
- Advance AVCC (Laser 3D)
- Lane Monitoring System (SCADA)
- UPI Payment Module Qr Code

Custom-Built TMS Module

- Technovaa's modular architecture allows seamless deployment of:
- Lane Control Systems
- Admin and Audit Dashboards
- Cash-Up & Reconciliation Modules
- ETC (FASTag) and Hybrid Toll Collection Interfaces

Compliance with National Standards

Our systems are fully compliant with: IHMCL, NHAI, NHIDCL, MSRDC, MPRDC, TNRDC standards FASTag (NETC) specifications Indian regulatory and highway automation protocols



SOFTWARE ARCHITECTURE & MODULES – TMS / ATMS

TAILORED INTELLIGENCE. SCALABLE DESIGN. DELIVERED BY TECHNOVAA.

Technovaa offers a robust, modular, and fully customizable software architecture for Traffic Management Systems (TMS) and Advanced Traffic Management Systems (ATMS). Our platforms are built to adapt — designed using modern, scalable frameworks that allow seamless integration with hardware, third-party APIs, and real-time data sources. Whether it's for a national highway or a city corridor, Technovaa develops solutions precisely aligned with market trends and unique client requirements. From core modules like ANPR, RLVD, Speed Enforcement, VMS, and Incident Detection, to control room dashboards, reporting engines, and analytics tools — every component is engineered for performance, reliability, and compliance with NHAI/IHMCL standards.

CORE SOFTWARE MODULES

Built for Operational Excellence – Trusted in TMS & ATMS Solutions by Technovaa

Lane Management Module –

Biometric Login with Real-time monitoring and control of toll lanes and equipment.

Cash up & Reconciliation Module –

Secure end-of-shift cash and transaction tracking.

Reporting & MIS Module –

Auto-generated reports including daily, monthly, and custom analytics.

Audit Trail System –

Ensures data integrity, access logs, and compliance verification.

Violation Detection Modules (ANPR, RLVD, Over-speed) –

Fully integrated for enforcement automation.

Incident & Event Detection –

AI-driven tracking of breakdowns, congestion, and wrong-way entries.

Environmental Monitoring –

Tracks fog, rain, wind, visibility, and other critical parameters.

Emergency & Helpdesk Interface –

Live alert and escalation system linked to ECBs.

Dashboard & Control Room Suite –

Unified operations interface for real-time device health, alerts, video, and map-based tracking

HIGHWAY LIGHTING, HIGH MAST & PLAZA ELECTRIFICATION

Technovaa has proven expertise in Highway and Street Lighting (including solar-powered systems), High Mast Lighting, and Plaza Electrification. We specialize in understanding the unique requirements of our clients and delivering customized solutions that strictly adhere to NHAI (National Highways Authority of India) guidelines. Our comprehensive scope of work covers the design, supply, erection, installation, and commissioning of lighting and electrification systems, ensuring reliable, energy-efficient, and high-performance infrastructure across all projects.

SCOPE OF WORK - PLAZA ELECTRIFICATION

- HT & LT Electrical Panel Design, Supply & Installation
- DG Set Installation with AMF Panel Integration
- UPS & Battery Backup for Tolling and Control Systems
- Transformer Installation (as per load requirement)
- Cable Laying (HT/LT/Data/Control) with Termination
- Earthing & Lightning Protection Systems
- Power Factor Correction Panels (APFC)
- Remote Monitoring via SCADA/PLC (Optional)



SCOPE OF WORK - HIGHWAYS STREET LIGHTING

- Conventional LED Street Lighting
- Supply of 30W–150W LED fixtures (IP66 rated)
- 9m & 12m octagonal galvanized poles
- Feeder panels with MCB/MCCB/RCCB
- Photocell/Timer-based auto control
- Cable laying, junction boxes & installation
- LUX-level optimization (MoRTH compliant)
- Erection, testing, commissioning & operation support

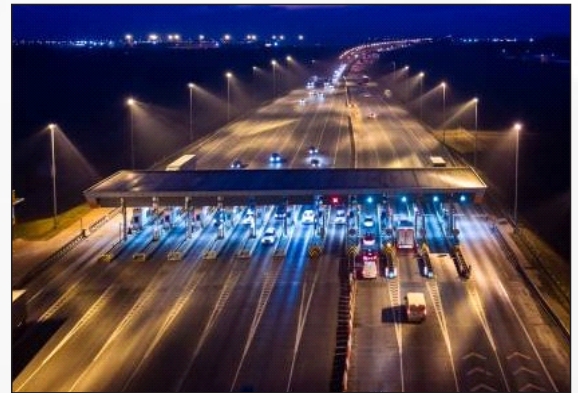


SOLAR-BASED STREET LIGHTING & TOLL PLAZA ELECTRIFICATION

Technovaa has successfully executed Solar-Based Street Lighting and Toll Plaza Electrification using an advanced High Mast Lighting System to ensure efficient illumination and reliable power management across the plaza area. The system is designed to operate on solar energy, reducing dependency on conventional electricity while enhancing energy efficiency and operational sustainability. This solution provides uniform lighting for roadways, lanes, parking zones, and surrounding infrastructure, ensuring safe vehicle movement and improved visibility during night-time operations at the toll plaza.

SCOPE OF WORK: PLAZA ELECTRIFICATION

HT & LT Electrical Panel Design, Supply & Installation
DG Set Installation with AMF Panel Integration UPS & Battery Backup for Tolling and Control Systems
Transformer Installation (as per load requirement)
Cable Laying (HT/LT/Data/Control) with Termination
Earthing & Lightning Protection Systems Power Factor Correction Panels (APFC) Remote Monitoring via SCADA/PLC (Optional)



SCOPE OF WORK – HIGHWAYS STREET LIGHTING

Conventional LED Street Lighting Supply of 30W–150W LED fixtures (IP66 rated) 9m & 12m octagonal galvanized poles Feeder panels with MCB/MCCB/RCCB Photocell/Timer-based auto control Cable laying, junction boxes & installation LUX-level optimization (MoRTH compliant) Erection, testing, commissioning & operation support



PARKING MANAGEMENT SYSTEM

Technovaa Software and Hardware Solutions Pvt. Ltd., we provide smart, scalable, and integrated Parking Management Systems (PMS) designed to streamline vehicle entry, exit, fee collection, space utilization, and overall operational control in both public and private parking environments.

Whether for urban smart parking, commercial complexes, transport hubs, or institutional campuses, Technovaa delivers fully integrated and semi-integrated systems tailored to the specific requirements of clients.

WE OFFERINGS

SEMI-INTEGRATED PARKING SYSTEM

Core automation features with optional manual intervention Suitable for low-volume or budget-conscious locations Supports ticketing, boom barrier control, and manual fee collection Modular upgrade path to full automation



FULLY INTEGRATED PARKING MANAGEMENT SYSTEM

End-to-end automation: Entry to Exit

Integration with:

ANPR (Automatic Number Plate Recognition)

RFID/FASTag access control

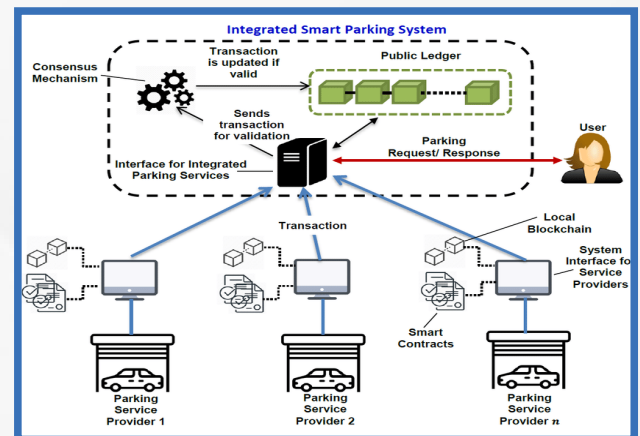
Boom barriers, loop detectors

Payment terminals (cashless, UPI, QR code, PoS)

Centralized dashboard with real-time monitoring

Occupancy tracking & analytics

E-receipts and digital audit trail



EV CHARGING STATION INFRASTRUCTURE

M/s Technovaa Software & Hardware Solution Pvt. Ltd., headquartered in Indore, is engaged in the development and deployment of Electric Vehicle (EV) Charging Stations across India.

We provide End-to-End Turnkey EV Charging Infrastructure Solutions for Highways, Commercial Establishments, Residential Complexes, Fleet Operators, Fuel Stations, Government Organizations, and Public Charging Networks in compliance with national electrical standards.

CORE SERVICE AREA

1. Public EV Charging Station (PCS)

- Installed at Highways, Malls, Parking Areas, Petrol
- Pumps Suitable for all EV Users
- AC + DC Fast Charging Facility

2. Captive EV Charging Station

- Installed for Fleet Owners / Private Use
- Used in Bus Depots, Logistics Hubs
- Dedicated Charging Infrastructure

3. Commercial EV Charging Station

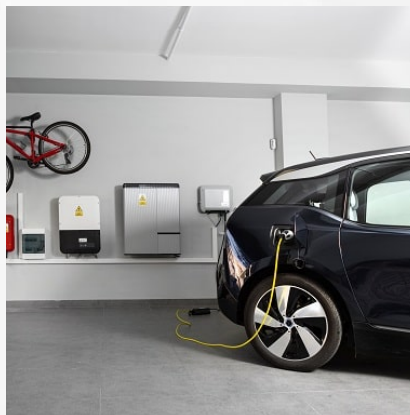
- Installed in Commercial Buildings / Offices
- Revenue Based Charging System
- Suitable for Staff & Visitors

4. Highway EV Fast Charging Station

- Installed along National / State Highways
- High Capacity DC Fast Chargers (60kW / 90kW / 120kW)

5. Residential EV Charging Station

- Installed in Apartments / Housing Societies
- AC Charging (Slow / Moderate Charging)



EV Charger Types

AC Charger (3.3 kW – 7.4 kW)

- Suitable for residential use with slow charging facility.

AC Charger (11 kW – 22 kW)

- Used in commercial locations for moderate charging speed.

DC Fast Charger (30 kW)

- Installed at public EV charging stations for faster charging.

DC Fast Charger (60 kW)

- Suitable for fleet charging and commercial applications.

DC Fast Charger (90 kW)

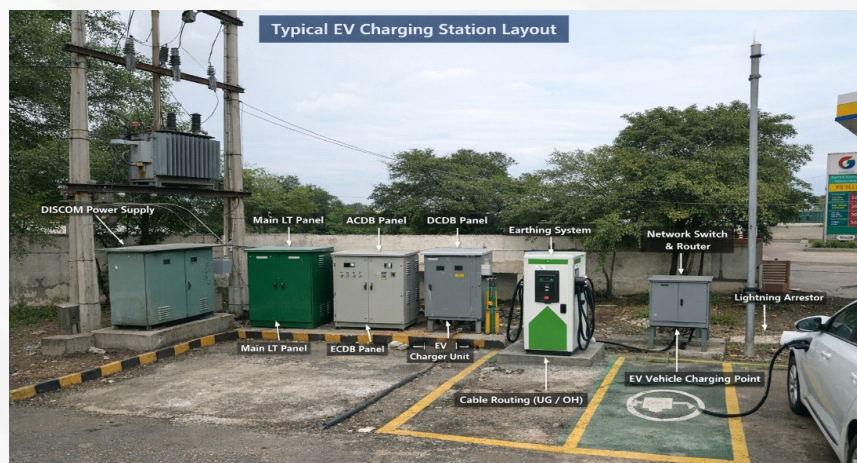
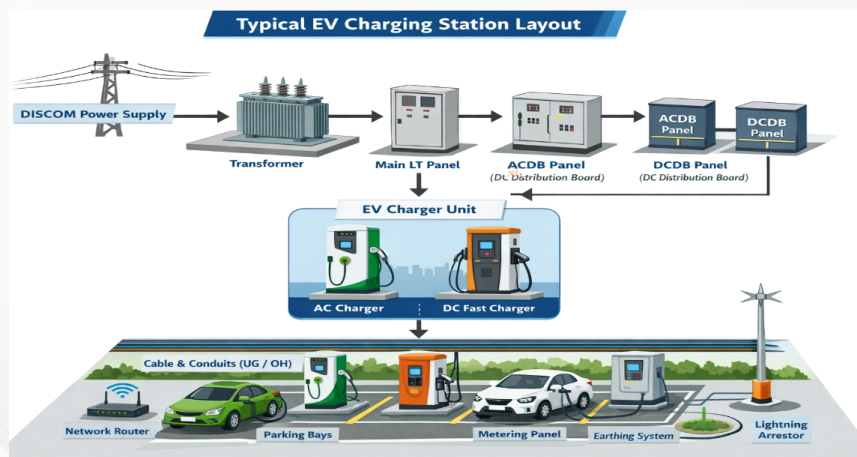
- Used at highway charging stations for rapid charging.

DC Fast Charger (120 kW)

- Provides ultra-fast charging in high-traffic locations.

Bharat DC-001 Charger (15 kW)

- Standardized charger for commercial EV applications in India.



EV CHARGING STATION PROJECT EXECUTED BY TECHNOVAA

Project Location:

1. Madhav Filling Station, Narsinghpur M.P
2. Urban Tadka Restaurant, Indore M.P

Installed System Details:

90kW DC Fast EV Charging Station

- Suitable for Commercial & Public EV Charging Use
- High-Speed Charging Infrastructure

Project Highlights:

- Fast Charging Facility for Electric Vehicles
- Commercially Ready Charging Infrastructure
- Energy Efficient & Safe Operation
- Designed as per Electrical Safety Norms

Scope of Work Executed:

- Site Survey, Feasibility Study & DISCOM LT Load Approval
- Electrical Design & SLD Preparation
- Civil Foundation for 90kW DC Charger & Panels
- Supply & Installation of DC Fast EV Charger with ACDB, DCDB & Protection Panels
- Complete Electrification, Internal Wiring & Cable Laying (UG/OH)
- Chemical Earthing, Lightning & Surge Protection System
- Integration with Existing Electrical Infrastructure
- Testing, Commissioning & Safety Verification
- Operation & Maintenance (O&M) Support

TECHNOVAA:
COMPREHENSIVE INFRASTRUCTURE SOLUTION
ADVANCED TRAFFIC & INFRASTRUCTURE MANAGEMENT SYSTEMS



AMC Types at Technovaa

Technovaa offers two primary types of Annual Maintenance Contracts (AMC) for all major infrastructure systems — TMS, ATMS, Highway Street Lighting, and Smart Parking Systems — to ensure long-term performance, uptime, and compliance.

1. Comprehensive AMC

Scope Includes:

1. Preventive & breakdown maintenance
2. Spare parts and consumables included
3. Replacement of damaged or worn-out components
4. Software updates & firmware upgrades
5. 24x7 remote support and onsite visits

Scheduled health checkups & system diagnostics Integration & compatibility checks with new infrastructure

Applicable For:

- TMS (Traffic sensors, CCTV, VMS boards)
- ATMS (ATCC, WIM, ANPR, Toll booths)
- Highway Lighting (LEDs, control panels, smart controllers)
- Parking Systems (Entry/Exit barriers, ANPR, sensors, display boards)

Advantages:

One-stop solution with no hidden costs Ideal for clients seeking zero-downtime performance
Vendor-managed inventory & system lifecycle

2. Non-Comprehensive AMC

Scope Includes:

- Preventive & routine maintenance
- Technical inspections and cleaning
- Minor software updates
- Emergency callout support (limited visits)
- Spare parts not included – charged separately

Applicable For:

All TMS, ATMS, Street Lighting & Parking setups
Suited for government and budget-conscious clients

Advantages:

Cost-effective for well-performing, newer systems
Flexibility in managing inventory and replacements
Pay-per-part model helps manage budgets

TECHNOVAA IN HOUSE PRODUCTION

Built In-House. Built for Durability. Built for Highways.

At Technovaa Software & Hardware Solution Pvt. Ltd., we stand uniquely in the Intelligent Transportation System industry with our strong In-House Manufacturing & R&D Capabilities.

Unlike traditional system integrators who rely on third-party vendors for critical electronic and lane automation hardware, Technovaa designs, develops and manufactures key Toll & Traffic Management System components internally at our advanced facility in Indore.

Technovaa's ANPR Based AVCC System utilizes advanced camera analytics and number plate recognition technology for:

- Accurate Vehicle Classification
- Real-Time Vehicle Counting
- Automated Toll Lane Monitoring
- Data Logging & Traffic Analysis
- Reduced Human Intervention
- Improved Toll Collection Accuracy

This self-manufacturing approach allows us to maintain:

- Complete Quality Control
- Enhanced Product Durability
- Seamless Hardware-Software Integration
- Faster Project Deployment
- Reduced Operational Downtime
- Long-Term System Reliability

Our in-house developed solutions include:

- Toll Lane Controller with Industrial Grade System
- UFD (User Fare Display) Controller Card
- AVCC Based Control Panel
- Barrier Control Card
- Traffic Light OHLS Controller
- Lane Automation Electrical Panels
- PLC Based Device Integration Systems

WHY TECHNOVAA STANDS OUT

DRIVEN BY EXPERIENCE. DEFINED BY TRUST. POWERED BY INNOVATION.

Core Specializations

Embedded System Design optimized for extreme field conditions
Seamless Hardware–Software Integration with built-in redundancy
Intelligent Local Control Engines enabling autonomous, fail-safe operations

Our Proven Expertise

15+ Years of experience in tolling electronics & highway automation
500+ Lane Controller Units successfully deployed across India
In-House R&D & QA Labs for continuous innovation and testing
Technology Partnerships with leading TMS, ATMS & ETC system integrators

End-to-End Capability

At Technovaa, our team excels in the design, integration, and deployment of advanced TMS, ATMS, and Smart Street Lighting Systems. We offer complete lifecycle support — from hardware manufacturing and embedded software development to installation, operation, and maintenance — all under one roof.

Built with precision. Backed by experience. Trusted across India's highways.



TECHNOVAA

Experience the power of
KNOWLEDGE

CERTIFICATION HIGHLIGHTS OF TECHNOVAA

of 13 रतीय राजमार्ग प्रबंधन कंपनी लिमिटेड
नएचएआई की एक पहल)
Indian Highways Management Company Limited
(An Initiative of NHAI)
जी-5 एवं 6, सेक्टर-10, द्वारका, नई दिल्ली-110075
G-5 & 6, Sector-10, Dwarka, New Delhi-110075

सीएन / CIN U74140DL2012PLC24
दूरभाष / Phone : 91-11-2507410
वेबसाइट / Website : www.ihmc

IHMCL/Empanelment/RFE/2024/117192/ 755

30/12/2025

Sub: List of Empaneled System Integrators as of 30/12/2025

Ref:

- Request for Empanelment (RFE), dated 30.05.2024
- IHMCL/Empanelment/RFE/2024/117192/06, dated 03.01.2025
- IHMCL/Empanelment/RFE/2024/117192/67, dated 13.01.2025
- IHMCL/Empanelment/RFE/2024/117192/80, dated 23.01.2025
- IHMCL/Empanelment/RFE/2024/117192/, dated 25.02.2025
- IHMCL/Empanelment/RFE/2024/117192/258, dated 01.04.2025
- IHMCL/Empanelment/RFE/2024/117192/270, dated 16.04.2025
- IHMCL/Empanelment/RFE/2024/117192/296, dated 22.04.2025
- IHMCL/Empanelment/RFE/2024/117192/493, dated 30.07.2025
- IHMCL/Empanelment/RFE/2024/117192/513, dated 06.08.2025
- IHMCL/Empanelment/RFE/2024/117192/522, dated 08.08.2025
- IHMCL/Empanelment/RFE/2024/117192, dated 19.11.2025

In continuation to the IHMCL letters cited at reference above (attached), the below system integrator is included in the empaneled list w.e.f. 30/12/2025:

S.No	Name	Empanelment Validity
1	M/s Technova Software and Hardware Solution Pvt Ltd	Up to 31-03-2026

2. This issues with the approval of the Competent Authority.

Rajesh Tripathi
AVP(Tech)

Copy to: COO, IHMCL

L/13



STQC-SAB-SETL-06 Lab Approved as per SETL Certificate No. STQC-SAB-SETL-6 from STQC, MeITy, Government of India

Document No:- TERA/IVNV/2025/CK/001

Date:- 02-05-2025

Application Security Safe to Host Compliance

Software Product Description:- Toll Management System Software Ver 1.0.0.0

Audit Performed by:- Terasoft Technologies SETL

Testing Date:- 14th February 2025 to 29th April 2025

Report ID:- TERA/IVNV/2025/001

Testing Standards:-	ISO/IEC/IEEE 29119-1:2013, ISO/IEC/IEEE 29119-4:2015, ISO/IEC 25010:2011, OWASP Top 10:2017.
Scope of Testing:-	The scope of this evaluation was limited to perform IVNV as per following criteria. 1. Application Security Testing 2. Functionality Testing ISO/IEC/IEEE 29119-1:2013, ISO/IEC/IEEE 29119-4:2015, ISO/IEC 25010:2011, OWASP Top 10:2017.
Testing and Audit Methodology:-	ISO/IEC/IEEE 29119-1:2013, ISO/IEC/IEEE 29119-4:2015, ISO/IEC 25010:2011, OWASP Top 10:2017.
Testers Details:-	Rutuja Patil
Auditors Details:-	Nikita Rave
Document Issue Date:-	02/05/2025
Name & Address of the Hardware/Software Product Developing Organization	Technovaa Software & Hardware Solutions Pvt Ltd Plot No 14, New Raani Bagh, Khandwa Road, Indore, Madhya Pradesh-452001, India
Document Validity:-	This document is valid till, any changes are done in software configuration or version or one year, whichever is earlier.
Recommendations:-	Proper Patching of System should be done to maintain the security of the network. Firewall should be configured regularly. SSL should be updated regularly.

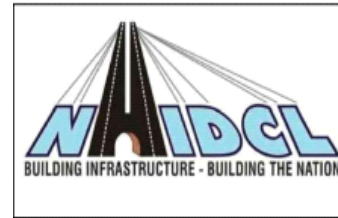
Conclusion:- The Audited Desktop application (TMS) Toll Management System have been given Safe to Host Certificate no critical or high vulnerabilities found during UAPT. Informational vulnerabilities are patched using proper network configuration settings as per recommendations given.

Regards,
Rutuja
Quality Manager
Terasoft Technologies SETL
STQC Empaneled Lab



Regards,
Akhilash Lunde
Head,
Terasoft Technologies SETL
STQC Empaneled Lab

OUR VALUABLE CLIENTS



OUR VALUABLE BUSINESS PARTNER

Our Technology Partners - Technovaa collaborates with globally trusted technology leaders to ensure high-performance, reliable and future-ready Toll & Traffic Management Solutions across 300+ Toll Plazas in India.

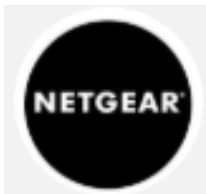
Our infrastructure solutions are powered by:

D-Link

HAVELLS

SICK
Sensor Intelligence.

Lenovo



ID TECH
IDENTITY AND SECURITY

UTKARSH
Life demands. We deliver.

TagMaster
LEARN FROM REALITY

CP PLUS

VIVOTEK
A Delta Group Company

ADVANTECH



PRAMA
MADE FOR INDIA - MADE BY INDIA - MADE IN INDIA



Toll Plazas Operated by TECHNOVAA

Driving Efficiency Across India's Highways



300+ Toll Plazas Managed by Technovaa Across India

Ensuring Reliable & Efficient Toll Management Nationwide



TECHNOVAA

Experience the power of
KNOWLEDGE

TECHNOVAA SOFTWARE & HARDWARE SOLUTION PVT. LTD

Driven by Experience. Defined by Trust. Powered by Innovation

Office : Plot. 14, Khandwa Road,
Opp. of New Rani Bagh, Indore-452020 (MP) India.

Phone : +91 7314995078

Web : www.technovasystems.net

E-mail : technovasystem10@gmail.com