



UNLOCKING AUSTRALIA'S \$100BN AGRITECH FUTURE

Overcoming Challenges and Leveraging Smart Farming Innovation

With an objective of reaching A\$100bn agritech output by 2030, Australia's agricultural productivity can be expected to increase significantly. But how is this to be achieved efficiently? A closer look at the growing role of 'smart farming' and the associated technological, intellectual property, and regulatory challenges provides insight into the path forward.

DEFINING AGRITECH: THE RISE OF SMART FARMING

The term 'agritech' has been defined in several different ways across Australian jurisdictions. A working definition is technology directed to the efficient farming and distribution of agricultural products, in particular food and beverage (also known as 'agrifood'). In the digital era, the term 'smart farming', also known as 'precision farming' or 'precision agriculture', seems to capture the essence of agritech. 'Smart farming' implies the primacy of digitalisation of agricultural processes.

The development of intellectual property (IP) supporting 'smart farming' looks, at least from the engineering perspective, very different from the hardware focus of the agricultural revolution which tended to involve individual inventor/entrepreneurs rather than today's large agriculturally focussed corporations.

Such large corporations have easier access to the resources to develop and commercialise hardware, for example in the form of drones, robotics and mobile devices. This is also true of the development and commercialisation of agricultural chemicals ('agrochemicals') as well as life science related products including genetically engineered products including micro-organisms and seeds.

Smart farming and the accompanying growth of digitalisation (including artificial intelligence and machine learning) supporting an Agriculture 4.0 framework for agricultural production, opens new avenues for productivity but it also introduces complexities, especially in relation to IP considerations and technological access.

CHALLENGES AND OPPORTUNITIES FOR AGRITECH IN AUSTRALIA

Leaving aside issues with the ownership, protection and use of data collected from farmers to fuel digitised agricultural processes, the country faces several hurdles in fully capitalising on the benefits of smart farming. These include issues of access to technology, freedom to operate, and the need for continued innovation across various aspects of the agrifood supply chain.

- **Access to technology:** Most agritech technology originates in US, Canada, China and Republic of Korea with Australia relatively less active. A survey of US patents related to digital technology showed that a number were not filed in Australia despite the technology having potential utility in the country. Patenting computer implemented inventions is challenging in Australia. There is a risk of limited access to technology where it cannot be patented in a particular jurisdiction. Therefore, Australia may not get access to the best technology for adoption in smart farming and will potentially need to pay more for inferior technology due to resulting limitation of competition.
- **Freedom to Operate Barriers:** Freedom to operate may impact farming in a number of ways. For smaller scale farming, use of genetically modified seeds and seed planting equipment could potentially trigger patent infringement litigation as in the United States and Canada. Tort litigation concerning GMO seeds and impacts on organic certification has already occurred in Australia: Marsh case. Patents for new genomic techniques could also potentially cause barriers for plant breeders so freedom to operate is an important issue. These are just examples.
- **Innovation Opportunities:** Innovation, as has been spurred by the farm to fork (F2F) strategy in Europe where sustainability considerations create IP opportunities, for example, in:

farming methods avoiding antibiotic microbial resistance issues

waste processing to biogas and other products

biofuels for example through algal capture of carbon dioxide

carbon sequestration

reduction in agrochemical usage

food related innovation at the 'fork' end of the F2F spectrum.

THE ROLE OF SMES AND INDIVIDUALS IN AGRITECH INNOVATION

The advantaged position of the agriculturally focused multi-national corporation does not mean no opportunities for individuals and small and medium sized enterprises (SMEs) to contribute to 'smart farming' or 'farm to fork' strategy. Indeed, capture and protection of intellectual property developed by such individuals will be critical to technology transfer and commercialisation, most likely by corporations with the necessary farming customer base to make such commercialisation possible.

CONCLUSION: A PATH FORWARD FOR AUSTRALIA'S AGRITECH GROWTH

Australia's goal of reaching A\$100bn in agritech output by 2030 is within reach, but achieving this target will require overcoming several challenges. Ensuring access to the best technologies, protecting intellectual property, fostering innovation, and maintaining a focus on sustainability will be key drivers of success. By creating an environment that supports collaboration between large corporations, SMEs, and individual innovators, Australia can unlock its full agritech potential and position itself as a global leader in the digital agriculture revolution.

FOR MORE INFORMATION

Should you wish to contact our Wrays agritech expert to discuss your own IP opportunities, please contact Richard Baddeley (richard.baddeley@wrays.com.au).



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