Telespazio Vision: Space Technologies for a New Drones Era

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SUMMARY

- **Telespazio** in a nutshell

- **T-Dromes**: scaling up the use of drones by using space experience

- Medical Goods Delivery: **Bambino Gesù Hospital**

- **S-EDGE**: **S**at**E**llite an**D** 5**G** for law **E**nforcement application

- **ICARUS**: **I**ntegrated **C**ommon **A**ltitude **R**eference system for **U**-**S**pace

Company Commercial Use

Telespazio in a Nutshell

- Transnational Industrial Group

- Joint Venture Leonardo (67%) and Thales (33%)

- Leading company in **space based services**:
  - Satellite Communication
  - Geoinformation
  - Satellite Systems and Operations
- Worldwide network of space centers and teleports

Telespazio Group International Footprint

Telespazio in UAS Business Domain

In UTM – **solutions FOR UAS**
- Stakeholder in **d-flight** (with ENAV and Leonardo), Italian UTM/USSP for regulated services
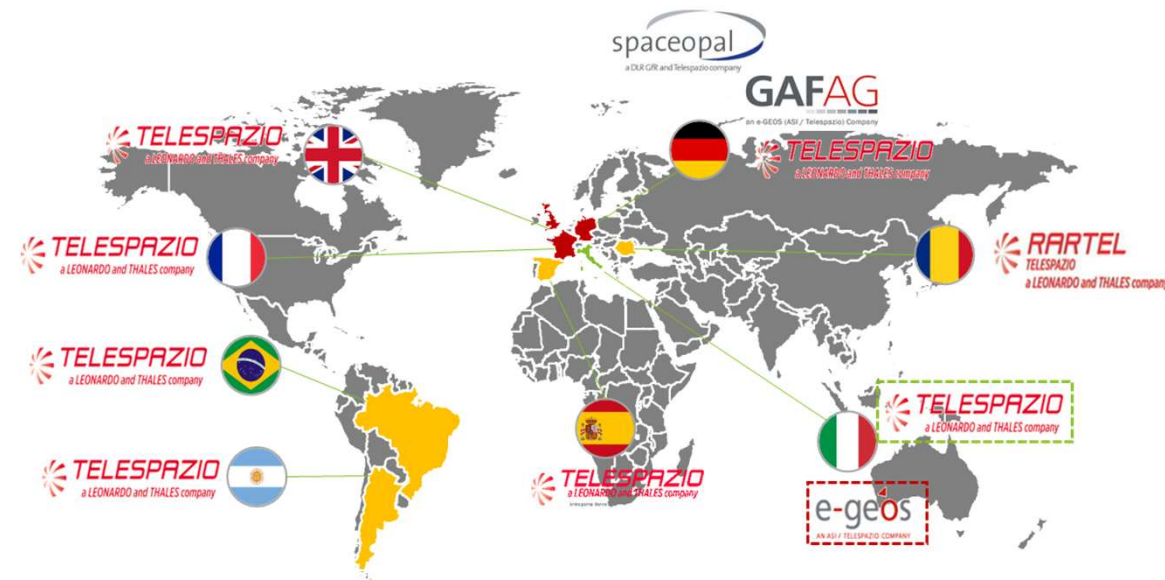
As Global "Drone Service Provider" – **solutions WITH UAS**
- Developing a proprietary <u>end-to-end solution</u> from <u>mission design</u> up to <u>mission and data exploitation</u> for different RPAS world vertical markets thanks to its platform **T-DROMES**

Certified ANSP
Offering Safety Critical aeronautic services for navigation, communications and surveillance

Company Commercial Use

T-DROMES: scaling up the use of drones by using space experience

T-DROMES: **Telespazio end-to-end solution for fleet management** of RPAS (Remotely Piloted Aerial Systems) **to scale up** on complex scenarios **the operational use of drones** for several vertical business cases

T-DROMES designed on the following **pillars**:

1) A **digital platform** supporting federation of drone operators, mission design & authorization, data acquisition and info-product generation.

2) A set of **procedures and support services** to manage the overall workflow, starting from user requests up to data exploitation.

3) **SW tools** and **HW payloads to interface** custom and commercial drones owned by external drone operators
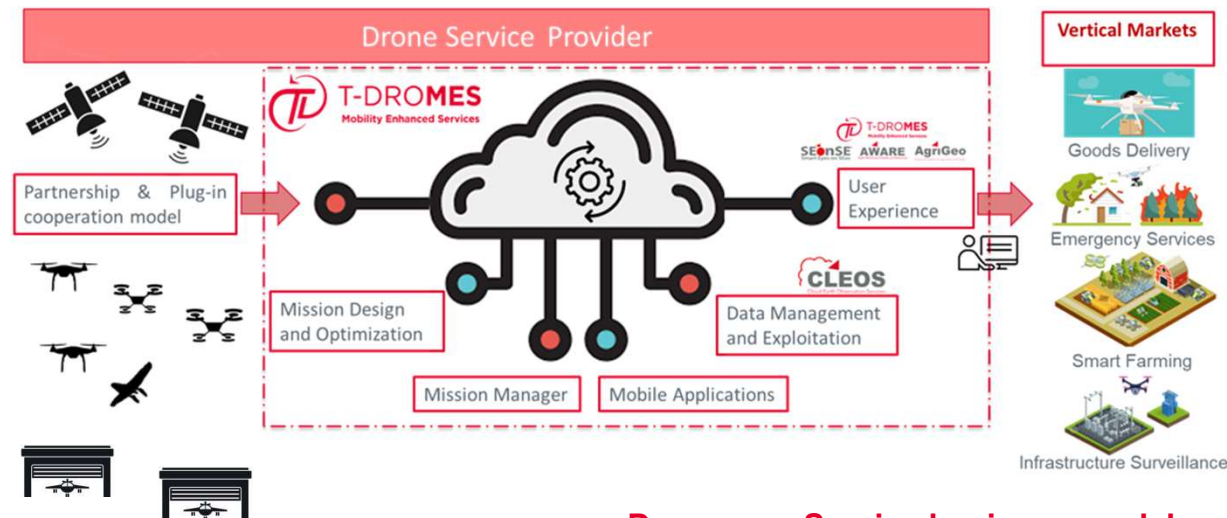
Drone as a Service business model
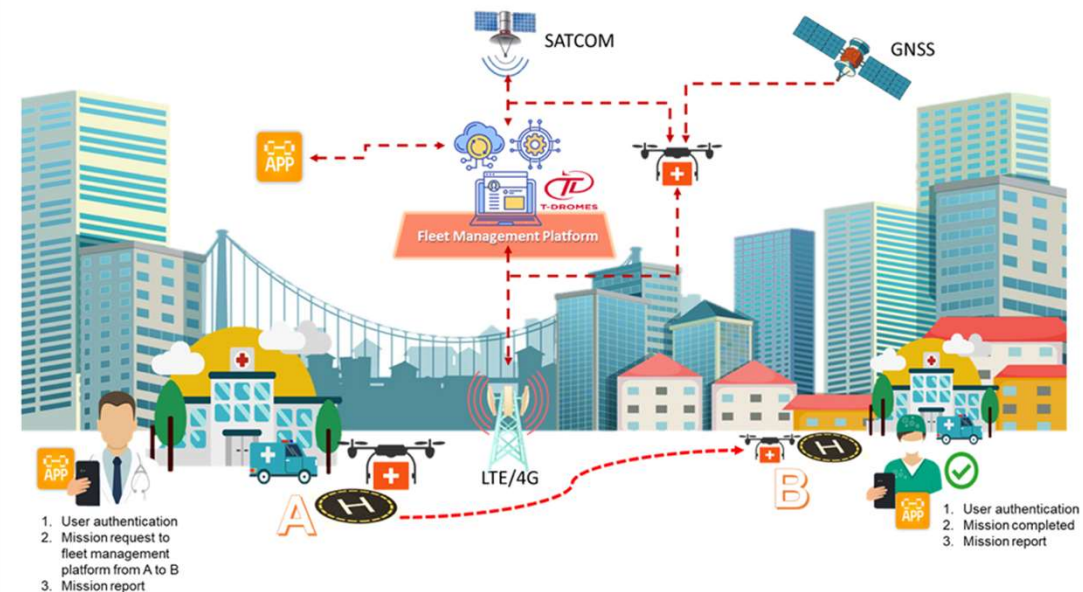
Company Commercial Use
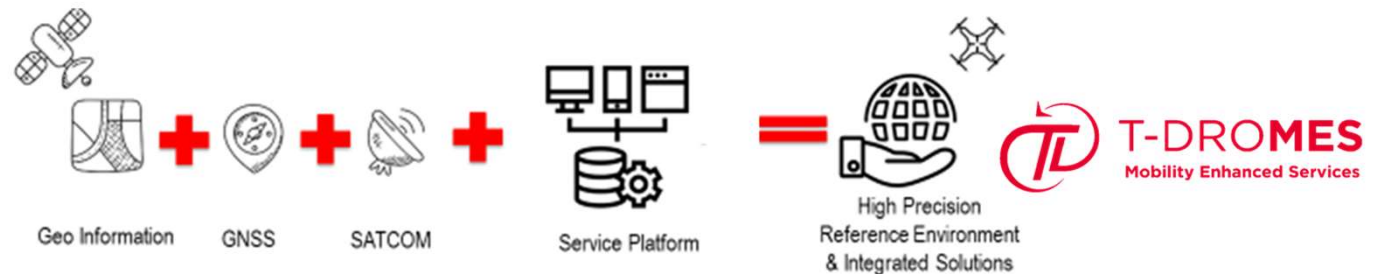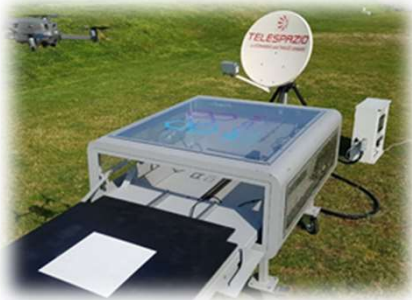
Medical Goods Delivery: Bambino Gesù Hospital

First demonstrations in Italy of **biological samples and biomedical products delivery with drone** between two sites of the Bambin Gesù Pediatric Hospital (OPBG)

Series of tests / trials dedicated to:

1. **Define and develop operational concepts** for **biomedical goods delivery** as a precursor of the target service

2. **Evaluate the feasibility of a Drone Delivery service** for biomedical samples delivery between different OPBG premises

3. **Test T-DROMES**, the innovative Telespazio solution exploiting services with drones:

   1. Mission Planning, Command and Control

   2. Precise positioning services

   3. Satellite Channel as a resilient back up

4. **Validate the service and business model** in the Drone delivery sector.

S-EDGE (SatEllite anD 5G for Law Enforcement application)

The purpose of the S-EDGE ESA project is to contribute with innovative services to manage public security (Law Enforcement) through a solution, based on the use of Drones, which integrates new 5G broadband connectivity together with satellite technologies.
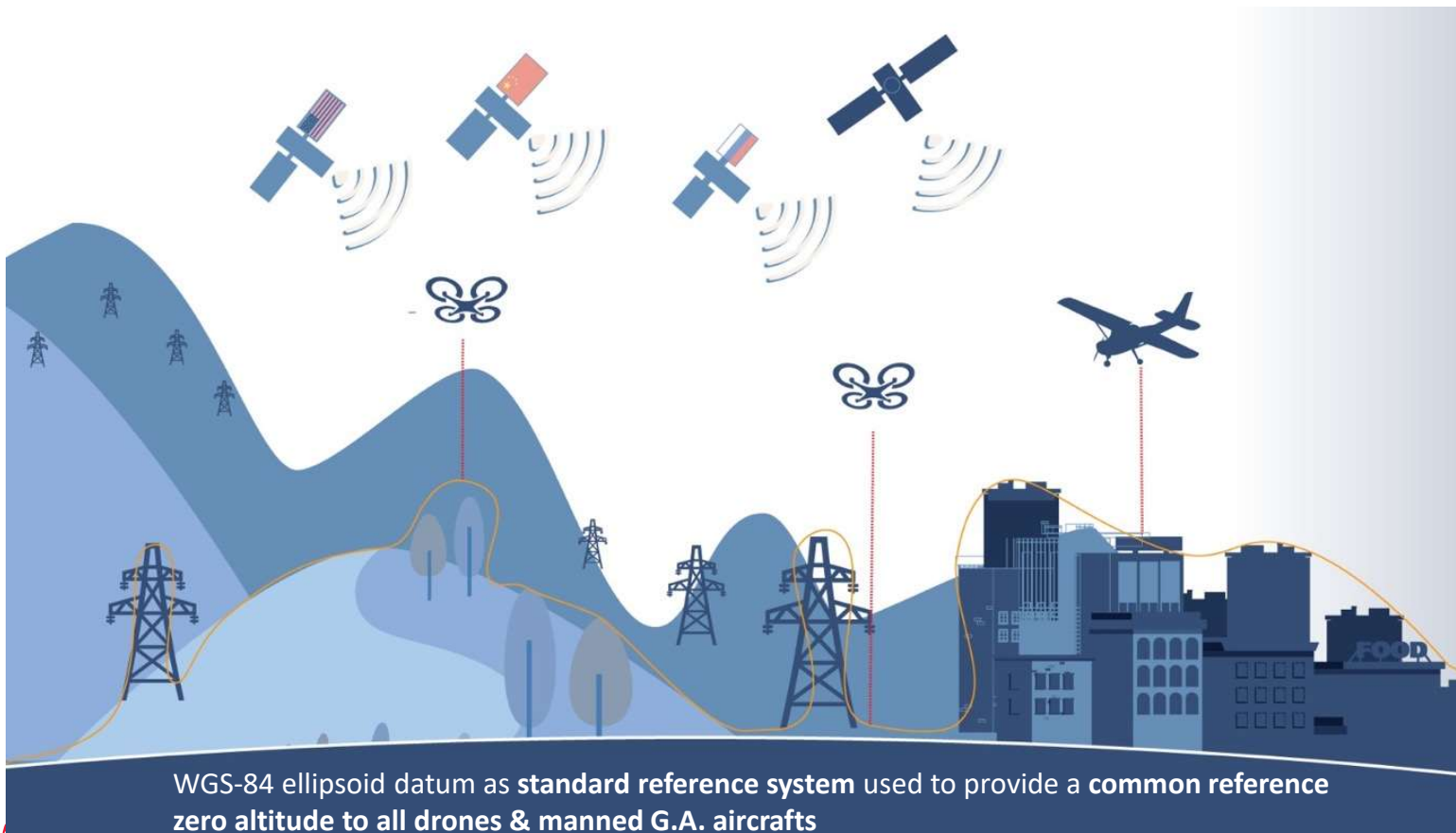
The following **Use Cases** are addressed by S-EDGE:

- **Area Surveying**: survey of a user defined area, for periodical patrolling of the territory, in order to detect illicit, suspicious or dangerous situation, including people gatherings for social distance monitoring as well as surveying of vast green park areas and peripheral urban areas;

- **Police On Demand Monitoring**: illicit, suspicious or dangerous situation detection, with on-demand activation by Police;

- **Citizen On Demand Aid**: people detection in emergency situation or needing assistance, with on-demand activation by citizens;

- **Crime Scene Analysis**: acquisition of information on a crime scene, after an event.

Company Commercial Use

ICARUS: A Solution To Solve The Common Altitude Reference System

INTEGRATED COMMON ALTITUDE REFERENCE SYSTEM FOR U-SPACE

WGS-84 ellipsoid datum as **standard reference system** used to provide a **common reference zero altitude to all drones & manned G.A. aircrafts**

New U3 U-space solution to:

1. Define a **universal flight altitude reference system** based on a **geometric/geodetic** approach for UAS **based on GNSS**

2. Provide a **UTM functionality** for the strategic and tactical phases giving:

   ➢ **real time information of vertical distance** to ground

   ➢ **conversion of different altitude** reference systems (barometric to geodetic and vice versa)

Company Commercial Use

TELESPAZIO

a LEONARDO and THALES company

THANK **YOU**
FOR YOUR ATTENTION

telespazio.com

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