



# Mobilfunkdaten für den Drohnenbetrieb

## Enabling, Assuring and Protecting Digital Airspace Operations

# Demand driven by the Drone Operators

## Report on Mobile Network Services for Drone Operators

Global UTM Association (GUTMA)  
Mobile Network Services for Drone Operators  
Task Force

September 2024

### MNO services vs Drone Operator needs

#### DEMAND - DRONE OPERATOR NEEDS

	Command & Control (Communication)	Network RID/Traffic	Payload Data	UTM (services)
<b>Critical communication:</b> • Throughput 50-100 kb/s • 150 ms latency • Reliability 10-5	● \$	● \$	● \$\$	● \$\$
<b>Non-Critical communication UserData (Video and Image stream)</b> • Throughput 2-5 Mb/s • 500 ms latency • Reliability 10-3			● \$\$\$	● \$
<b>Connectivity/Service Volume (Where is MN service coverage?)</b>	● \$	● \$	● \$	● \$
<b>Network Slicing &amp; QoS</b>	● \$	● \$	● \$	● \$
<b>Population Density Information</b>				● \$
<b>Network-Based Device Location</b>		● \$		● \$

**1**  
SIM cards and Data Service Offerings (SLAs)

SUPPLY - MNO SERVICES

ADDITIONAL SERVICES

**2**





Flight plan

Risk assessment

Flight clearing

Flight operation



1

Connectivity data for UAVs

3

Alternative Position & Validation

4

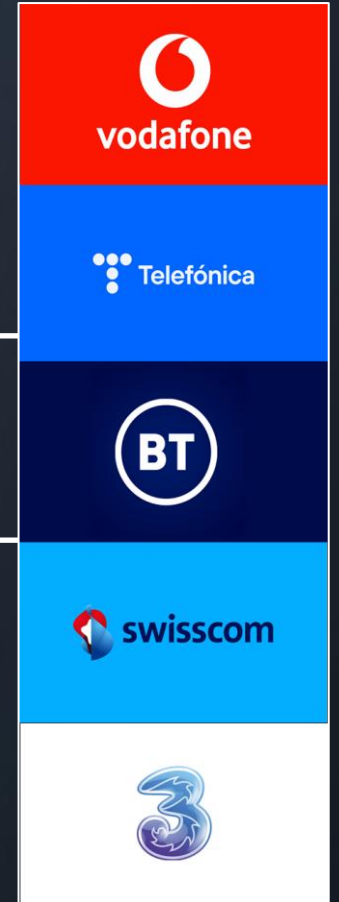
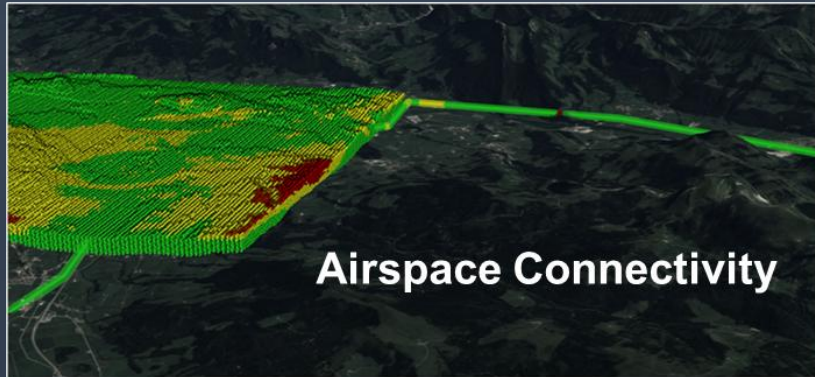
GPS Spoofing/Jamming Monitoring & Detection

2

People density (mobility) data



# Mobile Networks and Aviation are coming together



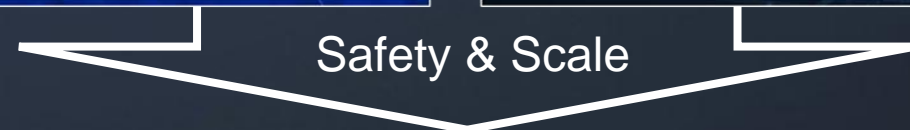
vodafone

Telefónica

BT

swisscom

3



First Responders



Inspection



Government



Delivery



UAM / AAM



Thank you.

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