CONNECTIVITY FOR DRONE FIELD DEPLOYMENT

SUMMARY

Many modern technologies have recently made leaps in advancement. Large computers that used to fill entire rooms can now fit in a simple briefcase. Such an increase in device mobility also requires connectivity that would accompany it. Drone control centers used to be stationary, housed in one central building and had a wired connection. Now, the entire solution needs wireless internet access for deployment on the go.
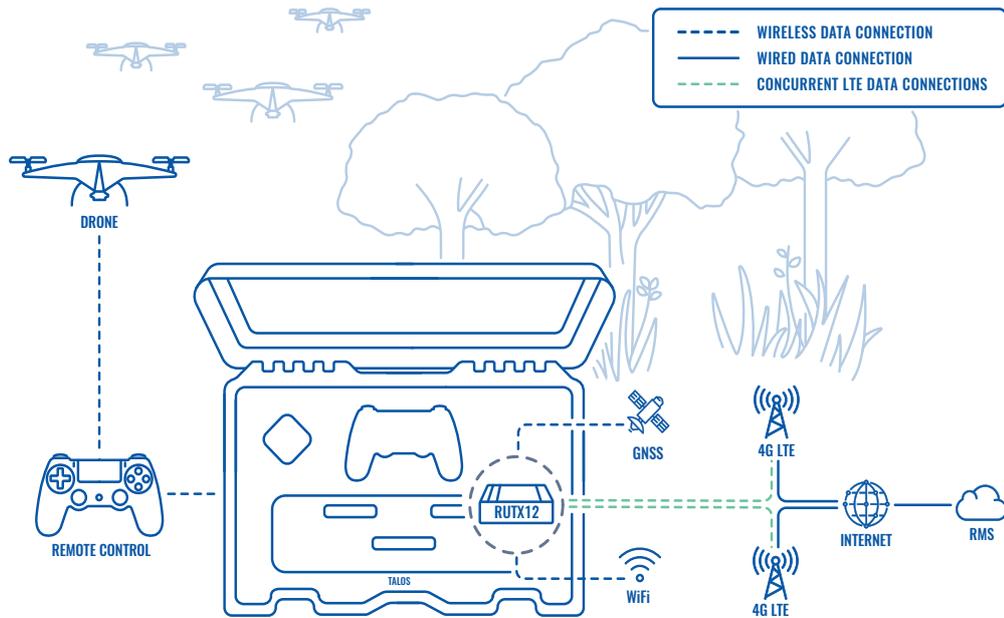
CHALLENGE

A stationary base is not the best choice when deploying a drone in certain situations. For example, rescue teams need to survey the territory after a natural disaster, or a military unit must check for activity as they enter a hostile area. For a rapid response in field operations, they need to mobilize legacy and obsolete systems that control centers still use. New technology needs to be mobile and compact.

Not to mention, there needs to be a way to ensure a stable 4G internet connection in remote locations. Under challenging conditions, the connection quality might dip or be interrupted. Therefore, the solution needs failsafe mechanisms. The setup also needs to be closely monitored, ensuring all systems are functioning correctly to prevent possible malfunction while deployed.

PARTNER - PROBOTEK

PROBOTEK is one of the IoD (Internet of Drones) innovators. Their focus is on building an ecosystem of solutions to offer professional services utilizing cutting-edge proprietary technologies. They seek to exploit UAV (Unmanned Aerial Vehicles) and drone capabilities with the help of AI and machine learning.

TOPOLOGY

- - - - WIRELESS DATA CONNECTION
——— WIRED DATA CONNECTION
- - - - CONCURRENT LTE DATA CONNECTIONS

DRONE

REMOTE CONTROL

TALOS

RUTX12

GNSS

WiFi

4G LTE

4G LTE

INTERNET

RMS

SOLUTION

TALOS is a mobile suitcase IoT solution for drone operations in the field designed by PROBOTEK. It contains a full control setup with an integrated keyboard, mouse and display screen. The setup works as both a mobile base and a GCS (Ground Control Station) and can accurately control one drone or an entire swarm. TALOS is equipped with the latest technology and can be used in commercial, military scenarios and first responder solutions.
Teltonika Networks RUTX12 industrial cellular router provides connectivity with Dual LTE CAT6 4G technology in this IoD solution. The router features excellent dual SIM 4G real-time backup connectivity if the primary connection goes down. RUTX12 has a load balancing feature that ensures that one interface won't overload and traffic will be directed accordingly.

Since the drones need accurate ground coordinates in the air, RUTX12 provides tracking via the GNSS (Global Navigation Satelite System) for precise control. The simple design of RUTX12 allows for easy integration into the solution that also is sturdy enough when it comes to working in field conditions and transportation.
Furthermore, Teltonika Networks RMS remote access allows for constant monitoring of the entire solution. The RMS interface enables the collection of real-time data of all connected devices from any distance, an essential function in a highly mobile setup with fast-moving devices.

BENEFITS

- •Teltonika Networks RUTX12 has load balancing, ensuring efficient data distribution.
- •RUTX12 offers excellent 4G connectivity due to Dual SIM and LTE Cat 6 technology that allows having stable internet in any place.
- •RUTX12 can be easily integrated into any solution thanks to its simple design, crucial for military and industrial use.
- •RUTX12 offers global positioning tracking with GNSS, allowing one to easily track the location of the control setup and connected drones.

WHY TELTONIKA NETWORKS?

According to PROBOTEK, "Teltonika Networks has a range of professional solutions that fit perfectly for the high demand of critical solutions in the IoD era." We are happy to be a part of such advanced IoT solutions and provide connectivity for high-tech projects that are helping to advance the industry.