



# Connected Drone Testing

A large, professional-grade drone is shown in flight, hovering in the center of the frame. It has four rotors and a camera mounted underneath. The background is a vast, arid desert landscape with rolling hills and mountains under a clear blue sky.

Digital Airspace Solutions

Real time digital air space mapping and analysis.

3D coverage maps with the ability to navigate to any given point in time and space.

Operations dashboard for control center decision making.

## Connected Drone Testing

Drone technology enables new market opportunities. Analysys Mason predicts 25 million cellular connected drones in use by 2030.

Service providers are seeking to support “connected drones” on their 5G and/or 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 5G and LTE networks.

The Ericsson Connected Drone Testing Digital Airspace Solutions enables service providers to move forward with a proven solution suite for drone testing and supporting commercial operation of drones helping to monetize 5G investments made.

# Enabling the unmanned aerial vehicle transformation

Connected Drone Testing Digital Airspace Solutions include:

## CTIA cybersecurity testing of drones

Testing of 5G, LTE and/or Wi-Fi enabled drones per the CTIA Cybersecurity Test Plan in Ericsson CTIA Authorized Test Lab (CATL).

## Ground risk assessment

Ground risk assessment address safety concerns and operational efficiency for commercial drone operations. The focus is on relative population density for route selection and optimization versus absolute actual population counts

## Digital airspace engineering analysis

Digital airspace engineering analysis provides services to test and optimize the behavior of drones on 5G and/or LTE networks. Semi-autonomous drone testing platform has been modified to support 5G and/or 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, visualization and reporting of KPIs.

## Predictive mobility capabilities

Through AI and ML capabilities using Ericsson Device Analytics (EDA) data from UAVs both connectivity and mobility predictions are provided.

## Network performance from drones in flight

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.

## 3 D digital airspace coverage maps

3D coverage maps provide detailed information about cellular connectivity at different altitudes in areas where a drone operator is planning or is executing BVLOS operation

## In lab connected drone chipset and module testing

Assures the interoperability and optimal performance of the connected drone chipsets and modules with actual 5G and/or LTE mobile network infrastructure found in different operator networks around the world.

The benefits of Ericsson Connected Drone Testing Digital Airspace Solutions include:

- Real time digital air space mapping and analysis.
- UAV monitoring and tracking
- Operations dashboard for control center decision making.
- 3D coverage maps with the ability to navigate to any given point in time and space.
- Ground risk assessment.
- Connectivity and mobility prediction for UAV route optimization.
- UAVs engineered to support 5G and/or LTE RAN network characterization and optimization to operate UAVs with minimal RF interference and enhanced link quality.
- Comprehensive in lab connected drone chipset and module testing, cybersecurity testing of drones and field testing.

