

# TechKISS Topics

A project of the NSW Dairy Industry Fund

Helping dairy farmers get what they want from technologies for individual cow management

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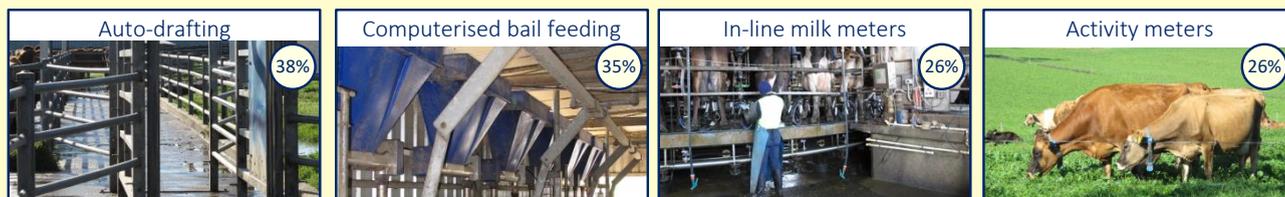


# The TechKISS Project Report

Nov-2019

## Cow Management Technologies

on NSW dairy farms in 2018



TechKISS is a NSW Dairy Industry Fund project helping dairy farmers 'get what they want' from individual cow management technologies.

More effective use of auto-drafting, computerised bail feeding, in-line milk meters and activity meters has the potential to significantly increase herd productivity.

### The project approach



The project has worked with farmers and service providers in New South Wales to create new resources (short videos and Topic Sheets) that share key elements for successful technology use on farm.

### What technology is in Australia?

The first step was to compile a list of the cow management technologies that are commercially available in Australia: the TechMatrix.

The TechMatrix is an independent resource that summarises the key features of about 80 products from 20 manufacturers.

The contents of the TechMatrix will change as new products are released or the functionality of existing products expands.

The spreadsheet and a video on how to use the TechMatrix are available on the NSW Department of Primary Industries website. It is a good starting point for discussions about tech on farm.

### How many farms have the technologies?

60% of farms use one or more of the technologies

Single	Two	Three	All 4
22%	18%	13%	7%

The survey of NSW dairy farms found that:

- 40% of farms don't have these technologies (all but one of these had less than 300 cows).
- Of the 60% of farms with tech: 22% had a single technology, 31% used two or three, and 7% had all of four.

In 2018, 38% of farms had auto-drafting, 35% had computerised bail feeding systems, 26% had in-line milk metering and 26% had activity meters.

While the majority of farms with auto-drafting or in-line milk metering had installed them more than five years ago, 61% of the farms with activity meters had put them on in the last two years.

NLIS Electronic Identification worked the auto-drafting system on 76% of farms, the bail feeding on 71% of farms, and the in-line milk meters on 52% of farms.

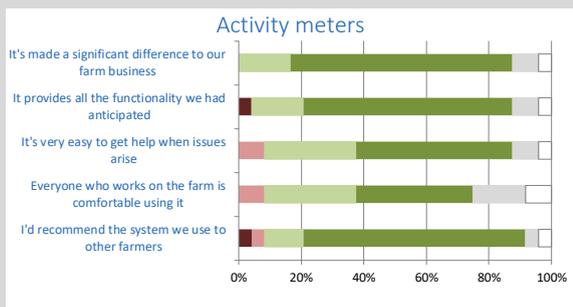
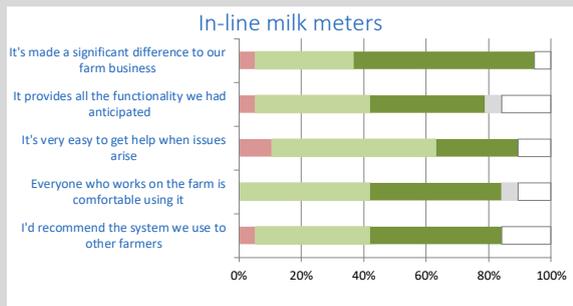
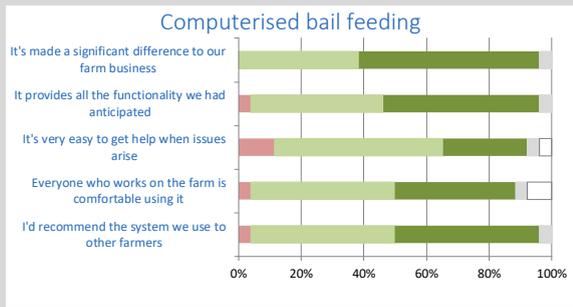
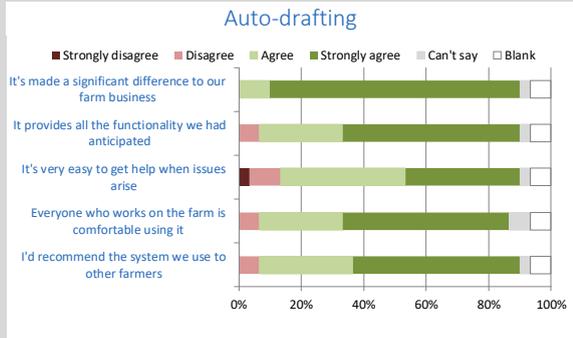
Herd Management Software developed in Australia is used on half the farms in NSW (Easy Dairy on 38%, Jantec on 12%). The next most commonly used package is Alpro/Delpro (on 10% of farms). 21% of farms do not use computerised records for herd management (all had less than 300 cows).

Satisfaction with the cow management technologies is high and most farmers said they had made 'a significant difference to the farm business'.

# The TechKISS Project Report

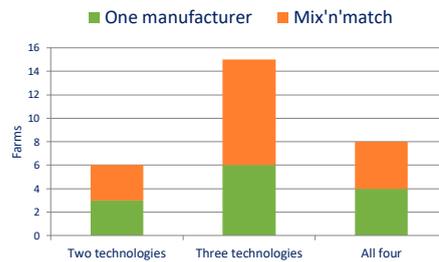
## How well is it playing out on farm?

39 farm interviews



Many of the 'tips and traps' of technology in the TechKISS resources came from the interviews with 39 farmers and 35 service providers. More than half of the 29 farms with multiple technologies were using a mix and match of brands.

29 farms with multiple technologies



## Extent of tech integration on farm

The interviews confirmed that integration of cow management technologies is not a given when using a 'mix and match' of brands.

When integration is a priority, the options are to:

- Buy technologies that work together,
- Negotiate a case-by-case solution with the tech supplier (also best done at purchase), or
- Use the technologies independently (which may require entering data such as calving dates into 2 separate systems).

Farmers largely rely on other farmers and dealerships for advice about purchasing and using equipment (there are no independent services for this).

## How data generated by tech is used

Farmers primarily use the cow management technologies to (fully or partly) automate tasks.

While a major driver for investing is to reduce costs associated with labour, the benefits of using tech were more centred around 'making things easier', 'reducing stress' and 'being able to leave the farm'.

Few farms were using data from the technologies for herd-level decision-making, although this is likely to be where a lot of farm productivity improvements could potentially be made.

Visit [NSW Department of Primary Industries](#) for videos and Topic Sheets on the TechKISS technologies shown above, and the TechMatrix.

Our thanks to the 20 technology suppliers, 141 NSW dairy farmers and 35 advisers who contributed to this project.



TechKISS is a New South Wales Dairy Industry Fund project delivered by the Harris Park Group between 2018 and 2019. Project information is generic and is offered on an 'as is' basis with no guarantees of completeness or accuracy. Please seek advice before acting.

# TechKISS Topic: Electronic Identification of Cows

Nov-2019



*"I've been using EID for drafting, bail feeding and milk meters for 15 years and am very confident it's picking the right cows."  
-MH*

Electronic Identification (EID) enables the quick and accurate identification of animals. It is a necessary part of any technology used for individual cow management on dairy farms.

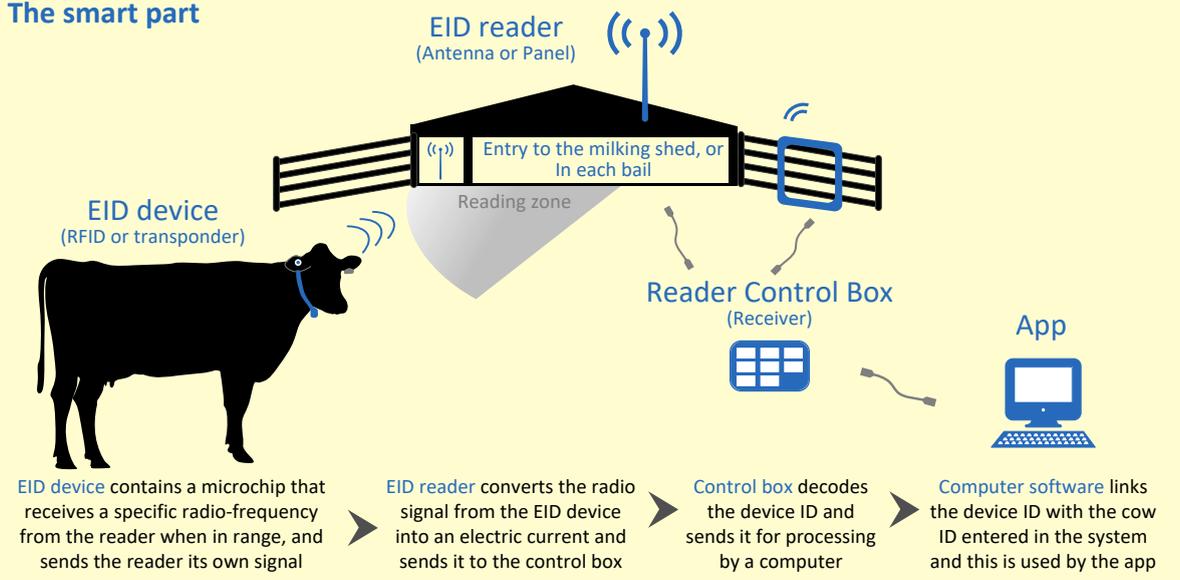
The components of an EID system are:

- An EID device typically an NLIS ear tag, activity meter or proprietary transponder
- An EID reader such as an antenna at the milking shed or in each bail, or a panel reader on a race
- A reader control box (or receiver)
- A computer processor and software (app).

## Importance of EID

- ★ Automates cow identification
- ★ Used by all technologies that automate management tasks for individual cows
- ★ Makes customised management of cows practicable in large herds

## The smart part



# Making Electronic ID Work For Your Farm

## Tips & traps from TechKISS study farmers



### EID readers

- ❑ Tune the antenna to the reader controller
- ❑ Protect the antenna from damage by cows (eg with poly pipe)
- ❑ For NLIS tags, place reader where tags can be sufficiently energised by antenna before use
- ❑ Position readers:
  - So the cows' EIDs are in their zone of detection
  - In rotary dairies, to detect cows that go around the platform twice



### Signal interference

- ❑ Have a pre-installation site survey to check for potential interference
- ❑ Check for electromagnetic interference at installation:
  - Place antenna on wood if possible
  - Ensure Variable Speed Drives and motors have shielded cables
  - Check metal poles, fluorescent lights, electric fences are not causing interference
- ❑ If using more than one reader, check for cross-interference (radio frequencies) between systems
- ❑ For ultra high frequency devices, check that any water stores aren't absorbing the radio signal



### Integration with other tech

- ❑ Be satisfied the EID product will work with the other kit on the farm before buying (readers, auto drafting gates, software, etc)
- ❑ Have a system that can report 'no reads' and unlinked tags (use a receiver that can transfer data to software that can do this)



### Cow identification

- ❑ Use visual ID as well as electronic ID
- ❑ Put all NLIS tags in the ear on the right
  - Consistency helps keep devices in the 'zone of detection' of readers (eg auto-drafting gates)
  - Avoids tags being adjacent when cows are in bails (eg bail feeding)
- ❑ Enter all forms of ID for cows on the computer (correctly matched)
- ❑ Have a hand-held reader (wand)
  - They're handy in the yard
  - They're good to have as a back up
- ❑ Remember to re-assign activity meters if they are transferred between cows
- ❑ Always use a backup to protect against milking errors in the event of a system malfunction, eg paint treated cows



### Ongoing oversight

- ❑ Regularly check that all cows are wearing EID and the device is working
- ❑ For activity meters, check:
  - Batteries are working
  - Devices are sitting right on cows

Visit [NSW Department of Primary Industries](#) for:

- Videos on cow management technologies
- TechMatrix which features common individual cow technologies in Australia.



In 2018, 60% of dairy farms in NSW had cow management technologies that used EID.

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# TechKISS Topic: Auto-Drafting

Nov-2019



*"It's the first thing to do, you can't get value from the other tech unless you can auto-draft cows."*  
-AD

Auto-drafting is an electronically-operated gate that automatically sorts cows via their Electronic Identification.

You can enter criteria to select cows in the system software or select cows individually. Cows are typically auto-drafted for mating, treatments, pregnancy testing, further observation or vet checks.

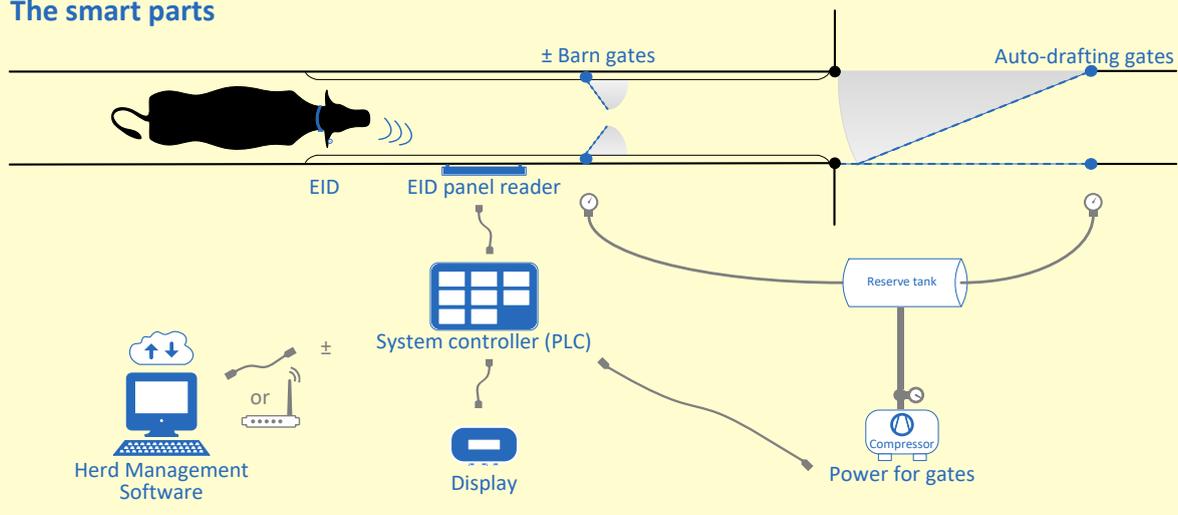
The smart parts of auto-drafting systems are:

- EID to uniquely identify every cow, usually NLIS ear tags or activity meters in Australia
- An EID reader such as an antenna or panel
- A system controller, a processor that receives data and directs what the drafting gate does
- Powered gates.

## Benefits

- ★ Saves time and labour
- ★ Accurately drafts the right cows
- ★ Promotes smooth cow flow
- ★ Helps farm safety (less animal handling)

## The smart parts



# Making Auto-Drafting Work For Your Farm

## Tips & traps from TechKISS study farmers



### Design of race, gate & yards

*For smooth cow flow ensure:*

- Race has good forward visibility
- Entry race is 2+ cow lengths
- Exit from race is 2+ cow lengths
- Draft gates are hinged from far post (stops cows forcing their way through)
- Draft gates are gently angled (so cows don't hesitate or baulk)
- Gates are not noisy (eg use rubber to stop clanging and minimise sound of air movement in rams)
- Yard can hold cows with space to spare (eg holds double typical cow numbers)
- Work areas aren't in direct line of sight
- If using rubber to reduce hoof wear, extend it to the end of the exit race and into the sort pen
- Race is at a width so cows can't pass
- Barn gates swing from front to back (to stop cows backing out)

*For more functionality:*

- Put in 3-way gates if you can (it provides more options than 2-way)



### Gate activation

- Set up the gate to be fast-acting so cows can't force or jam it
  - Have sufficient reserve air capacity
  - Locate reserve close to gates (in a way that controls for any noise)
- Ensure cows can't enter until target cow is segregated
- Protect the control box from sun & rain
- Purchase gates with a manual override (for blanket action or if malfunction)



### Fixing issues

- Ensure workers know what to do when there is a system failure
- When purchasing, pick a system where issues can be fixed within one week



### Position of EID reader

- Place the reader well before cows reach the gate
- Check antenna can reliably read all cows
- Shield antennas so cows in holding yards aren't read
- Put readers where they are easy to clean and clean regularly - including the sensor eye (detects gaps between cows in races with barn gates)



### Integration with other tech

- When choosing a system, ensure the Electronic Identification used by the herd will operate the gates (not all do)
- Get a system controller that integrates with your herd management software



### Cow identification

- Put NLIS tags in the ear on the right
- Regularly check that the EID system is working well
- If using activity meters for EID, ensure they are assigned to the right cow



### Drafting cows

- Before installing, decide where gates will be controlled (eg from the office, at cups on/cups off, via smartphone)
- Ensure the following are entered into the system controller:
  - Individual cows details
  - Drafting criteria



### WH&S

- Put farm protocols in place to manage this crush point hazard

Visit [NSW Department of Primary Industries](#) for:

- [Videos on cow management technologies](#)
- [TechMatrix list of auto-drafting systems available in Australia.](#)



In 2018, 38% of dairy farms in NSW were using auto-drafting.

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# TechKISS Topic: Activity Meters

Nov-2019



*"We're finding cows we wouldn't have picked as on heat. The person who used to just watch cows come in and go out of the dairy is now helping with cupping up."*  
- AD

Activity meters have complex algorithms (formulas) that assess posture and activity patterns to predict a variety of events, such as whether a cow is on heat, sick or calving.

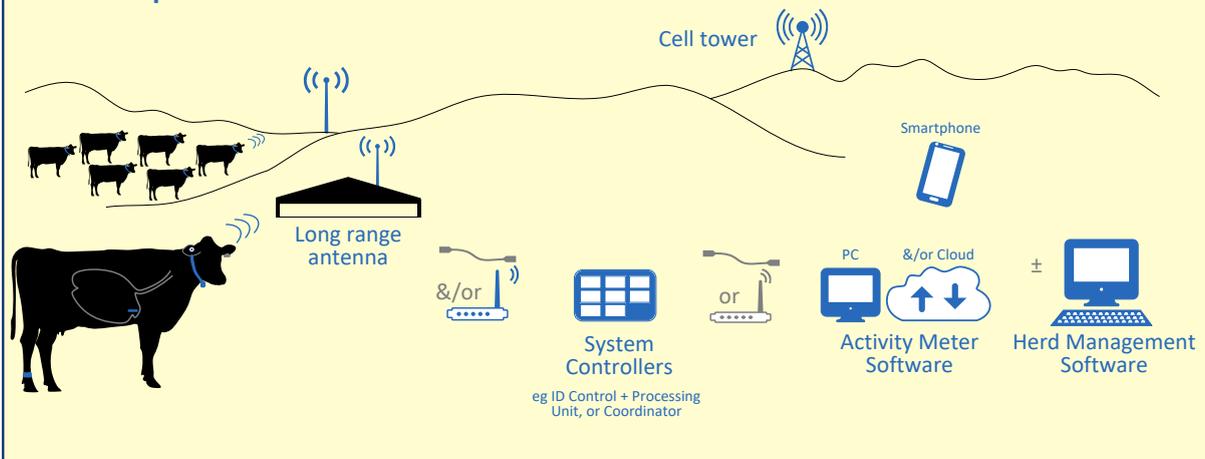
The smart parts of activity meter systems are the:

- **Activity meters** on individual cows that transmit radio signals (every 15-120 mins).
- **A receiver** (long range antenna or WiFi) that picks up and converts this to a digital signal, and sends it to a
- **System controller** that processes the cached data and makes it available to the
- **Activity meter software** which converts the data into alerts and reports, and often includes a **smartphone app** so people can access anywhere.
- Integration with **Herd Management Software** avoids double entry of data and makes automation easier.

## Benefits

- ★ Reduces labour input needed for heat detection
- ★ Improves reproductive performance of herd
- ★ Detects sick cows early (better health outcomes)
- ★ Reduces stress - and a way to get off farm

## The smart parts



# Making Activity Meters Work For Your Farm

## Tips & traps from TechKISS study farmers



### Choosing activity meters

- Talk to others before buying:
  - Farmers using the product
  - Your farm consultants about the data outputs they need
  - Tech suppliers for up-to-date details
- Base your final choice on:
  - How it integrates with other tech used on the farm (now or in future)
  - The available support (“don’t just buy to a price, buy to a service”)

#### Other considerations:

- Decide type of activity meter (collar, ear tag, leg band, rumen bolus)
  - Typical maintenance and replacement frequency
  - Fit with farm infrastructure (such as head bales)
- Get the desired functionality such as:
  - Rumination included in algorithms
  - Cloud-based, accessible remotely
  - Use of smartphone app to enter cow-side observations
- Know the costs of this technology:
  - Estimate the likely pay-back time
  - Plan for depreciation and replacement



### Integration with other tech

- Get activity meters that work with the farm’s Herd Management Software (this is a high priority with other cow management technologies such as auto-draft gates and in-line meters)



### WH&S

- Have appropriate facilities for safely fitting and removing devices
- Put farm protocols in place to minimise injury when handling cows



### Signal coverage across farm

- Put in antennas (and possibly repeaters) to get desired coverage
- Check that you’re not picking up radio signals from neighbouring cows
- Check firmware updates automatically via the antenna



### Activity meters on cows

- Assign meters to the right cow
- Put meter on cow in appropriate position, with the correct tightness
- Have on cows for at least 7 days to generate reliable baseline data
- Regularly check cows are wearing their devices and they are working
- Store loose transponders in a steel cabinet so they are not read



### Acting on alerts

- Set up so information is displayed where it’s needed (at point of milking, via smartphone app etc)
- Train farm staff so they understand outputs and know how to act on each of the different alerts



### Fixing issues

- If used for heat detection, be able to fix or replace meter within 24 hours
- Be able to have software issues fixed immediately (eg by remote access)

Visit [NSW Department of Primary Industries](#) for:

- [Videos on cow management technologies](#)
- [TechMatrix list of activity meters available in Australia.](#)



In 2018, 26% of NSW dairy farms had activity meters, two-thirds having been installed since 2016.

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# TechKISS Topic: Computerised Bail Feeding

Nov-2019



Computerised bail feeding technology gives farmers the flexibility to customise the amount and type of supplementary feed given to each cow.

Targeted feeding can help cost-effectively maintain cow health, milk production and reproductive performance – which can be particularly useful in year-round calving herds with cows in different stages of their lactation.

The smart parts of individual bail feeding systems are:

- EID to uniquely identify every cow
- EID readers at the entry to the dairy or in every bail
- Feed tables where you specify the feed each cow gets
- Feed controller that controls the delivery, and
- Dispensers that mechanically deliver the specified amount into each feed bin.

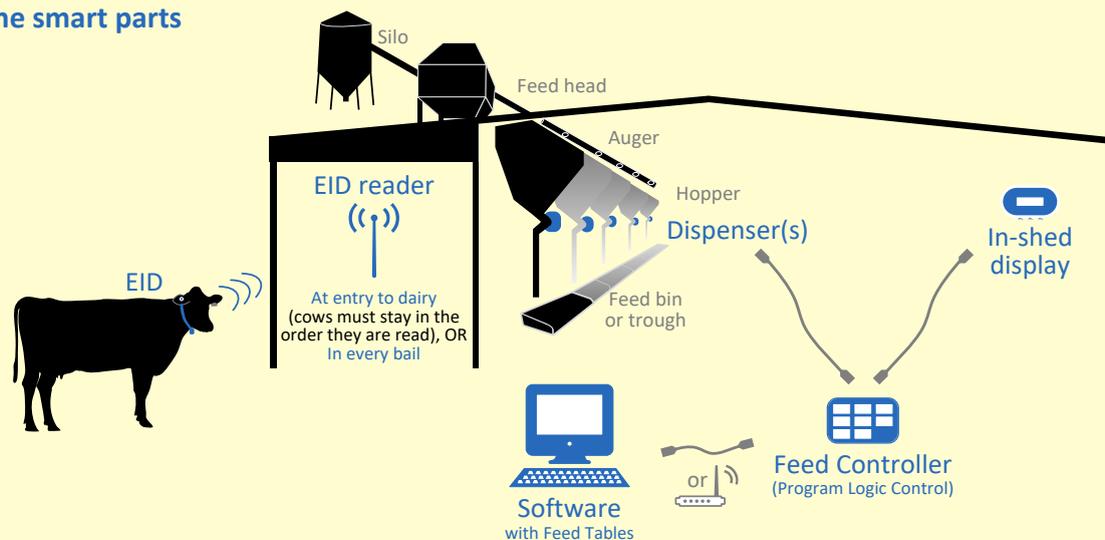
*“We run groups of cows including fresh cows and those that are ramping down. Feed costs have gone down significantly without any reduction in milk production.”*

- MH

## Benefits

- ★ Enables best use of supplementary feeds - as recommended by a farm nutritionist
- ★ Reduces feed wastage (and cost of production)
- ★ Enables feeding to:
  - prepare for drying-off (ramping down)
  - manage cows in transition (lead feeding)
  - manage cows in early lactation (ramping up)
- ★ Allows feeds to be sourced and used more efficiently and cheaply

## The smart parts



# Making Computerised Bail Feeding Equipment Work

## Tips & traps from TechKISS study farmers



### Feeding equipment

*If getting a new feeding system:*

- Choose one that has easy access to the feeders for servicing
- Put in the number of feed heads needed to cater for the feed options required by the herd
- Have feeding controls within easy reach of the staff milking
- Have a set-up that ensures cows stay in their bail location and can't poach from their neighbours' feed troughs



### Integration with other tech

- Get a feed controller that integrates with your herd management software



### Cow identification

- Put EID tags in the ear on the right
  - So they are consistently placed for the EID reader
  - To avoid EID tags being directly beside each other for in-bail readers
- Check the EID is working on all cows (no missing or faulty transponders)
- For EID readers at the entry to dairy, ensure cows can't back out or pass each other once they have been read
- If there is a sensor on every bail, check they recognise the cow EID
- Position readers in rotaries so they can detect cows that go around the platform twice



### Routine feeding system checks

- Check the silos are correctly filled
- Check the augers are working
- Check the computer is working
- Work with a nutritionist to ensure the feed tables are appropriate
- Keep the feed tables up-to-date
- Ensure feed is being correctly dispensed
  - Calibrate feed dispensers for every new load of feed
  - In herringbone dairies, check when feed starts and stops dispensing
  - In rotary dairies, check the position of the feed drop in relation to cups on
- Visually check residual feed in bins
- Keep the maintenance on schedule



### Fixing issues

- Ensure you can get support on the same day an issue arises (the skill needed will depend on the issue)

Visit [NSW Department of Primary Industries](#) for:

- [Videos on cow management technologies](#)
- [TechMatrix list of computerised bail feeding systems available in Australia.](#)

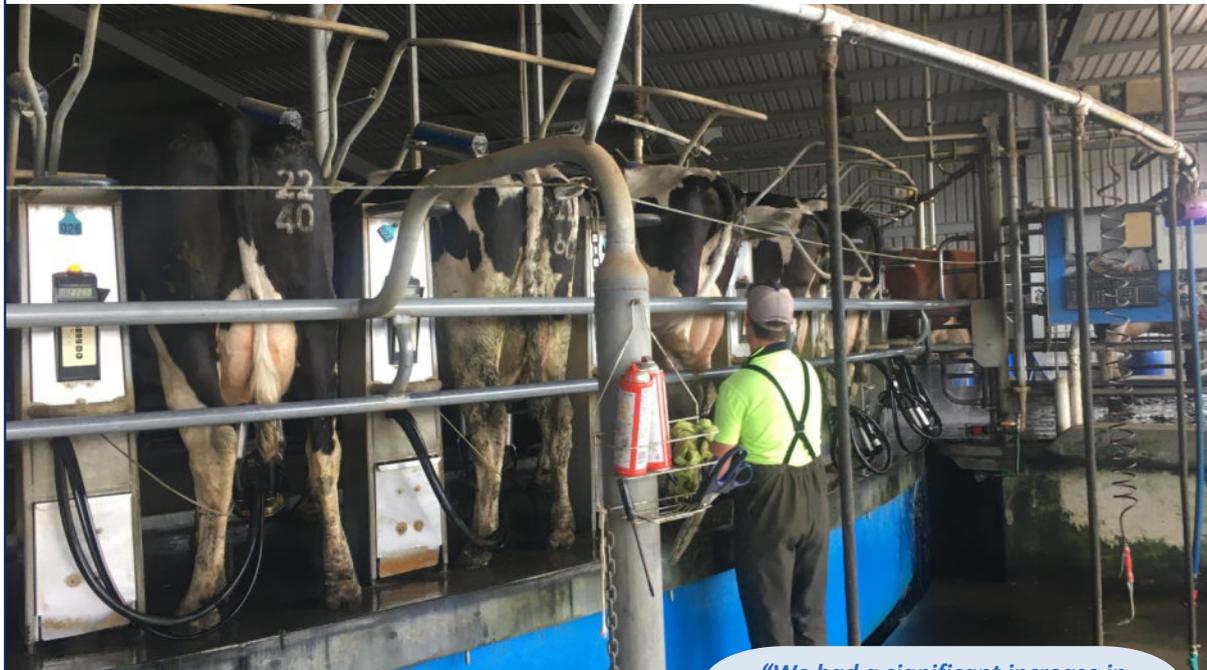


In 2018, 35% of dairy farms in NSW had computerised bail feeding technology.

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# TechKISS Topic: In-line Milk Meters

Nov-2019



In-line milk meters generate data on milk production and the milking process for every cow at every milking. All meters measure milk yield. Some test biological indicators for mastitis, nutritional or reproductive status.

The smart parts of milk metering systems are the:

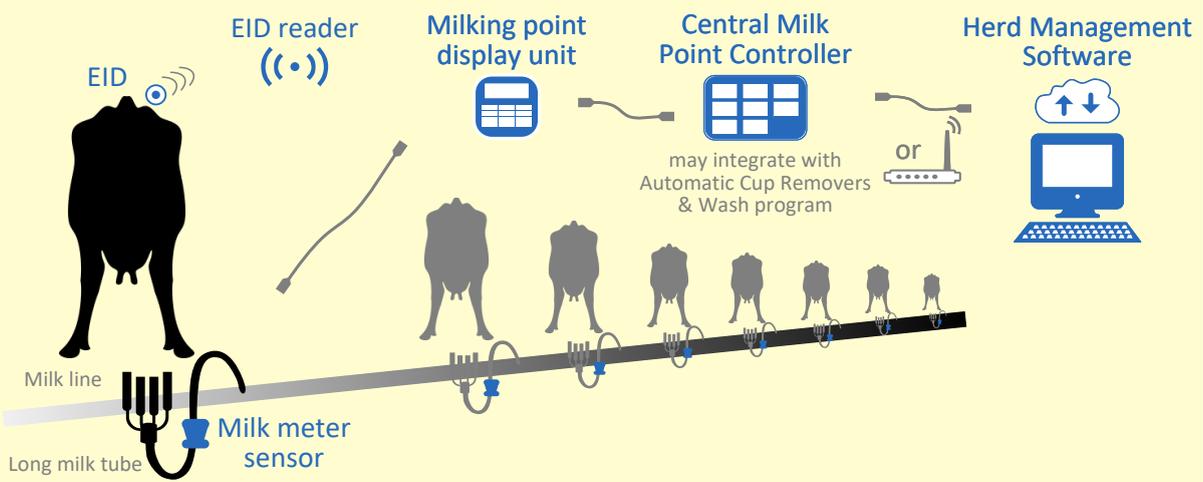
- **Electronic Identification** that identifies individual cows
- **An EID reader** that matches the cow's EID with a specific milk meter
- **A milking point display** for staff use while milking
- **A central controller** that receives and processes milk meter data
- **Herd Management Software** that compiles data from multiple sources turning it into information.

*"We had a significant increase in milk quality after introducing the milk meters, with no real increase in treatment of cows."*  
- MH

## Benefits

- ★ Informs drying-off and culling decisions
- ★ Helps manage mastitis and milk quality
- ★ Tracks responses to changes in feed
- ★ Informs feeding regimes so they maintain good cow health and are cost-effective

## The smart parts



# Making In-line Milk Meter Equipment Work

## Tips & traps from TechKISS study farmers



### Choosing milk meters

- Know what it is you want to improve about the herd management
- Talk to farmers and service providers about their experience of systems
  - How they use the outputs
  - How it fits the milk harvesting system
  - How it integrates with other tech
  - Maintenance requirements
  - Any additional skills needed by farm workers
- Talk to your farm advisers (nutritionist, vet etc) on the specific information they need to get value from the system
- Plan for training the farm team to:
  - Become familiar with the equipment and software, then a few weeks later
  - Master all aspects



### Fit with your milk harvesting system

- Get meters that are easy to wash /clean
- Be able to get immediate support if milk harvesting is contingent on meters working



### Integration with other tech

- Check whether the meter outputs can be used to automate tasks (such as auto-drafting using pre-set criteria)
- Get a system controller that integrates with your herd management software:
  - To inform feeding management (especially if have computerised bail feeding technology)
  - To boost the accuracy of the alerts by combining with other data



### Acting on alerts

- Put in place protocols for the different types of alerts (mastitis, health etc)
- Train farm staff, including casuals, so they know what to do



### Electronic identification of cows

- Put NLIS tags in the ear on the right
- Prevent electromagnetic interference with the RFID signals:
  - Shield cables
  - Run cabling separate to pumps and other machinery
  - Have adequate earthing
- Regularly check EID of all cows



### EID readers

- For milking sheds with EID reader at entry, design lead in so cows stay in the same order they are read
- For rotary sheds with antenna on entry bridge, have a long entry so only one cow is in reading distance at any time
- For rotary shed with reader mounted overhead at platform entry, install it at least one bail towards cups on so the cow is held by the rump rail



### Meter maintenance

- Position meters to give easy access for maintenance and calibration
- Have a strong routine to ensure:
  - Regular calibration of meters
  - Water quality (water hardness) is not interfering with cleaning
  - There is sufficient hot water available for cleaning
  - Reagents are being used correctly (where relevant)
- Check the maintenance schedule is being followed
- Check the system after any modifications or repairs

Visit [NSW Department of Primary Industries](#) for:

- [Videos on cow management technologies](#)
- [TechMatrix list of in-line milk meters available in Australia.](#)

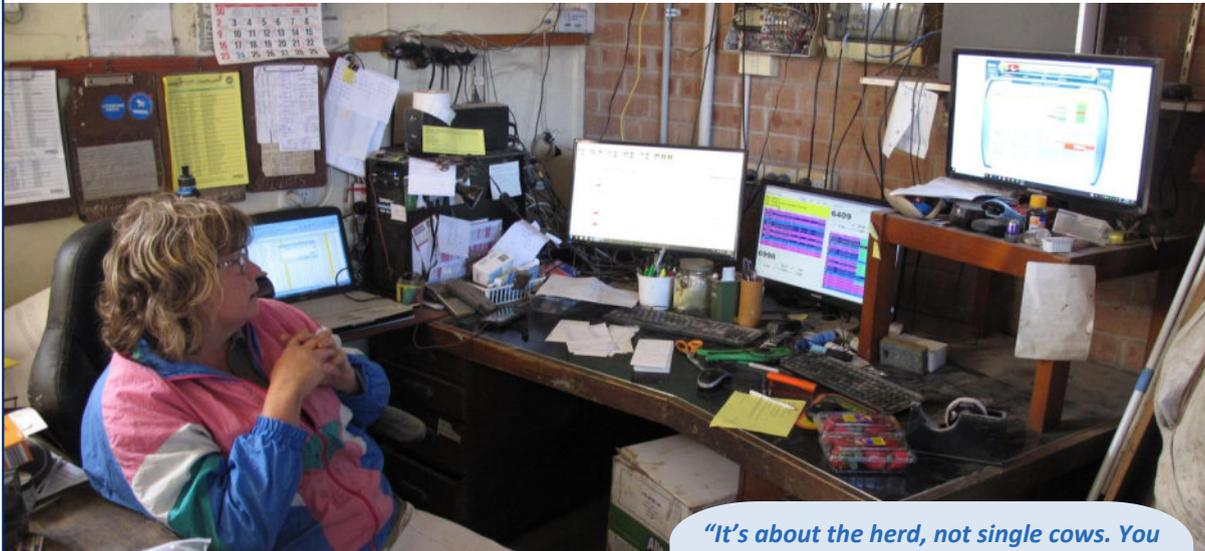


In 2018, 26% of dairy farms in NSW had in-line milk meters, half able to measure mastitis indicators.

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# TechKISS Topic: Herd Management Software

Nov- 2019



*"It's about the herd, not single cows. You should only have to use one computer system, and all information should transfer automatically."*  
- CW

Dairy herd management software stores and analyses data collected across the lifetime of cows, including mating records, lactations and health events. Reports and applications vary between software products.

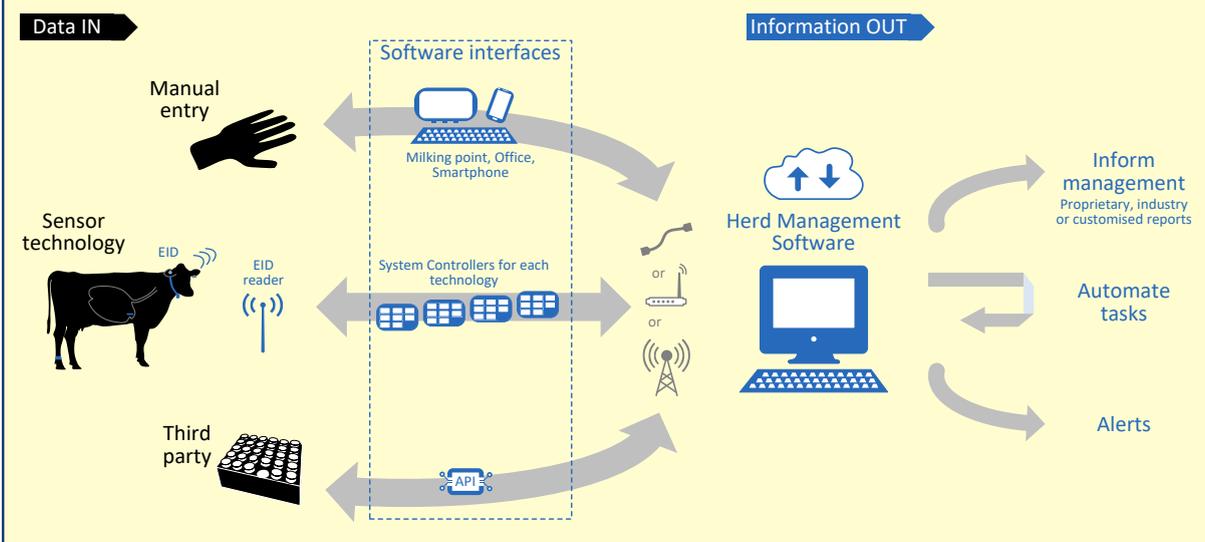
Herd management software (HMS) that is smart:

- Has the **software interfaces** (computer code) it needs to automatically transfer data with other systems, eg
  - **Sensor data** flows in and out of the HMS through the various **system controllers**
  - **Application Program Interfaces (API)** enable herd test results to be uploaded and downloaded
- Provides management with the **information** it needs:
  - Relevant herd lists and reports
  - Data coordination to automate tasks
  - Data combination for robust health alerts.

## Benefits

- ★ Summarises key aspects of herd performance (production, health, nutrition, reproduction)
- ★ Informs day-to-day management (generate lists for preg test or dry-off, check history etc)
- ★ Automates tasks (auto-draft for examination, customised feeding etc)

## The smart parts



# Making Herd Management Software Work For Your Farm

## Tips & traps from TechKISS study farmers



### Choosing herd software

- Know what you want out of the system
  - Ask your farm advisers (nutritionists, vet, farm consultant) what metrics they want
  - Check that reports are easy to modify (default settings may not be applicable)
- Go for integration, get software that:
  - Works with other tech on the farm
  - Automatically uploads herd test results (if relevant for your farm)
  - Easily imports and exports data
- Get the IT functionality you want
  - Does it have a mobile app (can see and enter data in real-time)?
  - What happens when the system is not connected to the internet?



### Technical support

- Ensure issues can be fixed in a reasonable time (may depend on your type of service support subscription)
- Organise for service providers to have remote access to your system
- Always have a backstop (such as a list of treated cows on a whiteboard in the dairy) in case the system goes down



### Training in how to use

- Organise an introductory training session for the farm team on how to use key functions
- After using for 6 months, dedicate time to learning how to interpret and (better) use the various outputs
- After using for 12 months, review how you can further customise the system to meet your farm needs



### Ongoing oversight

- Have someone take overall responsibility for managing the system and the data quality
- Download and install any program upgrades as soon as they become available to keep the system current, secure and operating smoothly
- Have good IT practices in place:
  - Keep the operating system up-to-date (install updates)
  - Ensure regular back ups (likely to be part of the subscription if using a cloud-based service)
  - Run current anti-virus software

Visit [NSW Department of Primary Industries](#) for:

- [Videos on cow management technologies](#)
- [TechMatrix list of Herd Management Software available in Australia.](#)



In 2018, 79% of dairy farms in NSW had herd management software.

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# TechKISS Topic: Tech Fundamentals

Nov-2019



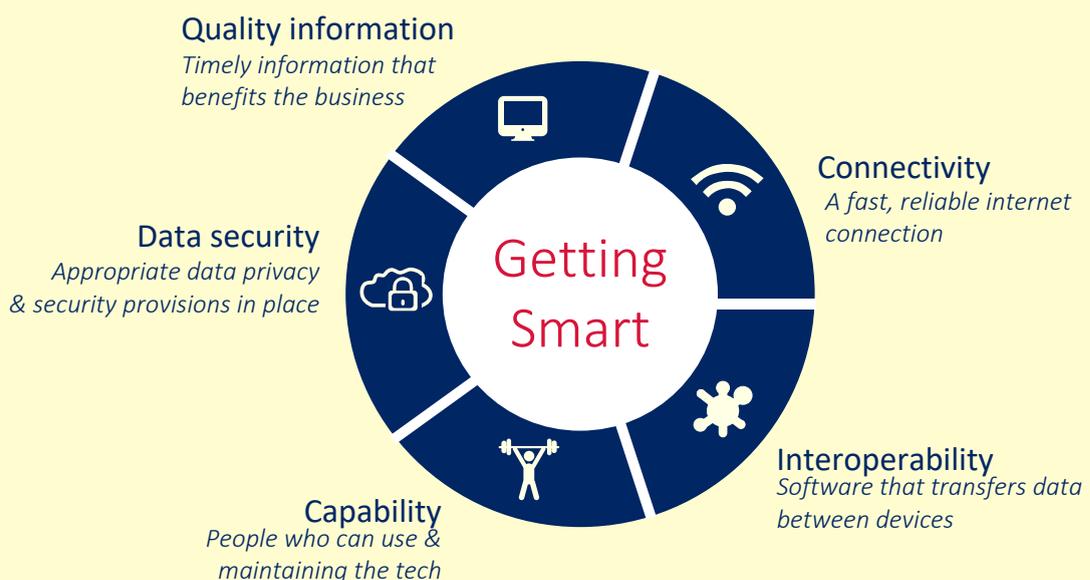
Technology is necessary for future agricultural productivity and sustainability. Smart devices (such as sensors) that connect to, and inform, each other have the potential to transform farming by:

- **Monitoring situations** and providing the relevant information as it's needed
- **Enabling remote action**, and
- **Automating tasks**.

TechKISS has short videos on the technologies commonly used for individual cow management based on the experiences of dairy farmers and service providers.

This topic summarises some general principles that underpin all these technologies.

## Fundamentals for smart farming



## Cow Management Technologies **Tech Fundamentals**



### Data from tech is used for herd management

While dairy farmers primarily get cow management technologies to automate tasks, the technologies generate rich data streams that can be used to improve feed efficiency, reproductive performance and udder health of the herd.

→ Check whether the tech works with your Herd Management Software before buying it.



### People are trained and confident to use

Technology is not a 'set and forget', people keep the system both operational and relevant. Having a staged approach to training can be helpful (familiarise, consolidate and then customise).

→ Ensure everyone who works on the farm knows what is expected of them and have the skills to do it.



### Compatibility is a priority consideration at purchase

Compatibility can't be assumed between brands. Farms using a 'mix and match of technologies are responsible for getting them to work together and this can be hard to achieve retrospectively.

→ Make compatibility a priority consideration at purchase if you want different technologies to work together.



### Supporting tech is part of the farm routine

The software is as important as the hardware for any computerised equipment – and it requires regular attention to ensure smooth functioning (such as keeping the operating systems up-to-date and ensuring data is backed-up).

→ Make maintenance and support of technology an important part of the farm routine.



### Get tech that suits your farm and does what YOU want

When purchasing new gear it's important to make an informed choice - what's bought today will be there for years. Know what infrastructure and people capacity is needed for the tech to work, and what services and support are included the cost.

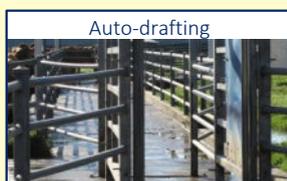
→ Talk to as many people as you can – other farmers, service providers and tech suppliers.



### Expect change

Cow management technologies are getting smarter – with increasing wireless data transfer, computer processing capacity, energy efficiency and technical innovations.

→ Expect your technologies to change and plan for their replacement.



Auto-drafting



Computerised bail feeding



In-line milk meters

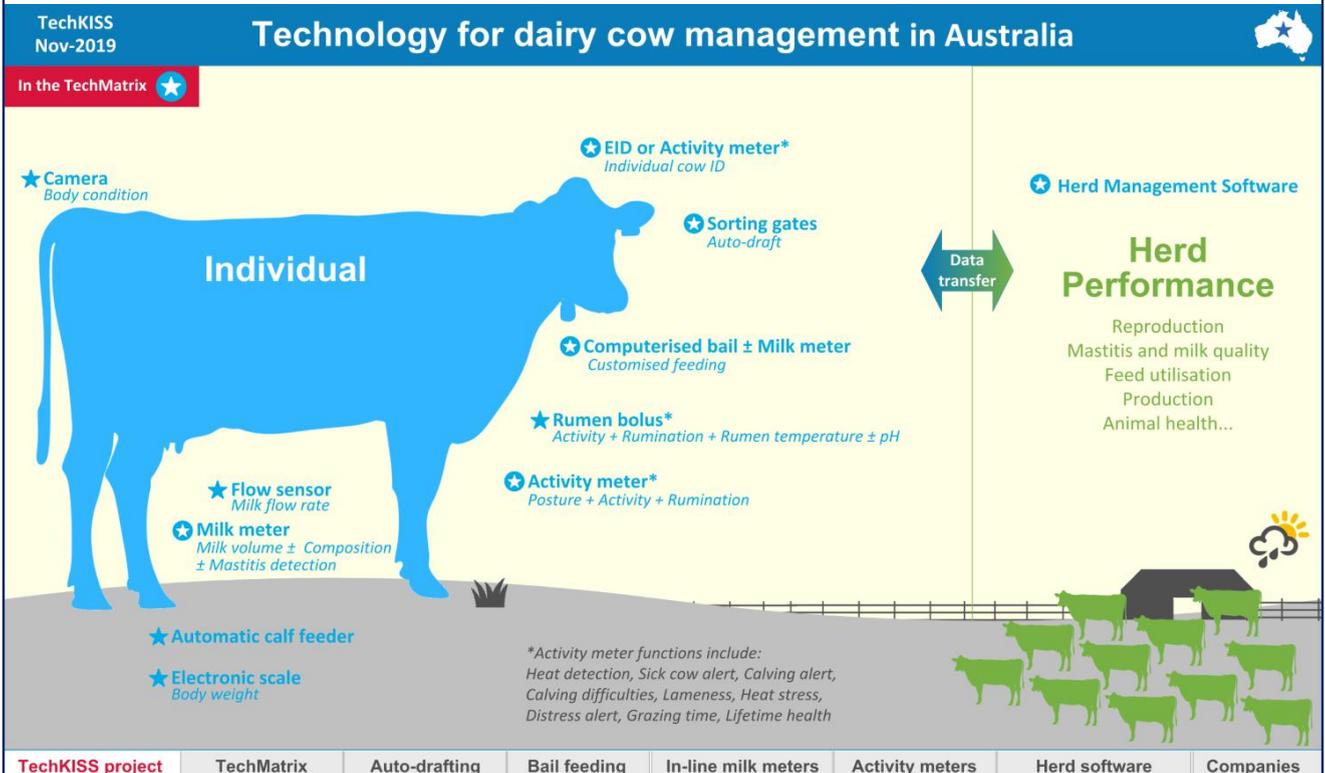


Activity meters

Visit [NSW Department of Primary Industries](#) for videos and Topic Sheets on the TechKISS technologies and the TechMatrix.



TechKISS is a New South Wales Dairy Industry Fund project delivered by the Harris Park Group. Project information is generic and is offered on an 'as is' basis with no guarantees of completeness or accuracy. Please seek advice before acting.



The TechMatrix is a spreadsheet showing the technology available in Australia for individual cow management. The technologies it includes are marked by a white star ★.

The spreadsheet consists of 8 individual worksheets:

- TechKISS project
- TechMatrix
- Auto-drafting
- Computerised bail feeding
- In-line milk meters
- Activity meters
- Herd Management Software
- Companies.

Always check the date at the top of the page to see how current the information is.

Any of the products listed in the TechMatrix can achieve good results if they match the needs and capabilities of the farm.

The features described in the TechMatrix are particular for each type of technology.

## Benefits

- ★ Lists the products available for individual cow management in Australia
- ★ Gives information about the features that shape how that type of technology is used
- ★ Indicates what kit can work together

Most worksheets have a:

- 'Same as' column to show products that are essentially the same technology but available under different brand names.
- 'Work with other kit' column for farms that want to try to 'mix and match' different brands of gear.

Other features include:

- Whether the technology works with NLIS tags
- What software controls the product
- What Herd Management Software is compatible with the product.

Contact Nico Lyons if you have ideas or updates for the TechMatrix: [nicolas.lyons@dpi.nsw.gov.au](mailto:nicolas.lyons@dpi.nsw.gov.au)

# Products in the TechMatrix

Manufacturer or main supply	EID	Auto-drafting	Computerised bail feeding	In-line milk meters	Activity meters	Herd software
AGIS	-	-	-	-	CowManager	-
Afimilk*		AfiSort	AfiFeed	AfiMilk MPC, AfiLab analyzer	AfiAct II Leg Tag, Silent Herdsman	AfiFarm 5 series & Afimilk Cow Info app
Allflex/SCR	NLIS tags	SCR Sort Gate	-	SCR FreeFlow FFS30	Heatime Pro+, SenseHub, Semex ai24#	Heatime Pro+ or SCR Data Flow II & Healthy Cow app, SenseHub
Alta Genetics#	-	-	-	-	CowWatch	VAS DairyComp 305
BouMatic*	Boumatic RT tag	SmartDairy Sort, EZ Sort Gate	Boumatic feed system	SmartControl Meter, SmartFlo	HeatSeeker 5, HeatSeeker RT, HeatSeeker RT+RL	HerdMetrix
DairyMaster	NLIS tags	DairyKing Drafting Gate	FeedRite	Weighall Milk Meters, Commander Milk Meter	MooMonitor+	MilkManager & Farm Messenger app, MooMonitor+ app
DataGene	-	-	-	-	-	HerdData app
DeLaval*	B Transponder, NLIS tags	DeLaval Sort Gate	One Place Rotary Feed, Herringbone Feed	Milk Meter Fi5, Yield indicator Fi7, MM27BC, Herd Navigator sampler	Activity Meter System	DelPro & DelPro Companion app
Easy Dairy	-	Easy Draft	Easy Dairy Herringbone Feed, Easy ID Rotary ID system	Eli Pro Eli SAMM	COWcontrol [Nedap]	Easy Dairy Desktop [app pending]
Eli Innovation	-	Mistro Draft	Eli Mobile Feeder	[Eli systems]	COWcontrol [Nedap]	Mistro Shed
Farm Automation	-	iDairy Smart Draft	iDairy feed systems	-	-	iDairy & iDairy App
GEA*	-	AutoSelect gates, CowScout sort gates	GEA feed controller, CowScout feed system	Dematron 70 (or 12), Metratron 21	Rescounter III, CowScout	DairyPlan C21 & App
Genetics Australia#	-	-	-	-	HerdInsights	-
Hico#	-	-	Mistro Feed	-	-	Mistro Farm 5
Jantec	-	Jantec Sorting System	Jantec feed systems, Jantec Mobile ID Grain Feeder	CellSense, YieldSense+	-	Jantec Herd Identification
LIC	-	Saber Draft	-	Saber SCC, Saber Milk	-	-
Waikato Milking Systems*	-	Navigate Sort Gate	[Jantec feed systems]	Electronic Milk Meter, Smart D-TECT Sensor	Navigate Heat & Health	-
Zoetis	-	-	-	-	SmartBow	-

Suppliers where core business is Supply of milking systems (\*) and Genetic improvement (#)  
Red = developed in Southern Hemisphere

## Tips & traps from TechKISS study farmers



### Choosing new kit

- Does it fit with where your farm business wants to be in 5 years time?
- Will it work with your other kit?
- What level of technical support is available?
- Will it do everything you want it to?
- What training is required? By whom?



### Get more information

- From farmers who have experience with the products
- From your service providers
- From your local dealership
- Watch the TechKISS videos!

Visit [NSW Department of Primary Industries](#) for:

- Videos on cow management technologies
- TechMatrix list of technology available in Australia for individual cow management.



The TechMatrix was first published in 2019 and lists 80 products from 20 suppliers.

TechKISS is a New South Wales Dairy Industry Fund project delivered by the Harris Park Group. Project information is generic and is offered on an 'as is' basis with no guarantees of completeness or accuracy. Please seek advice before acting.

## More information on the NSW Department of Primary Industries website ('Dairy technologies')

Auto-drafting



Computerised bail feeding



In-line milk meters



Activity meters



TechKISS is a project of the NSW Dairy Industry Fund delivered by the Harris Park Group.

Information in the videos and Topic Sheets was created in 2018 and 2019 following interviews or visits with 141 dairy farmers, 20 technology suppliers and 35 advisers.

The resources are available on the NSW Department of Primary Industries website. If you have any enquiries, or would like to provide feedback on the TechMatrix, please contact Dr Nicolas Lyons, [nicolas.lyons@dpi.nsw.gov.au](mailto:nicolas.lyons@dpi.nsw.gov.au).

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November 2019