

## AGRICULTURE



Over the last eighteen months we have been working closely with Meat and Livestock Australia (MLA) to better understand how spatial information and location technology can deliver efficiencies for the red meat sector. We are aligning our research initiatives with the strategic goals set by the Australian Red Meat Advisory Council to tackle issues as disparate as branding, fenceless farming and improving supply and demand information.

This approach will allow us to meet and work with a diverse range of industry players and build new networks across the agricultural sector, while gaining an on-the-ground understanding of where spatial information can improve the livelihood of Australian and New Zealand farmers.

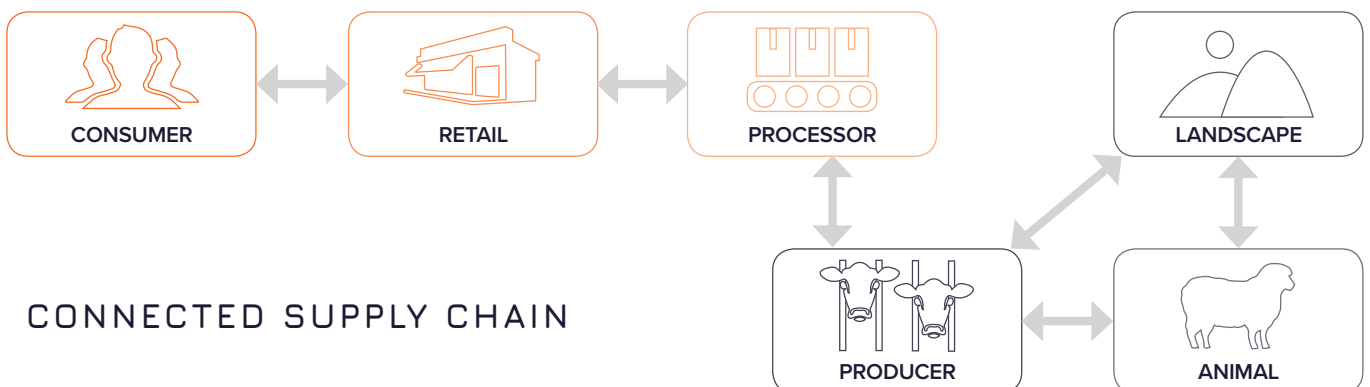
There are several current areas of shared focus with MLA – genetics, animal analytics and supply chain data integration. Once we have shown how spatial information and improved location technology can deliver gains to the red meat sector, we will broaden the scope of our activities to find partners and apply outcomes in other sectors such as cropping and horticulture.

For a sustainable future we need our farms to be tightly controlled efficient operations turning out reliable products and immune, as much as possible, to the whims of nature and markets. The power of where can contribute to this objective along the full value chain – from paddock to plate.

### FUTURE RESEARCH



In collaboration with our industry and government partners, our research teams will work with existing and emerging technologies to look at how we integrate animal tracking with continent-wide satellite imagery to understand how animals and landscapes interact and change over time. We will also further our research in biomass estimation and management, bringing the optimum integration of technologies to bear on the problem and delivering better decisions to farmers in real time. This will grow capacity for our partners by creating new market opportunities.



## OUR CONTRIBUTION

Research from our positioning, Spatial Infrastructures and Rapid Spatial Analytics programs has been used in farming applications for the last decade. We have built tools for better on-farm biomass estimation, using handheld optical sensors and remotely sensed information from planes and satellites – making it easier and quicker for farmers to know the state of their crops and pasture. Our spin-out company, FarmMap4D, delivers a world-first capability, allowing property managers to analyse up to 30 years of time-series satellite data in seconds – helping them make more informed decisions. We have worked with Adelaide startup, Myriota, on a low-cost remote water level monitoring system using satellites to directly access sensor data, saving days of effort. This project also involved creating an easy-to-use application to display water level data clearly on a farmer's mobile device.

We have also invested in research to help producers take advantage of the spatial and behavioural data being generated by new on-animal sensors. This work has helped explore where and when animals go to water, how their behaviour changes when they are stressed or in a diseased state, it has also shown producers how to improve mustering efficiencies.

Linking with our spatial infrastructures program, we have also been researching how best to create and make accessible the right foundation spatial data sets needed for the agricultural sector.

## AIMS

### Improve production system efficiency through:

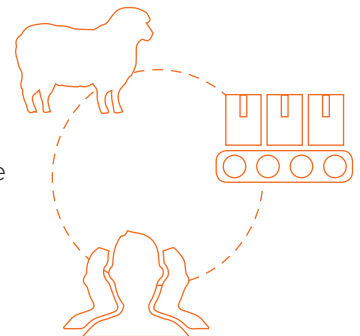
- Low-cost sensors and autonomous systems applied to agriculture
- Biomass estimation to inform better pasture, crop and stock management
- Integrating soil, vegetation and animal behaviour analytics to optimise production

### Improve the supply chain:

- Predicting finishing weights and dates for enhancing market readiness
- A deeper understanding of the supply and demand drivers for agricultural produce
- Spatially enabled livestock management to track health, wellbeing and welfare status

## OUTPUTS

- Improved productivity and long-term sustainability of feed bases
- Improved decisions from real-time landscape and animal location information
- Increased consumer and community support



FRONTIER **S**  
I >

We know where.

### FOR MORE DETAILS CONTACT

Phil Delaney, Manager – Partner Services

P: +61 405 034 442 E: [pdelaney@frontiersi.com.au](mailto:pdelaney@frontiersi.com.au)

[frontiersi.com.au](http://frontiersi.com.au)