

AIRSPACE INTEGRATION TRIALS

These are the Terms of Reference (TOR) for the Airspace Integration Trials Programme (the Programme), between the Ministry of Business, Innovation, and Employment (MBIE) and partnering agencies/organisations the Ministry of Transport (MOT), the Civil Aviation Authority (CAA), and Airways Corporation of New Zealand Limited (the Partners).

These TOR cover:

- the purpose of the Programme
- the parties to the TOR
- the roles and responsibilities of those parties
- the conditions of participation
- the format of each trial phase of the Programme.

These TOR do not cover the relationship between MBIE and the external commercial participants involved in the Programme, which will be covered by separate Memorandums of Understanding.

BACKGROUND

In December 2018, Minister of Research, Science and Innovation Hon Dr Megan Woods agreed to establish the Programme to enable the safe testing, development and market validation of advanced drone technologies in New Zealand.

The Programme is a key action of MBIE's Innovative Partnerships' Advanced Aviation Technologies platform-play. This work seeks to position New Zealand as a location of choice for the emerging advanced unmanned aircraft (UA) sector. The Programme aims to support MoT's broader UA work programme and its vision for a thriving, innovative and safe drone sector. In particular by ensuring that any lessons learned from the trials should inform the work programme where appropriate.

The intent of the Programme is to:

- stimulate the development of New Zealand's UA industry, and related innovation and research
- attract international firms and innovators that generate regional and national economic benefits
- support the MOT-led work on UA integration by informing the development of policy, operational and technological requirements (e.g. UA traffic management system (UTM), and detect and avoid technologies) needed to enable UA integration
- realise the full potential for innovation of the current certification process
- improve social licence including the public and airspace users' acceptance of UA
- connect internationally and identify partnership opportunities with other regulators and leading research institutions.

FORMAT OF THE PROGRAMME AND TRIALS

The Programme consists of a portfolio of trials (the Trials) that cover a range of advanced UA use-categories, operating environments, and varying levels of complexity. This will enable proactive selection of drone applications, prospective international and domestic industry partners, and Trial locations.

Each Trial will follow a three-phased approach as described in Appendix 1.

PARTIES

PARTNERS

The Partners in the Programme are:

- Ministry of Business, Innovation, and Employment (MBIE)
- Ministry of Transport (MOT)
- Civil Aviation Authority (CAA)
- Airways Corporation of New Zealand Limited (Airways)

For the purposes of the Programme, MBIE is the lead Partner.

PARTICIPANTS

Each Trial will involve one or more external drone technology or service developer (the Participants). Each Participant will sign a Memorandum of Understanding (MOU) with MBIE on behalf of the Government. The other Partners (MOT, CAA and Airways) will not be a party to any MOU with any Participant.

EXTERNAL PARTIES

The Programme may require external expert (External) advice, either on a one-off or recurring basis. Prior to a Partner engaging a new External on a Programme-related matter it must seek the agreement of all other Partners on the engagement and scope of work to be completed.

Any conflicts arising from engaging or using an External or the advice provided by an External will be addressed and mediated by the dispute resolution procedure set out in the TOR.

PROGRAMME MANAGER

The role of the Programme Manager is to coordinate the input and actions of the Partners, Participants, and any other industry partners, agencies, or stakeholders who are not party to this TOR.

The Programme Manager will be appointed as a fixed-term contractor within MBIE.

The Programme Manager will be responsible for:

- providing a central point of contact for Participants in the Programme.
- developing a programme framework that is scalable and able to be applied to each Trial.
- leading the process of scoping, developing and delivering each Trial in the Programme.
- coordinating and supporting Participants in their engagements with central and local government, and other key stakeholders.
- providing regular updates to the Partners on progress and outcomes. This will include updates to the *UA Interagency Testing and Trialling* meetings and the *UA Leadership Group*.
- developing and maintaining strong working relationships with Partners and Participants.
- where appropriate, connecting with international UA industry and policy and technical expertise.

OPERATING PRINCIPLES

The Programme has limitations on the responsibilities of the Partners, their roles in the Programme, and what they can be asked to do:

- Partners shall not be asked to carry out any task or make any decisions which would compromise their roles outside of the Programme
- Participation of the Partners in the Programme will not prejudice or restrict their ability to carry out their normal roles and obligations within their policy, legislative or regulatory mandate.

To this effect, it is agreed and understood that:

- Participation in the Programme shall not be regarded as implicit or explicit endorsement of any regulatory outcomes or desired outcome for Participants, or a Participant.
- Neither the discussions held, nor the decisions made by Partners during the Programme, will prejudice them in carrying out their respective roles outside of the Programme, nor will they bind any Partner to any specific action outside of the Programme.

For the avoidance of doubt, the CAA and the Director of Civil Aviation will retain full statutory independence in regards to all regulatory decisions that might arise within any of Trials.

RESPONSIBILITIES

All Partners have two areas of responsibility within Programme:

- Support of the Programme
- Support of MBIE in the initiation, development and delivery of the Trials.

While taking part in the Programme, all Partners will also maintain their regular role in the cross-government drone integration work:

- MoT is the Government's principal transport advisor. The Ministry has a system leadership and regulatory stewardship role. In relation to drones, the Ministry's key role is to provide strategic direction to other participants in the sector. This includes working with other agencies to understand the impact of drones on the aviation system and the role that drones can play in our broader transport system, and ensuring that our regulatory system strikes the right balance between enabling innovation and addressing risks to the public and other aviation participants.
- CAA is responsible for the safety and security regulatory oversight of the civil aviation system, and the enforcement of the relevant regulations for that system. The objective of the CAA is to undertake its safety, security and other functions in a way that contributes to the aim of achieving an integrated, safe, responsive and sustainable transport system.
- MBIE is the Government's principal economic development advisor. Its goal is to create a resilient and high-performing economy. Through its Innovative Partnerships programme it seeks to build New Zealand's competitive advantage as a location to develop and deploy innovative and new technologies. In relation to drones, its objective is to position New Zealand as a location of choice for the emerging global drone sector.
- Airways is the national Air Navigation Service Provider (ANSP) whose role is to manage New Zealand's 30 million square kilometres of airspace, provide air traffic control, surveillance, communication, flight inspection, mapping and airspace design services. In relation to drones Airways' role will be to operate the required airspace management and supporting infrastructure to enable safe and efficient integrated drone flight into the New Zealand aviation and transport system.

SUPPORTING THE PROGRAMME

MBIE will handle the day-to-day operational and the implementation matters of the Programme and is responsible for ensuring the Partners (along with the UA Leadership Group) are regularly updated on progress of the Programme, including any risks associated with the Programme

MBIE will seek input from the Partners on matters which fall outside of the scope of day-to-day operational matters and mandate. It will also seek Partners' input on any matters which may impact any Partner's regular work or carry reputational risks for any of the Partners.

The Partners will support MBIE in the planning and evaluation of the Programme to the extent possible within each Partner's legal mandate(s). Where appropriate, MBIE will seek support or input from the other Partners on work needed in order to implement the Programme.

Partners will ensure that any requests for assistance or input are made with reasonable notice and deadlines.

SUPPORTING THE TRIALS

Within each individual Trial, the roles and responsibilities of the Partners will vary. The general summary of responsibilities applicable to all Trials is attached in Appendix 2.

Responsibilities may be varied for a specific Trial, as required. Variations will be noted and recorded after agreement by all Partners.

MEETINGS

The fortnightly *UA Interagency Testing and Trialling* meetings will serve as Programme meetings. MBIE will continue to organise and administer these meetings. MBIE will also provide regular updates on the Programme's progress and any arising issues at the MoT-led *UA Leadership Group* meetings.

Partners which are members of the *UA Interagency Testing and Trialling* group will endeavour to ensure that they make appropriate staff members available for those meetings where appropriate to do so. However, for reasons of regulatory-independence, it may not be appropriate for CAA staff to participate in meetings involving industry representatives.

No new regular meetings will be scheduled between the Partners for the purposes of the Programme unless by mutual agreement.

MINISTERIAL ENGAGEMENT

The Minister responsible for the programme is the Minister of Research, Science and Innovation. MBIE will be responsible for informing the Minister of Research, Science and Innovation of progress and updates from the Programme.

Each Partner will be responsible for informing their respective Minister of progress, as per the standard procedures for that Partner. Prior to material regarding the Programme being provided to a Minister, the author will seek input on content from the other Partners and discuss whether it should also be forwarded to other Ministers.

COMMUNICATION

Each Partner is responsible for providing updates on the progress and issues arising from the Programme to their own agency and between relevant agencies.

If a Partner's own work is likely to have an adverse impact on the Programme, the Partner will inform MBIE.

COMMUNICATIONS TEAMS

It is understood that all Partners have communications teams involved with the wider cross-government UA work programme. These teams have an established Communications Protocol document. Media releases from any Partner regarding the Programme must be agreed to and discussed between the communications teams of all Partners prior to release.

DECISION MAKING

The critical decision making points for the Programme will be the selection of Participants at the end of the Initiation Phase, and the agreement of a delivery plan at the end of the Development Phase. A high level overview of these phases is provided in Appendix One. MBIE, as the lead Partner, will act as the decision-maker. These decisions will be made in close consultation with the Partners through discussion at the *UA Leadership Group*.

SELECTION OF PARTICIPANTS

Prospective Participants will complete an initial questionnaire to be assessed and triaged by the members of the *UA Interagency Testing and Trialling* meeting.

If a decision is made to proceed with the application, a structured scoping and due diligence process will be undertaken through the *UA Interagency Testing and Trialling Group*, based on agreed selection criteria. The group will provide recommendations to the *UA Leadership Group* for discussion of prospective Participants. The final decision on whether a Participant enters the Programme will be made by MBIE.

AGREEMENT OF DELIVERY PLAN

The other critical decision making point will be the agreement of a delivery plan at the end of the Development Phase. MBIE will be responsible for the final decision following consultation with the partners through the *UA Interagency Testing and Trialling Group* and the *UA Integration Leadership Group*.

OTHER DECISIONS

Where other decisions arise that are significant, or will affect other Partners, they will be made in consultation with the Partners through discussion at a *UA Interagency Testing and Trialling* meeting or where urgent, through discussion with the relevant members of the group.

If a decision is unable to be reached through the *UA Interagency Testing and Trialling* meeting, a process for escalation is outlined in the Dispute Resolution section below.

Decisions affecting aviation safety, including the certification of aviation products (aircraft and systems), airspace and organisations remain the sole responsibility of the CAA. As such, any Programme dispute, resolution do not include matters affecting aviation safety. Moreover, all issues raised by Participants engaged in an active aircraft or organisational certification program, must be passed to the CAA for management in accordance with the guidance set out in the Civil Aviation Act 1990 and associated Civil Aviation Rules.

RISK MANAGEMENT

As the lead on the Programme, MBIE shall assume all risks arising from the Programme that fall outside existing regulation. The CAA as the aviation regulator maintains its independent role in certifying the safety of aircraft and operations. Oversight of aviation safety risks remains the responsibility of the CAA.

DISPUTE RESOLUTION

Any disputes arising will initially be discussed by the Partners at a *UA Interagency Testing and Trialling* meeting.

If the Partners are not able to reach an adequate agreement and resolution as to management of that conflict, the matter shall be elevated to mediation at the next *UA Leadership Group* meeting. In cases where urgency does not allow the discussion to be held at the *UA Leadership Group*, the matter can be escalated to the relevant members of the *UA Leadership Group*.

Disputes may be escalated to the appropriate Minister(s), when deemed appropriate, and expressly agreed to by the *UA Leadership Group*.

For the avoidance of doubt, the understanding of dispute does not include industry complaints or comments pertaining to the certification of aircraft, organisations or airspace, perceived speed of a participant's certification/progression through relevant regulatory requirements, or any aviation safety matters (which are the sole responsibility of the CAA).

APPENDIX 1: TRIAL PHASES

The phases of each Trial within the Programme are as set out below.

INITIATION PHASE

Assess the credibility of prospective Participants, and defines the feasibility and scope of the intended Trial.

Prospective Participants will present a high-level concept of operations of their proposed Trial to the Partners. These will be assessed taking the following high-level criteria into consideration:

- the prospective Participant's ability to participate in the Programme (e.g. investment sources, experience) and share their learnings through the Programme
- the economic and social benefits associated with the specific Trial (e.g. jobs, investments)
- the level of support needed by the prospective Participants (e.g. certification support, identification of test-sites and real-time test locations)
- the intended operation's impacts on the safety of the aviation system and other users
- opportunities to test adjacent technologies and involve the participation of adjacent technology developers (e.g. UTM providers)
- other potential partnership opportunities (international and domestic)
- any risks and mitigations (e.g. public acceptance, resource impact on relevant government agencies).

Should the prospective Participant meet the above criteria and the proposed Trial is considered feasible, the scope of the intended Trial and roles and expectations will be outlined in a MOU. The MOU will outline the commitments of the relevant Partners to support and coordinate the Trial (e.g. through certification support, local stakeholder engagement and test location identification), and the prospective Participant's commitment to carrying out the Trial and sharing what they have learnt through the Programme.

DEVELOPMENT PHASE

Work with the Participant to develop a detailed delivery plan for the Trial.

The development of a delivery plan is iterative and comprises:

- a detailed definition of the schedule for the progression from innovation and experimental testing to in-service operations
- the development of a certification plan
- the definition of support system and infrastructure needed
- establishment of partnerships with adjacent technology providers, as appropriate
- ongoing engagement with key local stakeholders
- any other activities as identified in the MOU – e.g. potential opportunities to partner and connect with other jurisdictions.

The final delivery plan will be agreed between the Participant and MBIE, in consultation with the Partners, and other key stakeholders.

DELIVERY PHASE

Work with the Participant to execute the Trial.

This will include:

- technology development and testing
- necessary certification or regulatory approvals, as per the agreed certification plan
- airspace management
- ongoing engagement with local stakeholders
- sharing the findings of Trials and economic development opportunities between participants and with relevant agencies.

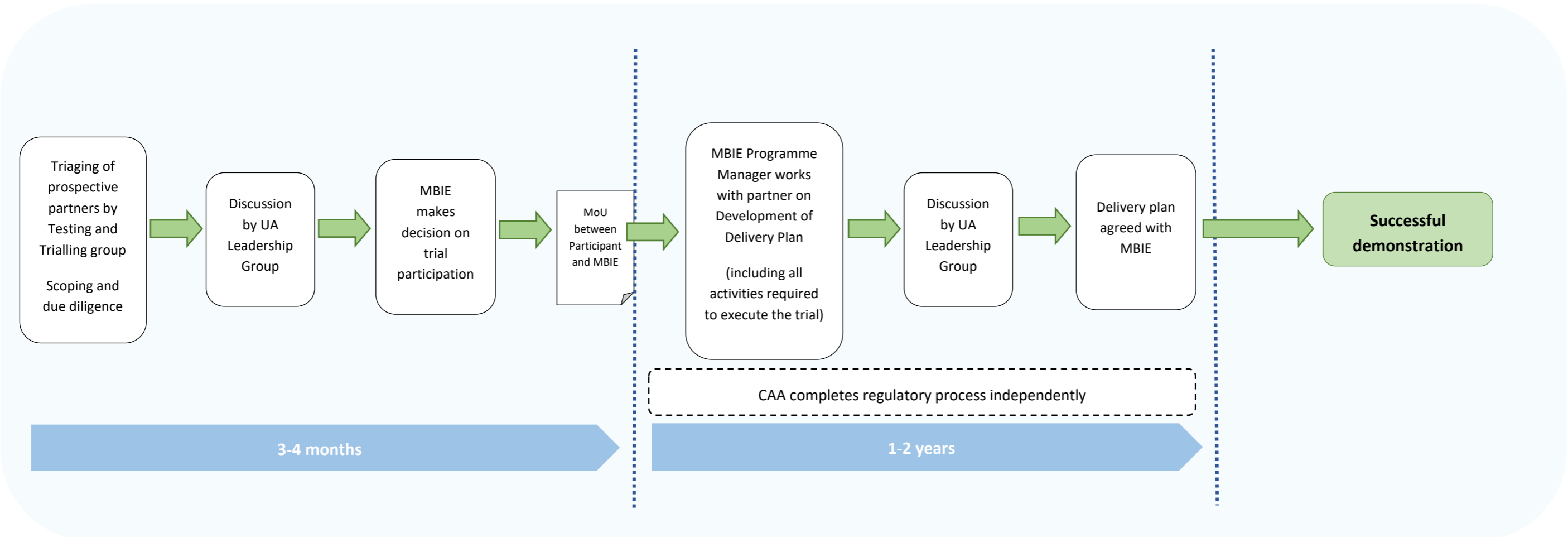
Airspace Integration Trials – High-level overview of the decision making process

Below is a high-level depiction of the steps and decisions for the Airspace Integration Trials programme. The diagram will be expanded with more details by the Programme Manager, following their appointment.

1. Initiation Phase

2. Development Phase

3. Delivery Phase



	MBIE	MoT	CAA	Airways
Initiation	<p>Engage with prospective Participants and invite them to fill out a questionnaire to begin the selection process.</p> <p>Following discussions with the Partners through the <i>UA Interagency Testing and Trialling</i> meeting, invite prospective Participants to present high-level scope of their proposed operations to the Partners through a structured assessment, scoping and due diligence process led by MBIE.</p> <p>Coordinate input from the Partners in the scoping of potential Trials including the feasibility of proposed operations, resourcing pressures on the agencies and alignment with the broader UA integration vision and policy work.</p> <p>Develop and sign a Memorandum of Understanding with the Participant on behalf of the Government, outlining the scope of the Trial, the commitment of the Participant to deliver the Trial, and the support to be provided by MBIE through the programme-managed structure.</p>	<p>Help to evaluate the proposals of prospective industry Participants through the assessment process organised by MBIE.</p> <p>MoT will also assist MBIE by:</p> <ul style="list-style-type: none"> • providing a policy perspective to the work being carried out • helping to align the work to the principles outlined in the Taking Flight vision paper • providing ad-hoc support by contributing to briefings and other materials prepared for the Trials. 	<p>Help to evaluate the proposals of prospective industry Participants through the assessment process organised by MBIE.</p> <p>CAA will also assist MBIE by:</p> <ul style="list-style-type: none"> • providing and policy perspective on the proposed Trial • assessing the technical/operation feasibility of a proposed Trial and those involved • providing relevant regulatory and technical advice • providing ad-hoc support by contributing to briefings and other materials prepared for the Trials. 	<p>Help to evaluate the proposals of prospective industry Participants through the assessment process organised by MBIE.</p> <p>Airways will also assist MBIE by:</p> <ul style="list-style-type: none"> • providing relevant and unique technical expertise in relation to feasibility of the proposed Trial • providing ad-hoc support by contributing its technical expertise to briefings and other materials prepared for the Trials.
Development	<p>Coordinate inputs from Partners and Participants to develop a detailed delivery plan for the Trial.</p> <p>Coordinate and provide support to the Participant in their engagement with central and local government, and other key stakeholders.</p> <p>Coordinate with the Partners and other key stakeholders on the development of each Trial's delivery plan.</p>	<p>Help to develop a delivery plan in line with the elements and criteria detailed by MBIE (as per Appendix 1).</p> <p>Ensure that the delivery plan aligns with the success factors and building blocks outlined in the Taking Flight vision paper.</p>	<p>Ensure regulatory alignment where necessary.</p> <p>Provide aviation safety guidance and oversight.</p> <p>Complete regulatory processes independently, including any approvals or Certification of Participants within the requirements of the Civil Aviation Act 1990.</p>	<p>Help to develop a delivery plan in line with the elements and criteria detailed by MBIE (as per Appendix 1).</p> <p>Provide technical guidance.</p>
Delivery	<p>Provide support to the Participant throughout the delivery of the trial as outlined in the delivery plan.</p> <p>Work with the Participant and Partners to ensure findings from the trial are shared to support policy development and regulatory best practice.</p>	<p>Provide assistance, as necessary, to MBIE in the execution of the delivery of the Trial.</p>	<p>Maintain aviation safety oversight.</p> <p>Utilise trial information in the ongoing development of CAA policy and processes related to drone integration and certification.</p>	<p>Provide assistance, as necessary, to MBIE in the execution of the delivery of the Trial, in particular with regard to Airspace Management.</p> <p>Utilise Trial information in the ongoing development of systems and processes related to drone integration into the New Zealand aviation and transport system.</p>