



REMOTE REAL-TIME YACHT MONITORING WITH TWO RUTX50 5G ROUTERS

HIGHLIGHTS

- ✓ Modern water vessels require continuous remote surveillance to maintain operational visibility, improve onboard safety, and monitor critical areas such as engine rooms and exterior decks while docked or operating in coastal areas.
- ✓ To address these requirements, [Painestore](#) integrated a remote surveillance solution aboard the Solaris Power 52 yacht with cameras connected through a dual-router architecture designed for uninterrupted onboard and remote monitoring.
- ✓ Two [Teltonika RUTX50 5G routers](#) provide high-speed 5G and 4G LTE connectivity, as well as Ethernet integration for multiple surveillance devices. They also enable remote access through [RMS](#) and reliable video streaming over TCP/IP and RTSP protocols.

RELIABLE REMOTE SURVEILLANCE FOR MODERN YACHT OPERATIONS

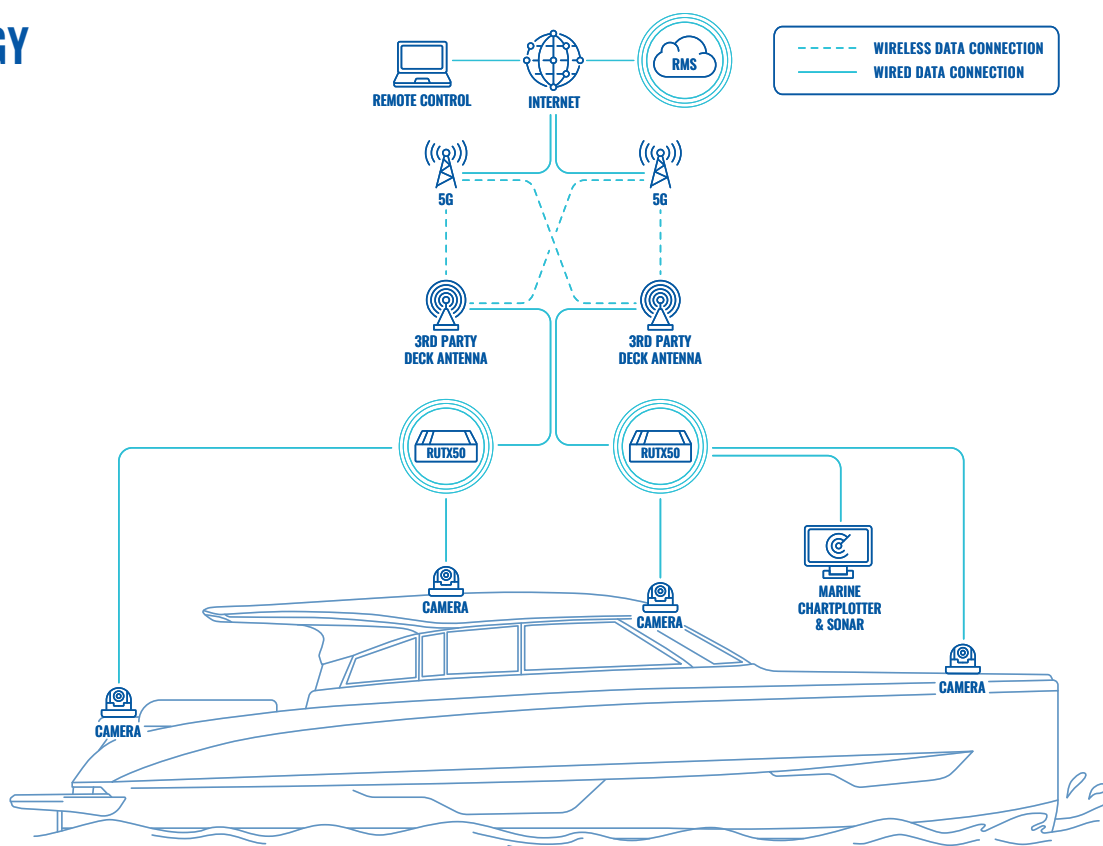
Modern vessels increasingly rely on connected monitoring and surveillance systems to maintain operational awareness and provide remote visibility over critical onboard areas. High-value onboard equipment, engine compartments, and exterior sections often need to be managed remotely, especially when vessels are docked away from operators or moved between different locations.

Surveillance systems aboard modern vessels must operate continuously despite changing network conditions, varying marina infrastructure quality, and the mobility of the vessel itself. Stable remote access becomes especially important for overseeing sensitive areas such as engine rooms, where overheating, water ingress, or equipment malfunctions can quickly escalate into costly incidents if left unnoticed.

Exterior monitoring presents additional challenges: cameras positioned around the vessel must maintain reliable connectivity for live viewing and recording during both daytime and low-light conditions. At the same time, installers and service providers need the ability to remotely configure and troubleshoot deployments after the vessel has left the installation site.

To meet these operational requirements, Italian marine technology integrator PAINE SNC developed a 5G and 4G-enabled remote surveillance solution for the Solaris Power 52 yacht using two Teltonika RUTX50 routers.

TOPOLOGY



5G ROUTERS FOR UNINTERRUPTED REAL-TIME YACHT MONITORING

At the core of the solution, two [Teltonika RUTX50 5G routers](#) operate as dedicated communication hubs for separate surveillance zones aboard the yacht. This way, two-router architecture improves deployment flexibility while ensuring stable connectivity for both internal and external systems.

The first 5G router connects via Ethernet to two surveillance cameras installed inside the engine room. These cameras continuously overview critical mechanical systems and provide remote visibility into one of the most sensitive areas of the vessel. Real-time data allows operators and service personnel to quickly identify abnormal conditions and respond before they develop into larger operational issues.

The second 5G router connects through Ethernet interface to two night-vision cameras mounted externally around the yacht. These cameras provide continuous deck and perimeter surveillance, enabling remote monitoring of the vessel while docked in marinas or positioned in remote coastal locations.

Both RUTX50 routers utilize high-speed 5G connectivity with automatic fallback to 4G LTE networks when required. It ensures uninterrupted internet access for the surveillance infrastructure even when network availability changes between ports, marinas, or coastal coverage zones. The combination of 5G and 4G connectivity enables stable remote camera access and reliable live video transmission without dependence on fixed marina infrastructure.

The 5G routers also provide multiple Ethernet ports for direct wired integration with onboard surveillance equipment, including marine chartplotter and sonar.

Video and remote communication are transmitted using TCP/IP protocols, selected for reliable remote camera control and stable network communication. In addition, RTSP streaming capabilities were tested to support efficient live video delivery directly through the remote environment.

To simplify deployment and long-term maintenance, the solution integrates with Teltonika's [Remote Management System \(RMS\)](#). RMS Management, RMS Connect, and RMS VPN services enable installers to remotely access and configure the surveillance infrastructure without requiring additional onboard visits. It proved especially valuable after the initial installation phase. Once the vessel was relocated to a distant launch area, engineers were still able to finalize the entire system configuration remotely through RMS, ensuring the surveillance solution operated according to requirements without returning onsite.

"Reliable 5G and 4G connectivity was required, so the RUTX50 was the best option," - Painestore.

Want to keep your IoT solution connected and simple to manage, even in remote locations? Get in touch with our team, and we'll help you find the right IoT device for your project.

