ALBERTA INNOVATES

# CLEAN RESOURCES

## ADVANCED HYDROCARBONS

CLEANER HYDROCARBON PRODUCTION – DIGITAL OILFIELD

FUNDING DETAILS

# Development, Testing and Commercialization of a Vision Guidance System Using AI/ML for Efficiency Enhancements in Industrial/Oil and Gas Applications

Correct-AI has developed the Visual Guidance System (VGS) for industrial markets. Our system, as is, uses camera and LiDAR data to detect and classify objects and to determine their size and distance to the subject vehicle. Correct-AI plans to further develop this technology by creating real-time maps of the surrounding area; aligning the local map with the construction site map; generating information regarding impending collision threats, terrain information and/or bottlenecks on the jobsites; and feeding this information to the equipment operator or operations management to draw immediate attention to critical operating factors that must be addressed.
The VGS will combine hardware and software solutions, and leverage machine learning by developing an awareness of surroundings, as well as detecting and improving the patterns of vehicle movement.

**RECIPIENT:**
Correct-AI Inc.

**PARTNERS:**
Morgan Construction, Finning Canada

**TOTAL BUDGET:**
$422,000

**AI FUNDING:**
$200,000

**PROJECT DATES:**
NOV 2020 – JUL 2021

**PROJECT TRL:**
Start: 7
End: 9

## APPLICATION

Correct-AI's target market are the manufacturers and operators of large sized industrial equipment. Key target markets include construction, mining, agriculture, forestry, and logistics. Correct-AI's initial focus is on the Construction and Mining markets. Correct-AI is planning to add a new feature to the VGS system called an "Efficiency Enhancement System" that will assist operations management teams to detect bottlenecks in their operation and increase the vehicle's operational efficiency during construction projects.

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## PROJECT GOALS

Correct-AI will develop the VGS technology in two ways:

Safety Features of the VGS system:

- The VGS product will be exposed to harsh environments for durability and endurance in the wintertime
- Operating issues that arise will be tested for, tracked, and modified for market launch

Efficiency Features of the VGS system:

- Correct-AI will add a new feature to the VGS system called an “Efficiency Enhancement System” that will assist operations management teams to detect bottlenecks in their operation and increase the operational efficiencies during resource construction projects

## BENEFITS TO ALBERTA

- Improving the efficiency of resource construction companies’ operations and reducing worksite safety incidents
- Improving the ROI for operators by improving operations cycle time for worksite tasks by 5%
- Reducing labor, equipment, and gas costs by up to $8,500/day for one production site based on a 5% increase in the operational efficiencies
- Extrapolated to similar sites across Alberta, the total cost savings is projected to be up to $41 MM per year

**22 HQSP Trained**

**7 Project Jobs**

**40 Future Jobs**

**2 New Products/Services**

**12.9 kT/yr Project GHGs Reduced**

**$41 MM/yr Future Costs Reduced**

## CURRENT STATUS

### May 2021

Correct AI completed the sensor platform and interface design, prototyping, integration and testing with their project partners Morgan Construction and Finning. Data collection from field trials is ongoing to further develop the machine learning capabilities of system. Field testing of the safety features of the system is continuing, and hardware/software integration is ongoing for the field trial of the efficiency enhancement system.