



Smart Cities: A Necessity

In an era defined by rapid urbanization, technological innovation, and a growing need for sustainable living, the concept of Smart Cities emerges as a beacon of hope and progress. Smart Cities represent the convergence of cutting-edge technology and urban planning to create more efficient, connected, and sustainable urban environments. This revolution in urban living is no longer a distant dream but a tangible reality shaping our world today.

Resource Efficiency

Excessive energy consumption, inadequate transportation networks, and water wastage are pressing issues in modern urban living, leading to inefficiency and high costs. Smart Cities are poised to address these challenges by deploying innovative solutions. They are designed to optimize resource usage, reduce energy consumption, improve transportation networks, and minimize water wastage, ultimately fostering more efficient and cost-effective urban living.



Smart City Challenges

Not Up-to-date Or **Delayed Information**

ate decisions specially

during crisis and emergencies

Inability to take prompt and most appropri-

Economic Growth

Challenges in job creation and economic growth require strategic solutions, especially in urban areas where opportunities are often limited. A well-planned Smart City offers a solution to these challenges. By investing in technology and infrastructure, these cities create fertile ground for innovation, entrepreneurship, and economic growth. They open business opportunities, ultimately contributing to the local and national economy.



in critical sectors such as water, waste management, energy, mobility, education, healthcare, and public safety



Quality of Life

A Smart City prioritizes the well-being of its residents. With data and technology, it improves public services, healthcare, education, and public safety, enhancing the overall quality of life for its citizens.

Environmental Sustainability

Climate change and environmental degradation are urgent global concerns. Smart Cities are at the forefront of the battle for sustainability, integrating renewable energy sources, efficient waste management, and green infrastructure to reduce their carbon footprint.



Urbanization On The Rise

More than half of the global population now resides in cities, and this number is projected to reach 68% by 2050, according to the United Nations. As urban populations continue to swell, the pressure on resources and infrastructure becomes increasingly evident.



Improper Visibility from

Scattered Sources and Applications Inefficient resource management and day-to-day city operations



Inability to Optimally Allocate Resources

Sub-optimal output and resource utilization

Inadequate Risk Recognition

resulting in slow and reactive risk mitiga-

Absence of risk monitoring mechanism

tion and weak public safety



Safety & Security

Growing

Population

Rapid urban population growth

causing congestion, housing

creating a sustainable urban

environment.

strains infrastructure and services,

shortages, and access issues. Smart

Cities use advanced urban planning

ensure access to essential amenities,

and technology to adapt, reduce

congestion, improve housing, and

Urban safety concerns include crime rates, emergencies, and natural disasters, posing risks to residents. Smart Cities lead in safety with advanced technology, data analytics, and responsive infrastructure. They enhance safety through predictive policing, early disaster warnings, and secure public spaces, ensuring urban living is secure and reliable.





NEC Smart City Solution Transforming Cities into Smart and Futuristic Living

NEC's City Management Solutions provide **Unified and Secure Platforms like the Integrated Command and Control Centre & Citizen Engagement Portal that Integrate, Share, And Analyze Entire City Operations** enabling efficient city operations and better citizen services.





NEC Smart City Solution Overview

Key Technologies



ICCO

Nerve centre of the city that leverages advanced technology for real-time monitoring, data integration, and decision support, enhancing situational awareness and response coordination.



loT

Enabling seamless connectivity and data exchange between diverse devices and systems, driving efficiency automation, and innovation.



Citizen Engagement Portal

An online platform for citizens to interact with government agencies, access services, and provide feedback.



Biometrics & Digital Identity

Solutions providing secure and accurate authentication through cutting-edge biometric solutions such as fingerprint, face, and iris recognition.



Artificial Intelligence

Solutions leveraging advanced machine learning and data analytics to empower organizations with intelligent automation, predictive insights, and enhanced decision-making capabilities.



Intelligent Video Analytics

Harnessing the power of Al and computer vision to deliver real-time insights from video data, enhancing safety, security, and operational efficiency in various applications.





Enhancing City Operations

- Real-time centralized data & analytics
- Efficient & effective administration, citizen services, sentiment analytics & grievance handling
- Disaster management and emergency response
- Better management of utilities & quantification of services



Monitoring & Controlling

- Centralized response using pre-defined SOPs
- Decision support system
- Integrated & efficient resource management



Data Centre & Cloud Ready Scalable Solution

- Cloud governance & management
- Continuous/automatic backup & scalability
- Enhanced network & data security



Future Proofing for Tomorrow and Beyond

City Management



Waste **Management & Cleanliness**

Waste management optimization through real-time monitoring of garbage collection routes and levels



Parking & Vehicle Management

Smart parking solutions with real-time availability and guidance to reduce parking congestion



Water **Management**

Real-time monitoring of water supply networks to detect leaks and ensure efficient usage



Municipal Operations

Management

It streamlines essential services, enhancing efficiency and quality of life through effective resource allocation and infrastructure maintenance



Environmental Sensors

Advanced environmental sensors provide real-time data, empowering us to make informed decisions and safeguard our planet's health.

Smart Building

Smart buildings integrate technology and sustainability, optimizing comfort, efficiency, and security for occupants and the environment.



Disaster Management

Effective disaster management combines preparedness, rapid response, and community resilience, ensuring safety and recovery in times of crisis

NEC, leveraging its innovative technologies that **Integrate IoT**, **Al**, **Biometrics** (Fingerprint, Face, Iris Recognition), Video Analytics, and Network Capabilities, is dedicated to **Addressing Global Public Safety Issues**, enhancing urban quality of life, and realizing equitable and efficient societies reaching their utmost potential.

Public Safety

Terrorism and **Security Threats Mitigation**

- Intelligent video surveillance
- Facial recognition systems
- Threat intelligence systems.

Crime Control

- Integration of surveillance systems
- Predictive policing algorithms
- Centralized data management

Emergency and Disaster Management

- Relief and emergency services
- Infectious disease control
- **Emergency Response Systems**
- Infectious disease control
- Fire Prevention Systems



Public Disorder Management

- Video analytics and real-time monitoring
- Crowd management systems
- Proactive communication and alerts

Community Policing and Fostering Trust

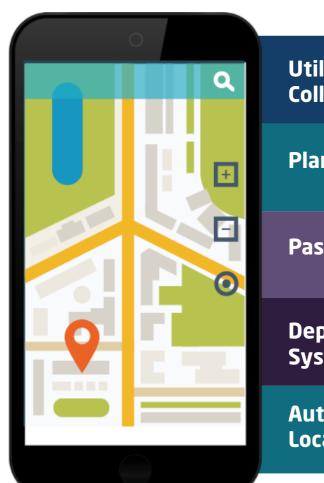
- Community engagement platforms
- Transparent and accountable governance

Traffic Safety

- Real-time traffic monitoring, analysis, and incident detection
- Intelligent transportation systems
- Automated traffic violation detection

Smart Transportation

Smart Public Transport



Utilities & Citizen Automated Fare Collection / Smart Card System

Planning and Scheduling



Passenger Information System



Depot Management System



Automatic Vehicle Locating System



A sophisticated set of applications that aims to provide **Innovative Services**Related To Various Modes Of Transportation and Traffic Management, as well as to enable users to become more aware and Make Safer, More Organized, and Intelligent Use Of Transport Systems.

Easy and Accurate Revenue
Collection for an Enhanced
Travel Experience

Enable / Help Transport Planners in Performing Daily Tasks Efficiently and Effectively

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

Automating the depot operations for public transit systems leading to smooth operations

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

Intelligent Transport Management System



Automatic Number Plate Recognition (ANPR)

Streamlines security and traffic management by automating the identification of vehicles through license plate recognition technology.



Red Light Violation Detection (RLVD)

Enhances road safety by detecting and penalizing vehicles that disobey traffic signals, reducing the risk of accidents.



Monitor Vehicle Density

Provides real-time insights into traffic congestion and road usage, enabling efficient traffic management and infrastructure planning.

Smart Aviation

NEC empowers **Contactless Boarding Process At Airports** by making it faster and seamless, **Enabled By Cutting-edge Facial Recognition And Biometric Solutions**.



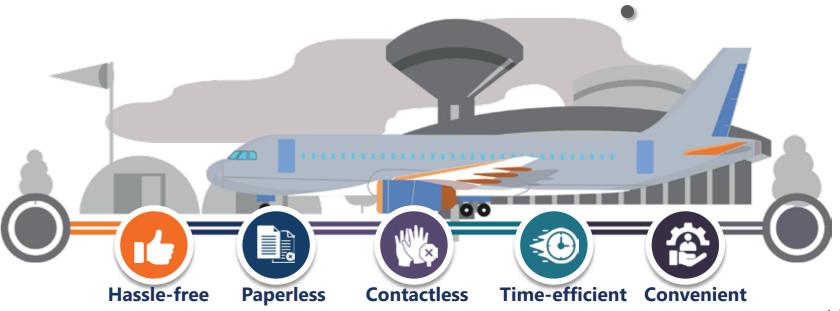
Airport Security and Monitoring

Safeguarding passengers, personnel, and assets through state-of-the-art surveillance technology.



Biometric Boarding

Providing a seamless and highly secure experience by leveraging facial recognition, ensuring swift and reliable boarding procedures.





Smart Logistics

Driving Operational Excellence across the Supply Chain

NEC offers a comprehensive suite of cutting-edge logistics solutions, backed by in-depth domain knowledge and technical expertise, to create unified digital platforms to Increase Safety, Enhance Logistics Visibility, Efficiency And Customer Satisfaction.



Fleet Management

Streamline your fleet operations for optimal efficiency and cost savings.



Yard Management System

Gain full control and visibility over your inventory with precision and ease.



Inventory Management

Gain full control and visibility over your inventory with precision and



Gate Automation Solution

SSeamlessly manage gate access and enhance security with automated solutions.



Last-Mile Delivery

Delivering convenience and reliability for the final leg of your supply chain.



Logistics Visualization System

Visualize, analyze, and optimize your logistics network for superior performance.



Supply Chain Visibility

Achieve end-to-end visibility for informed decision-making across your supply chain.



Intelligent Video Analytics

Harness the power of AI for enhanced security and operational insights.



Warehouse Management System

Streamline warehouse operations for maximum efficiency and accuracy.



Container Tracking

Real-time tracking and management of containers for a smooth logistics flow.



Smart Factory/Manufacturing

Accelerating your Smart Factory and Industry 4.0 Journey

NEC's Smart Factory and Manufacturing solutions integrate automation, IoT sensors, and advanced analytics to optimize production processes, reduce downtime, ensure quality control, and enable real-time monitoring of manufacturing operations for increased productivity and competitiveness in the industry.



Problem Assessment & Analysis

Streamlines security and traffic management by automating the identification of vehicles racognition



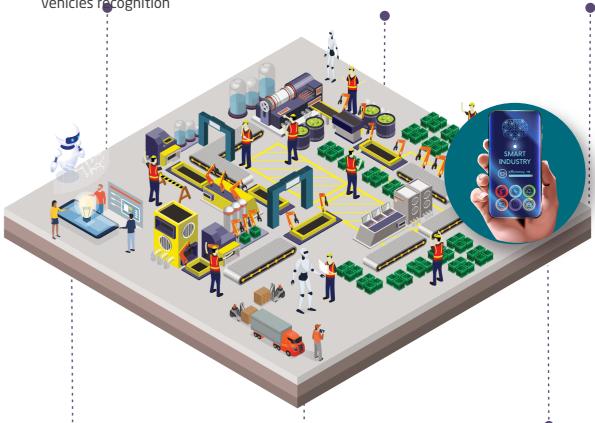
Vendor & Customer Portal

Bridge the gap between businesses and customers for seamless interactions and transactions.



ERP Deployment, Migration & Maintenance

Streamline your fleet operations for optimal efficiency and cost savings.





Data Centre Services

Elevate your data management with state-of-the-art infrastructure and expert support.



Warehouse Management System

Optimize inventory control and logistics for a more efficient supply chain.



Touchless Access Control

Secure and simplify access management with cutting-edge contactless technology



Smart Enterprises

Driving Operational Excellence across the Supply Chain

NEC's Smart Enterprise solutions harness the power of emerging technologies like AI, IoT, and cloud computing to streamline operations, enhance customer experiences, and drive innovation, **enabling businesses to stay competitive** in the ever-evolving digital landscape.





Employee Safety and Security System

Ensuring peace of mind by safeguarding employees and assets with advanced security measures.

Workforce **Management and Scheduling**

Empowering organizations to efficiently manage, schedule, and optimize their workforce.



Facility Management Software

Streamlining facility operations for enhanced efficiency and cost-effective management.



Supply Chain and Inventory Management

Streamlining facility operations for enhanced efficiency and cost-effective management.



Visitor Management System

Empowering organizations to efficiently manage, schedule, and optimize their workforce.



Data Backup and Disaster Recovery

Protecting business continuity with robust data backup and rapid disaster recovery solutions.



Document Management and Workflow **Automation**

Ensuring asset visibility and accountability for improved operations and cost control.



Employee Wellness and Productivity Solutions

Promoting employee well-being and productivity with tailored support and resources.



Cloud-Based Collaboration Tools

Enabling seamless teamwork and communication through cloud-powered collaboration tools.



Remote Work Solutions

Facilitating remote work success with technology-driven solutions for flexibility and productivity



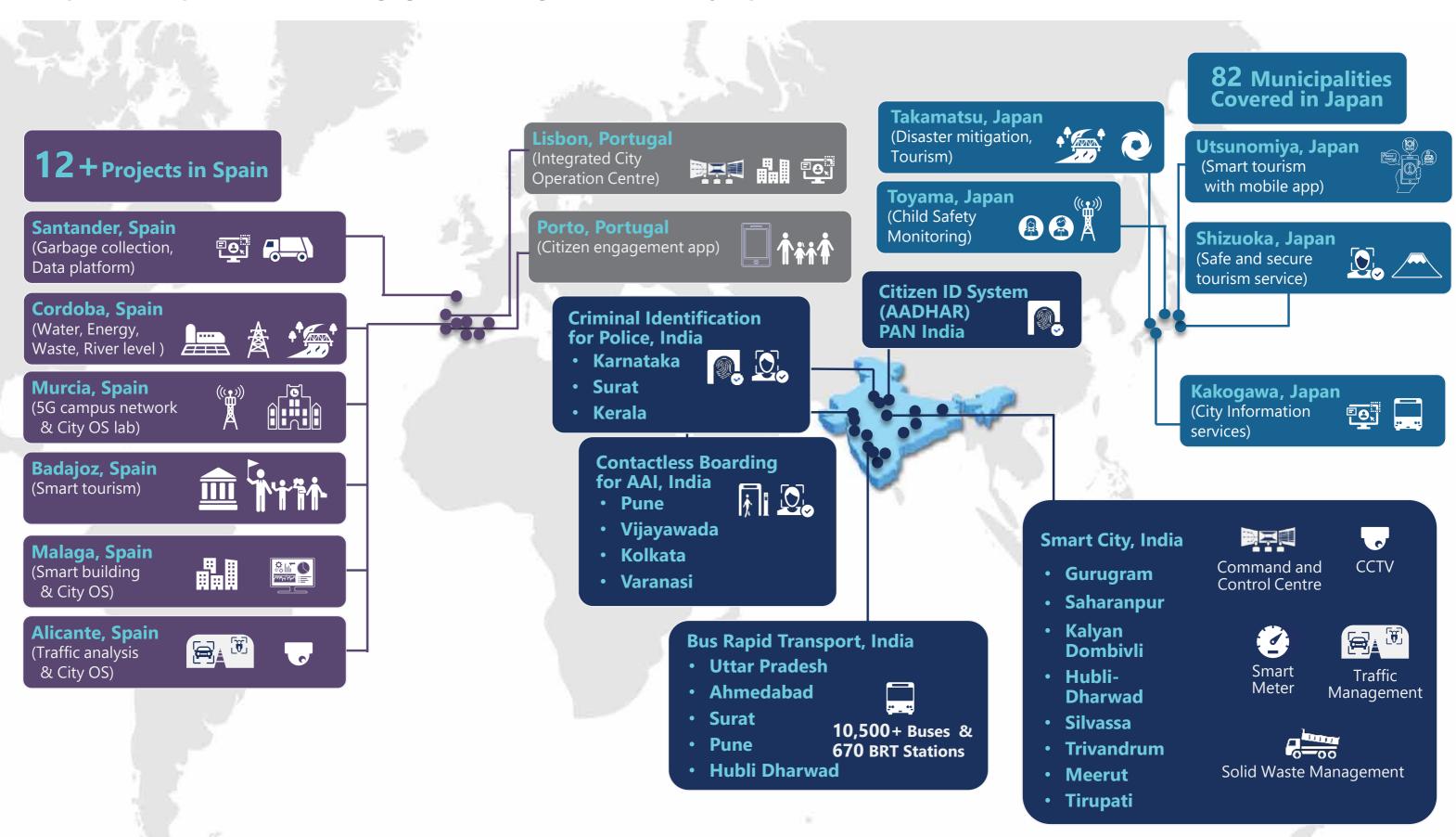
Digital Access Control

Providing secure and convenient access management for a modern, connected world.



NEC Global Smart City Experience

Deep domain expertise and knowledge gained over significant smart city implementations across the world



NEC

Why NEC

NEC has deep expertise in the design and implementation of public safety solutions that leverage the most innovative technologies. We work by analyzing the state of citywide safety and convenience technologies being used currently, to identify the bottlenecks that need to be addressed to resolve issues faced by both citizens and the government operating agencies. Our mission is to streamline the smart city services, minimize threats & amplify user experience.

Established

Countries



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