

# REMOTE CALIBRATION AND CONTROL OF SMART TRAFFIC LIGHTS

## SUMMARY

Average American spends about nine days per year to get to the office when the drive is about 26 minutes. However, those who spend more, for example, 90 minutes, sacrifice an entire month for just commuting. When we add the factor that most people go to and from work roughly at the same time, we can get an idea of how the traffic congestions occur.

## CHALLENGE

One of the essential elements to combat heavy traffic is city planning. With ever-growing cities and sprouting business centers, the conventional road and traffic infrastructure falls behind. Regular traffic signals are not always sufficient to handle large numbers of vehicles as they do not actively react to the situation, or inaccurately programmed timers can even add to the problem and create traffic jams.

With no way to actively gather data, accurate traffic signal calibration is nigh impossible. The workforce needed to calibrate each light would be huge and the overall logistics can get quite complicated.

M.K. Traffic Technical Solutions Ltd received a project to install the first Microprocessor Optimized Vehicle Actuation (MOVA) in Cyprus. The plan was to place this new addition in one of the busiest roundabouts on the island. Yet, the system had to be calibrated by an expert from the manufacturer. Thus, due to Covid-19 travel restrictions prohibiting the engineer from travelling, meeting project delivery dates was a massive challenge.

## PARTNER -

**M.K. Traffic Technical Solutions Ltd** is a company based in Cyprus that specializes in Traffic Engineering and Safety. The company was established back in 2005 and has expanded from supplying traffic control equipment to the Municipalities and the Public Works Department of the Republic of Cyprus to installing and providing maintenance to traffic monitoring and control systems ITS (Intelligent Traffic Systems), parking management systems, weight enforcement systems and traffic safety products.

## SOLUTION

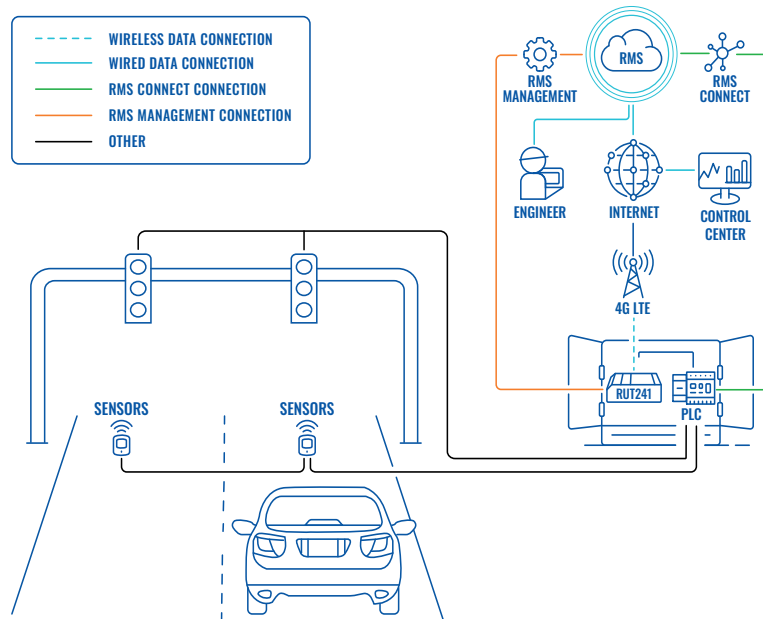
To meet the deadlines, M.K. Traffic Technical Solutions Ltd decided to redesign their solution by adding Teltonika Networks connectivity product. They decided to establish remote communication by using the RUT241 industrial cellular router so that the engineer could calibrate the system while staying abroad.

First, the RUT241 router provides an internet connection to this IoT solution. A Traffic Signal Controller connects with the router via an Ethernet cable. Then the PLC can accommodate all of the traffic signals and sensor connections. With the data from induction loops installed on the tarmac, the PLC can regulate traffic green light time.

Another part of this solution is the Teltonika Networks RMS. Teltonika RMS Management allows access to the RUT241 to monitor its temperature, install firmware updates, or set up alerts. RMS Management can accommodate more compatible Teltonika Networks devices in the future without the need for public IPs.

On the other hand, the RMS Connect can provide access to any other third-party equipment. With its help, you can then remotely manage any settings of the connected devices as if you were there physically. This is how the engineer was able to remotely calibrate the PLC.

## TOPOLOGY



## BENEFITS

- The RUT241 offers easy integration due to its 4G connectivity and small size to fit into small cabinets without any problems.
- RUT241 delivers high performance in rigorous environments, a perfect choice for solutions in extreme conditions, for example, near high traffic where you need resistance to vibrations. During the summer, the temperature of the router had reached 78°C and it still worked fine.
- Teltonika RMS Connect allows access to any of the connected smart devices to configure them and extract data.
- RMS Management allows access and control for all compatible Teltonika Networks devices without the need for a public IP.

## WHY TELTONIKA NETWORKS?

Teltonika Networks has established itself as a company that can provide a solution to numerous industries, including transportation. As stated by M.K. Traffic Solutions Ltd. "Since the beginning of our cooperation, Teltonika Networks have demonstrated the support that we would get in case we use their product, something which was needed later. The people from Teltonika Networks were always by our side."

With this cooperation, Teltonika Networks has broadened the options for communication in the transportation industry in Cyprus, and M.K. TTS Ltd will be looking forward to further cooperation in the future.

