Rapid Aerial Small Methane Leak Survey

DTPH56-15-T-00016L

PHMSA ACCOMPLISHMENTS

Pipeline and Hazardous Materials Safety Administration

Pipeline Safety Research and Development

Technology Development for Improved Leak Detection

Project Abstract

This R&D project developed a new airborne differential absorption lidar (DIAL) technology. This technology combines novel high-energy lasers and high-speed low-noise detectors, which is 12X faster per unit area on methane leak survey than vehicle mounted leak survey systems. It includes high-speed electronics that perform signal processing 100X faster than existing DIAL. The new instrument surveys broad areas more than 5X faster than existing DIAL which is designed to survey narrow transmission pipeline corridors and not gas distribution networks.

PHMSA Funding: $976,221

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NET Improvement

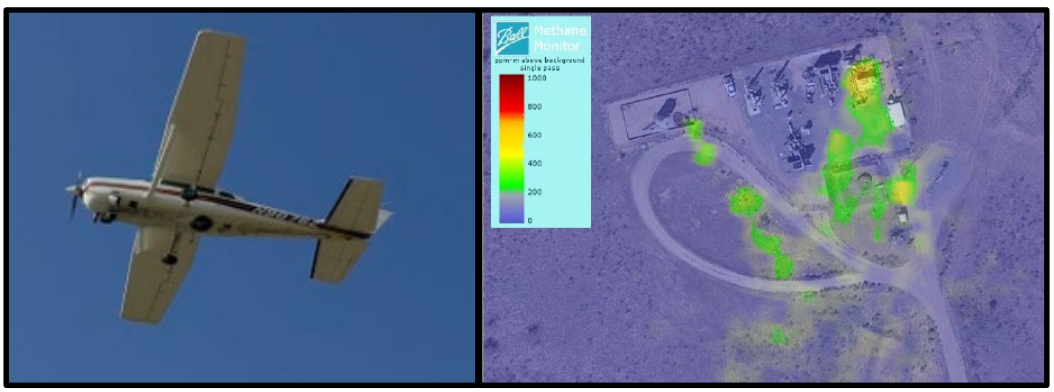
As a result of the research investment, the technology enables rapid leak survey of natural gas transmission pipelines from low-cost, single engine aircraft, with plume imagery to differentiate blow-over sources from off-system facilities. The wider-swath sensor also enables cost effective area mapping of methane emissions, including oil and gas production basins.

US Patent under DOT Contract:

US 2017/0089829

Commercial Partner

Ball Aerospace and Technologies Corp
https://www.ball.com/aerospace



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