



Subprogram 5: Identify considerations and challenges for integration and adoption of Virtual Herding.

Why is this project being undertaken?

It is anticipated there will be learning, management and ethical considerations for farmers when investigating and implementing virtual herding (VH) technology on their farms. We will conduct social research to:

- Identify key considerations for adoption of VH technology for farmers and advisors in the livestock industries.
- Identify challenges for integration on-farm, including an assessment of the costs and benefits of on-farm VH technology to different stakeholders.
- Define and document the adoption pathway(s) for implementation and integration of VH technology in the livestock industries.
- Develop a coordinated plan across the livestock industries to realise benefits and address identified challenges.

Who are the main partners?

The social research will be conducted with farmers from the major livestock industries (beef, dairy and sheep), together with community stakeholders and policy makers in both rural and urban locations in eastern Australia. The sub-program is being led by Dr Ruth Nettle (Associate Professor) and Ms Nicole Reichelt (Research Fellow) from the University of Melbourne, Parkville, Victoria. The University of Melbourne team will work in partnership with the livestock industries (DA, MLA, APL, AWI), collaborating research organisations (UNE, USYD, CSIRO, TIA) and the farmer reference group.

What will the project achieve?

By 2020 the project will deliver:

- a technology assessment report including industry specific and across industry implications from adopting VH;
- an assessment of the on-farm costs and benefits (incorporating physical, financial, environmental,

lifestyle and social elements) of adoption and integration of VH on commercial farms;

- knowledge about the adoption processes associated with VH technology and how agricultural innovation is supported by participatory technology assessments.

How is the research being done?

- *Literature review (meta-analysis):* Targeting international studies of adoption and integration of precision agriculture innovations into livestock systems.
- *Facilitating a participatory technology assessment process of VH:* Focus group workshops with scientists, farmers and farm advisers involved in each of the major livestock industries (dairy, sheep and beef) regarding the challenges and opportunities for adopting VH, as well as consultations with government and community stakeholders interested in or impacted by VH technology.
- *Case study farm analysis:* dairy, sheep and beef farm case studies will be developed to examine the integration challenges for VH and assess the costs and benefits of VH technology on-farm based on farmer interviews, farm data collection and whole farm systems modelling. The assessment of costs and benefits on farm will draw on the results of the other sub-programs in the Project.
- *A comparative analysis:* a cross-industry assessment of the risks, costs and benefits from applying VH technology and the implications for adoption pathways will be identified.

Subprogram 5 Contacts

Ms Nicole Reichelt; reichelt@unimelb.edu.au
 Dr Ruth Nettle; ranettle@unimelb.edu.au
 Dr Brendan Cullen; bcullen@unimelb.edu.au

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