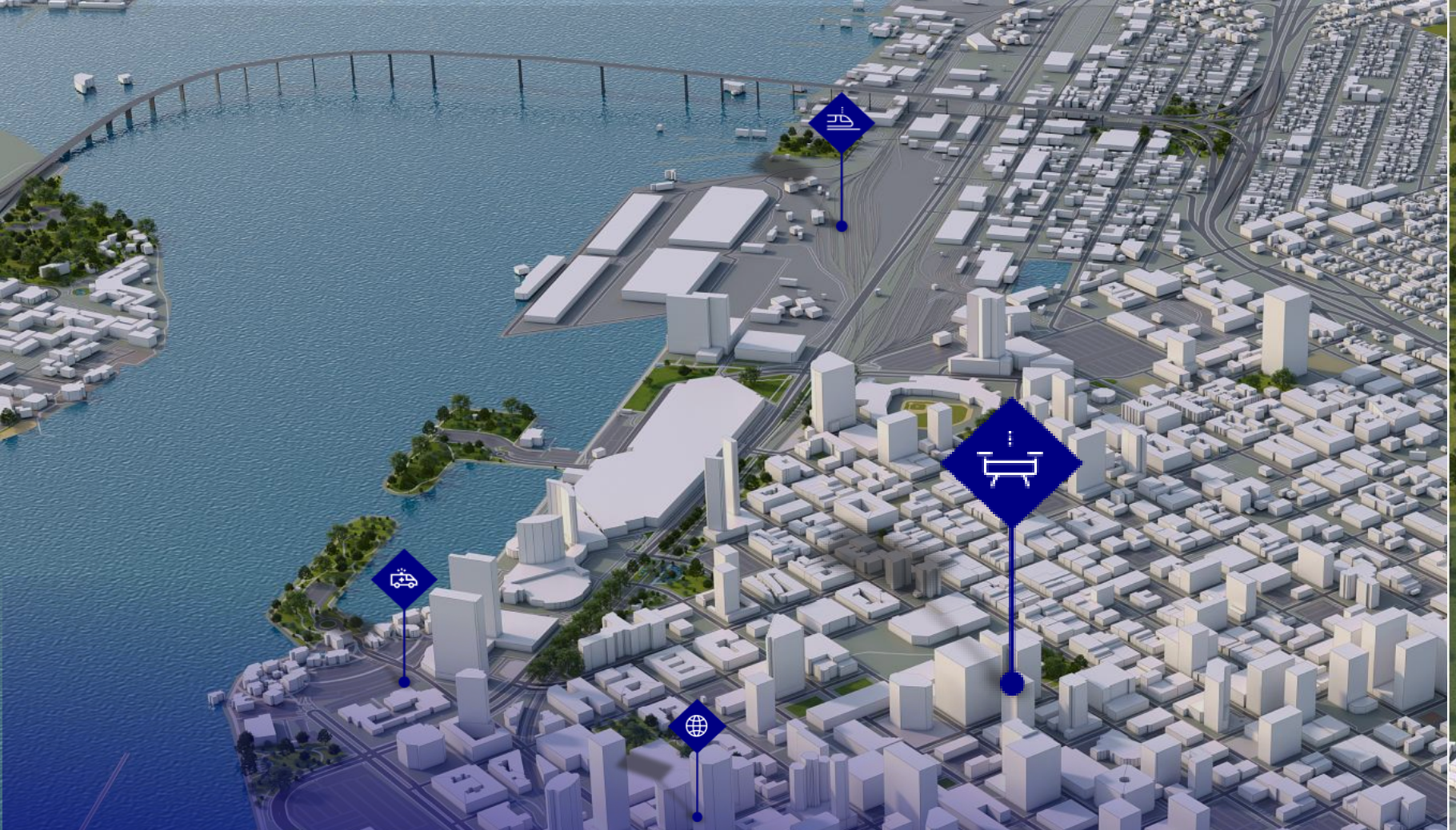
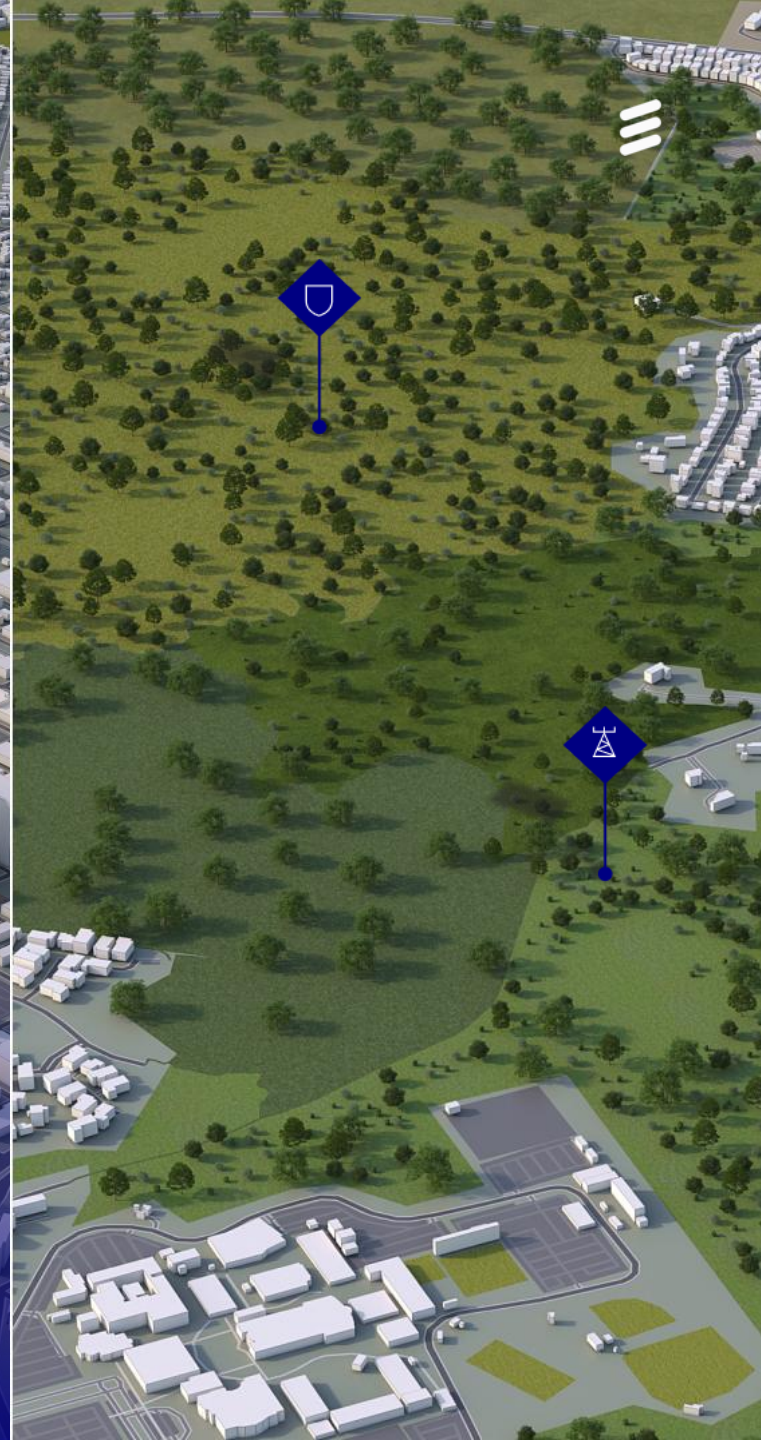




Digital Airspace: Mission Critical Communication in the Sky

Novák Csaba

Networks Presales Central Europe

2026-03-10

Digital Airspace landscape

3GPP non-terrestrial networks (NTN)

>3000m
High altitude

<3000m
Medium altitude

<300m
Low altitude

Ground infrastructure

Defense communications

Airline passenger broadband

Air taxi services

Reliable emergency services communication

Utility/rail inspection

Public safety/ situational awareness

Deliveries

Vertiports

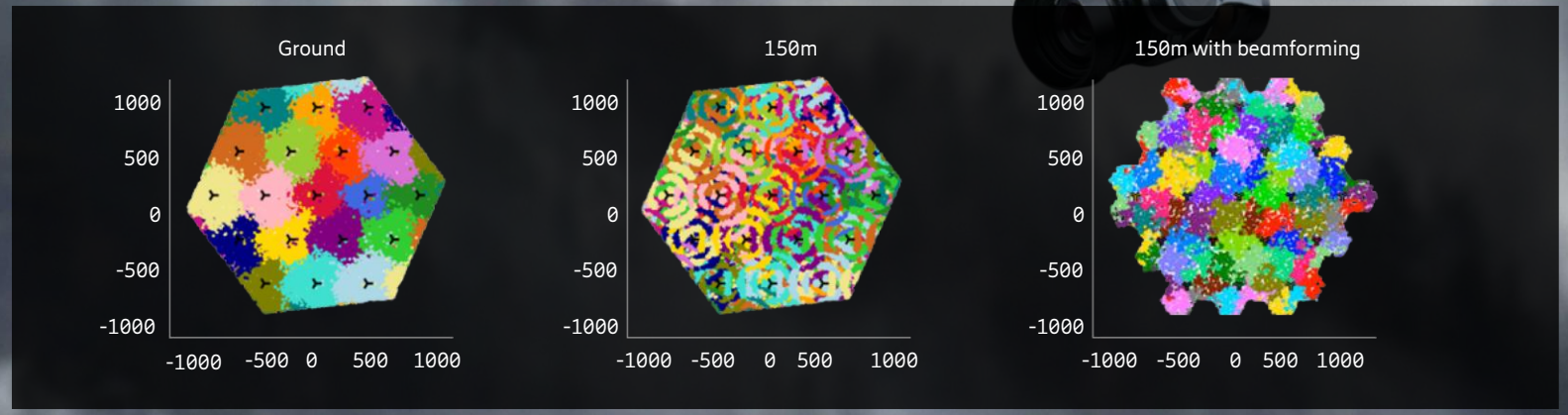
Airports

Terrestrial 3GPP network

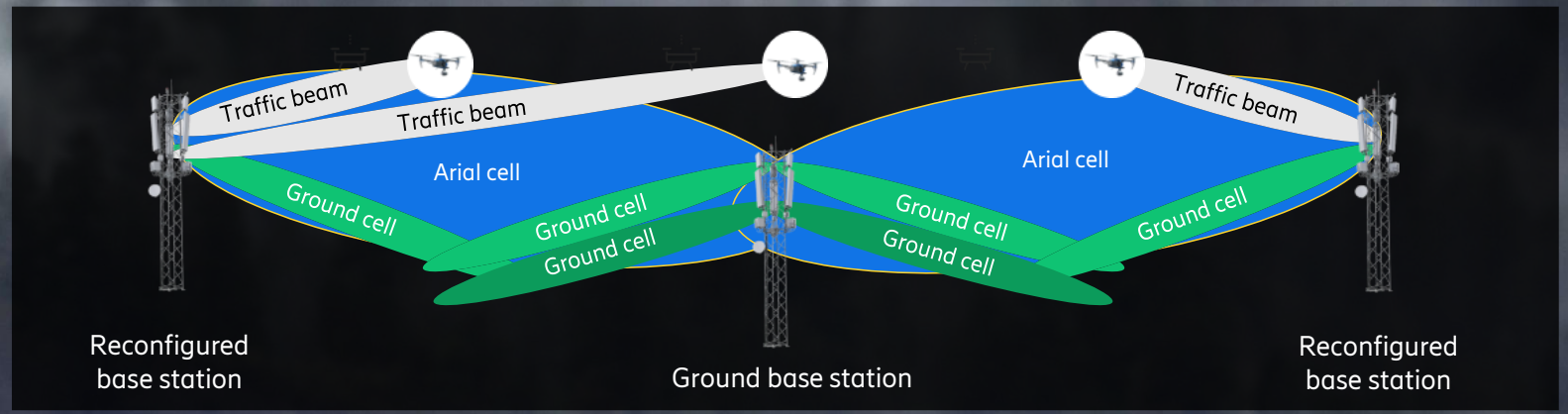
Digital Airspace low altitude leveraging Mobile network

Example: cell association patterns at different altitudes

Source: Ericsson Research



Optimize radio network design to fulfill desired coverage and performance in the sky



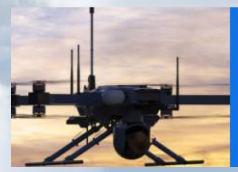
Digital Airspace enablers at mid altitudes with air-to-ground network

- Typically requires add-on 3GPP network purpose designed for coverage in the air
- Required uptilt for antenna and high-resolution beam management

Air-optimized connectivity

Boosting advanced air mobility with airtaxis for critical and passenger communication.

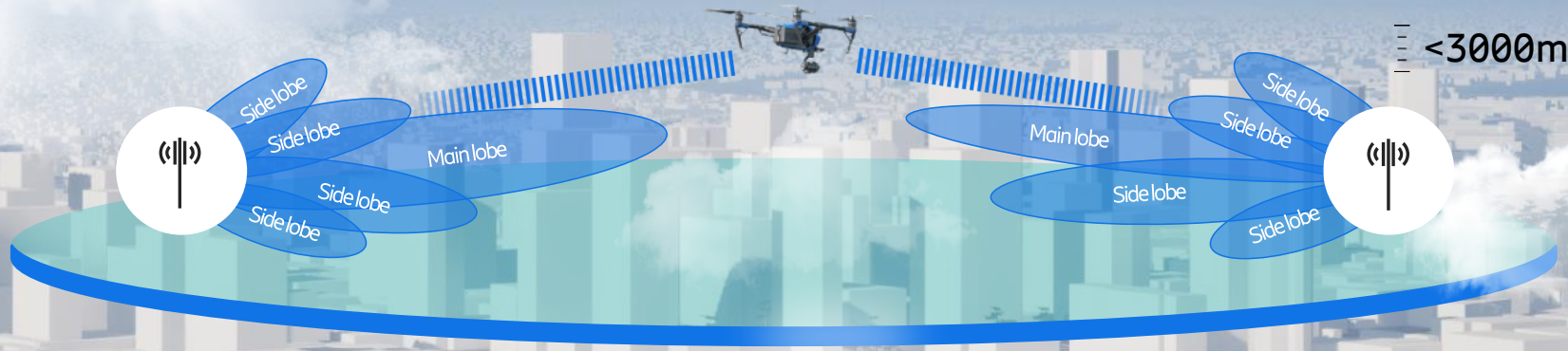
Connecting high-speed aircraft utilizing doppler effect compensation.



Seamless 5G communication for mission critical operations like defense, maritime.

Realtime location accuracy for situational awareness in public safety and medical deliveries.

NR with M-MIMO beamforming



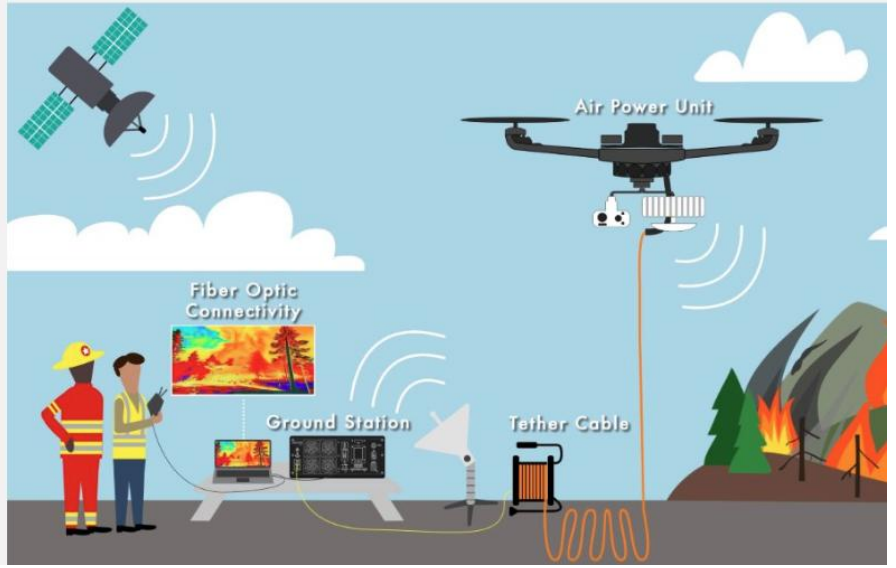
Digital Airspace: mission critical networks

Case study: USA Drone response to Hurricane Ian

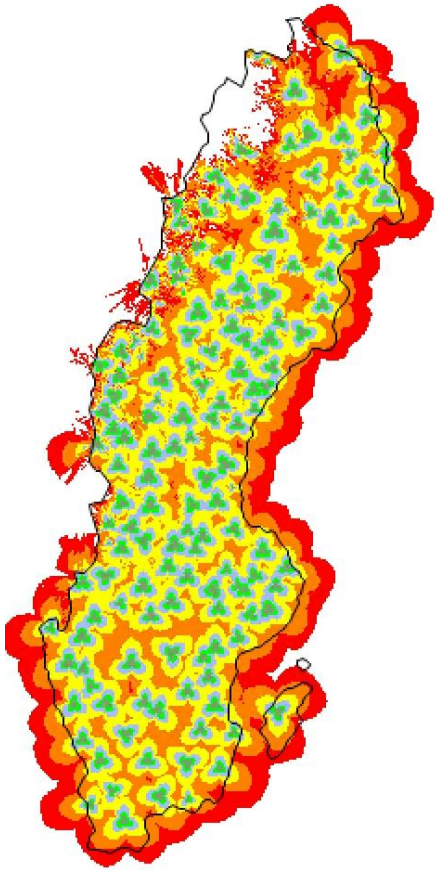
Usage :
- Disaster response, enabling real time communication

Tethered drones : Cell sites on wings, high speed connectivity and real time situation awareness, aerial monitoring

Wireless drones : rapid deployment, search & rescue, high speed connectivity with 5G Ultra Wideband



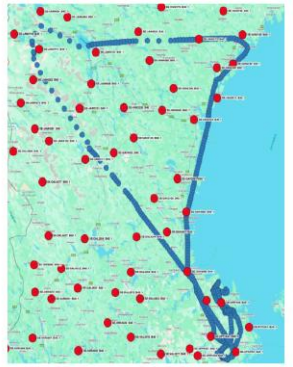
Teracom Air to Ground Network, Sweden



5G Air-to-Ground network - strategic for Defence & Public Safety Transformation

Teracom AGA Results

	Results
Altitude	Up to 6000m
Speed	Up to 400kph*
Distance from Coast	Up to 100km
DL Throughput (AVG)	8 to 15 Mbps
UL Throughput (AVG)	5 to 10 Mbps
Latency (AVG)	30 to 98ms



Informationsklass: KONFIDENTIELL

TERACOM SAMHÄLLSNÄT

Practical Use Case

Polis

- Currently the helicopters using solution for video streaming on specific assignments. WiFi bubbles for IP based communication within the aircraft.
- Drone in a box solution, docking stations on rooftops and can be deployed remotely for video surveillance and crime prevention.
- Wing based drones in initial testing phase.

KBV

- Currently the aircraft are using solution for video streaming on specific assignments. Both 2,3 and 450 in conjunction with a SDWAN solution for multiple transmission methods with SATCOM and Commercial MNO.

Informationsklass: KONFIDENTIELL

TERACOM SAMHÄLLSNÄT

Source: Teracom Sweden AB

2025 – Unlocking Airspace digitalization

Tailored RAN capabilities– General Availability for Air to Ground network and MIMO solutions, Aduna/Vonage API's in plan

- AT&T — Radio network coverage heatmap for drone flights
- Vodafone — APIs for Drones: Population density & QoD
- TDC — Quality on Demand and network connectivity
- CMCC — MIMO Beamforming upto 300 meters for Drones

- Swisscom — Air to Ground network for Public Safety, Defence
- Vinnova — 5G Vertiport for eVTOL and Drones
- AT&T — Radio network readiness for Drone corridors
- DSB — Air to Ground network for Public Safety
- E& — Overlay network for Drones & eVTOLs

- Teracom — Air to Ground terrestrial network upto 5000 meters for secure connectivity of Public Safety, Defence, Drones

Drone manufacturers (Skydio), Air Taxi companies (Wisk), Drone fleet management (Highlander), Airline broadband providers, Industry groups

Drone use case (MWC video #1)

ericsson.com/mission-critical-communications