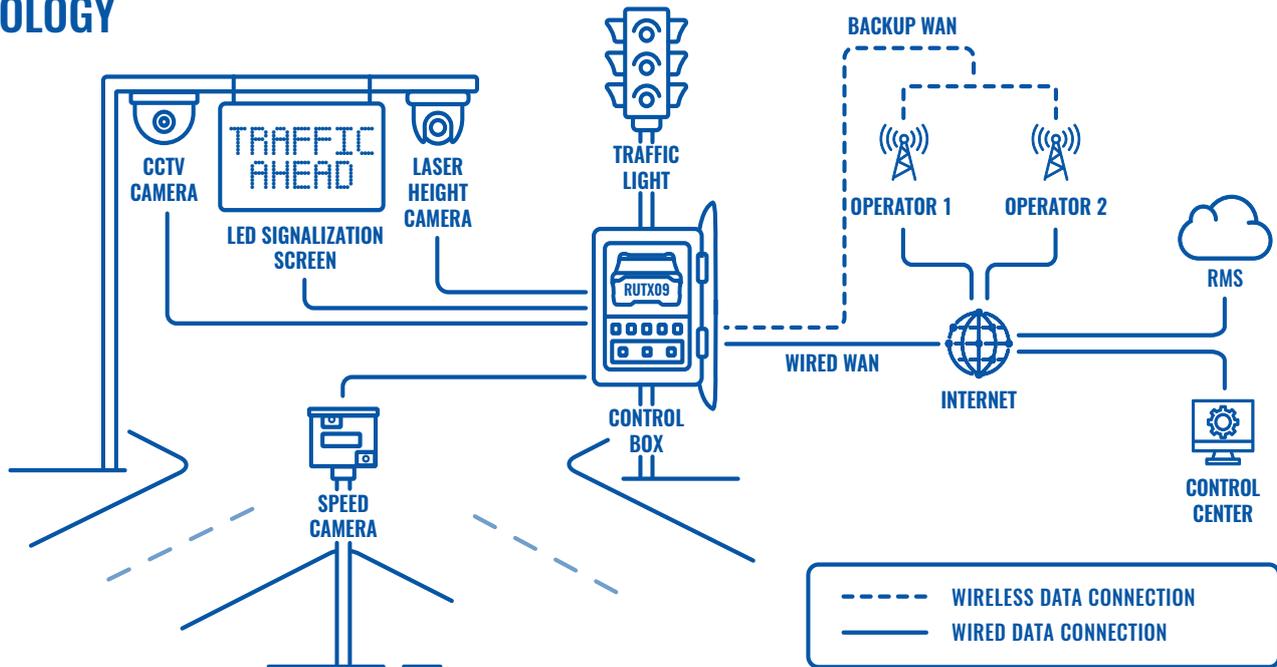# INTELLIGENT TRAFFIC SYSTEM CONNECTIVITY

SUMMARY

According to the projections by the United Nations, the world population will reach 9.8 billion by 2050. Moreover, ongoing mass urbanization is forecasted to result in 50% of the world's population living in cities. Apart from numerous city planning, social and economic challenges, these two factors will contribute towards increased congestion-related problems. Recent surveys suggest that the average American spends around 19 days per year stuck in traffic. Not many consider that without advanced, centrally controlled intelligent traffic systems, this number would be far higher.

CHALLENGE

Commuters rarely realize that all of the components controlling and directing traffic are not only interconnected but also managed centrally by large teams of engineers supported by advanced software solutions. Together, these systems monitor traffic load, change traffic light intervals or open additional lanes, inform about congestion or accident ahead. All of this would not be possible if individual components of traffic system were not connected to the central management control center via the Internet. Typically, equipment, such as traffic lights, LED signalization screens, height cameras, CCTV cameras are connected to control enclosures. Such enclosures have advanced routing equipment connected to primary Internet sources such as fiber or DSL. However, cable Internet cannot provide 100% uptime, and once the connection is interrupted, a large amount of intelligent transport equipment will go offline. Without the apparent issue of losing control over a significant part of traffic infrastructure, there is an additional issue of network maintenance costs. Without any connectivity backup solutions, traffic operators have no choice over timing of network maintenance. They must initiate immediate repairs to restore service and without ability to schedule and plan such activities upkeep costs can skyrocket.

TOPOLOGY

SOLUTION

Globally, Intelligent traffic systems are in different development stages, but integrators and governments around the world have recognized that single source of Internet connectivity is unviable due to high maintenance costs and imperfect availability. RUTX09 cellular router with LTE Cat 6 and Dual SIM functionality is perfect for providing backup cellular connectivity for Intelligent traffic infrastructure because it is secure, reliable and easy to use. Besides, LTE Cat 6 technology has carrier aggregation functionality which ensures that resources of mobile GSM operators are used efficiently. Operators are motivated to offer more attractive data service plans for large scale projects compatible with carrier aggregation technology, and Dual SIM functionality ensures that even if one operator service is interrupted, the RUTX09 will switch to redundant operator service to provide uninterrupted connectivity.

BENEFITS

• Scalability – Backup connectivity projects for Intelligent traffic systems require large amount of routers. RUTX09 is compatible with Teltonika RMS, which allows integrators to configure infinite amount of devices remotely and instantly.
• Cost-efficiency – It is less expensive to install cellular router for the Internet connectivity redundancy rather than rely on single source of connection and do reactive maintenance upon losing the service.
• Ease of use – With RUTX09 and RMS, system operators can be in control of their network infrastructure from a single control location even without Public IP! It is possible to monitor and control equipment which is thousands of miles away without any local presence.

WHY TELTONIKA?

Teltonika RUTX09 is an excellent option for providing cellular backup connectivity because it is secure, reliable and easy to use. Paired with Teltonika Remote Management System, it becomes robust networking solution that can be managed with a minimal amount of resources from anywhere in the world. X09 is the result of years of R&D and is fully developed and manufactured by Teltonika, therefore you can count on its reliability even in the most complex connectivity projects such as Intelligent traffic systems.