Ministry of Transport
TE MANATŪ WAKA

Overview of our Drone Work Programme

June 2019 |

Why are we doing this work?

Benefits Study

- Drone Benefit Study commissioned to quantify the potential economic value that drone use could provide to New Zealand over the next 25 years
- Looks across a range of sectors where drones are used (horticulture, forestry, dairy etc.), as well as modelling newer innovative scenarios such as package delivery and passenger services
- Found that:
  - *Commercial drone use is estimated to be worth **$4.6 billion to $7.9 billion** over the next 25 years*

Benefits Study

Key findings of the Drone Benefit Study

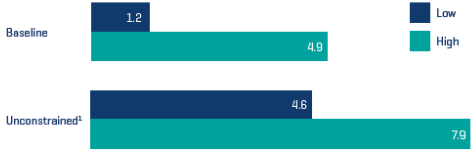
Drones have the potential to change the way New Zealanders do business, and move goods and people. We commissioned the Drone Benefit Study to quantify the potential benefits to New Zealand of a developed drone sector, and to support the cross-government effort towards the efficient integration of drones.

These are some of the key findings of the Drone Benefit Study. The full results, analysis, and modelling is available in the Drone Benefit Study.

77,600
number of drones in New Zealand (in 2017)

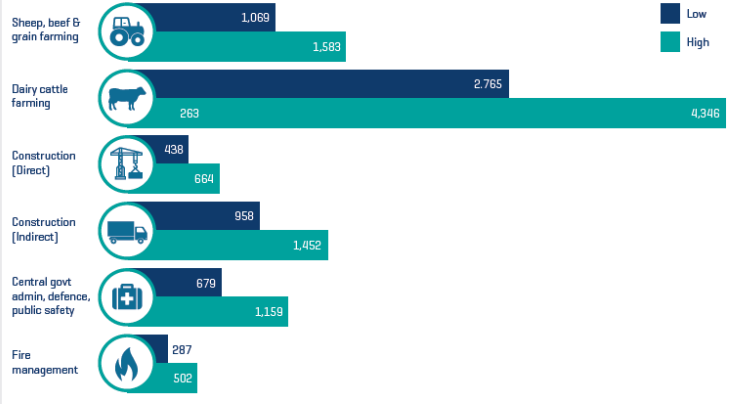
113
Part 102 certificate holders (in May 2019)

Value of the benefits of drones to New Zealand over 25 years ($millions)

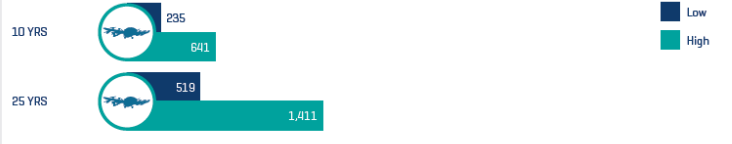


1. Using more aggressive uptake rates for the different sectors (to reflect a blue-sky scenario), and increasing (relaxing) the assumptions about the share of benefits (cost savings) that manifest, presents a substantially more upbeat picture.

Key sector value ($millions)



Value of the benefit of inter-regional drone travel services ($millions)



Who does what?

Ministry of Transport

- Lead on drones and wider transport strategy and policy work

Civil Aviation Authority

- Aviation regulator
- Lead on safety, security and modernisation of the aviation system

Ministry of Business, Innovation and Employment

- Lead for innovative partnerships and attracting innovation and investment

Airways Corporation of New Zealand

- Air navigation service provider
- Leading testing and trialling of possible drone traffic management (UTM) solutions

Who does what?

Drone Leadership Group

- Provides strategic guidance and oversight of the work to achieve the safe integration of Drones into New Zealand's aviation and transport system
- Comprises senior level representation from each agency (MOT, CAA, MBIE, Airways)
- Meets quarterly

Multiple agencies with an interest in drones

- *New Zealand Police, Department of the Prime Minister and Cabinet, Department of Conservation, New Zealand Transport Agency, New Zealand Defence Force, Ministry of Justice, Office of the Privacy Commissioner, Fire and Emergency New Zealand, Transport Accident Investigation Commission, Ministry for Primary Industries, Department of Internal Affairs, Land information New Zealand, Customs New Zealand, Intelligence Agencies*

+ Callaghan Innovation, Local Governments

Taking Flight – drone integration paper

Taking Flight: an aviation system for the automated age

Objectives:

- Provide certainty to stakeholders on the pathway to integrating drones into the aviation system while taking into account the inherent interests of all other aviation users
- Present a shared cross-government vision of ‘a thriving, innovative and safe drone sector’
- Set the direction for a multi-year strategy and programme of work to modernise and integrate drones into the aviation and broader transport system

Key messages:

- New Zealand should remain at the forefront of drone development
- Need to support initiatives that allow innovative flight parameters (e.g. BVLOS)
- Integration is an iterative and phased approach
- Integration is a collaborative exercise which involves working towards the best outcomes for all airspace users
- Integration requires complementary building blocks: Regulation, Funding and Investment, Infrastructure and technology, and R&D

Other work streams

- Short- to Medium-term Policy and Regulatory Work
- UTM
- Security work
- Civil Aviation Bill

Regulatory work programme

Problem definition:

Regulatory work programme

Policy objectives:

“enable New Zealanders to maximise the benefits from drones, while managing the risks (and perceived risks)”

- Maintain appropriate standards of safety and security
- Enable innovation and development in the drone sector, while supporting the interests of the wider aviation sector
- Lay the early groundwork for future integration of drones into the transport system
- Foster social licence, including through managing public concerns about drone use (safety and security, as well as privacy and nuisance)

Regulatory work programme

Different types of intervention will impact different types of operators

Cooperative

- **Responsible operators:** know the rules and will behave responsibly even in the absence of clear enforcement
- **Compliant operators:** will behave responsibly if there are clear rules and enforcement

Non-cooperative

- **Negligent operators:** may ignore the rules (deliberately or not)
- **Determined disruptors:** who intend to cause damage or disruption to people, property or operations (e.g. Gatwick-style incident); conduct surveillance or espionage; or otherwise interfere with New Zealand's national interests

Regulatory work programme

We are looking at potential interventions, including:

- **Rules updates**
  - Includes looking at alternatives to the consent provision
- **Registration**
  - Designing a useful registration system is complex, but lots of potential benefits if we get it right
- **E-identification**
  - Technology that transmits drone identification data during flight
- **Geo-fencing**
  - Technology that informs the drone operator when a drone is entering, or stops a drone from entering, designated sites (e.g. airports, critical infrastructure)
- **Pilot competency/Accreditation**
  - Formal testing requirements for drone operators

Regulatory work programme

Next Steps

- **August - September**: Engagement with key stakeholders
- **Later in the year:** Public engagement
- **2020 onwards**: Policy development, formal consultation, rules development, implementation plan

Aviation security

Responding to drone incursions at airports

- The Ministry and the Civil Aviation Authority are working with other agencies and participants to prevent and prepare for incidents like that seen in Gatwick late in 2018. Protocols are already in place for managing incidents and officials have engaged directly with our international counterparts to learn from their experiences

The Aviation Security System Strategy

- Engagement with stakeholders has confirmed the need for a Strategy that supports greater alignment, collaboration and sharing of information across the system

- In consultation with industry we have developed a framework with five draft outcomes for the system and six priority areas that underpin these outcomes:

  - *Outcomes: System security, workforce capability, system sustainability, coordination and ensuring the right balance*

  - *Priority areas: domestic aviation security settings, insider threats, drones, landside security at airports, international air cargo and cyber security*

Aviation security

The Civil Aviation Bill

- Exposure draft of the Civil Aviation Bill and commentary document has been released for public consultation
- The Bill includes a number of proposals relevant, and specific, to drones
- Includes a proposed provision to enable detention, seizure or destruction of a drone that is operating in contravention of the Act or the Rules

Thank you