5G ROUTER FOR EGG FARM AUTOMATION

HIGHLIGHTS

- Debug Nomad SLU, a Spanish engineering company, automated an egg production line with Teltonika's RUTX50 5G router. This enabled seamless connectivity and improved operational efficiency.
- The RUTX50 5G router's reliability, low latency, automatic failover, and wide operating temperature range ensure optimal performance in demanding industrial environments like egg farms.
- Features such as 5G capability, Rj45, and a secure ZeroTier VPN service ensure fast setup, remote monitoring, and long-term scalability.

THE CHALLENGE – CRACKING THE CODE FOR PRECISION & AUTOMATION

Imagine a farm where chickens wake to the soothing sounds of classical music, enjoy clean water, and feast on healthy feed. Sounds idyllic, right? This is the reality at Huevos Redondo, a company committed to ecological egg farming.

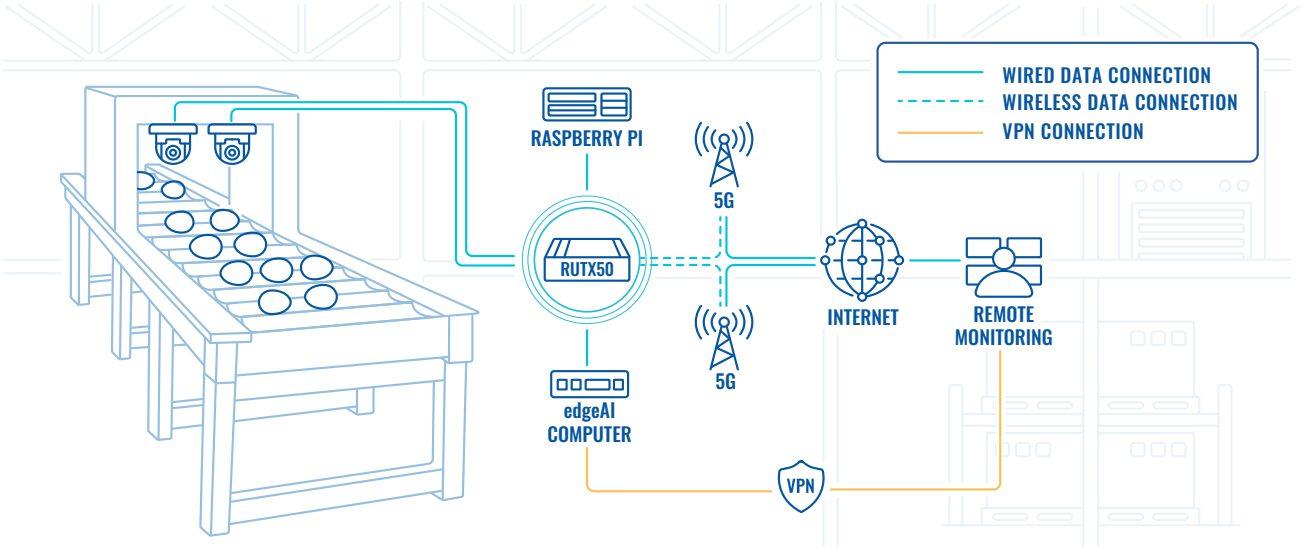
But there's more to their success than happy hens. Egg farms also require precision and efficiency—after all, when dealing with eggs, cracking under pressure isn't an option! Huevos Redondo partnered with Debug Nomad SLU to optimise its processes by integrating automated systems for real-time monitoring and data analysis, boosting efficiency and minimizing waste.

To achieve this, it needed robust industrial router to link critical devices, including cameras, the reComputer J4012 EDGE AI device for data processing, and the reTerminal DM, a Raspberry Pi HMI that serves as the operations control panel. These devices must work seamlessly to automate monitoring, data collection, and daily reporting.

Maintaining strict temperature and humidity control is essential in egg farming, so its connectivity solution also needed to perform reliably within these conditions.

Yet another key requirement was preconfiguring the system at its office, enabling a quick, hassle-free installation on-site. Without robust 5G router, achieving this level of industrial automation would have been challenging and potentially risked scalability and operational goals.

TOPOLOGY



THE SOLUTION – THE PERFECT RECIPE FOR AUTOMATION

The RUTX50 5G industrial router lies at the heart of Debug Nomad SLU's automated egg production system, providing robust and secure 5G connectivity. It connects the cameras, the EDGE AI computer, which processes real-time data and generates daily reports, and the reTerminal DM, a Raspberry Pi HMI that acts as the system's control panel. These devices communicate via Rj45, ensuring seamless transfer across the setup.

By utilising the RUTX50 5G router's capabilities, Debug Nomad SLU ensures ultra-fast data transfer of up to 3.3 Gbps, dual-SIM powered uninterrupted connectivity, low latency and backward compatibility with 4G and 3G, meeting the connectivity needs of today and tomorrow. This setup enables high-definition video streams from IP cameras and real-time monitoring of the production line, ensuring complete operational visibility.

The integration with the ZeroTier VPN service enhances remote monitoring, debugging, and software updates, offering Debug Nomad SLU unparalleled control over its automated system. Technicians can access and manage the system securely from anywhere in the world, reducing the need for costly and time-consuming on-site interventions.

This capability ensures quick responses to potential issues, minimising downtime and maintaining optimal operational performance.

Additionally, the secure and encrypted connection provided by ZeroTier guarantees data integrity and privacy, making it a reliable choice for a demanding, high-precision environment like an egg farm.

The industrial router's rugged design, capable of withstanding the tightly controlled environmental conditions of an egg farm, ensures continuous operation. Its five Rj45 ports provide ample connectivity for the Edge AI device, HMI, and IP cameras, while allowing room for future expansion if another device should be added.

Preconfigured at Debug Nomad SLU's office, the system is deployed on-site with minimal effort—plug and play at its finest. This streamlined installation doesn't just simplify the setup – it paves the way for a seamless transition to fully automated operations. With the RUTX50 5G router, Debug Nomad SLU has cracked the code for efficiency, unlocking new levels of optimisation, scalability, and productivity.

If you're ready to excel your IoT projects, feel free to discuss the right connectivity options by contacting us via the link below.