4G ROUTER FOR AUTOMATED TYRE PREDICTIVE MAINTENANCE SYSTEM

HIGHLIGHTS

- Goodyear is a Luxembourg-based supplier of high-quality tyres, smart mobility solutions and a pan-European service network, supporting leading transportation and logistics companies across Europe.

- For its automated tyre analysis and predictive maintenance system, Goodyear needed a reliable LTE router equipped with robust security features.

- The chosen device is our RUT951 4G router, providing uninterrupted and secure LTE Cat 4 connectivity to this IoT solution.

THE CHALLENGE – TYRE TROUBLE

The global road freight transportation market size was valued at $105.96 billion in 2024, and is expected to grow to $136.38 in 2033 at a CAGR of 6.5%. The factors affecting successful transportation are numerous, but at their base is a simple yet crucial element: the tyre.

Tyre safety, analysis, and maintenance are the bread and butter of road freight transportation, With healthy tyres, the entire billion-dollar global sector operates normally and effectively. Without them, it simply doesn't.

With so much at stake, it's no surprise that many stakeholders are investing in cutting-edge innovations that could not only ensure tyre health but do so at reduced costs.

One such innovation is CheckPoint: an automated tyre analysis and predictive maintenance system developed by our partner, Goodyear. CheckPoint routinely analyses tyre health based on different metrics and detects potential risks before they manifest into the nightmare of all fleet owners: downtime.

Of course, this automation is enabled by equipment ranging from sophisticated cameras to lasers and sensors. These require a networking device, such as a cellular router, to connect them to a cloud server, where data is analysed and results become instantly available. Without this connectivity, automation is simply not possible.

TOPOLOGY
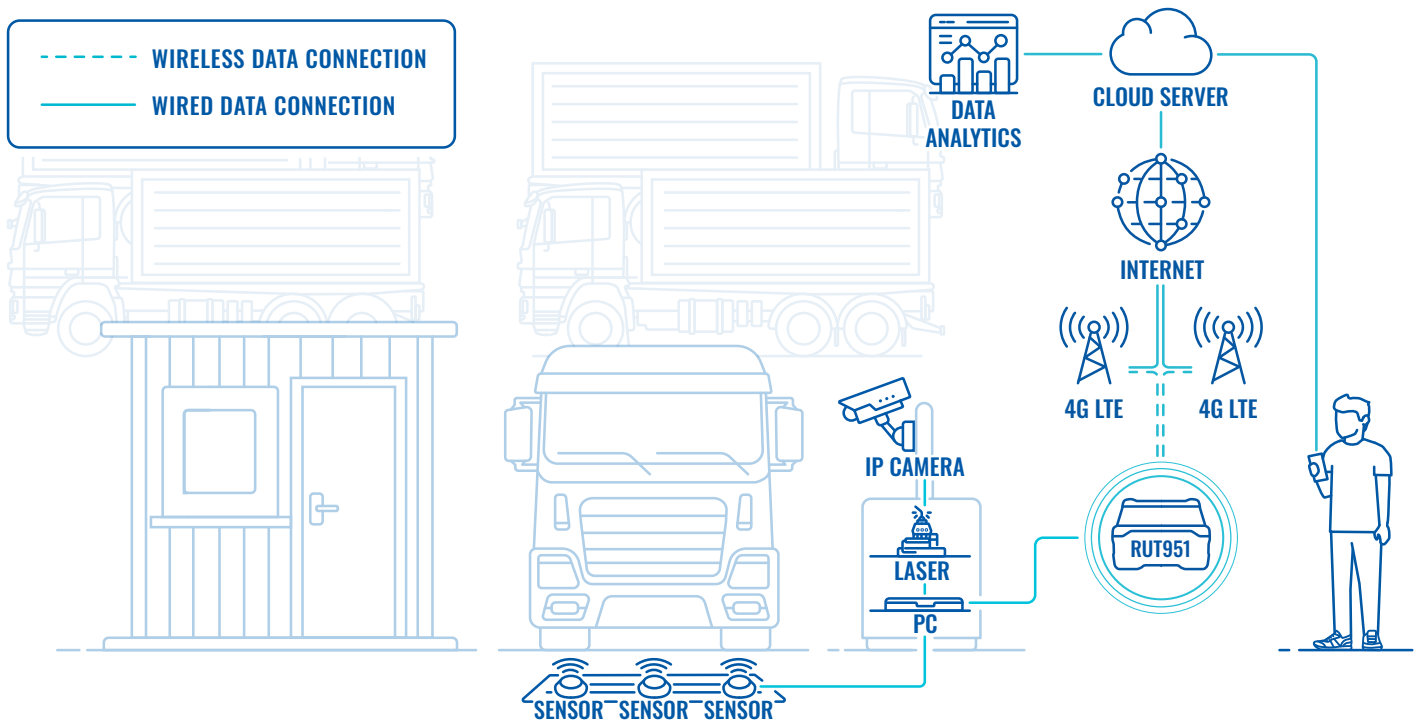
THE SOLUTION – DRIVE ON, 4G ROUTER

Goodyear chose Teltonika's RUT951 4G router for its CheckPoint automated tyre analysis and predictive maintenance system.

The industrial cellular router is connected to a PC via an RJ45 port, and both are installed as part of a yard-based drive-over tyre inspection system. This ground-based plate is equipped with special sensors and cameras connected to the PC, measuring tyre tread depth, pressure, axle, and vehicle load and license plate recognition.

Let's say the plate is installed in a logistics headquarters. Whenever any of its vehicles drive on top of the plate when leaving or returning from deployment, all tyre health data is collected and, thanks to the connectivity of the RUT951 4G router, is sent to Goodyear's cloud server. From there, clients can access the data via a display terminal or mobile and web applications.

The connectivity provided by the industrial cellular router is LTE Cat 4, ensuring speed and throughput that are more than sufficient for this IoT solution. The RUT951 is also equipped with network reliability and redundancy features. These include dual-SIM functionality with auto-failover, backup WAN and other switching scenarios, as well as backward compatibility with 3G and 2G for remote installations without 4G coverage.

The RUT951 also enables Goodyear to establish a secure OpenVPN connection to each deployed CheckPoint. This not only ensure safe data transmission, but also provides remote access for troubleshooting and other customer support tasks.

This 4G router also supports a myriad of industrial protocols, such as MQTT, Modbus TCP, Kinesis, and many others, allowing for flexibility in data transmission configuration. This transmission is safeguarded by a suite of security features and additional VPN protocols supported by the LTE router, including ZeroTier, WireGuard, Stunnel, and more.

Lastly, the RUT951 is encased in [sturdy aluminium housing](#) and can withstand temperatures ranging from -40 °C to 75 °C, making it suitable for any environment tyres would drive on.

Don't wait for tyre trouble to come to you – deploy the RUT951 4G router and maintain tyre health proactively.