

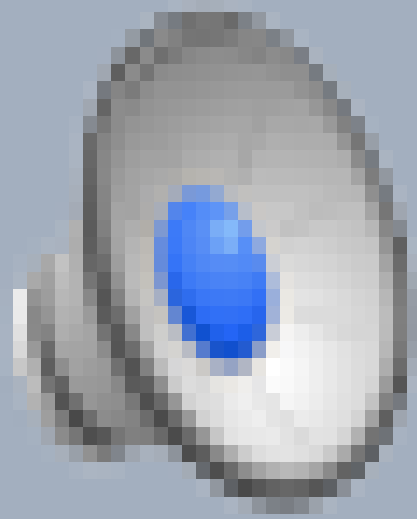
Drones



Drone Inspection and Analysis

**APSE Commercialisation Advisory Group Presentation
By Stuart Fargie**





What we'll cover today...

- **How we started and created the business case**
- **The benefits we landed - and are now extending**
- **10 commercial opportunities we can see ahead**
- **Our next steps**





How we started

- **Commercialisation**
- **Income Generation**
- **Governance**
- **The Project Team**



Creating a Balanced Business Case

**Priorities
Conflict (Income
generation)**

**Capabilities
Process &
Practice**



**Market analysis
P&L Calculations**

Cost to serve

Powers to trade



GETTING THE FACTS

Residential inspections carried out in person

150 routine inspections each year (3 per week)

Typical roof scaffolding costs £1.5k per inspection

Potential for time and cost efficiencies



RUNNING PROOF FOR CONCEPT

Qualified Pilot on staff in communications team

3 test cases run together with surveyor

Resource review - pre/post flight comms, video editing, data storage and access including DPIA

Risks and limitations identified



ASSESSING LIMITATIONS

Heavily regulation (CAA)

Weather (wind, rain, poor visibility)

5 mile radius “No Fly Zone” from Leuchars Air Base (incl. St Andrews)

Heavier payloads can drain batteries – reducing flight time



LANDING THE BENEFITS

Saved £1k per inspection on average

Better visibility and planning of works

Time investment reduced to 15-20 minutes

Less disruption for tenants – fewer complaints

Better health and safety

Less Co2 Impact (no scaffolding)

Prompter payment from mutual owners – low cost/visibility of work



Pilot Testing



EXTENDING THE BENEFITS

1. Roofs
2. High Level Maintenance
3. Insurance and emergency response



EXTENDING THE BENEFITS

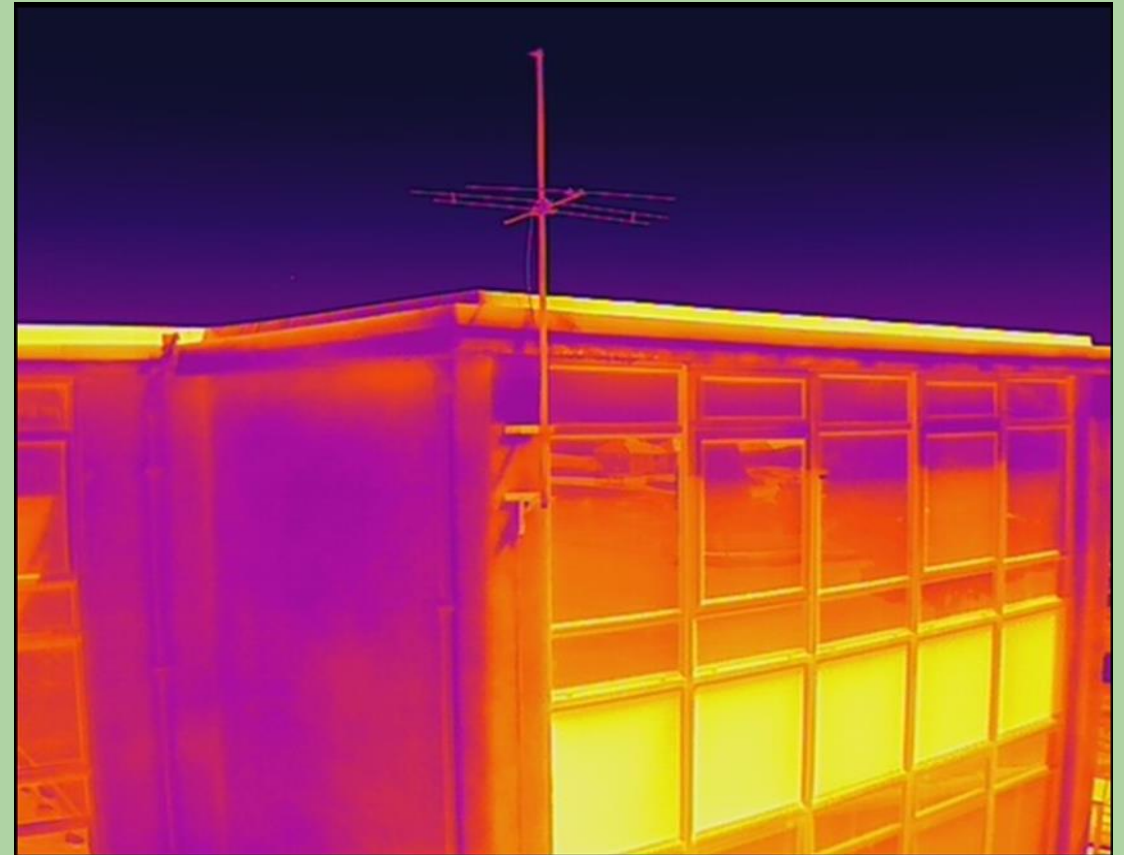
4. Heat mapping

5. Measured surveys for 3D modelling

6. Commercialising through hire, enhanced inspection, training



EXTENDING THE BENEFITS – Heat Mapping



10 COMMERCIAL OPPORTUNITIES

1. Visual inspections of tall structures, including residential, Industrial and historic
2. At risk structures
3. Flood scheme inspections
4. Highways and highway structure reviews
5. Land Surveying



10 COMMERCIAL OPPORTUNITIES

6. Agricultural land inspection
7. Inspection of wind turbines
8. Heat mapping
9. Promotional videos of major planning sites
10. Emergency support and insurance services



POTENTIAL CUSTOMERS

- Historic buildings & structures, other authorities, NHS, community partners, businesses and local residents
- Organisations seeking training and accreditation - ensuring quality standards across Fife
- New and emerging markets in line with increasing economic development



PLANNING AHEAD



Year 1

Setup operation

- Build on existing capability to deliver internal service
- Develop process/practice through pilot studies
- Use for residential and industrial high level inspections
- Start to extend beyond construction e.g. H&S
- Monitor and track benefits (financial, operational, environmental, customer)



Year 2

Generate income

- Determine legal powers for external use and income generation
- Complete DPIA for management and storage of footage & update process and practices
- Establish external demand, offer and rates
- Meet insurance requirements
- Ensure internal demands can be met first
- Complete business case for additional resource where demand exceeds current capacity
- Generate additional income through external service



Year 3

Develop & look ahead

- Set council drones policy (use of council land)
- Explore charges/fines for take off landing
- Assess beyond line of sight (control of airspace)
- Consider volume of licencing and regulatory requirements
- Review interface between Legislation & Local Government
- Consider integrating drone management as part of traffic management systems
- Assess control of air space, repair and maintenance, logistics (parcel delivery) opportunities
- Consider governance and committees

