

Transforming offshore operations - mature asset management and logistics



Agenda

Texo Drone & Survey Inspection

- Our UAV services
- T28 Lidar UAV
- The future of Asset data acquisition
- Continuing pushing the envelope of UAV services
- How we benefit our clients
- Summary



Texo Drone Survey & Inspection Ltd





Survey Grade **Optical Gas** Precision Tethered Systems Service LIDAR Imaging (OGI) Inspection S **Internal UAV** UV Corona Multispectral AI 3D Printing Inspection Photogrammetry Hyperspectral Thermographic and Orthomosaics

The future of Asset data acquisition



CONTINUING PUSHING THE ENVELOPE OF UAV SERVICES Current Field Trials

UAV UT Thickness Inspection

Actively engaged in field trials to develop the worlds first, UAV integrated, Ultrasonic Thickness Inspection system.

System requires extensive research to develop minimal tolerance, sub mm thickness readings

Developed for the external applications of both wall/plate and paint/coatings thickness testing

Designed to reduce/replace risk of exposure at height to rope access personnel

UAV Remote Supply/Drop

Currently in final field trials of both winch and heavy magnetic supply/drop UAV systems.

Winch system designed for smaller loads (0 > 5kg UL) on wind turbine assets and for working at height personnel.

Heavier Magnetic UAV system designed for vessel to vessel and vessel to platform supply

UL of 40kg

SAR applications when combined with thermal detection payload

Hazmat UAV Detection

Utilising multiple payloads already proven within various industries Texo has developed the key skills to deliver these highly specialized and unique services.

To date delivered projects have included:

Optical gas imaging for thermal detection of gas leaks.

Air quality assessment to allow for the detection of 190 VOC's and 55 combustible gases.

Field trials have extended to include hyperspectral classification.



How we benefit our clients



Increased Efficiency

Rapid data capture Reduction in personnel Limiting shut down period duration Simultaneous data capture

Increased Safety

Substantial asset safety distance Multi-redundant safety systems Highly experienced Pilots Decreased risk to personnel at height and location

Increased Accuracy

Sub 3mm relative accuracy 10mm absolute accuracy Unique internal (SLAM) and external mapping capability 1 million measured points per second



Summary

We bring our innovation, versatility and commitment to our clients. With the ultimate aim of delivering game changing technologies to the very heart of your business. Empowering you to deliver informed and decisive solutions.



Q & A

I would be very happy to answer any questions that you may have in regard to our services



Survey Grade LiDAR

- Texo DSI Ltd are able to offer SURVEY GRADE LiDAR (Light Detection and Ranging).
 - After extensive research and cross discipline skill accumulation, Texo DSI Ltd has managed to develop a platform capable of delivering sub 5mm accuracies.
- Integration into our custom-built UAV delivery platform has allowed multiple redundancies to be incorporated, offering unrivalled safety and peace of mind.



UV Corona



- Our UV Corona System works by using UV spectrum data capture sensors to allow for visualisation of effects, invisible to the naked eye.
- When an electrical component suffers a degradation in insulation and subsequent exposure, the air around the fault becomes ionized. UV Corona can detect these faults and allow operators to act before catastrophic failure becomes imminent.
- Mounting this system to our UAV delivery platform allows us to reach inaccessible sites, thus limiting extensive risk to personnel and also ensuring inspection on a more regular basis. Our system can be deployed almost instantaneously to check for damage at key infrastructure and quickly help clients to best allocate resources.



Thermographic



 Utilising our extensive range Thermal cameras, Texo DSI Ltd are able to deliver a wide range of detailed and quantifiable Thermographic survey applications.
Our Thermal survey and Inspection UAV Team are trained and certified to both ABBE Level 4/PCN Level 2 (BINDT) Ensuring acquired data can be quantified and interpreted.



Precision Inspection



- By it's definition, precision inspection delivers minimal tolerance, repeatable and stable visual data sets for Texo DSI's clients, to allow detailed examination and thorough inspection.
- Using advanced flight control, the system can generate highly detailed orthomosaics via 36/42 Mega Pixel cameras capturing multiple images that can be stitched together seamlessly through advanced software systems, to allow for an overview of the specified target area with the ability to magnify and observe the smallest details.



Multispectral



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 Multispectral data has been long established as a useful tool. Conventionally satellite or plane/helicopter mounted, it has been long proven in a number of commercial and industrial applications.

• With integration into advanced UAV platforms, such as our QUEST UAV PRO 200 Fixed Wing Systems, it can now be deployed quickly and at a fraction of the cost making it commercially viable across a range of sectors.



Hyperspectral



 Humans see in three visible bands, red, green and blue. We use these to see our world in colour and distinguish between features, by the colours our eyes detect. Hyperspectral systems used at Texo DSI Ltd can detect a plethora of spectrums allowing for observation of up to 369 spectral bands.



AI 3D Printing

- Aerial Intelligent 3D Printing (AI3D) is an extensive project that TEXO DSI Ltd are currently investigating. The ability to transfer Aerial acquired data into interactive components and models for our clients' projects, is both exciting and innovative.
- The means to print out highly detailed BIM's, Lidar and photogrammetric data as 3D hard copy models for our clients and offer a level of interaction beyond the computer screen is currently being developed by our Innovations team.



Optical Gas Imaging (OGI)

- Texo DSI Ltd has acquired two G300a Optical Gas Imaging thermal systems. Integrated into our own custom-built, multi redundancy UAV platforms, the G300a can detect ten confirmed types of gas leaks and allow for rapid gas leak identifications.
- Texo DSI Ltd are currently utilising two OGI systems, operating within the industrial and domestic environment. Using a maximised gain on the G300a, gas leakage can be detected within the lower pressurised Domestic gas system, ensuring swift identification of leaking infrastructure and the subsequent repairs to be implemented.
- Some of the detectable gas types are extremely hazardous and using the UAV allows for the removal of human operators near to the source during primary investigation.



Photogrammetry & Orthomosaics

- With a diverse RPAS fleet, incorporating both fixed wing Q200 surveyor pro with fully integrated PPK and various Multi rotor platforms, Texo DSI Ltd are able to fulfill a wide range of photogrammetric applications.
- Utilising multiple images of an area or object, our diverse and advanced software applications and trained technicians can generate accurate 3D models for a multitude of projects. Measurements are acquired via multiple data points of a specific area or object from different views and matching them up.



Tethered Systems



- Specific difficulties to be overcome by drone operators are current legislation and flight times.
- With the ability to remain airborne for several hours, even days, due to the constant supply of power via the tether and an uninterrupted data transfer facility to the ground, these systems offer the perfect solution when constant monitoring is required.
- With our tethered platforms carrying dual payloads, a whole host of applications can be accommodated, such as security & surveillance, Sports coaching optimisation and even crisis management.



Internal UAV Inspection



- Texo Drone Survey & Inspection Ltd operate systems capable of internal inspection within confined space, far exceeding the capability of most commercial "internal" inspection RPAS.
- The very nature of Texo DSI's commitment to versatility has ensured we develop our technology and services to reflect this.

