



LEGISLATIVE ASSEMBLY
FOR THE AUSTRALIAN CAPITAL TERRITORY

STANDING COMMITTEE ON ECONOMIC DEVELOPMENT AND TOURISM
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Submission Cover Sheet

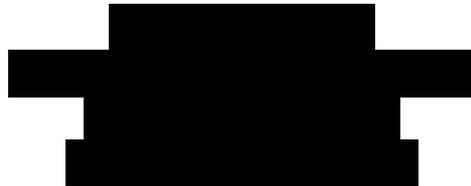
Inquiry into drone delivery systems in the ACT

Submission Number: 043

Date Authorised for Publication: 27 February 2019

Submission

Inquiry into drone delivery systems in the ACT



Terms of Reference

- 1) the decision to base the trials of the technology in the ACT and surrounding region**
- 2) the economic impact of drone delivery technology in the ACT**
 - (I) investment that has been brought into the Territory**
 - (II) number of jobs created as part of the trial**
 - (III) extent of collaboration with local industry and academic institutions**
- 3) the extent of regulatory oversight of drone technology at various levels of government including but not limited to:**
 - (I) Local authorities such as EPA, Worksafe, Access Canberra**
 - (II) Commonwealth agencies such as Air Services Australia and Civil Aviation Safety Authority**
- 4) the extent of any environmental impact as a result of trialling drone delivery technology on:**
 - (I) the residents within the trial area**
 - (II) native wildlife**
 - (III) domestic animals**
 - (IV) greenhouse gas emissions**
- 5) ways to improve the use of drone delivery technology within the ACT**
- 6) any other relevant matter**
- 7) information privacy**

1) The Decision to Base the Trials in ACT and Surrounding Region

Commercial drone delivery is an untried technology, in its developmental phase. Other countries, like the home of the technology - the United States, have been cautious and their regulations are stricter. There should be no pride in being a 'world first' if the outcome is deleterious.

The ACT Government under Chief Minister Andrew Barr is focused on the economic benefits of new technologies, and opposition is presented as hidebound. A balanced Government would care for the wellbeing of the population and protect the special attractions of Canberra that make it eminently liveable: the peace and quiet, the beauty of natural surrounds and the nature *within* the city.

There is a lack of clarity for the population as to how this trial is being monitored and evaluated. With the residents of Bonython split between some in favour and probably more desperately against drone technology, how is the Government making an objective and wise decision?

The trial (free for those receiving the service) and taking place in a suburb with long distances to the nearest shops, receives glowing feedback (according to the Wing website, using what looks like highly skewed data). Hopefully this trial has been closely monitored by an independent research body! We also need more balanced projections than provided by the report organised by Wing from consultancy company AlphaBeta.

2) The Economic Impact of Drone Delivery Technology being tested in the ACT including the investment brought in to the Territory, the number of jobs created as part of the trial, the extent of collaboration with local industry and academic institutions

If Wing is to build a facility in Mitchell there will be a new delivery business in that industrial suburb. What jobs that this create for the local population? I assume the development of the technology and the fabrication of the drones remains in the U.S., care of the parent company Alphabet and the overarching Google. The Mitchell facility will probably be primarily the transport hub for drone deliveries.

The number of jobs created could be minor. If one overseeing 'pilot' can manage a fleet of drones, you may not need many 'operators' at all and eventually the drones will be fully automated. There would not have to be many staff – repair and administrative and marketing. Meanwhile there may be reduced employment in present delivery systems. Perhaps another non-polluting delivery system could be supported by the Government. Bicycle deliveries could potentially employ a large number of the job-hungry young.

So far there have been a few collaborating companies involved in the trial – Mexican meals, a chemist chain, coffee and chocolate providers. It would be interesting to talk to these companies to find out how the packaging and staff involvement work out for them. Wing predicts huge economic benefits to small businesses. What do the small businesses predict?

3) The Extent of Regulatory Oversight of Drone Technology at Various Levels of Government

Local authorities such as EPA, Worksafe and Access Canberra need to create a strict regulatory environment *before* the new drone technology is encouraged to start commercial operations. The ACT Government through EPA should be demanding that the present noise level of drones be dramatically reduced *before* they are allowed to operate in suburban areas, otherwise the noise pollution laws are being broken each time a drone comes within hearing range.

Worksafe should be concerned about the history of drones worldwide and the constant reportage of accidents, through failures of equipment (even with backups and 'fail safe' technology), dangers to public and pets if drones fall from the sky or crash into structures and trees (and this can happen even with fluctuations in the strength of wireless transmissions), hacking of the equipment for mischief or terrorism.

Access Canberra should be fully apprised of possible damage to public spaces and infrastructure due to the above possibilities.

If you look at the accidents and failures that have beset military drones with all their advanced technologies, how safe will these commercial drones be?

Commonwealth agencies such as Air Services Australia and CASA have to develop new regulations for lower air-space use. Regulations for the air above us hopefully will prevent what has happened to our oceans, which are now polluted rubbish dumps, with reduced fish stock and dying reefs. It is not only humans who use the lower air-space with their small planes, weather balloons, skydiving, hang gliding and kite-flying. This space is the essential habitat of insects, bats, birds. There are also ownership questions. Suburban homes own an area (height undefined) above their properties. There are serious competing interests and users of lower air-space.

There is also that powerful attraction of a clear, open sky that is one of the key pleasures of living in Canberra and should not be discounted no matter how hard these qualities are to quantify. Imagine how this will become a lost memory as thousands of buzzing drones fill the sky.

For a company like Google and its offshoot Wing, the priority is making money and, according to Goldman Sachs, there are billions of dollars to be made in the commercial drone industry. The more drones that fly, the better for these companies' balance sheets. The more frequently, and the longer hours the drones fly, the better for the companies. They would clearly prefer few restrictions and that is exactly why they are trying to operate in Australia, because other wealthy countries have tighter restrictions.

We should beware losing benefits which cannot be regained once lost, for the sake of enriching already wealthy and powerful corporations.

The regulatory controls over the lower air-space to protect a range of activities for humans and animals should be urgently developed, visualising the competition for the air-space enabled by powerful multi-national corporations and over-eager governments. Otherwise you can imagine a future of noise and visual pollution, accidents and long drawn-out legal cases.

4) The Extent of any Environmental Impact as a Result of Trialling Drone Delivery Technology

Considering about one-quarter of Bonython residents, who *have* experienced the disruption and noise, were angered enough to sign a petition asking for a ban of drone technology, this is a powerful indicator that, despite the joy of getting a fresh (and during the trial, freely delivered) cappuccino delivered within 6-10 minutes, the disruption and noise is intolerable. This is before a high level of deliveries, so imagine this manifold.

Canberra has been written up in ecology books for its amazingly rich wildlife (e.g., in Tim Low's *The New Nature*). The healthy symbiotic ecology of gardens, trees, insects, animals and birds will be severely disrupted by drones. The lower air-space is the survival habitat of birds and this is exactly where drones will create noise, disruption and danger which will threaten territorial sites, disrupt feeding, and cause abandonment of nests. Larger birds have been shown to attack drones and this can lead to damage and accidents to bird and drone alike.

The Wing Project makes the prediction that the use of drones will cut down substantially on vehicular traffic, significantly reducing the ACT's greenhouse gas emissions and reducing traffic accidents. (Drones use a lot of batteries, which are not exactly environmentally pure!) However, Wing also claims that drone deliveries will create a whole lot of *new* purchases – get your coffee delivered rather than brew your own! So, how is this reducing existing traffic? Could it be actually encouraging obesity instead? While drone deliveries are restricted to light objects, people still need to travel to the shops in their cars for most of their purchases. Even if drones did lead to lower carbon emissions, how would this be balanced against noise pollution and the cluttering of the sky? The Government should beware about wholesale swallowing of the corporation's hyped-up predictions.

5) Ways to Improve the Use of Drone Delivery Technology within the ACT

Drone delivery could be improved by requiring Wing to do what it claimed it aimed to do initially: develop emergency delivery drones to deliver defibrillators to those with heart trouble! If drones were used discriminately for surveys and emergencies they could be wonderful. But when a corporation claims this is their aim but they need years of commercial deliveries to ensure the reliability of their technology, you know the real purpose is the commercial delivery business and, even more worryingly, the rich business of data gathering and selling.

The ACT Government, if it cared for the wellbeing of its population (in terms of noise, protecting the existing attractions of the city, and encouraging people out of the lonely suburban home into the community and shopping centres), and if it also cared for Canberra's wildlife, would be legislating to allow drone deliveries only to the handicapped, home-bound elderly and for emergency situations. Even in some of these cases a live delivery person may be preferable to a machine; would an elderly person stuck at home prefer a machine or a person at their door who may say hello and chat for a few minutes?

6) Any Other Relevant Matter

Some questions:

Will the Report be released?

What were the terms of assessment of the trial?

What commercial benefit does the ACT Government expect from the grant of the licence?

Is there any intention to go to tender (e.g., to give an Australian company a chance?) for a contract?

If the delivery service is established, how is a 'rogue' drone distinguished from a Wing drone?

7) Information Privacy

Wing claims its cameras aimed at the ground are purely to ensure safe navigation. What regulations are in place to protect the privacy of the public against sale and sharing of commercial information about what people have had delivered, about the nature of their medicines, etc? What prevents the attachment of more sophisticated cameras that can collect and sell on a mass of private information?

Conclusion

In conclusion, the ACT Government's Inquiry has the opportunity now, before the commercial form of this technology gets a stranglehold, to take seriously the issues of noise pollution, the disruption of peace, the cluttering of the sky, the unknown damage to birdlife and other wildlife, the distress of domestic pets, the real concerns about failures of machinery and possible disasters, the increasing world issue of hacking, the invasion of privacy and the commercialisation of private space.

Drone technology is in its incipient stages. It is not an area to be rushing into head-on. There are too many already known problems and more areas of uncertainty. Encouragement of this untried technology in a climate of undeveloped regulations could be disastrous.