

ROBOTICS

AND AUTOMATION BRING NEW SKILL SET TO FARMING.

Techweek held over 10 days in May provided a platform for New Zealand's high value technology sector to showcase the developments and value the \$23.5 billion industry brings to the economy, and agricultural agri-tech is a key part of that.

Farming 2020 was one of the 150 tech focused events within Techweek that highlighted the level of technology and automation that has been quietly building within New Zealand's primary sector, creating new job opportunities and changing the way modern farms will operate. As a sector agri-tech is now valued as being worth \$1.2 billion.

One of the key events for the primary sector was the Farming2020 event on LIC's Innovation Farm near Hamilton, where visitors got to see new levels of automation, data gathering and analysis over the three-day event.

The sensors, drones, computers and devices in operation on the LIC farm played to a wide audience, including investors, industry innovators and importantly school students from across the North Island.

Jenny Jago, DairyNZ strategy and investment portfolio manager was heavily involved in establishing DairyNZ's original robotic Greenfields farm near Hamilton over 15 years ago at a time when it was still the stuff of science fiction farming.

She believes the high-tech systems, devices and sensors that can now be incorporated into modern farm systems will be as important

in capturing the career intentions of these school children as they will be in lifting farm productivity.

"There are about 20-22 robotic dairy systems in place in New Zealand, and interestingly one of these is on a school farm, near Levin. That's a smart move, it is getting a younger generation engaged with the technology, and giving them an opportunity to see the career potential that underlies this new wave of technology that demands a whole new set of skills."

As the agri-sector looks to recruit more young people who are committed and engaged to a longer term career within it, a new layer of options is opening up with the digital and automated systems the technology brings.

Bayleys' agent Mark Dawe based in the Waikato says it is interesting observing how different farmers embrace and use technology, or apply the 'old school' ways which often incorporate hands on involvement and visual assessment.

"I was visiting a farm last week and when I arrived the wife and husband, who are in their seventies, were looking at various alerts and downloads on their iPhone. This led to a discussion about how they monitor their farm, which for them was a combination



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having to focus on keeping costs down and minimising new capital investment.

“With the improved milk prices we are likely to see more farmers looking at some of the more capital intensive options”

The decision to automate a dairy system may have to be balanced against the option to go to once-a-day milking, if the farmer's desire is to simply reduce time spent in the farm dairy.

“Obviously one option is very capital intensive, while the other requires no capital outlay. It comes down to what else you may want to achieve and how each option can enhance your businesses – making good investment decisions is critical. Automating is an expensive option, but also a stimulating one in that it opens up different ways of looking at your farm business and how you allocate your time.”

A typical automated milking unit can handle about 70-75 cows comfortably and Jenny says the critical mass for milking ability may need to be closer to 100 to be robustly economic.

Swedish milking machine company DeLaval has a robotic milking system in operation on the farm of John Fisher near Cambridge. Milking 320 cows the system has been in operation for six years.

Key benefits have included being able to treat the cows as individuals, with individual cow identification meaning cows being treated with health treatments, or giving colostrum, can continue to run with the main herd. Meantime staff working hours are less and life is more flexible for being off the farm.

Jenny Jago believes automation may prove to be more popular with smaller farmers like the Fisher operation.

“There is an element of being able to delay succession – by having robots do the regular milking work, giving the owner time to do other things. It also helps to attract a younger generation to the business of dairy farming as the concept of technology and automation is appealing.”

of technology, comparing historic hand written data plus regular walks through the paddocks and time in the dairy shed and yards.

“Another client always refers to his online mapping system and does a virtual fly over the property before deciding if he wants to come and physically look at the property.”

He says with 13 years experience as a real estate agent, there is no one stereotypical farmer nor an absolutely complete computer program.

“The big mistake we can all make is to try to judge a book by its cover.”

Jenny Jago says automation and technology advances means would-be farmers almost have to have technology skills that sit equally alongside critical farming skills.

She says the two seasons of low milk prices has meant the rate of automated milking technology has slowed somewhat, with farmers

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