CELLULAR ROUTERS FOR OUTDOOR RACE CONNECTIVITY

HIGHLIGHTS

- AXIMA, spol. s r. o., a Czech industrial automation supplier, has partnered with MyResult, a company specialising in outdoor race telemetry.
- For seamless data collection and real-time monitoring, robust and reliable connectivity was essential.
- To meet these demands, Axima chose Teltonika's RUT956 and RUT241 cellular routers.

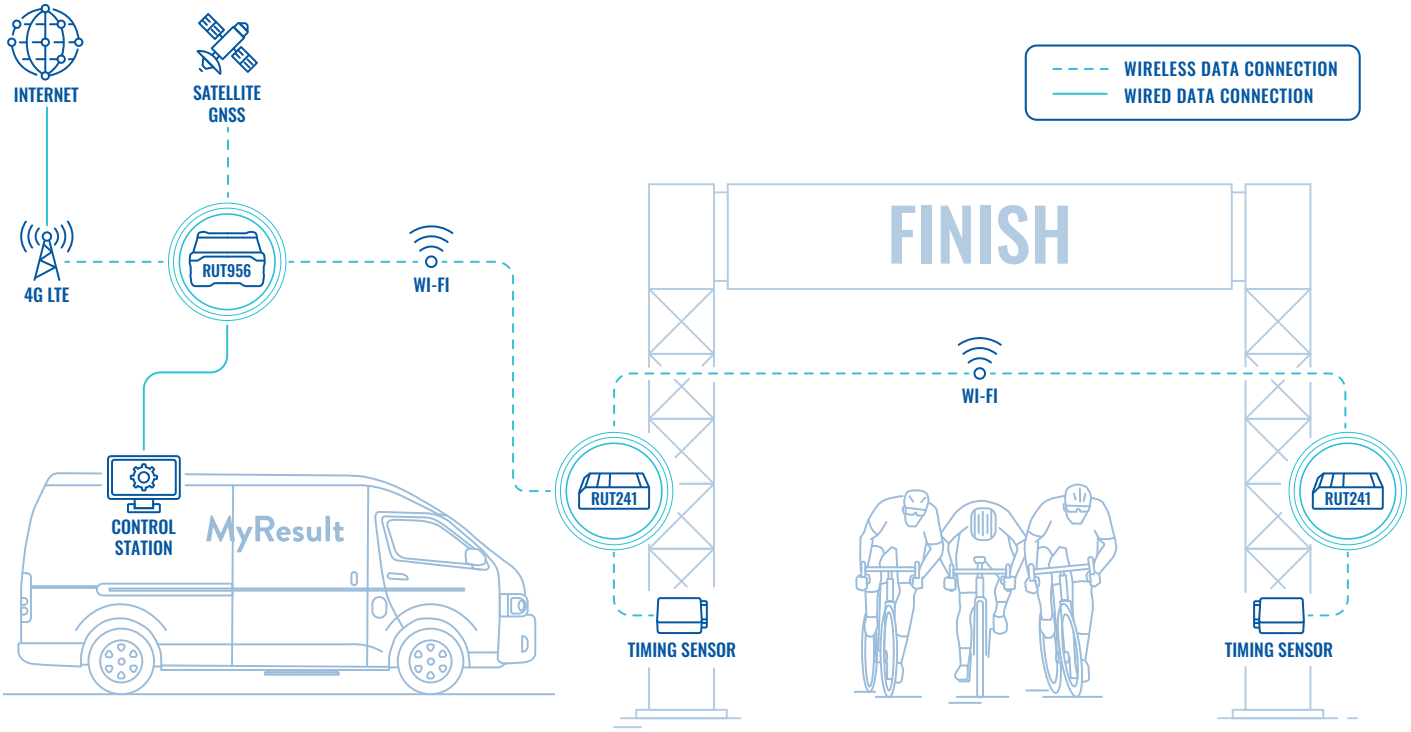
THE CHALLENGE – RELIABLE CONNECTIVITY FOR ACCURATE RACE TELEMETRY

The first recorded bicycle race took place in 1868 at the Parc de Saint-Cloud in Paris, spanning a modest 1,200 meters – a distance that would hardly be considered a competitive race by today's standards. Since then, cycling and other outdoor competitions have advanced significantly.

Key developments include superior equipment, enhanced training methods, and more structured regulations. However, these advancements also necessitate rigorous measures to ensure fair competition. Accurate tracking is essential to prevent rule violations and precisely determine winners, particularly when the time difference between competitors can be fractions of a second.

Ensuring fair and accurate race results requires specialised expertise. That's where our Czech partner, AXIMA, spol. s r. o., in cooperation with MyResult, excels in. Specialising in collecting race telemetry, they leverage cutting-edge technology to monitor participants' real-time location, detect irregularities, and track precise race outcomes.
For this networking solution to prosper, a reliable connectivity device was needed.

TOPOLOGY



THE SOLUTION – TELTONIKA'S CELLULAR ROUTERS

Our partner, AXIMA, spol. s r. o., in collaboration with MyResult, has selected not one, but several Teltonika devices to power this IoT solution. Their number is determined by the scope of the track and rugged terrain. The perfect choice was Teltonika's RUT956 cellular router, accompanied by several RUT241 cellular routers, depending on the size and terrain complexity of the race!

All of these routers are equipped with auto failover and other switching scenarios, making them ideal for ensuring uninterrupted connectivity. The RUT956 cellular router has 4G LTE connectivity and features GNSS for precise location services and time synchronisation, enhancing its versatility in this tracking and timing-sensitive application. Meanwhile, the RUT241 cellular routers are sized at only 83 x 25 x 74 mm, fitting ideally in small and narrow places.

Paired with the RUT241 routers, the RUT956 dual SIM router creates a wireless mesh network, effectively replacing cables and ensuring WI-FI signal coverage of the entire race track area. This setup enables seamless communication among the routers, creating one Wi-Fi network to which all timing sensors are connected. It makes it ideal for outdoor races that require reliable connectivity across vast areas.

Timing sensors placed along the racecourse and finish line continuously send data to RUT241 cellular routers, which relay it to the RUT956 dual SIM router via Wi-Fi network. From there, the data is transmitted to the MyResult Control Station, enabling fast and efficient race telemetry processing.

Another great feature of this setup is resilience in harsh outdoor conditions. The RUT956 and RUT241 4G LTE routers operate reliably in temperatures ranging from -40°C to 75°C, ensuring consistent performance in any environment. So, whether extreme heat or freezing cold – you can rest assured it will not only meet but exceed your needs!

Lastly, security is an absolute necessity in every successful IoT solution. These 4G LTE routers support a variety of VPN services, including Stunnel, DMVPN, and ZeroTier, ensuring your connectivity remains protected at all times.
Would you like to power your IoT solution with seamless connectivity, reliability, and security? Get in touch with us and let's discuss your ideas!