

# CELLULAR ROUTER FOR REMOTE TELESCOPING MAST TOWER MANAGEMENT

## HIGHLIGHTS

- ✓ **mTower** LLC is a Polish manufacturer of mobile telescopic masts, providing elevation solutions to a myriad of projects, applications, and sectors across Europe.
- ✓ To enable remote monitoring and management capabilities in its telescoping masts, mTower chose the RUT956 industrial cellular router.
- ✓ This 4G router's dual SIM functionality with auto-failover ensures an uninterrupted connection, while a wide range of interfaces and supported protocols enable seamless data transmission with minimal complexity.

## THE CHALLENGE – TOWERING ABOVE THE COMPETITION

Telescoping masts are the ever-reliable multitool of mobile deployment. These portable towers consist of extendable and retractable sections, creating a telescope-like pole deployed for mobile command centres, construction sites, surveillance, and other missions requiring elevation. In a very literal sense, they make such missions achieve greater heights!

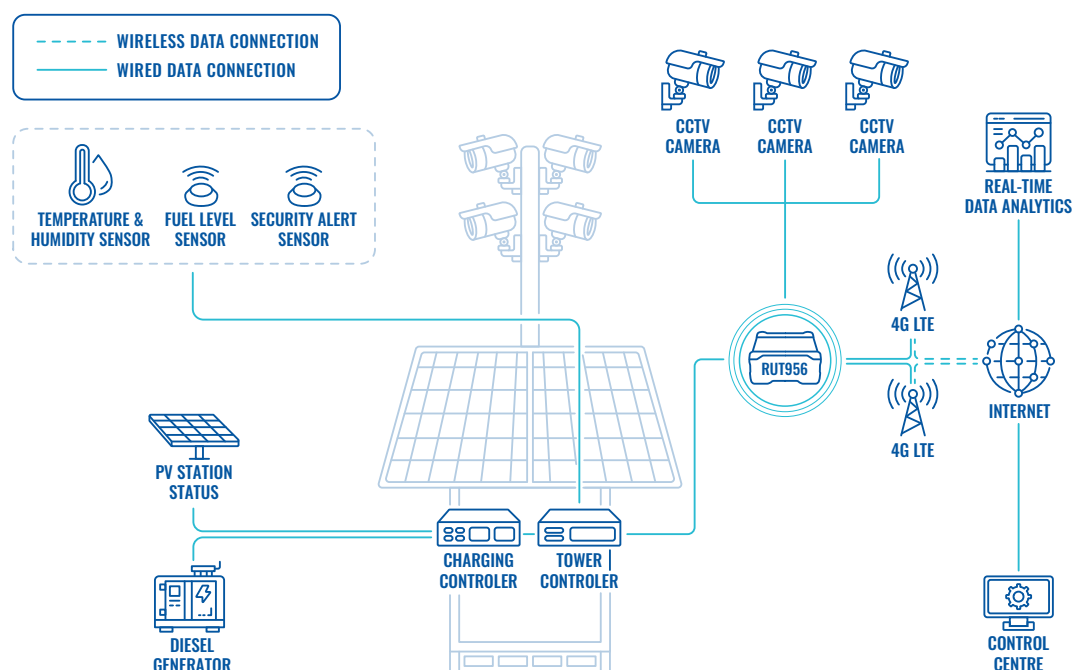
Speaking of elevation, the telescopic masts market [was estimated](#) at \$356.3 million in 2023 and is expected to reach \$489.8 million by 2030. Staying competitive in such market conditions demands thinking outside the box (or, in this case – tower).

That's precisely what the bright minds at mTower are doing. Thanks to hybrid power systems, their telescoping mast towers provide elevation while also being energy-sufficient for days to months, lighting depending. But mTower's value proposition goes further: offering remote monitoring and management capabilities to its towers.

When clients deploy your product to mobile, rural, and remote locations, cost-cutting features become vital. mTower wanted to enhance the service it gives its clients by remotely accessing health status and data from the telescoping masts' sensors and cameras, as well as the ability to remotely reboot any of the end devices within the tower.

Of course, this necessitates a reliable industrial cellular router, which is why mTower chose the Teltonika RUT956 industrial cellular router.

## TOPOLOGY



## THE SOLUTION – TELESCOPING MAST CELLULAR ROUTER

Enabling IoT remote monitoring and management capabilities in the mTower telescoping mast is the RUT956 industrial cellular router. Connected to both the central tower controller and CCTV cameras via Ethernet, this 4G router provides LTE Cat 4 connectivity to this network solution and its array of equipment.

Included among this equipment are status and environmental sensors, such as a temperature and humidity sensor, a fuel level sensor, and a security alert sensor. In addition, the tower controller is connected to a charging controller, which itself is connected to a generator and a PV (photovoltaic) station.

The RUT956 4G LTE router then wirelessly transmits all collected data to a cloud control centre, where real-time data analytics can be performed. Supported protocols used for this communication include TCP/IP, DHCP, HTTP, HTTPS, NTP, FTP, P2P, RTPS, RTMP, and more.

This wireless connection works both ways, allowing mTower engineers to monitor the towers' health status and remotely access its equipment for remote reboots in case any need arises.

Safeguarding this connectivity is the cellular router's dual SIM functionality, bringing with it auto-[failover](#), backup WAN, and other switching scenarios to ensure that if the connection of one ISP fails for any reason, the second SIM card from a different ISP will pick up the mantle and maintain an uninterrupted connection.

Connectivity isn't the only reliable feature of the RUT956 4G LTE router. For a mobile network solution like this one, capitalising on the cellular router's GNSS capabilities can definitely come in handy. And with so many end devices and potential future adaptations, having a wide range of interface support is just as important. In that regard, the RUT956 is equipped with Ethernet, serial interfaces such as RS232 and RS485, and multiple I/Os.

Encased in [aluminium housing](#) and plastic panels and handling temperatures from -40 °C to 75 °C with ease, the RUT956 cellular router can take on any mission the mTower is called for – and never disappoint.

