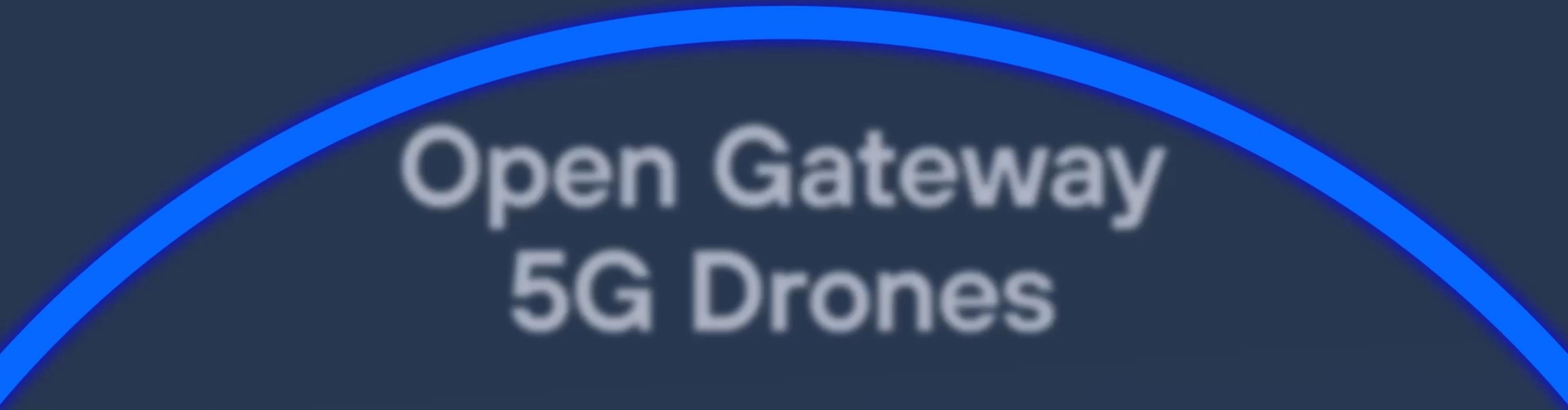


Leading Change
Inspiring Progress



End to End Drones: Ultimate Generation Services



Open Gateway
5G Drones

Innovation keys

DiaB Technology



BVLOS Flights



Remote Control Center



Innovation keys

DiaB Technology



Partners



• Major players complementing our capabilities

NOKIA



ECOSYSTEM WITH OTHER PLAYERS



BVLOS Flights



5G



- 5Gmobile network
- Network Slicing
- 5G private network

Open Gateway



- QoD API
- Connectivity API
- Population API

Edge



- Spain 17 sites
- Integration network
- Orchestrator

TECHNOLOGICAL CAPABILITIES
TELEFÓNICA

Remote Control Center

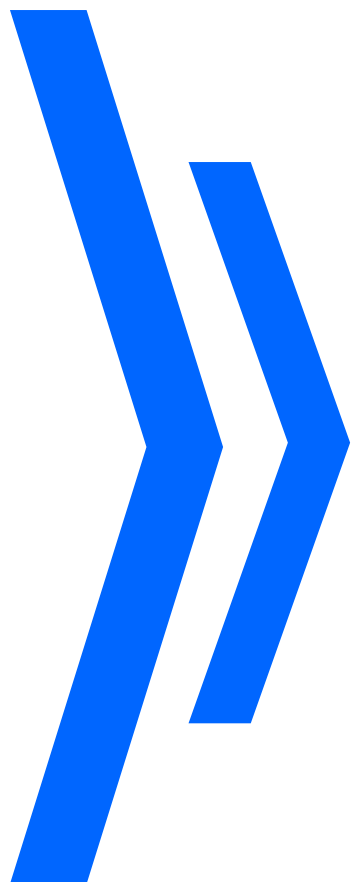


Operation



- I+M
- CNSO
- Spain

OPERATIONAL CAPABILITIES
TELEFÓNICA

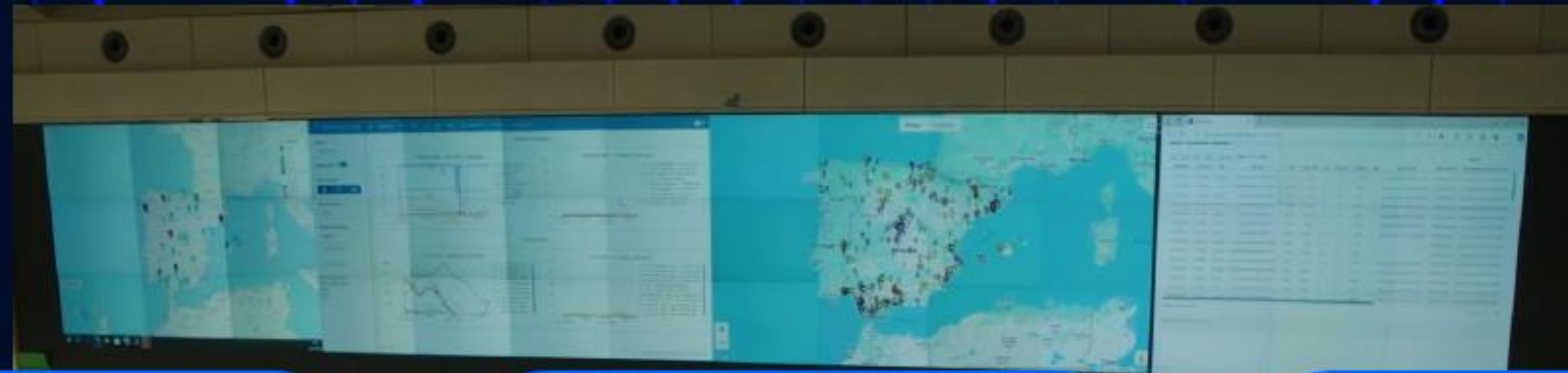


DIFERENTIAL
SERVICES



VALUE IN
OUR
CUSTOMERS

Our end-to-end solution offers:



Management of
flight authorizations

Operation and
remote control

24x7 maintenance
and supervision



Leading Change
Inspiring Progress



Leticia López Domingo
Innovation expert, Telefónica



Kallitsa Savvidou
Head of Innovation IoT, Telefónica TECH



Pedro Antonio de Alarcón
Open Gateway Global Product
Telefónica CDO



Miguel Álvaro Fernández
Product Manager Defence and Security
Telefónica Defensa y Seguridad



End to End Drones: Ultimate Generation Services

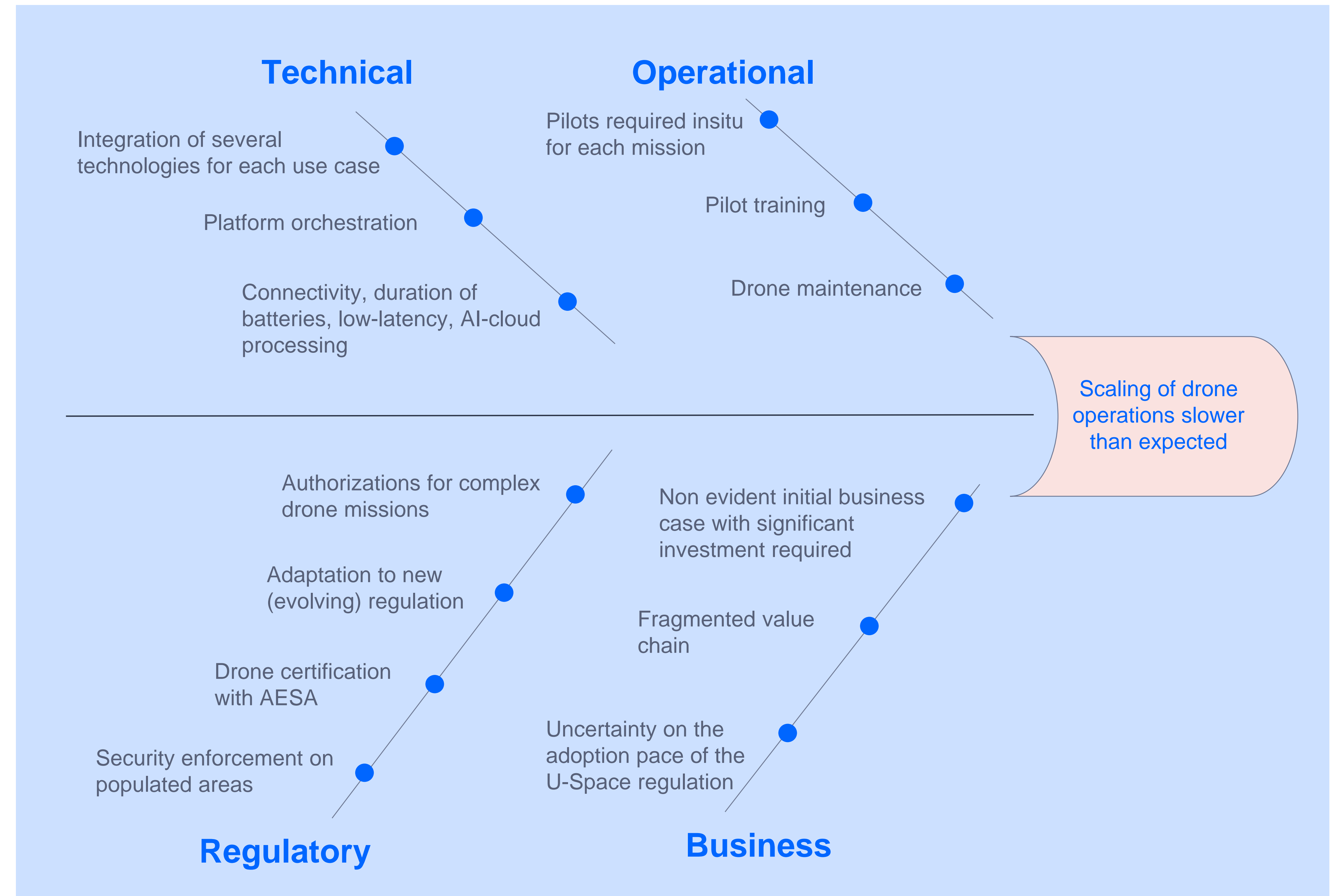
The drone opportunity. An estimated market size of €900Mn for 2030.

The global drone industry will grow strongly in the coming years and progress will be made in the digitalization and automation of flights.

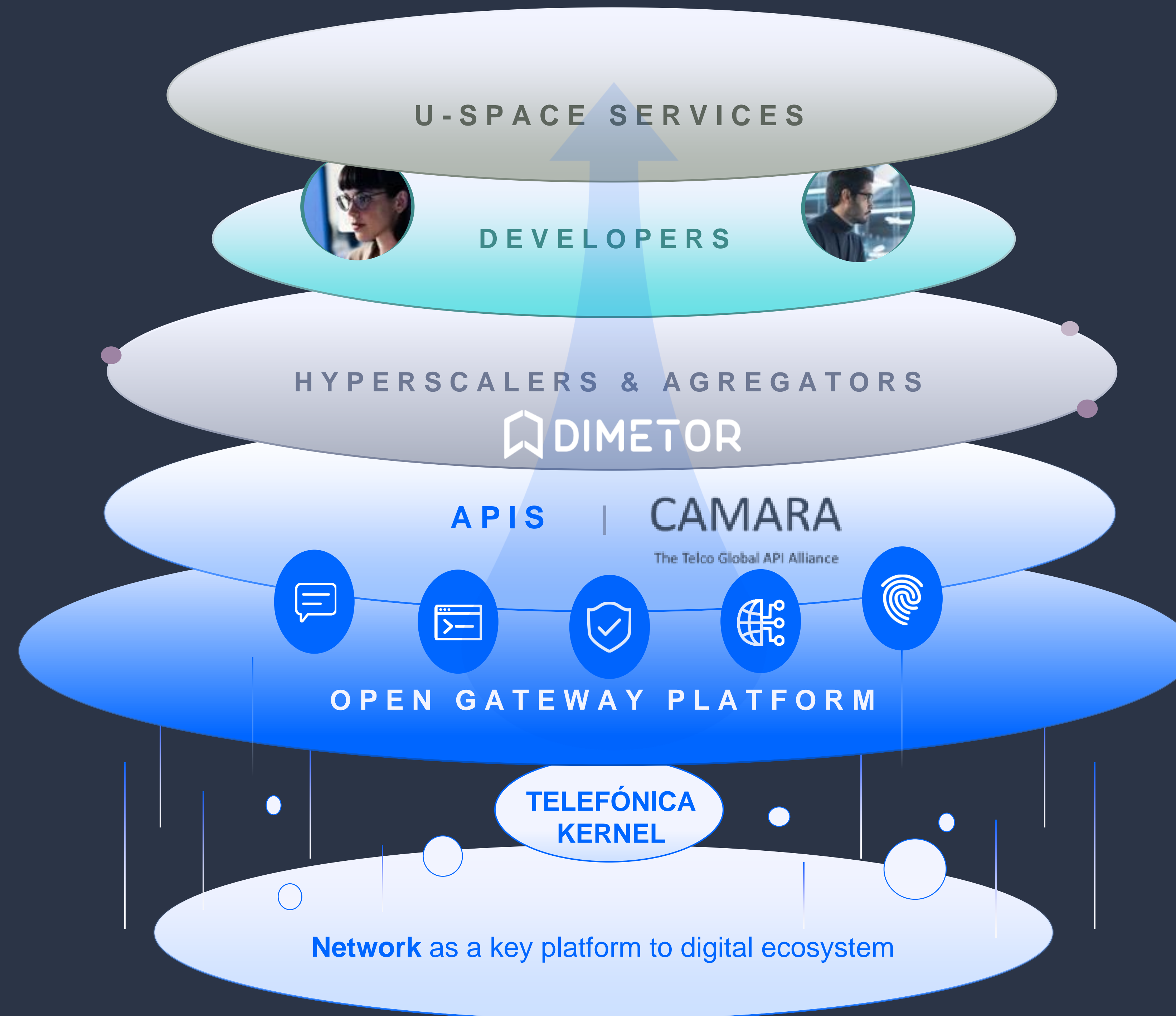
- New regulation & U-Space framework are changing the whole configuration of the drone ecosystem towards the effective scaling of operations.
- Categories with highest growth potential:
 1. **Drone services** (logistics, infrastructure, and security markets, especially in BVLOS),
 2. **Software Development** (analytics, flight management and AI-driven insights)
 3. **Network and Connectivity** (growing with 5G adoption and increasing reliance on real-time data).
- Large number of drone connections to the mobile network expected (including non-BVLOS flights).

(*) Sources (figures would require validation through market research):
<https://www.grandviewresearch.com/horizon/outlook/commercial-drone-market/spain>
<https://www.bonafideresearch.com/product/6309296319/spain-drone-market>

... but there exist **challenges** that shall be addressed.



Open Gateway. Drone ecosystem harnessing the power of telco networks with APIs.



Telefónica Tier I APIs for the drone industry



Dynamic Population Density Map for SORA. As required to go through the risk assessment for every BVLOs flight. It will provide dynamic population density data for a drone route flight.



Dynamic Airspace Connectivity Map. Providing USSPs with information about the connectivity delivered by 4G/5G networks in the airspace along a flight path or within an airspace volume.



Ensure on-demand network requirements and secure private networks. Guarantee to drone service providers (USSPs) the network availability latencies and bandwidth. Provision of private networks for operations would be also offered.



Location Services. Location provided by using the location of the cell the drone is connected. No signal spoofing nor jamming can be done as for GPS location.

TIER-I



ID Drone: To provide a unique identifier per drone based on the SIM (IMEI). The Drone Operator will have access to a platform to manage SIMs.



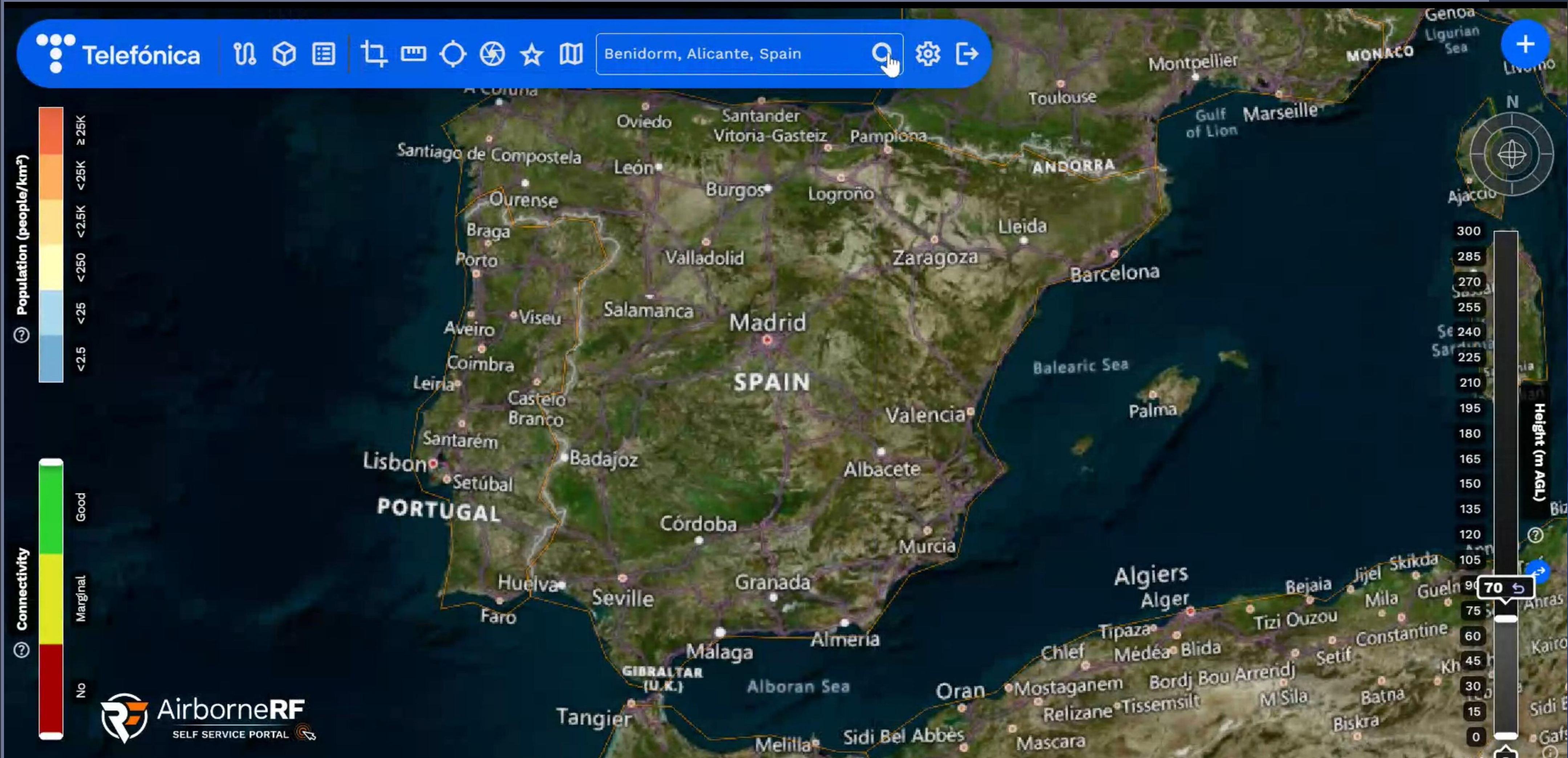
Support to Precise Location. Trackers embed in the drone are able to improve the precision of the GPS location thanks to ground RTK stations. It can be offered as a mobile connectivity information service.

TIER-II

First Open Gateway services to serve the drone industry

U-space itg ENAIRE

Powered by: DIMETOR



API Population Density Data

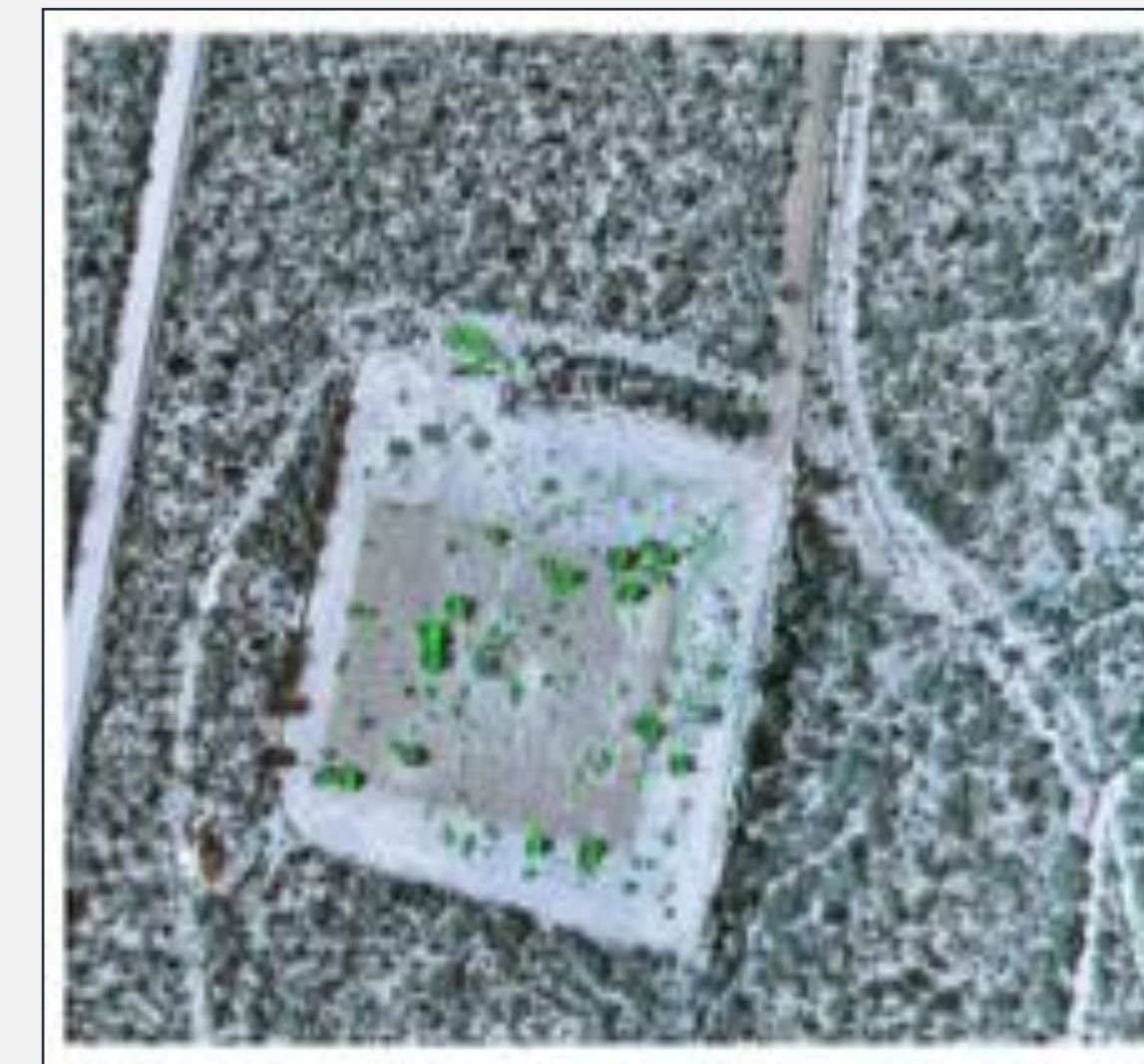
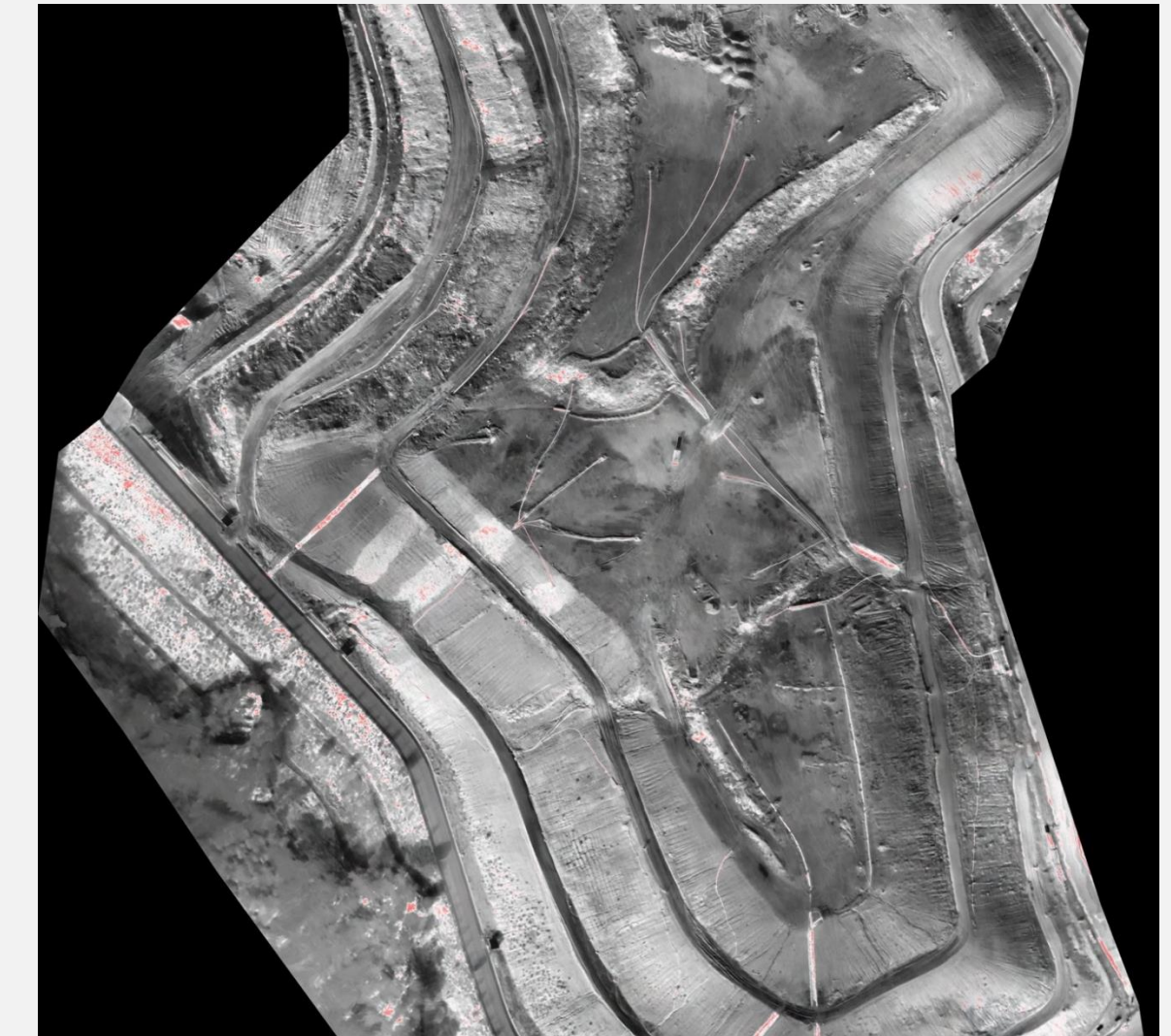
API Dynamic Airspace Connectivity Data

API QoD Mobile

Use cases across Industries



IA enabling Drones “See ” and “Interpret” the surroundings





- ☒ Detection systems
- ☒ Neutralisation systems
- ☐ Safety zones
- ☐ Heatmap



1/3/2025, 16:20:13
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1/3/2025, 16:16:40
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1/3/2025, 16:08:41
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1/3/2025, 15:52:00
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1/3/2025, 15:47:25
BOC090980BCF



**The future of drones is intrinsically linked to
Telefónica's differentiating capabilities**