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Connected Drone Testing

Enabling the unmanned aerial vehicle transformation

Overview

Drone technology enables new market opportunities. The Federal Aviation Authority (FAA) predicts that by 2025 the drone market will create an $US82 billion economic impact and account for 100,000 jobs in the USA.

Service providers are seeking to support "connected drones" on their LTE networks to take advantage of the market opportunities. Today UAVs are connected via limited range communications over unlicensed spectrum and are restricted to Visual Line of Sight (VLOS) applications limiting their usefulness. Beyond Visual Line of Sight (BVLOS) applications require much more scalable, reliable, and secure connectivity such as that provided by mobile LTE and 5G networks.

The Ericsson Connected Drone Testing capability enables service providers to move forward with a proven solution for drone testing on LTE networks as a first step in transforming their systems and processes to support UAVs.

Benefits

The benefits of Ericsson Connected Drone Testing include:

- Proven flexible solution
- Certified drone pilots to support field campaign
- FAA approvals management
- UAVs engineered to support LTE RAN network characterization and optimization to operate UAVs with minimal RF interference and enhanced link quality
- Data collection from both the UAV communication device and network
- Storage and processing of the data collected from the field testing
- Comprehensive scope including in lab connected drone chipset and module testing, cybersecurity testing of drones, field testing and real time connected drone network performance analytics

Scope

The Connected Drone Testing service includes:

In lab connected drone chipset and module testing

Assures the interoperability and optimal performance of the connected drone chipsets and modules with actual LTE mobile network infrastructure found in different operator networks around the world.

CTIA cybersecurity testing of drones

Testing of LTE and/or Wi-Fi enabled drones per the CTIA Cybersecurity Test Plan in Ericsson CTIA Authorized Test Lab (CATL).

UAV LTE field-testing

UAV LTE field testing provides services to test and optimize the behavior of drones on LTE networks. Semi-autonomous drone testing platform has been modified to support LTE devices enabling data collection from both the UAV communication device and network. Methodology for storing and processing the data collected from the testing has been developed to enable data analysis and reporting.

Real time connected drone network performance analytics

Real time connected drone network performance analytics is supported through Ericsson Device Analytics (EDA). The drone solution provides data capture and processing in real time across urban, residential and rural routes of critical KPIs to enable control center decision making.

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