

Drone services for the citizens of tomorrow (and today)

Lessons learnt & way forward





Summary

- ❑ Use Case and Demo Overview (TPZ)
- ❑ Regulation and Procedures – the CAA perspective (ENAC)
- ❑ Lessons Learnt (LND)
- ❑ Results (LND-TPZ-ENAC)



LEONARDO_TDROMES_BAMBINO_GESU_ENG_v6.20201104155712130.mp4 - Lettore multimediale VLC

Media Riproduzione Audio Video Sottotitolo Strumenti Visualizza Aiuto

Emotional Video

T-DROMES

DRONE SERVICE
REQUEST FOR BIOLOGICAL
SAMPLES TO BE ANALYSED
ACTIVE

DRONE STATUS REPORT
SPEED: 100 KM/H DIR: S/E

SANTA MARINELLA - PALIDORO

00:40



Use Case and Demo Overview

- **CONOPS**: inspired by a real need of the Bambino Gesù Children's Hospital, developed in collaboration with the National Civil Aviation Authority (ENAC)
- Testing program made by **several phases**
- October 19-22: **first phase**
- **32 km** flight, from Santa Marinella (sampling collection) to Palidoro (clinical laboratory)
- **BVLOS** (Beyond Visual Line of Sight) flight
- Use of **T-DROMES**, a cloud-based digital platform developed by Telespazio to manage the service

Sample




Use Case and Demo Overview



Regulation

Authorizations for specialized operations for the scope of Research & Development (art. 8.10 ENAC Regulation)

ENAC-PROT-09/10/2020-0097713-P



**Il Direttore
Regolazione Navigabilità**

c.c.:

- RNA – Att. Eng. G. Di Antonio
- RNA – Att. Eng. G. Santaniello
- RNA – Att. Mr. M. Lorenzini
- VDG – Att. Col. E. Volpari
- Direzione Regolazione Aeroporti e Spazio Aereo (Airports and Airspace Regulation Department) – Att. T. Col. S. Baldi
- Direttore Regolazione Aeroporti e Spazio Aereo (Airports and Airspace Regulation Director) – Att. Doct. S. Legnante
- Funzione Organizzativa Fatturazione (Billing Organizational Function)

Subject – ENAC Projects N. 50492, 50493, 50494 – Issuance of RPAS RigiOne Authorizations for specialized operations for the scope of Research & Development.

With reference to your Application of 24 July 2020 (ENAC Ref. No. 0089717-A of 29 July 2020), we inform you that, in accordance with the Art. 8 Paragraph 10 of the Regulation "Mezzi Aerei a Pilotaggio Remoto" Ed. 3 of 11 novembre 2010, is authorized to carry out research and development flight activities for the aim to test samples transportation between the Ospedale Pediatrico Bambino Gesù (OPBG) sites of Santa Marinella and Palidoro in the Lazio Region - Italy, in accordance with the conditions and limitations contained in the following applicable documents (and subsequent revisions approved by ENAC) where they are not in contrast with the provisions reported in the present Authorisation Letter, which takes the precedence:

- [1] SORA: 20201005_01ITA08_SORA
- [2] ERP: 20201005_02ITA02_RigiTech_Emergency Response Plan
- [3] FMEA: 20201005_03ITA06_Failure Modes Effects and Analysis
- [4] FTS redundancies: 20201005_04ITA1002_FTS_human_electronics_and_link_redundancies
- [5] OSOs (15/07/2020): 20201005_05ITA0715_Operational Safety Objectives
- [6] 20201005_05ITA1006_Flight Plan Safety Summary
- [7] Operating Manual: 20201005_11ITA02_OM - RigiTech Air Bridge Operating Manual
- [8] Flight Manual: 20201005_12ITA02_FM - RigiTech Air Bridge Flight Manual
- [9] Technical Manual: 20201005_13ITA02_TM - RigiTech Air Bridge Technical Manual
- [10] Maintenance Manual: 20201005_14ITA01_MM - RigiTech RigiOne Maintenance Manual
- [11] Training Syllabus (ITA.0.2): 20201005_15ITA02_RigiTech_Training Syllabus

and in accordance with the conditions, limitations and procedures contained herein and in the Annex 1 to the present Authorisation Letter (or equivalent content approved by ENAC) that must be considered as an integral part thereof, with the following RPASs :

Manufacturer:	Rigi Technologies SA
Model:	RigiOne
RPA (Remoted Piloted Aircraft) S/Ns:	RO-02-00004, RO-02-00006, RO-02-00007

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Regulation



Procedures

Airspace:

- The flight activities carried out in TRA airspace through the issuance of a **NOTAM**
- Activation and deactivation of the **airspace reservation** will be directly coordinated with the ATS unit
- **Coordination** with Air Force, ENAV, HEM

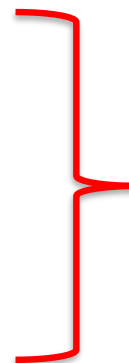
Sample



Lessons Learnt

Ground and Sea:

- Coordination with Ministry of the Interior, Prefecture of Rome, Police Headquarters in Rome, Port Captaincy and local Coast Guard, Santa Marinella and Fiumicino Municipalities



No procedure in place



Sample



Lessons Learnt



Results

U-space services to enable these operations

Coordination procedures to be developed

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Sample



Contacts



leonardocompany.com



THANK YOU
FOR YOUR ATTENTION

leonardocompany.com

