

March 2022



# Drone Readiness Assessment

**CATAPULT**  
Connected Places



## Introduction

The Drone Pathfinder Catalyst Programme, funded by The Department for Transport, has accelerated the awareness and adoption of drones across a broad range of industry sectors in the UK. Through the programme, Connected Places Catapult has worked with industry partners to demonstrate the benefits that drones can deliver. There are many ways that drones can be used today, making use of the existing technology and regulatory framework. Drones can do things safer, cheaper and faster and provide richer, more accurate information to enable better decisions.

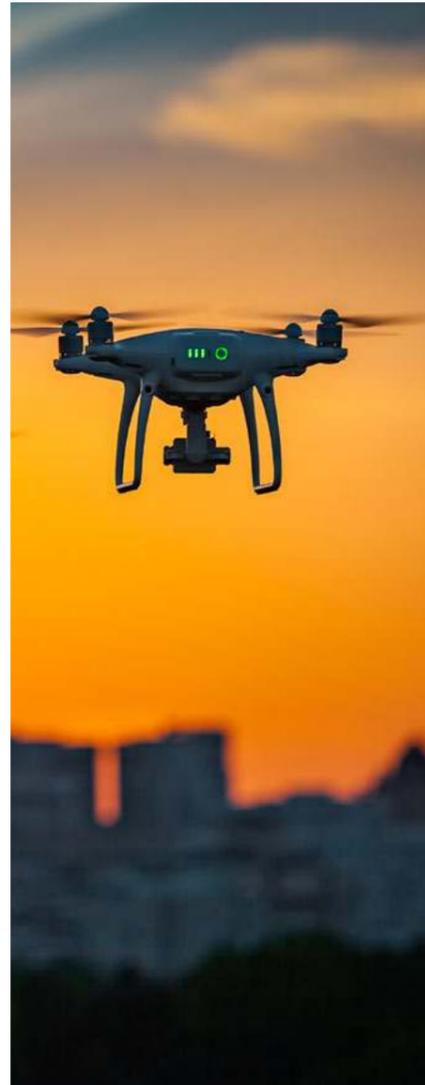
The programme engaged extensively with stakeholders from the public and private sector and identified the considerations that need to be addressed to successfully implement and embed drone technology within their organisations. The considerations have been grouped into 9 broad categories that form the pillars for successful drone adoption. This Drone Readiness Assessment enables organisations to self-assess against each of these pillars to determine maturity and readiness to implement and benefit from drones within their organisation.

# Benefiting from Drones

Drones are an enabling technology and benefiting from them requires similar considerations to any other change programme. Many organisations are embarking on the next phase of digital transformation and it is helpful to consider drones within this wider context. For example, within the Housing Sector, drones can capture accurate data cheaper and quicker than traditional methods, providing richer information to prioritise property maintenance programmes.

Connected Places Catapult has developed a high-level approach for adopting and scaling drone use within organisations, presented in the diagram opposite. The three stages are:

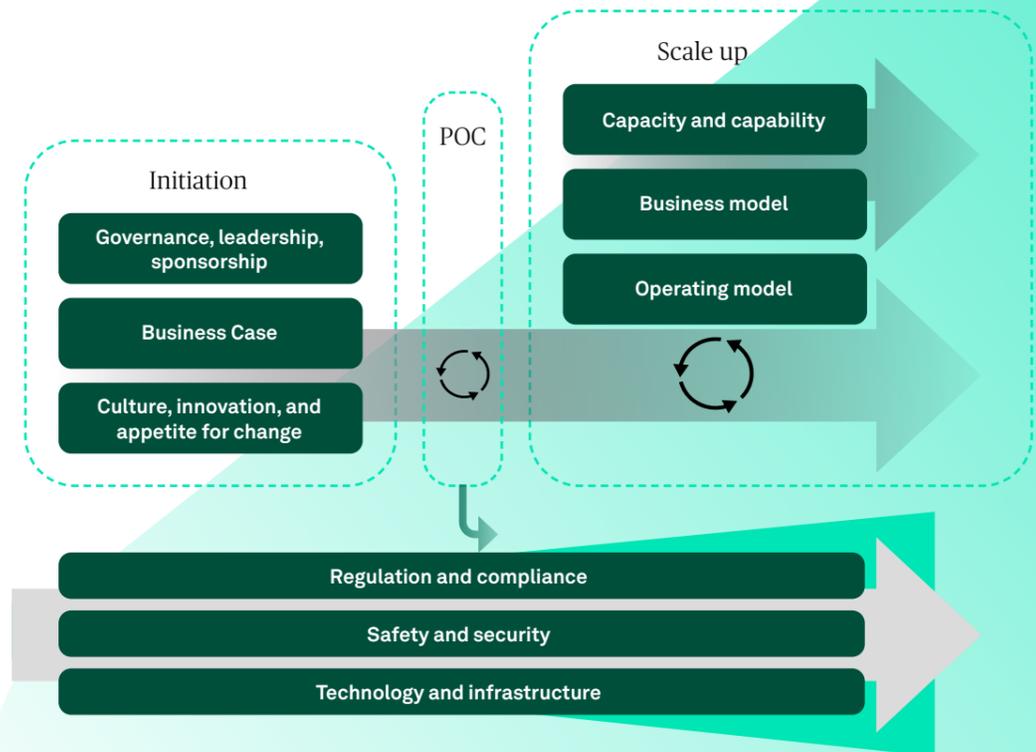
1. Initiation - putting in place the appropriate governance and business case and ensuring that the organisation has the capacity and desire to change their processes
2. Proof of concept - working with a drone operator as a trusted partner to deliver one or more proof of concepts to learn lessons and validate the business case
3. Scale up - developing the right business and operating model to scale drone operations within the organisation



Adopting this approach and initially working in partnership with a drone operator enables organisations to focus on the benefits, rather than having to understand drone technology and regulations from the outset. A key element of maximising the benefits from drones is understanding how the data captured will be integrated into business processes and workflows.

On successful completion of the proof of concept stage, organisations are then better informed to understand how to scale the use of drones and maximise the benefits. Options include bringing operations in-house, continuing to collaborate with a drone operator or taking a hybrid approach.

There are now many professional drone operators in the UK, some specialising in industry sectors and particular types of data capture. ARPAS-UK, the trade association for the UK drone industry has a list of members available on their website - [www.arpas.uk](http://www.arpas.uk). Appendix 1 outlines the main areas to consider when selecting a drone operator.



## Drone Readiness Pillars

Below are nine 'drone readiness' pillars that Connected Places Catapult has identified for organisations to consider before implementing a strategy and programme for drone adoption. The pillars are presented in the order associated with the three stages of drone adoption:

1. Initiation
2. Proof of concept
3. Scale up

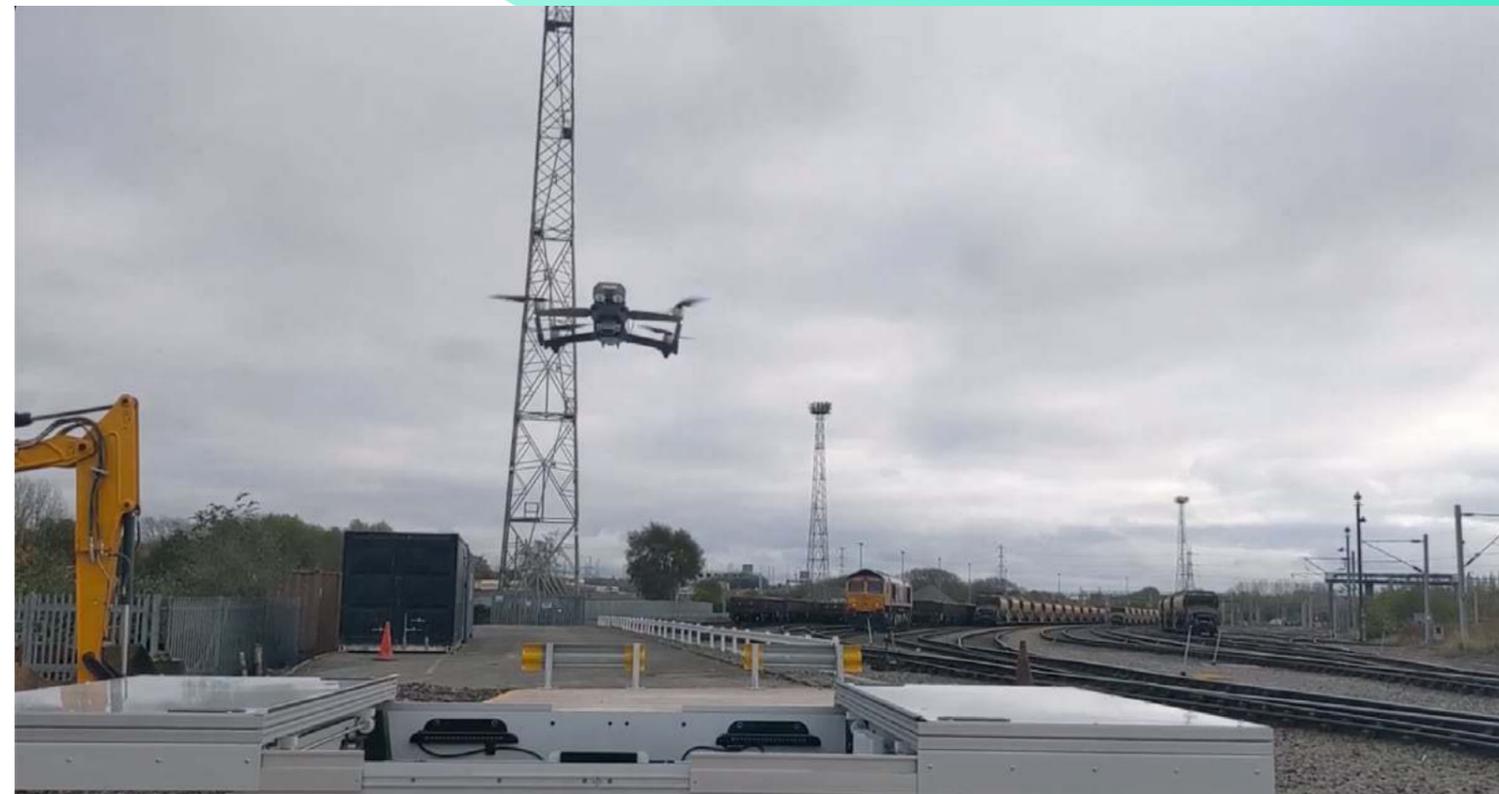
The questions for each pillar can be used to assess organisational readiness and prioritise areas that need further development. The pillars associated with the proof of concept stage are where expertise from a drone operator are most likely to be beneficial.



| Pillar  | High-level questions include:   | Organisational Readiness (H/M/L) |
|---|---|----------------------------------|
| <b>Governance, leadership, and sponsorship</b>      | <p>Does drone adoption have sufficiently senior buy-in to drive change and uptake at your organisation?<br/>Is there an understanding of how drones could benefit the organisation?</p> <p>Do you understand the existing internal governance structures in your organisation which a drone programme will interact with?</p>   |                                  |
| <b>Business case</b>                                | <p>Does your organisation understand the opportunity and value of drone adoption?</p> <p>Has the value been quantified at all? e.g. through internal business case development or by looking at existing examples and case studies.</p>   |                                  |
| <b>Culture, innovation, and appetite for change</b> | <p>Have you considered your organisation's culture towards innovation, change and risk?</p> <p>Can your organisation learn and improve as drone technology and regulations continue to evolve?<br/>Have you considered how to create enthusiasm and ownership for drone uptake in your organisation? E.g. creating drone "champions", and exploring use cases with operational staff.</p> |                                  |
| <b>Regulation and compliance</b>                    | <p>Through the procurement process, has the drone operator met the requirements outlined in Appendix 1?</p> <p>Have you included the insurance required to cover the liabilities of your drone activities?</p>  |                                  |

| Pillar                               | High-level questions include:  | Organisational Readiness (H/M/L) |
|--------------------------------------|--|----------------------------------|
| <b>Safety and security</b>           | <p>Do you have a process for selecting the right technology to meet the operational requirements? e.g. the type of aircraft, sensors and software for analysing data captured by the drones.</p> <p>Have you considered the requirements for infrastructure platforms, programs and systems that support the other pillars and operations? e.g. flight management &amp; logging software; data management infrastructure and software; additional physical equipment.</p> <p>Have you considered how you will maintain and update or manage the provision of both the drone technology and the underlying/enabling infrastructure?</p> |                                  |
| <b>Technology and infrastructure</b> | <p>Does your organisation understand the opportunity and value of drone adoption?</p> <p>Has the value been quantified at all? e.g. through internal business case development or by looking at existing examples and case studies.</p>  |                                  |
| <b>Business model</b>                | <p>Have you considered whether an insourced, outsourced, or hybrid business model will best suit your organisation to provide the speed, cost and quality of service required?</p> <p>Have you considered whether a drone service should be delivered as centre of competence or via a decentralised capability?</p>   |                                  |
| <b>Operating model</b>               | <p>Have you considered the expected demand on your drone services and what this means for the scale of your operation?</p> <p>Have you considered the different types of drone operations you will need and their individual complexities, logistical implications and risk profiles? Have you considered how to standardise and control your operating procedures?</p>  |                                  |

| Pillar                         | High-level questions include:   | Organisational Readiness (H/M/L) |
|--------------------------------|---|----------------------------------|
| <b>Capacity and capability</b> | <p>Have you considered the resourcing capacity required to build and manage a drone programme or to manage a drone operator? e.g. staff numbers, skill sets and competencies, training plans.</p> <p>Have you considered how you will assess and maintain the skills required in a drone programme through training?</p> <p>Have you considered appropriate resourcing and succession planning to make sure drone operations are not interrupted when people join and leave the organisation?</p> |                                  |



# Appendix

This checklist covers the essential areas that need to be considered when selecting a drone operator to partner with.

| Checklist   | Further Information   | Confirmed |
|---|---|-----------|
| <b>Check they have an Operator ID and Flyer ID</b>        | Operator ID - <a href="https://register-drones.caa.co.uk/drone-code/getting-operator-id">https://register-drones.caa.co.uk/drone-code/getting-operator-id</a><br>Flyer ID - <a href="https://register-drones.caa.co.uk/drone-code/getting-flyer-id">https://register-drones.caa.co.uk/drone-code/getting-flyer-id</a> |           |
| <b>Check they have appropriate CAA authorisations</b>     | CAA CAP2005 outlines the authorisations required to operate a drone in a work environment-<br><a href="https://publicapps.caa.co.uk/modalapplication.aspx?appid=11&amp;mode=detail&amp;id=9950">https://publicapps.caa.co.uk/modalapplication.aspx?appid=11&amp;mode=detail&amp;id=9950</a>                           |           |
| <b>Check they have appropriate training</b>               | Ensure that the operator has the appropriate training and competency for the complexity of the project. For example operators may require a A2 Certificate of Competency (A2 CofC) or a General VLOS Certificate (GVC).   |           |
| <b>Check they have the appropriate level of insurance</b> | Drone operators carry out commercial work require insurance that is compliant with (EC) 785/2004 compliant.   |           |
| <b>Confirm what outputs/deliverables you require</b>      | Data captured by drones can be presented in a range of formats from basic images through to a full Building Information Model (BIM). It is important to understand how the output will be used to determine the most appropriate format required.   |           |

| Checklist  | Further Information   | Confirmed |
|--|---|-----------|
| <b>Check they have the required experience to fly safely and produce the outputs</b> | Ask for examples of the types of work they have previously completed and check that they have experience of producing the type of outputs that are required.  |           |
| <b>Ask for examples and proof of data accuracy claims</b>                            | The accuracy of the data needs to be fit for the purpose required. Ensure that that the drone operator can prove the required accuracy levels can be delivered.<br><br>The Royal Institution of Chartered Surveyors (RICS) has produced the following guide on data accuracy:<br><a href="https://www.rics.org/uk/upholding-professional-standards/sector-standards/land/earth-observation-and-aerial-surveys-6th-edition-global-guidance-note/">https://www.rics.org/uk/upholding-professional-standards/sector-standards/land/earth-observation-and-aerial-surveys-6th-edition-global-guidance-note/</a><br><br>The Survey Association (TSA) also produce a number of guides available at:<br><a href="https://www.tsa-uk.org.uk/downloads/">https://www.tsa-uk.org.uk/downloads/</a> |           |
| <b>Confirm cost and timeframes</b>   | Ensure that the costs and timeframes for the project are agreed, including the delivery of the outputs. It is important to consider contingency plans in case operations are delayed by the weather.  |           |
| <b>Use an appropriate drone services contract</b>                                    | Drone operators who are members of ARPAS-UK (The UK drone trade association) have access to a best practice drone services contract.  |           |

ARPAS-UK has a list of members on their website ([www.arpas.uk](http://www.arpas.uk)) and can be contacted via [membership@arpas.uk](mailto:membership@arpas.uk) to answer questions about selecting a drone operator.

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For more information on how drones can benefit your organisation, or to learn more about the Drone Pathfinder Catalyst Programme please visit our webpage:  
[cp.catapult.org.uk/project/pathfinder/](http://cp.catapult.org.uk/project/pathfinder/)



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