Emerging Technologies for Identifying and Monitoring Fugitive Methane and Carbon Sources

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Abstract

Harris earth observing instruments have been flying on NOAA, NASA and international satellites for over fifty years. Just as NASA technology spun off Teflon in the 60's, Harris has miniaturized, leveraged and repurposed our space-based instruments and technology for markets with hyper-local in-situ needs. We will discuss two new technologies with a much smaller footprint that will detect, identify and monitor your assets and the area surrounding them for fugitive methane and carbon sources, as well as, oil spills or leaks along your pipelines.

GreenLITETM is a persistent, local area methane and carbon monitoring system using differential Lidar technology to generate real-time actionable geo-locatable information. Area size and shape are tailored to your area of interest. Harris has implemented tailored systems, from .25km^2 to 5km^2, based on size and type of asset monitored. Using cloud technology, the raw data is processed into useable information with alerts based on customer-tailored thresholds.

HELIOSTM is a persistent, local area observation network using ubiquitous traffic cameras to monitor changes to weather and assets including infrastructure failures, such as oil leaks from pipelines, drill heads and storage tanks. Using advanced photogrammetry and deep learning techniques, Harris currently provides alerts for changing visibility and road surface conditions every five minutes. Data from 30,000 cameras located throughout the US is processed into actionable information and delivered directly to your cellphone. Analytics processed in the cloud are available for customer specified thresholds using private cameras installed at the customer's location. Camera information and corresponding analytics are available on a secure URL.