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## TECHNOLOGICAL INNOVATION IN TODAY'S PASTORAL INDUSTRY

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Necessity is the mother of invention. I recall we first used a motorbike to move sheep in 1948 because my younger brother Bill could catch the horses. The idea gradually grew and by 1959 we ceased using horses altogether, using motorbikes to muster sheep instead. During our 1954 muster, my elder brother Ted went and chartered an aircraft from Dogget Aviation to help spot sheep. The exercise was so successful that I obtained my private pilot's license in 1960 and we were able to hire an aircraft from the Royal Aero Club for four pounds ten shillings an hour. To avoid the inconvenience, the family purchased its own Cessna172 from the Royal Aero Club in 1963 for four thousand pounds.

As pastoralists, we have long recognised the need to monitor our vegetation to ensure enough is left for sustainable production. With help from a young bright eyed DAWA officer named David Wilcox, we set up several rangeland monitoring sites across our properties in 1965. Needless to say, photos back then were black and white.

Motivated by a need to control wild dogs and later kangaroos, I started to experiment with electric fencing in 1972. That was about the same time I met another young and intelligent DAWA officer based in Meekatharra by the name of Kevin Shackleton. In 1967 we built our first mustering trap yards. Just before Christmas 1985 we installed a VHF radio repeater for two way communication. By 1988, we had over 100 miles of electric fencing in operation and thanks to two quite clever and able Telecom technicians, we had nine radios installed to monitor the electric fences and two remote windmill tanks. It was this now-ancient remote monitoring system that gave birth to Telstra's "Satellite Shepherd" advertising campaign in 1999.

I stated at the beginning of my talk that necessity is the mother of invention. In my opinion, today's pastoral industry is genuinely in need of technological innovation, as producers must improve their management efficiency if they are to remain profitable & competitive. The good news is that there is great potential for technology to significantly boost both management and production efficiencies.

I believe that historically, the rates of new technology adoption by pastoralists has been low because new technologies have not been properly understood. There is this fear of the unknown. Another reason could be peoples' reluctance to change. A lot of times new technology is perceived as being disjointed as technology suppliers rarely market more than a few product lines and these are often not compatible for cross-integration into holistic management systems. But finally, the main cause of non-adoption is when new technology is seen as not being a cost-effective alternatives to current practices. A common feature of most new technologies is their high capital investment costs and the need for specialised skills to make it work.

Therefore I would like to suggest that technology developers should not confine themselves to re-inventing the wheel. A lot of technology is already out there and they should be investigating & consolidating various individual bits & pieces into holistic integrated management technology products that are practical and economical. And finally, it is imperative that technology requirements are be determined through broad-scale industry consultation.