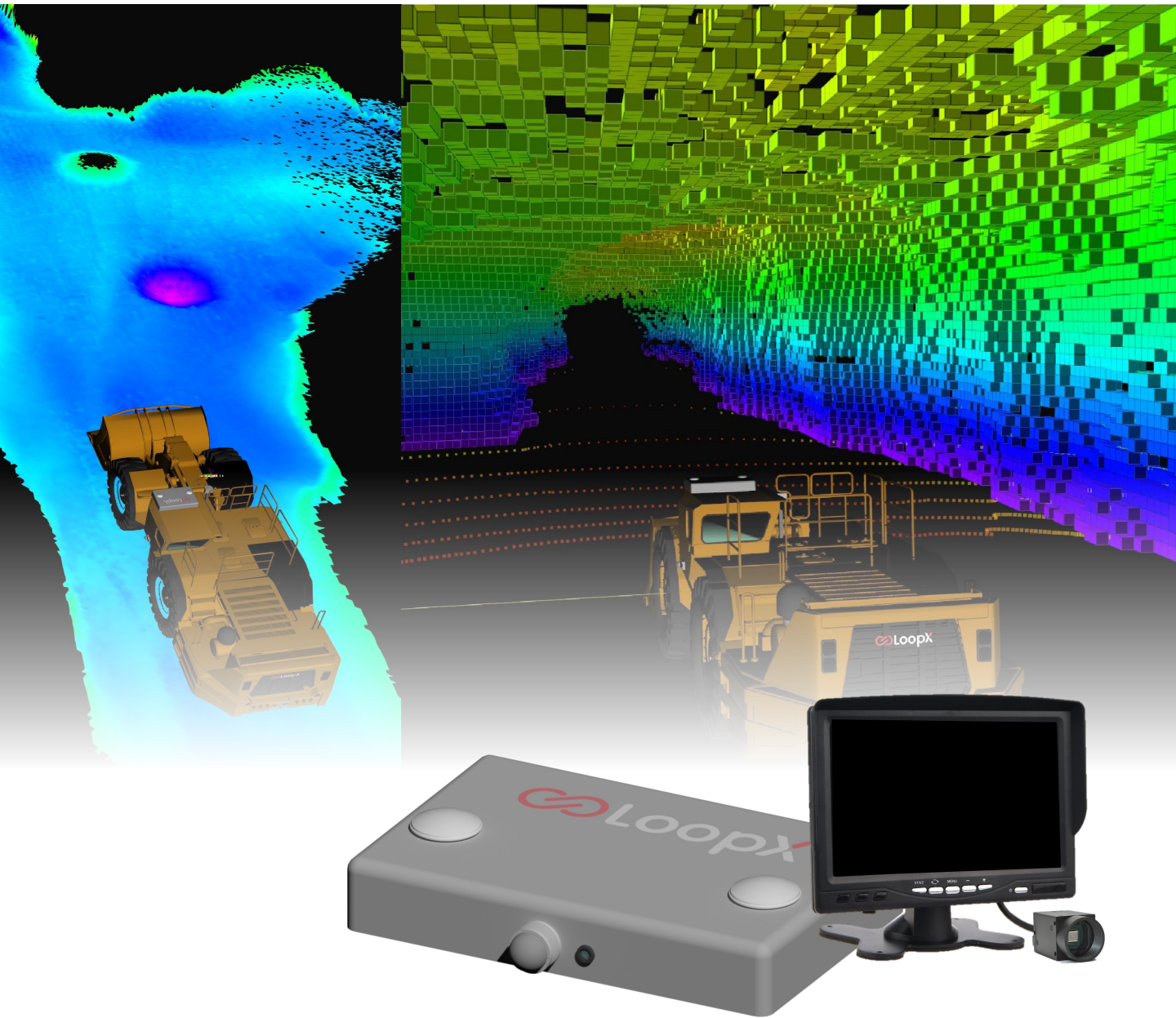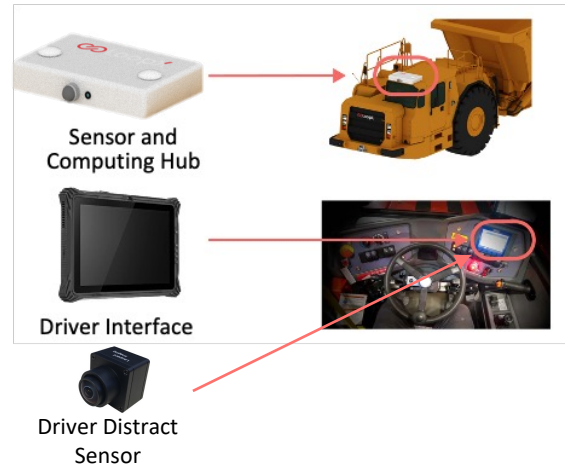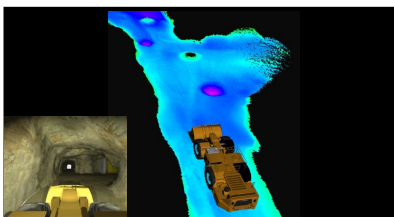# ClairAlert™
ADVANCED Operator Alert SYSTEM

BENEFITS AND FEATURES

ClairAlert™ is an advanced tool for safer and more efficient underground mining. It provides real-time navigation and hazard detection, as well as monitoring the driver's workload and facial expressions for signs of fatigue or distraction. This technology has the potential to improve mining operations by preventing accidents and optimizing workloads.

Sensor and Computing Hub
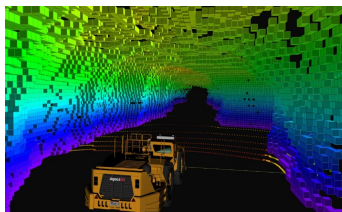
Driver Interface

Driver Distract Sensor

- Decreases the workload for underground machinery operators

- User-friendly driver interface

- IP-65 hardware for underground harsh condition

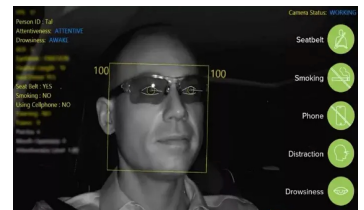- Easy to setup and maintain, like a dashcam

Features	Description
Rough Terrain Warning	This feature provides a clear view of bad underground road conditions (Potholes, rocky road, and waterlogging etc.) so that operators can take corresponding actions to minimize machinery wear and operation discomfort.
Obstacle and Edge Avoidance	This feature can alert the machinery operator about: 1) the nearby obstacles and people around; 2) approaching side and top edges of the underground area.
Underground Mapping and Localization	This feature helps the operator know their certain location in the multi-layers underground environment by automatically building and updating the geometric map during operation.
Underground Route Navigation	This feature only only navigates a route for the operators to the destinations, but also plan the real-time path to avoid the obstacles.
Driver Distraction Monitor	This feature utilizes AI to analyze the driver's facial capture in real time, and alarms if it detects distraction. The AI processing is local and doesn't collect driver's biometric data.
Workload Estimation	This feature uses multi-modality to estimate and logs the total LHD loads and distance of each operation.
Customized Solutions	We can customize the solutions based on your needs.

Rough Terrain Detection

Tunnel Edge Mapping and Positioning

Distraction and Fatigue Check

Better The World Through Autonomy.