Application Story

Satellite-Powered for Long-Distance Bus Operations to Enhance Safety and Efficiency

Region | EU

Industry | Public Transportation
Intercity Bus Operations

Solution | 7” VIKING II Mobile Data Terminal

Overview

In the public transportation sector, especially intercity bus operations, maintaining real-time communication is critical for efficient fleet management, passenger safety, and providing seamless passenger experiences. Cellular networks (LTE/5G) serve urban areas well, but intercity buses often travel through remote locations with limited or no cellular coverage. To address this issue and ensure constant connectivity, the integration of satellite communications (SATCOM) technology has proven to be an essential solution

Challenge

Intercity bus operators face several communication challenges when traveling through areas with minimal cellular coverage. These connectivity gaps lead to operational difficulties, especially in rural and mountainous regions. One of the primary issues is the inability to report accidents or breakdowns immediately, which results in delayed emergency assistance and makes real-time event management impossible. For fleet management, bus operators struggle with the lack of real-time GNSS location data transmission, interrupted vehicle diagnostics data, and reduced operational visibility. Onboard, passengers experience unreliable Wi-Fi services, and the operator is unable to provide real-time journey updates, causing dissatisfaction. To address these challenges, the operator required a solution that would provide reliable, uninterrupted communication, even in remote areas, and be capable of seamlessly switching between cellular and satellite networks.

RuggON Solution / Product Highlight

To resolve these issues, the operator selected the RuggON VIKING II 7” Mobile Data Terminal, a rugged, reliable device designed for demanding transportation environments. The VIKING II is equipped with SATCOM integration, which allows for satellite-based communication when cellular networks are unavailable, ensuring constant connectivity. Its robust, durable design makes it suitable for harsh environmental conditions, ensuring longevity and reliability. The terminal features a 7” interactive touch display, which allows operators to easily view operational data and manage systems. With versatile connectivity, the device automatically switches between LTE/5G and SATCOM, ensuring a steady connection regardless of terrain or location. Additionally, the VIKING II offers robust GNSS tracking, which enhances fleet management by providing accurate location tracking and supporting asset management.

Result

After implementing RuggON’s VIKING II, connectivity improved significantly across all routes, especially in remote mountain passes and rural areas, where cellular coverage had been inadequate. Emergency response times improved with the constant availability of communication channels. Fleet management became more efficient with continuous real-time tracking and uninterrupted vehicle diagnostics, which helped reduce unexpected maintenance costs. Passengers enjoyed better onboard Wi-Fi service and real-time journey updates, resulting in higher satisfaction levels. Operational costs were lowered due to optimized routing and more efficient fuel usage, contributing to a more sustainable operation.

Conclusion

The integration of the RuggON VIKING II Mobile Data Terminal with satellite communication capabilities has transformed the way intercity bus operators manage their fleet and services. By ensuring reliable, uninterrupted connectivity even in challenging environments, the VIKING II has enhanced operational efficiency, improved passenger experiences, and increased safety standards across the fleet. Fleet managers now have complete visibility into their operations, and drivers are able to maintain constant communication with the control center, no matter where they are on their route.

http://www.ruggon.com & info@ruggon.com