

### Zero-Turn Mower Research Platform



# What It Can Do

Sense the state of the surroundings and the mower

3

4

Drive with an informed view of one's surroundings

Record driving dynamics for future analysis



The *sensor suite* records the dynamics of the mower while driving, giving Ariens the ability to investigate wheel position, velocity, accelerations, and driver input for every moment of a test run.

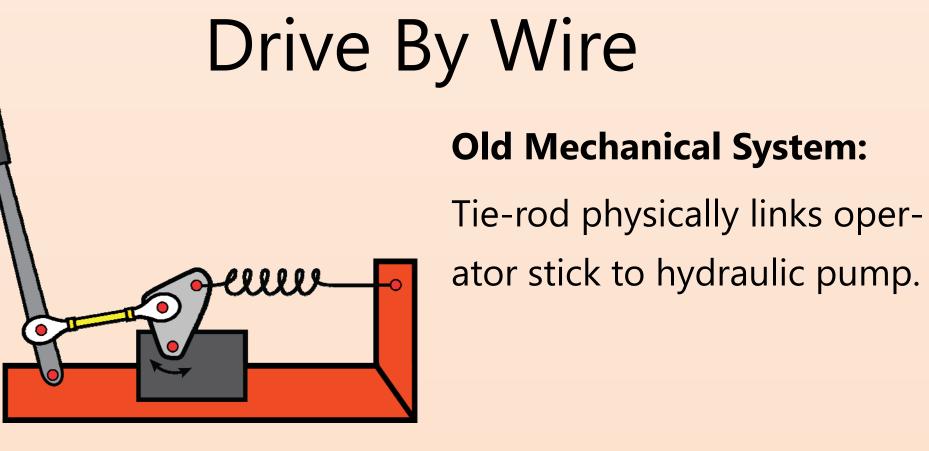
## Capabilities

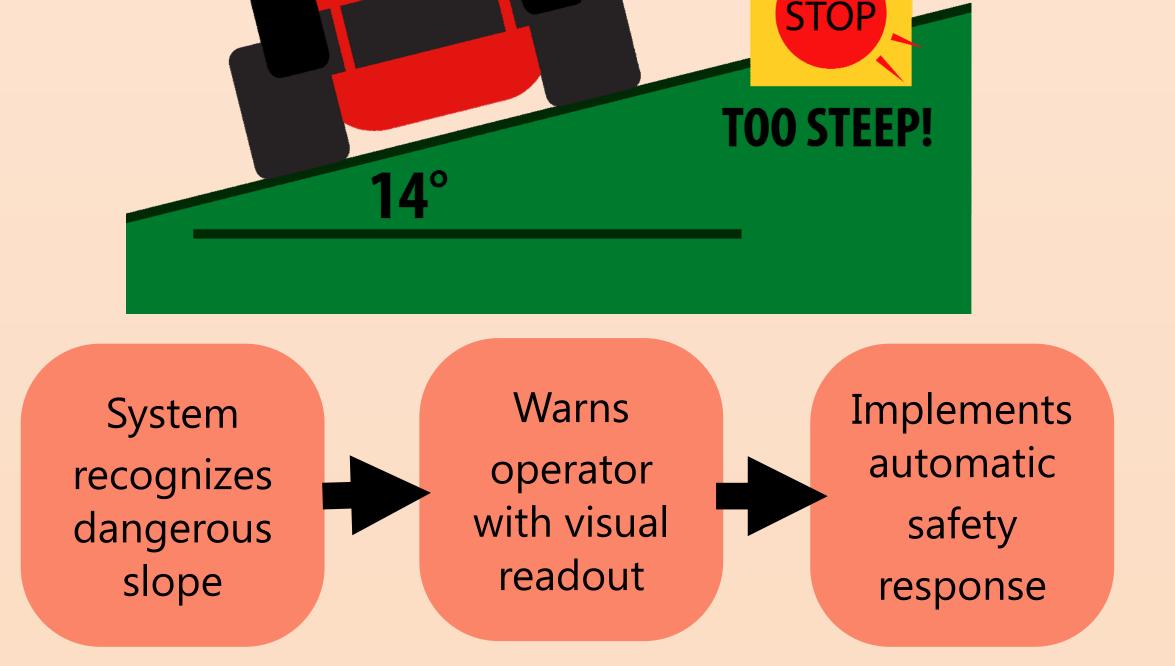
Slope Limiting Safety Mechanism



# Increase safety and driving performance

**Drive by wire** capability allows implementation of electronic controls on a previously fully mechanical system. The drive by wire system is also designed to be easily adaptable to any mower. Stick input to motor driving output can now be customized for individual users.

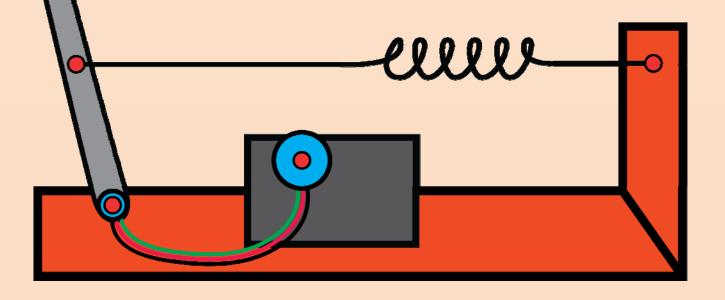




#### New Drive By Wire System:

(1) Potentiometer senses operator stick angle.

(2) Motor receives signal and spins the hydraulic pump.





Senior Capstone Program in Engineering



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