

# Automated Dozer System



## Advantages of an Unmanned Bulldozing Operation

### *Removing the Operator from the Cab*

- Remove personnel from safety-critical operations
- Reduce operator fatigue and injuries
- Increase vehicle/operator ratio

### *Increasing Average Operator Proficiency*

- Automation closes gap between novice and expert operators
- Precision control of vehicle and implements

### *Reducing Maintenance Costs*

- Dozer operates in a consistent, controlled manner that reduces wear and tear
- Automated equipment lends itself to planned maintenance

### *Increasing Availability*

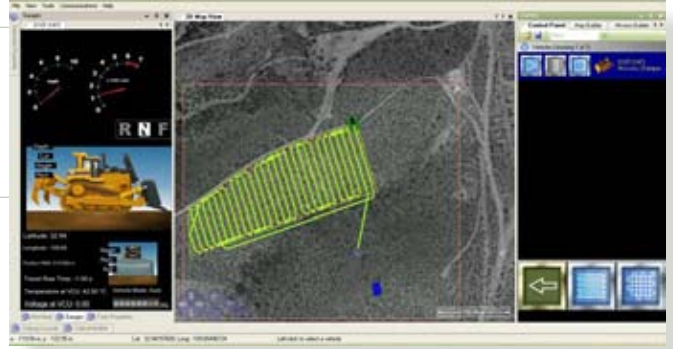
- Vehicle works during shift changes or other breaks



# Dozer System Features and Highlights

## Potential Dozing Application Scenarios

- Leach pad ripping
- Production/slot dozing
- Precision contouring



## Capabilities

- At the simplest level, enables tele-operation (remote control) of vehicle driving and implement functions
- Waypoint following or perimeter following
- Area coverage for ripping or dozing operations
- Earth moving or moving of material in a contouring operation
- Vehicle remains fully operational as a manned system

## Automation Approach:

- Safety is the number one consideration in all design work
- Standardized vehicle control and user interface

Currently available on the CAT D10-T Dozer. The system can be adapted to other dozer makes and models in conjunction with customer requests.



## Automated Functions

- Start and stop engine, monitor status
- Proportional steering control
- Proportional throttle control
- Transmission control
- Blade control (to be developed)
- Ripper control
- Control of lights, horn, and other accessories
- E-Stop-stored energy fail-safe system



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