

**Submission
No 1**

TECHNOLOGY AND THE AGRICULTURE AND MINING SECTORS

Organisation: NSW Productivity Commission

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Mr Justin Clancy MP
Chair
Committee on Investment, Industry and Regional Development
Parliament House
SYDNEY NSW 2000
Email: investmentindustry@parliament.nsw.gov.au

Dear Mr Clancy,

Re: Technology and the agriculture and mining sectors

I welcome the opportunity to make a submission to the Inquiry into technology and the agriculture and mining sectors.

The NSW Productivity Commission is focused on driving economic reform to boost productivity, employment and household incomes. Technological innovation is one of the biggest drivers we have available to increase productivity growth. Well-designed regulation can support technological innovation and economic growth, while still protecting the health and safety of the community. Overly complex and prescriptive regulation, on the other hand, can stifle innovation and slow productivity.

My recent publication, *Regulating Emerging Technologies* (Attachment A) examines how we can adjust regulations to get the most out of emerging technologies, while managing safety and other risks. Building on research by the Centre for International Economics (CIE) and the NSW Productivity Commission's White Paper (2021), it focuses on three emerging technologies—personal mobility devices, e-bikes, and drones—which have the potential to transform the movement of people and goods. Drones, in particular, offer opportunities to make work in a range of industries, including farming and mining, safer and more productive.

Better regulation of drones in agriculture could deliver large economic gains

Modelling completed for the Commonwealth estimates that across Australia, the use of drones in agriculture and mining could increase GDP by more than \$6 billion between 2020 and 2040.¹ Uses include spraying and surveying crops, inspecting livestock, monitoring and maintaining infrastructure, and surveying and mapping.

Current regulations, however, impose barriers to the take up and use of drones in agriculture and mining. The regulations make it costly and time-consuming to operate drones beyond the line of visual sight and to fly drones at night. Farmers must wait two months and spend up to \$26,000 on training and regulatory fees before they can use a drone to spray crops beyond the line of sight on their own property. They must also seek permission from the Commonwealth Civil Aviation Safety Authority (CASA) each time they

¹ *Deloitte Access Economics, Economic Benefit Analysis of Drones in Australia, Brisbane, 2020*

operate the drone beyond their line of sight. This is despite the low risk of drones colliding with other people, property, and aircraft due to the remoteness of most farms.

My *Regulating Emerging Technologies* report finds that simplifying the regulations for drone use in agriculture could deliver up to \$500 million in net benefits for NSW in today's dollars by 2041 from:

- Reduced farm injuries and fatalities, as high-risk farming activities such as equipment and livestock inspections are substituted by drones.
- Increased efficiency of routine farm work, as drones perform tasks that would otherwise be labour-intensive, such as locating livestock.
- Improved yield from enhanced crop monitoring and spraying efficiencies.

These benefits could be even higher as more innovative drone uses emerge and if more flexible rules were extended to drone use in other sectors, such as mining.

As recommended in the NSW Productivity Commission's White Paper, the NSW Government should work with CASA to trial alternative drone rules in priority sectors, starting with agriculture.

Broader principles for emerging technologies

In addition to specific recommendations for drones, personal mobility devices and e-bikes, the *Regulating Emerging Technologies* report develops principles that are broadly applicable to a range of emerging technologies:

- Regulations that are outcomes-focused and technology-neutral will help future-proof our regulatory systems and maximise innovation opportunities.
- Governments should be regularly scanning the horizon for new technologies and updating regulations to respond to the opportunities and risks posed.
- Governments should also embrace a culture of regulatory experimentation by implementing regulatory trials and refining the rules based on these trials.

Technological change is continuous, bringing new products and services that can unlock large productivity gains in the agricultural and mining sectors.

Having the right regulatory settings will position NSW to benefit from future innovation in agriculture and mining, and help deliver better economic, safety and environmental outcomes for the people of NSW.

Yours sincerely



Peter Achterstraat AM
NSW Productivity Commissioner

14 February 2022