



# 4G ROUTER FOR PREDICTIVE MAINTENANCE OF THE WOOLWICH FERRY

## HIGHLIGHTS

- ✔ [CBM Partners](#) is a UK-based provider of machine monitoring equipment and IoT remote monitoring solutions, reducing costs and making the lives of reliability professionals easier and less dependent on machine data analysts.
- ✔ Its remote monitoring solution, CBM Link, facilitates predictive maintenance in the newest vessels of the Woolwich Ferry. Of course, this technology requires a reliable 4G router.
- ✔ The chosen device is our RUT951 4G router, enabling predictive maintenance via extra-reliable connectivity with auto-[failover](#), alongside the remote management capabilities of RMS.

## THE CHALLENGE – PREDICTING THE WOOLWICH'S MAINTENANCE

In 2022, the global passenger ferries market [was valued](#) at \$8.1 billion. It is estimated to reach \$15.1 billion by 2031, at a CAGR of 7.1%. These numbers represent billions of passengers and millions of vehicles – so much so that it's easy to get lost in the statistics and miss the drivers behind this growth.

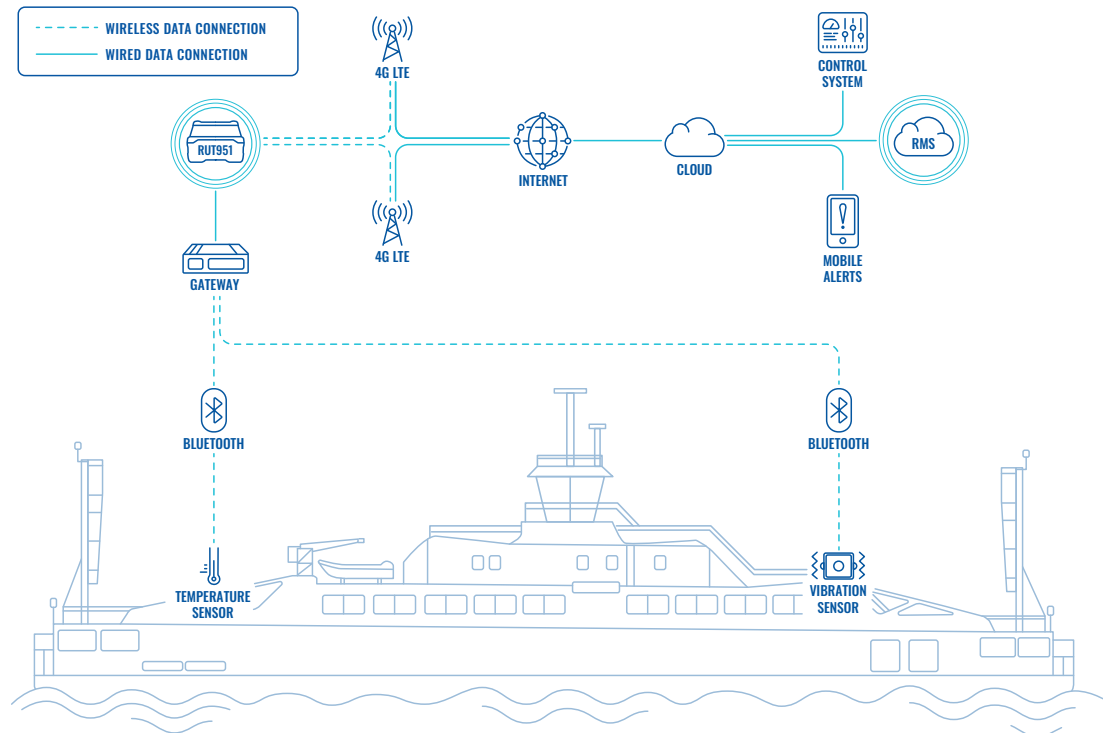
To understand those drivers, let's zoom in and take a look at one particular ferry: the [Woolwich Ferry](#). Woolwich connects the southern and northern banks of the River Thames in East London, where ferries have been operating since the 14th century.

In February 2019, two new hybrid ferries were put into the Woolwich service. These feature cutting-edge propulsion and mooring systems, but the real value generation comes from a more covert capability: predictive maintenance. Predictive maintenance detects changes in machine operations right at their onset, allowing for a quick response before the horrors of equipment failure, downtime, and the resulting snowballing of financial losses even happen.

This technology is implemented by the bright minds at CBM Partners. Their plug-and-play remote monitoring solution, CBM Link, collects data from onboard sensors and sends them to a dedicated cloud server.

One problem, though. Just as ferries are needed to transport passengers from one pier to another, a cellular router is needed to transport this data wirelessly. To ensure the reliability and success of CBM Link, CBM Partners needed the best 4G router for the job.

## TOPOLOGY



## THE SOLUTION – A SEAFARING 4G ROUTER

CBM Partners chose the Teltonika Networks RUT951 4G router for its remote monitoring solution. This device is installed on the vessel, alongside a gateway and wireless vibration and temperature sensors fitted on critical onboard equipment.

The sensors transmit telemetric data to the gateway via Bluetooth. The gateway is connected to the RUT951 via Ethernet and relays the received data to the 4G router, which then sends it to the cloud server via Modbus TCP or the MQTT protocol. From there, the data is accessible for dashboard and smartphone information, automated alerts, and expert analysis.

This remote data transmission enjoys the RUT951's LTE Cat 4 connectivity and connection reliability safeguards. This is because the RUT951 isn't just a 4G router with a SIM card slot; it has two SIM slots – enabling auto-failover, backup WAN, and other switching scenarios.

On top of the aforementioned Modbus TCP and MQTT protocol, the RUT951 supports additional key protocols, such as SMPP, IPv6, SSH, and HTTPS. This versatility, alongside its Wi-Fi hotspot functionality, makes this device a flexible tool for potential future modifications of CBM Link.

Durable [aluminium housing](#) and operating temperatures of  $-40^{\circ}\text{C}$  to  $+75^{\circ}\text{C}$  make the RUT951 the best 4G router for ferries and other maritime solutions. No matter the weather conditions, CBM Partners rests assured that data is being collected on all critical assets.

In addition to the router, CBM Partners also makes use of our [Remote Management System](#) (RMS) in this maritime solution. This remote management tool allows engineers to manage the 4G router and perform machine data analysis and system maintenance – all remotely. Such remote device monitoring, access, and control capabilities are paramount when your solution is always on the go.

Thanks to the RUT951, CBM Partners enabled automation-powered predictive maintenance in the Woolwich Ferry. Don't let your technology dreams be fairytales – deploy this 4G router and turn them into ferry tales!

