

# Sharjah

## Smart Traffic Management Center for the Emirate of Sharjah, United Arab Emirates

In 2022, Kapsch TrafficCom was awarded a contract by the Sharjah Roads and Transport Authority (SRTA) to design, install, and operate smart traffic lights across the urban center of Sharjah. This project establishes a foundation for an innovation mobility hub in the United Arab Emirates, pioneering a future-ready traffic management system built on scalable, flexible, and integrated ICT architecture. By enhancing urban mobility, fostering sustainability and efficiency, and strengthening traffic safety, it positions Sharjah as a leader in smart transportation solutions.

### **Innovative solutions contribute to a healthy world without congestion.**

The Smart Traffic Management Center is a strategic initiative by SRTA aimed at developing an advanced and integrated traffic management system. The implemented technology provides seamless integration, scalability, and resilience, enabling more efficient and safer urban traffic operations.

Additionally, the system introduces a modern ICT framework based on industry standards, supporting future services and innovation modules to meet the evolving needs of SRTA, road users, and stakeholders.



## Project Scope:

The project includes a comprehensive upgrade of traffic control systems across Sharjah's urban center with a focus on AI-driven adaptive control, congestion reduction, and emergency response enhancements.

- Total 50 upgraded traffic lights installed across Sharjah's urban center, aimed at reducing congestion.
- Implementation of adaptive and regional coordination of traffic signals using AI and the Intelligent Traffic Adaptive Control Area (ITACA) program.
- C-ITS enabled Priority System for emergency vehicles and public transport, including 70 RIS-9260 Roadside ITS Station Platforms and 5 In Vehicle ITS-G5 On Board Units.
- Establishment of a command and control center to monitor remote intersections via CCTV for emergency management.
- Supervision of the project.
- Training of UTC System for all Traffic Control Center Staff and Documentation.
- Support & Maintenance of UTC system, CCTV System, Communication system and Traffic Control Center for 3 years.
- Professional Services for developing a 3D Video for Sharjah Smart Traffic Management System.

## The Challenges:

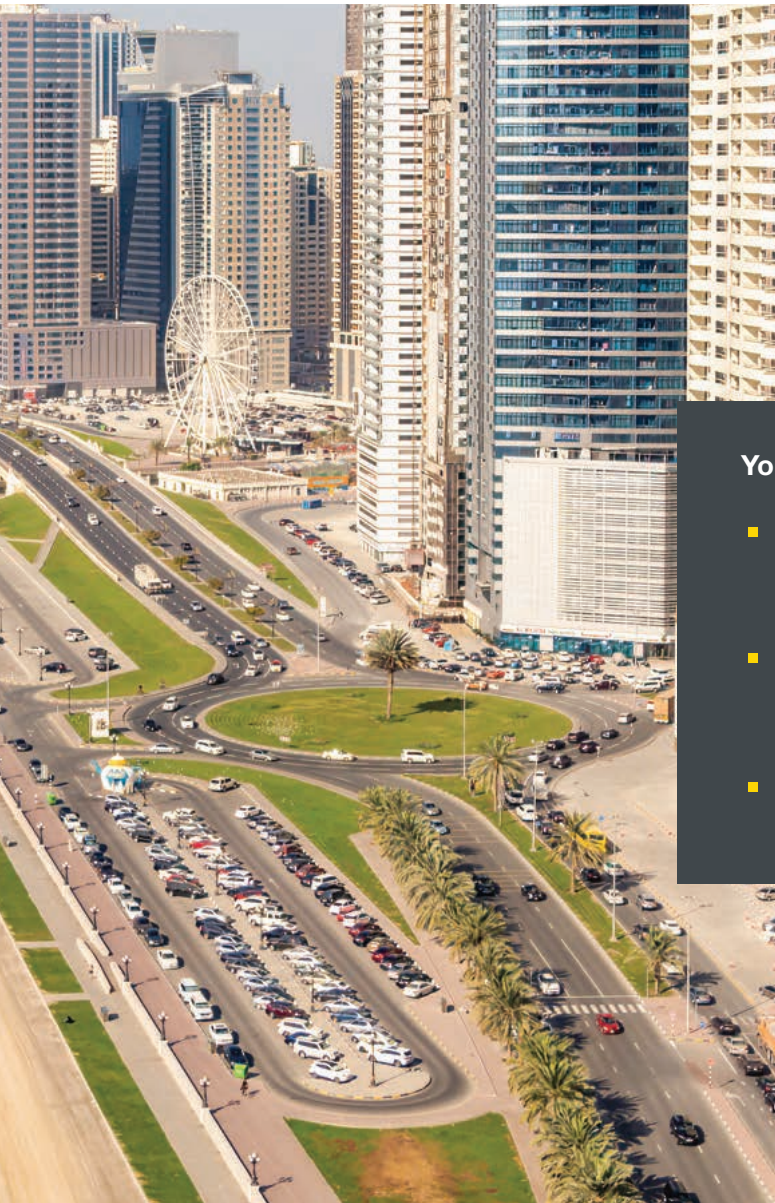
- Managing increased traffic demand in a rapidly growing urban center.
- Ensuring seamless integration of advanced AI-driven traffic control systems.
- Providing real-time emergency response capabilities through remote monitoring.
- Delivering a scalable and future-ready ICT architecture for long-term expansion.

## The Solution:

To overcome these challenges, Kapsch TrafficCom integrated ITACA and EcoTrafIX™, advanced real-time adaptive traffic signal optimization systems, into Sharjah's traffic management infrastructure.

- ITACA enhances traffic efficiency by dynamically adjusting signal timings at intersections based on real-time traffic conditions.
- It regulates three key traffic parameters to ensure optimal flow:
  - Cycle – Adjusting signal cycle lengths based on traffic demand.
  - Split – Minimizing delays by balancing traffic loads at junctions.
  - Offset – Creating green waves by optimizing signal coordination.
- EcoTrafIX™, a key part of Sharjah's ITS infrastructure, integrates with ITACA to provide seamless adaptive signal optimization.
- The system is built on open and standardized protocols, ensuring compatibility with future innovations and expansions.

This cutting-edge AI-based traffic control solution significantly reduces congestion, improves road safety, and enhances emergency response capabilities.



## Your Added value:

- Seamless integration of AI-driven traffic control Utilizing real-time adaptive optimization for enhanced mobility.
- Scalability and flexibility to meet current operational and maintenance demands while addressing future needs.
- Enhanced traffic efficiency & emergency response.