

Orchestrating a brighter world

**NEC**



BOOKING NUMBER: A1

# NEC Intelligent Transportation System (ITS)

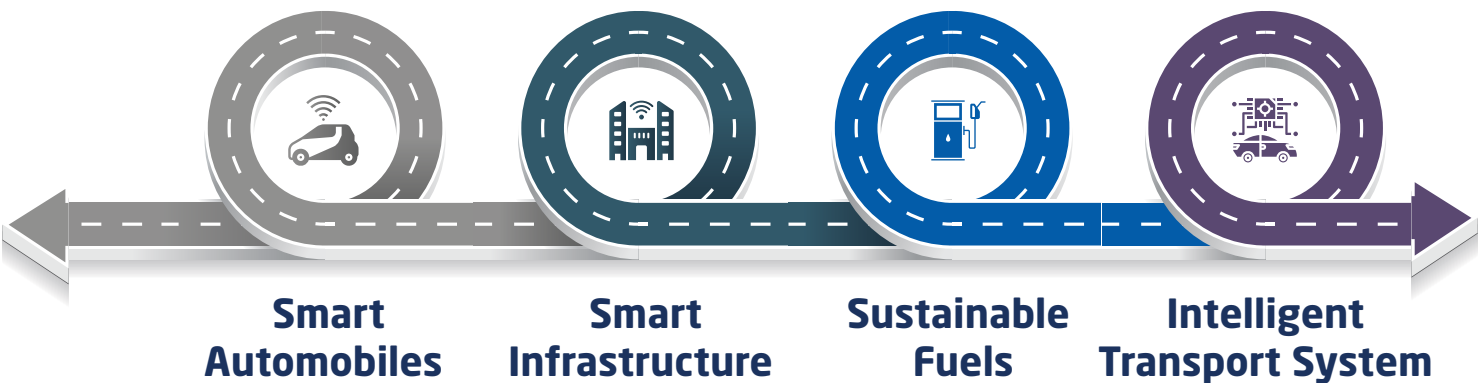
Enriching public transport experience  
through technology

With the ever-growing urban population world over, increased private vehicles on the streets are becoming a menace. The only way to keep this under control is to have an efficient public transit system. Seamless mobility and transportation solutions are key to encouraging people to adopt public transport and hence reduce the traffic on the street.

# NEC Intelligent Transportation System (ITS)

An advanced suite of applications aims to provide innovative services relating to different modes of transport and traffic management, enabling users to be better informed and make safer, more coordinated, and smarter use of transport networks.

NEC ITS focuses on **Improvement in 4 Key Areas** to eliminate the operational and user experience challenges in the Indian transportation sector







NEC's Smart Transportation solutions aim at resolving issues faced by both passengers as well as the operating agencies. NEC leverages the power of ICT to solve social and economic challenges such as traffic congestion in public transport. By applying the experience, it has cultivated over several years of delivering successful projects to customers, NEC is contributing to achieving an eco-friendlier public transportation infrastructure in India and worldwide.

## Enabling a Smart, Safe, and Secure Public Transportation System



### Processing

- Fare Collection
- Fleet Management
- Incident Management
- Planning & Scheduling
- Passenger Information
- Depot Management

### Data Collection

- Station Display
- Buses
- Fare Media
- Depot
- CCTV



### Analytics

- Business Intelligence Platform (with Smart Dashboard)



### Planning & Improvements

- Business Intelligence Platform (with Smart Dashboard)



# Smart City Multi-modal

Bus BRT | Railway (MRT•LRT) | Taxi



## Depot Management System

Automating the depot operations for public transit systems including HR & Payroll Management, Roster Management, Maintenance Management, Stores & Inventory Management

## Automatic Vehicle Locating System (AVLS)

AVLS gives the True Multi-tasking and Multi-user Environment with capabilities to Monitor, Supervise and Control Operations with Real-time Data

## Business Intelligence System

Business Intelligence System keeps a check on the revenue, ridership, revenue/km, distance, trips, violations, OTP and IMS with their reporting and analysis tools that drive data-based decisions

## Planning & Scheduling System

The objective of Vehicle Planning, Scheduling and Dispatch System is to Enable / Help Transport Planners in Performing Daily Tasks, Efficiently and Effectively

## Automatic Fare Collection System

Easy and Accurate Revenue Collection for an Enhanced Travel Experience

## Incident Management System

IMS includes the complete suite of solutions, in the physical surveillance category that includes PTZ cameras and the necessary backend video surveillance application, number plate recognition cameras and necessary applications

## Mobility as a Service (MaaS)

MaaS is a total mobility solution designed to surpass conventional private transport options via a seamless commuter experience with dynamic journey planning and streamlined payment processes

## Passenger Information System (PIS)

Delivers real-time information to passengers traveling on the buses through advanced mobile applications and websites

# Some of our Successful Deployments

## Mowasalat Karwa, Doha

- Intelligent Transportation System for FIFA World Cup
- **3000** Buses

## Modern Bus Company (MBC) Makkah, Saudi Arabia

- Intelligent Transportation System for Makkah Bus company
- **400** Buses

## Ahmedabad

Over **1000** Buses  
& **230** BRT  
Stations

## Surat

Over **1500** Buses  
& **195** BRT  
Stations

## Pune

Over **1500** Buses  
& **195** BRT  
Stations

## Uttar Pradesh

**5000** Buses, **10,000** Routes,  
**140** Vehicle Location  
Tracking System

## Hubli Dharwad

Over  
**1500** Buses  
+ **Smart City**  
**Solutions**





Case Study

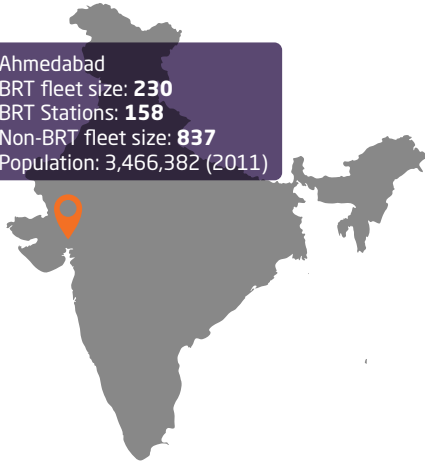
# ITMS AND AFCS PROJECT SYSTEM

for Ahmedabad



Upgrade city's manually operated, often erratic bus transit infrastructure with a seamless, safe and reliable intelligent transport management system.

Ahmedabad  
BRT fleet size: **230**  
BRT Stations: **158**  
Non-BRT fleet size: **837**  
Population: 3,466,382 (2011)



## Solution Scope



Automatic Vehicle Location System



EMV based Automatic Fare Collection System



Integration with Card Host System



Vehicle Scheduling & Dispatch Management System



Passenger Information Management System



Incident Management System



Depot Management System (DMS)



Smart Transport Citizen Portal/ Citizen Mobile App



Case Study

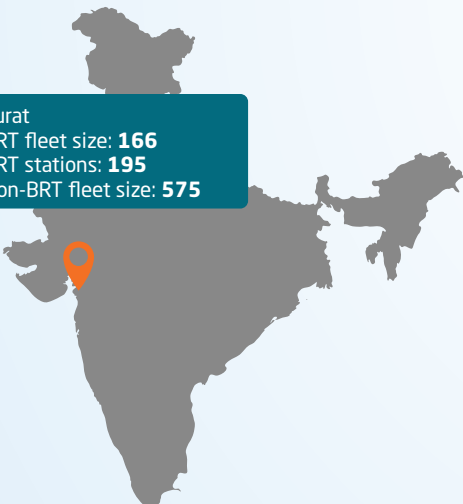
# EMV BASED AFC SYSTEM FOR BRT & CITY BUS, SURAT

for Surat Municipal Corporation



Enabling ease of travelling mobility for commuters in Surat city

Surat  
BRT fleet size: **166**  
BRT stations: **195**  
Non-BRT fleet size: **575**



## Solution Scope



Automatic Fare Collection System



EMV Card & QR Code Ticket Validation



ICard Account Management



Fare Management



Blacklisting Management



Reporting



Mobile Application



Reconciliation with Card Hosting System

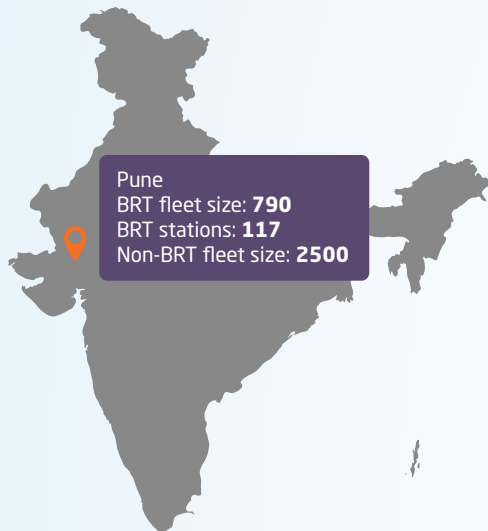
## Case Study

# ITMS PROJECT, PUNE

for Pune Mahanagar Parivahan Limited (PMPL), Mahamandal Limited



Development, implementation, operation and maintenance of the Bus Rapid Transit System (BRTS) in Pune city



### Solution Scope



Automatic Vehicle Location System



Command Control Center



Real-time Passenger Information System

- In-bus displays
- Bus stop displays
- Web / Mobile Application



Operator Analysis and Reporting System



Communication



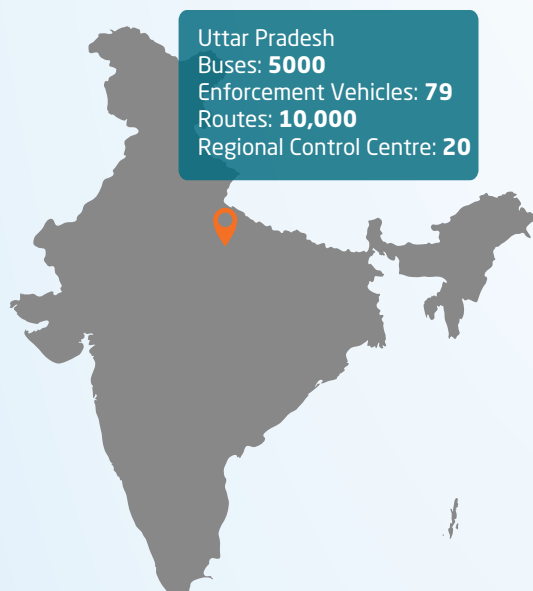
In-bus Visual and Audio Announcement



## Case Study

# Vehicle Location Tracking Project, Uttar Pradesh

for Uttar Pradesh State Road Transport Corporation



Transform UPSRTC's bus transit infrastructure with an AIS 140-based intelligent transport management system, ensuring seamless, safe, and reliable operations, along with enhanced passenger information and safety features.

### Solution Scope



Automatic Vehicle Locating System



Passenger Information System



Passenger Announcement System



20 Regional Control Centre



Case Study

# ITMS PROJECT, MAKKAH

for Modern Bus Company (MBC), a special Project established by TNC Consortium

Intelligent Transport Management System (ITMS) to improve the performance of the Makkah bus traffic

**mb** شركة الحافلات الحديثة المحدودة  
MODERN BUS COMPANY LIMITED

Makkah, Saudi Arabia  
Design, supply, installation, testing and commissioning of Intelligent Transportation System for Makkah Bus Project  
**400 Busses and 80 Ticket Vending Machines & Point of Sale Stations across the city**

## Solution Scope



Automatic Vehicle Location System



Ticket Validation System



Passenger Information System



In-bus Surveillance



Ticket Vending Machines at bus stops



Electronic Ticketing Machines at point of sale locations and ticket validators in bus system



Case Study

# ITMS PROJECT, KARWA, DOHA

for Public Transportation System, Mowasalat

مواصلات  
mowasalat

Public Transportation System for FIFA World Cup 2020

Doha, Qatar

Design, supply, installation, testing and commissioning of Intelligent Transportation System for Qatar Mowasalat  
**ITMS for 3000 Buses**

## Solution Scope



Automatic Vehicle Location System



On-board Devices



Passenger Information System



In-bus Surveillance



Vehicle Planning Scheduling



Depot Management System

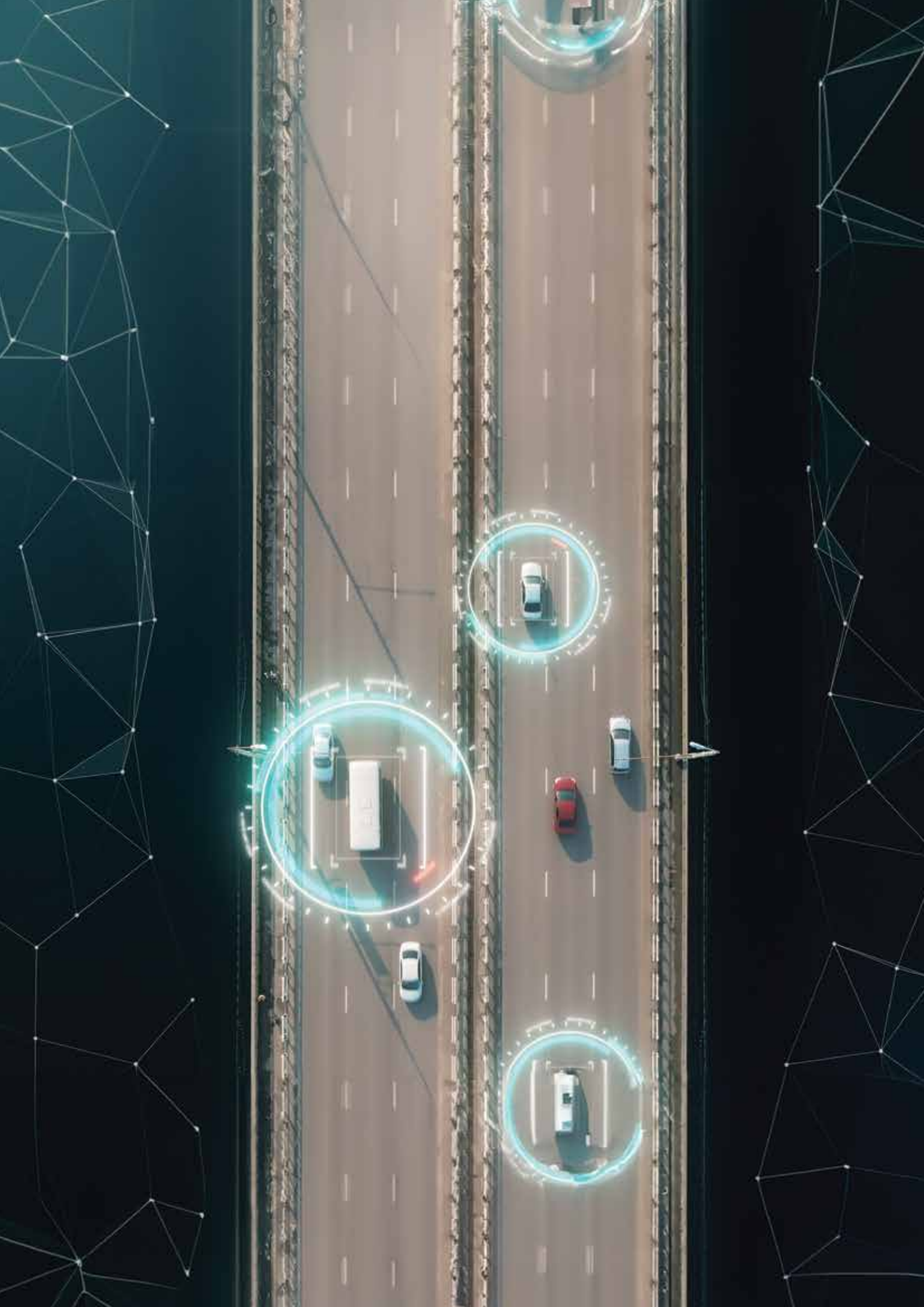


Parking Management System for buses



Business Intelligence





Orchestrating a brighter world

# NEC



## Why NEC?

NEC possess deep expertise in the design and implementation of Transportation solutions that leverage the most innovative big data techniques including predictive modelling and machine learning (ML). We work by analysing the current transportation technologies to identify the bottlenecks that need to be addresses to tackle issues faced by both passengers and the transport operating agencies. Our mission is to streamline the transport services & amplify customer experience.

**1899**  
Established

**160+**  
Countries

**106K**  
Employees

**49K+**  
Patents

For further queries & demonstration, please contact

📍 NEC Corporation India Pvt. Ltd.  
19th Floor, Tower C, Advant Navis Business Park, Plot 7, Sector 142, Noida, Uttar Pradesh 201305  
🌐 [in.nec.com](http://in.nec.com)    📧 [marketing@india.nec.com](mailto:marketing@india.nec.com)

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