

BUNK SCANNER



Manabotix is pleased to present its Bunk Scanner: calling bunks accurately, day in, day out.

Feedlots may now be enabled with valuable and objective operational insights through the employment of affordable technologies and engineering know-how.

Feedlot operators are currently experiencing very difficult economic conditions, including high operating costs, profitability pressures, and skilled labour shortages. Effective bunk management is closely tied to the livestock's intake, and ultimately the feedlot's bottom line, and bunk calling is one of its most critical inputs. This task, however, requires significant manual effort, and high levels of skill, experience, and focus.

Advancements in mapping, sensors, and robotics technologies means that it is now feasible to automate bunk calling. With MLA and ALFA's investment, Manabotix has developed a world-first automatic bunk calling system. Through a campaign of experiments across diverse feedlots it has been demonstrated that under normal operating conditions, the bunk scanner calls (predicts) feed remaining in bunks more accurately and repeatedly than humans.

MANABOTIX BUNK SCANNER OFFERS THE FOLLOWING KEY FEATURES

- + Minimal operator intervention required during the bunk call task; the system automatically detects start and end events for all pens at the feedlot.
- + Self-diagnostics and reporting of most operability and maintainability events.
- + Interfaces with feedlot enterprise systems, such as allocation software, minimising transference effort and errors.



SYSTEM SPECIFICATIONS

ENVIRONMENTAL

Suitable for all feedlots, all bunk designs, all road conditions, and all rations

Suitable for day/night, dusty/wet-weather, and hot/cold ambient conditions

BUNK CALL PERFORMANCES

Accuracy : < 10kg for all feed masses

Precision: $r^2 > 0.99$

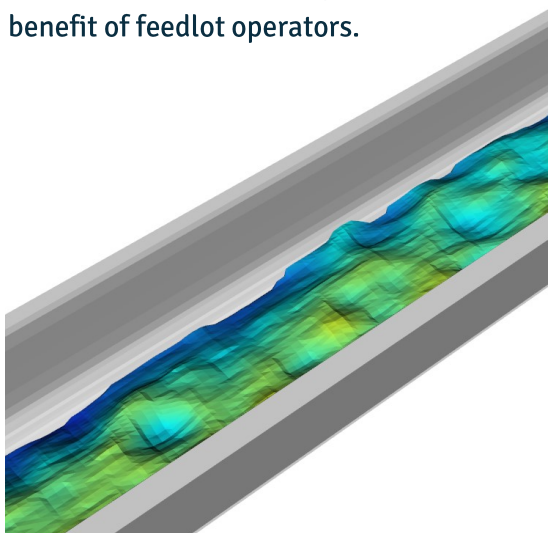
OPERATIONAL

Weather-proof

Near-field laser is safe for eyes

Bunk calls may be completed up to 15km/h

The world-first system is powered by a novel arrangement of perception, pose, and adaptive AI technologies for the benefit of feedlot operators.



INPUTS

- + Remnant feed in bunks, and ration type
- + Near-field scan of bunk contents
- + Rover (mobile) system pose data

SOLUTION

Manabotix Bunk Scanner

OUTPUTS

- + Near-field feed remaining measurements of pen bunk contents from vehicle-mounted measurement system
- + Flexible design for different host vehicles, appropriate for use in different environmental conditions
- + Progressive feed remaining mass data per pen via high-performance processing methods; nominal vehicle speed enables continuous measurements with no stoppages required, and results available immediately at end of each pen
- + Results published over-the-air (technology options available) in an efficient, simple, and intuitive format; databasing and query functionalities enable drill-down of performances and behaviours