

Water monitoring comparison

Company / technology	Install-ation		Power			Connectivity				Communication				Cost (ex GST)	Ongoing subscription costs (ex GST)	ROI in the first year	Considerations
	Provider	Producer	Solar	Battery	Mains	3G or 4G	Satellite	LoRaWAN	Cat-M1	Alert	Text	Email	Online				
Agbot Liquid monitoring	✓	✓	✗	✓	✗	✓	✓	✗	✗	✓	✗	✗	✓	\$1,490 for tank monitor \$250 for leak detection unit for a 25 mm flow meter.	\$250 per year for initial device or \$200 per year for multiple devices	93%	The cellular or satellite liquid monitor can be used for various monitoring including diesel, liquid fertiliser, tanks, troughs, irrigation and dams.
Alpha Group Consulting Tank level monitor and leak detection unit	✓	✓	✓	✗	✓	✓	✓	✗	✗	✗	✓	✓	✓	\$1,490 - tank monitor \$250 – 25 mm flow meter leak detection unit	\$250 per year for initial device or \$200 per year for multiple devices	93%	Tank monitor and leak detection unit can be sold separately. Unit can also be paired with a pump monitor. The leak detection unit can determine leaks in pipes/troughs which a tank monitor may not be able to detect.
Farmbot Tank level monitor	✗	✓	✓	✗	✗	✓	✓	✗	✗	✓	✗	✗	✓	\$1,209	\$342 per year	129%	Installation is very simple. More than one device can be connected to the solar panel unit such as a rain gauge.
Farmo, Water Rat Trough level monitor	✗	✓	✓	✗	✗	✓	✗	✗	✗	✓	✓	✗	✓	\$599	\$135 per year	409%	Installation is simple - place in the device in the trough and it will float. A tank could be monitored by tethering the device to the top of the tank to give an alert if it drops to 50% or 75% of the water level.

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Goanna Ag, Go Tank Trough level monitor	✓	✓	✗	✓	✗	✗	✓	✓	✗	✓	✓	✗	✓	\$1,150	\$109 per year	225%	A C-size battery is required. Voltage levels can be monitored, and batteries should be replaced at least every 6 months. If the area doesn't have mobile reception, you may need to consider purchasing of a LoRaWAN which is an additional cost.
OneTemp HOBO – remote tank water level kit	✗	✓	✓	✓	✗	✓	✗	✗	✓	✓	✓	✓	✓	\$3,892	Subscription to HOBOLink: 30min logging/6hr upload - \$138 OR 1min logging/10min upload - \$418 12-month Telstra network 4G Cat M1 SIM - \$150	-16% Based on 1min log/10min upload + SIM cost	This cost includes 30 min logging/6hr upload, a water level sensor, 5M RWL cable and 12 SIM plan. There are two different options for how often you receive updates and alerts - see subscription costs. ROI after second year is 49%.

Comparison table explanation notes

Installation

- Provider – installation is supported by the technology supplier.
- Producer – installation is conducted by the producer.

Power

- Solar – power is supplied through a solar panel and battery.
- Mains – power can be supplied through mains electricity.
- Battery – power is supplied through a battery which the voltage can be monitored and replaced when needed.

Connectivity

- 3G or 4G – the device needs to be situated where 3G or 4G reception can be connected.
- Satellite – the device communicates through satellite connection.
- LoRaWAN – the device communicates through a Long-Range Wide Area Network connection.
- Cat-M1 – low power wide area (LPWAN) technology which transfers low to medium amounts of data.

Communication

- Alert – the technology sends real-time alerts notifying you of an issue.
- Text – the device sends text message updates, usually daily to your mobile phone.
- Email – the device sends updates, usually daily to your email address.
- Online – data can be accessed online 24/7.

Assumptions have been made regarding the ROI:

- All ROI calculations have been based on a 74 km return trip from the Struan farm to the Kybybolite farm.
- Labour cost to physically check waters is \$50/hour.
- Motor vehicle costs are approximated to be \$0.72/km.