Autonomous TMA Truck (ATMA)
CDOT Evaluation and Performance Verification

Developed By **KRATOS** UNMANNED SYSTEMS DIVISION **Royal** TRUCK & EQUIPMENT INC.

Launching In Collaboration With **Colas**

Project Vision

- Remove driver from TMA truck

- Decrease risk of operations

- Increase efficiency of operations

- Pursue cutting-edge technology to improve highway management

How it Works

- ATMA will autonomously follow a leader vehicle
  - Leader transmits high-accuracy position, speed, heading
  - Follower matches leader's movements using steering, throttle, brake actuators
- Front mounted radar on follower provides obstacle detection
  - Only reacts to obstacles in the path between leader and follower
  - Emergency stops upon obstacle detection

Results

- Lane accuracy within +/- 4 in
- Gap distance much more consistent than human driver
- Accurate following in cornering and slalom setups
- Performed turns as tight as 45 ft radius
- Identified software and hardware changes to be made
  - CDOT's production model will address issues found in evaluation of prototype
  - Further suggested modifications will be implemented in future