Replacing crewed helicopters for long-range drones

FuVeX


5 MILLION
KM.

TOOLS FOR CAPTURING DATA: CREWED HELICOPTER

Means of inspection	Costs	Issues
	150 €/km.	➢ Costs. ➢ Personal risks. ➢ Emissions.

2 TOOLS FOR CAPTURING DATA: SHORT-RANGE DRONES

Means of inspection	Costs	Issues
	300 €/km. (2x Helicopter!)	➢ Extremely expensive

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Rarely used

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FUVEX VALUE PROPOSITION

Autonomous digitization of power lines

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40x range

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1/20 Costs

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Autonomous digitization of power lines

40x range

1/20 Costs

No personal risks/emissions

4 TEAM

19 Members:

- **Tech. & production.**
- **Management & business development.**

muy INTERESANTE

G | M | F
The German Marshall Fund of the United States

El Referente
Conectando el ecosistema emprendedor

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4 MILESTONES

- **Only Spanish long-range authorization to inspect power lines.**
- 95% of the medium/high voltage grid.
- Working on EU certification.
- ISO-9001, 3 patents y 2 M€.

6 DATA TO CAPTURE

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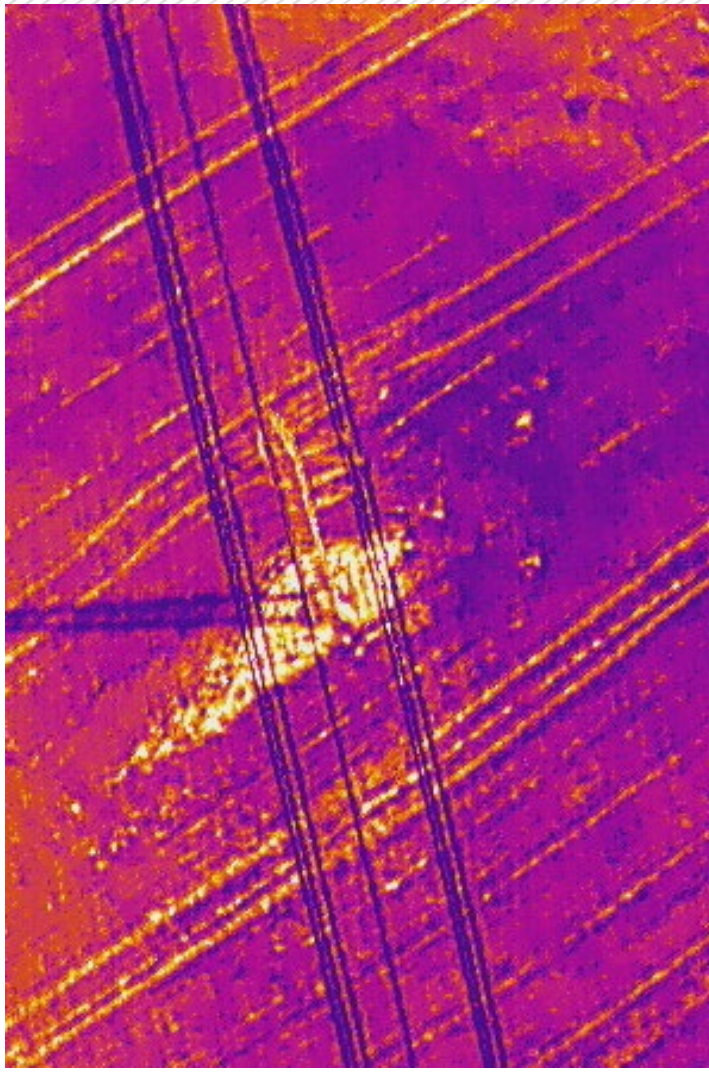
6 DATA TO CAPTURE



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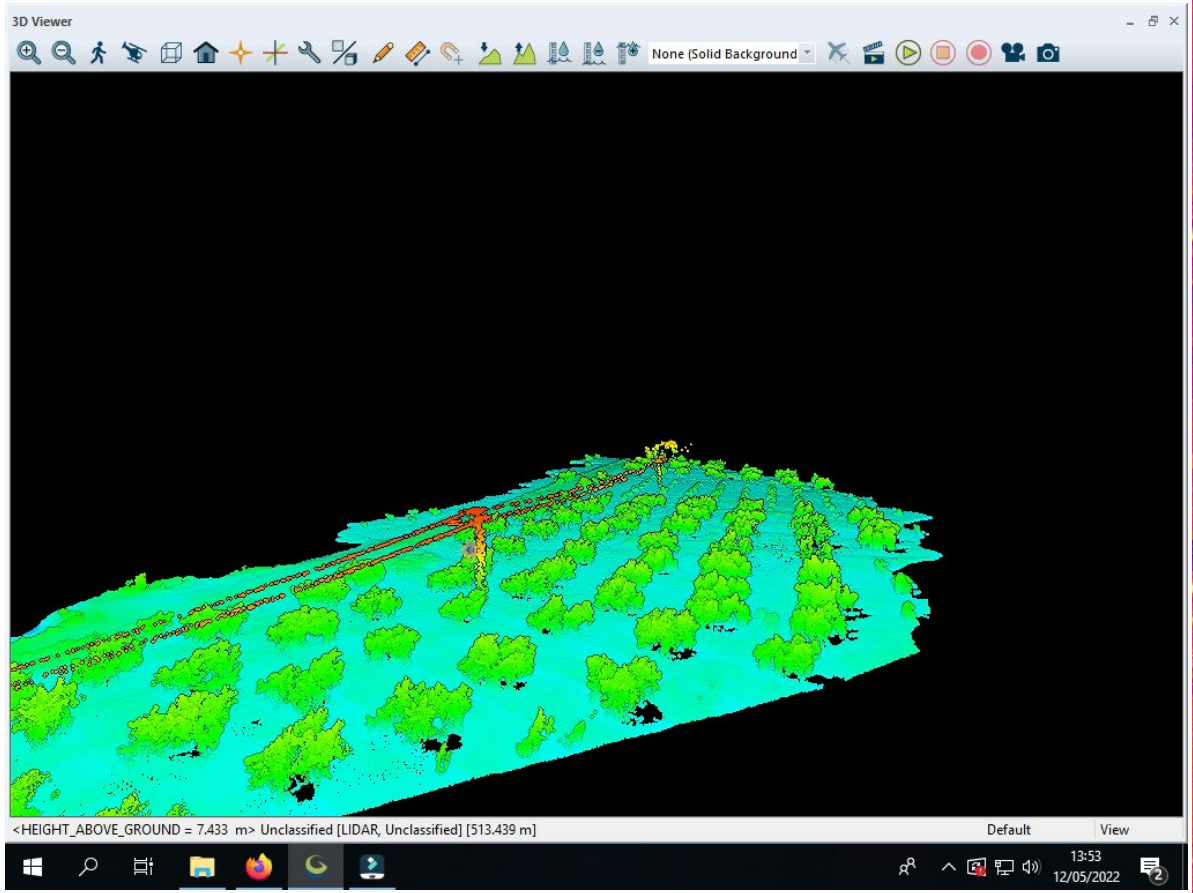

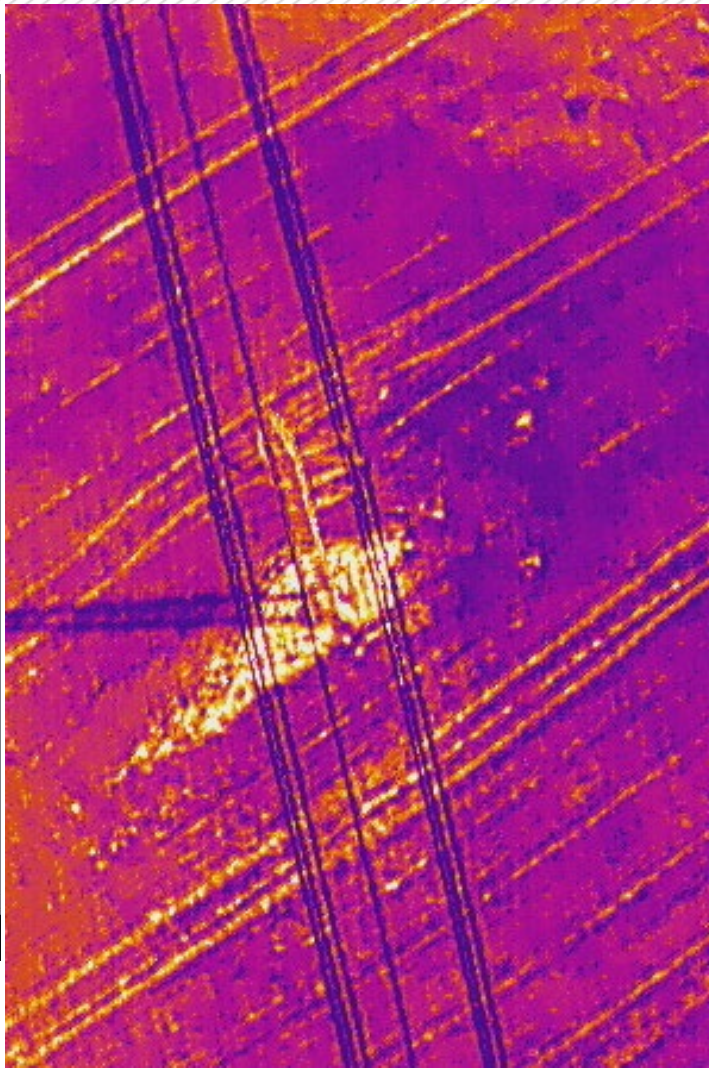

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REGULATORY INFORMATION

- Flight logs.
- Other drone information.

EASA
European Aviation Safety Agency

AESA
AGENCIA ESTATAL
DE SEGURIDAD AÉREA

CHALLENGE: MANUAL DATA VALUE CHAIN

> 1.000 SD cards movements

CURRENT DRONE DATA VALUE CHAIN IN POWER LINE INSPECTION

Drone

Ground cont

Office Workstation

End client

X 4

RGB data

RGB data

RGB metadata

RGB metadata

RGB + etadata

RGB + metadata processed

RGB + metadata processed

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DATA
PLAN
SETUP
ARMED
EKF Vibe
Quick
Actions
PreFlight
Gauges
Status
Servo/Relay
LOITER
0 (Home)
QSTABIL
Retracte
Do Action
Set Home Alt
Set WP
Loiter
Restart Mission
Set Mode
RTL
Raw Sensor View
Set Mount
Joystick
Arm/ Disarm
Clear Track
Resume Mission
Abort Landing
Change Speed
Change Alt
Set Loiter Rad
hdop: 1.2
Sats: 10
Direct to current WP
GPS Track (Black)
GEO
42.3265138 -1.8437978 0.01m
Tuning
Auto Pan
Zoom
18.0

DATA GOVERNANCE AND LEGAL COMPLIANCE

- No personal data is processed.
- External auditor to comply with GDPR.
- Data stored in EU servers.
- Secure data sharing.

integra
calidad, medioambiente y prevención

QUALITY ASSURANCE & RISK MANAGEMENT

- Expert External Support.

Universidad Rey Juan Carlos

upna Universidad Pública de Navarra
Nafarroako Unibertsitate Publikoa

- Use of COTS.

aws startup programs

CERTH
CENTRE FOR RESEARCH & TECHNOLOGY HELLAS

Blockchain infrastructure

beys research

ANONYMIZER

COMPETITORS

Closed ecosystems:

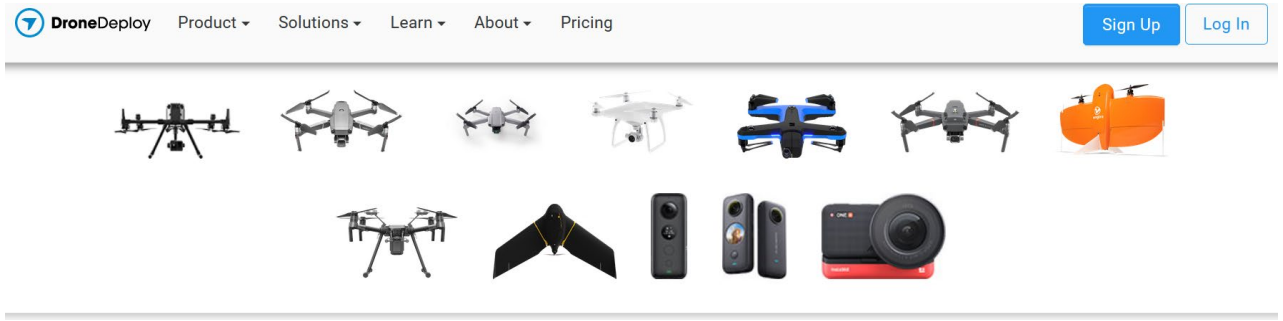
- No LiDAR integration.
- No scalability.
- No regulatory information.

dronecloud™

UNLEASH

DroneDeploy

“One-size fits all” products



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PROJECT GOALS

- 20% cost reduction.
- 6 months to hours.

EXPLORE PHASE RESULTS & NEXT STEPS

- ✓Initial design agreed with UFD.
- ✓1st Components developed:
  - ✓LiDAR metadata.
  - ✓Starlink.
  - ✓AWS automatic upload.

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- ➢ Next steps:
  - ➢ Visual camera full functional prototype.

Carlos Matilla
CEO & Co-founder

+34 645 59 14 66

c.matilla@fuvex.com

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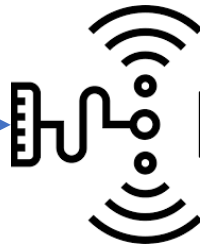
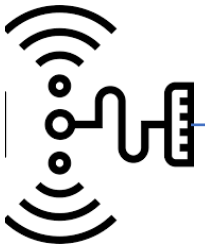
DroneDVC4POWER SOLUTION: UPLOADING MODULE





STARLINK

REGULATION: KEY ALLIANCES

REGULATORS	EARLY ADOPTERS	TECH. PARTNERS	LEGAL SUPPORT	FINANCIAL SUPPORT
ENAIRE	i-DE Grupo IBERDROLA	upna Universidad Pública de Navarra / Nafarroako Unibertsitate Publikoa	CUATRECASAS ACELERA	SODENA
AESA AGENCIA ESTATAL DE SEGURIDAD AÉREA	Naturgy	Universidad de Sevilla		CAJA RURAL DE NAVARRA
	Nafarroako Gobernua / Gobierno de Navarra	eSmart SYSTEMS		ELKARGI SGR Tu aliado financiero. Zeure alboan.

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