Precision Methane Detection and Quantification at Scale

Gas Mapping LiDAR for Global Energy Operations

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Then

- Methane was “below the fold”
- Annual LDAR = acceptable
- Emission factors = standard practice
- Buyers didn’t ask about upstream emissions
- Super-emitter hunts met stakeholder expectations
- Accuracy didn’t impact revenue or contracts

Now

- Methane is a board-level KPI
- Buyers (especially LNG) demand measured, not modeled emissions
- CSRD, EU Methane Regulation, OGMP 2.0, EPA OOOO = strict verification
- Emissions data must be audit-ready
- Operators compete on emissions performance
- Methane intensity now affects:
  - Contracting
  - Market Access
  - Financing
  - Reputation

Volatility + Rising Expectations

Industry Pressures

- Volatility hits margins higher
- Lost product = lost revenue
- Efficiency matters more
- Measured>Modeled
- Increasing scrutiny

Early-Stage Operators

- Hard-to-defend inventories
- Infrequent surveys
- Crews chasing false positives or still scanning full sites
- Struggle to show year-over-year improvement
- Operational decisions made with low-confidence data

Leaders

- Using high-quality data to drive decisions
- Pinpointing equipment types for efficiency
- Filtering out intermittent/process noise
- Strategically dispatching field crews
- Building defensible reductions

What Success Requires Today

BRIDGER PHOTONICS

- Full spatial visibility
- Accurate, repeatable quantification
- Actionable insights at scale
- Reporting that stands up to verification
- A solution that is economical across global operations

Who is Bridger Photonics?

- Global market leader for aerial methane detection technology
- Executing innovative methane reduction work with the world's best operators
- Most extensively tested and validated measurement system on the market today
- Largest global emissions database, allowing for unmatched opportunities for AI and ML to drive insights
- 30+ patents and patents pending on technology
- Headquartered in Bozeman, MT

What is Gas Mapping LiDAR?

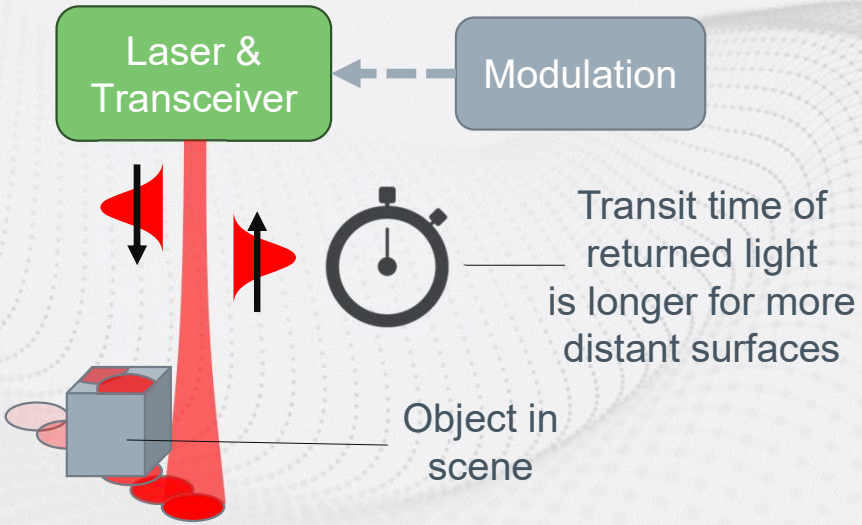
Measurement Streams

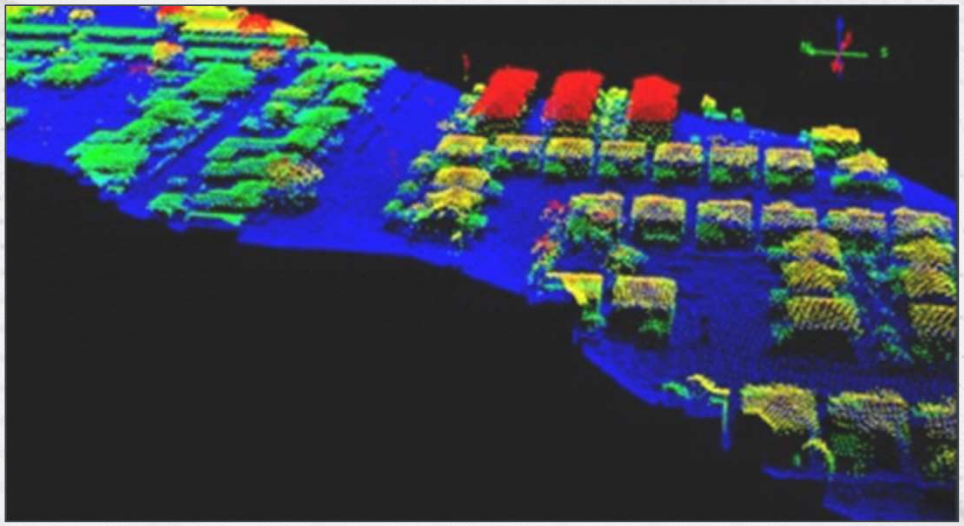
- Methane Concentration LiDAR
- Topographic LiDAR
- Aerial Photography
- Navigation
- Environmental Parameters

Topographic LiDAR Basics

Measure *Timing* of Returned Laser Light

- Direct Detect LiDAR (typically pulsed lasers)
- Coherent LiDAR (typically continuous-wave lasers)

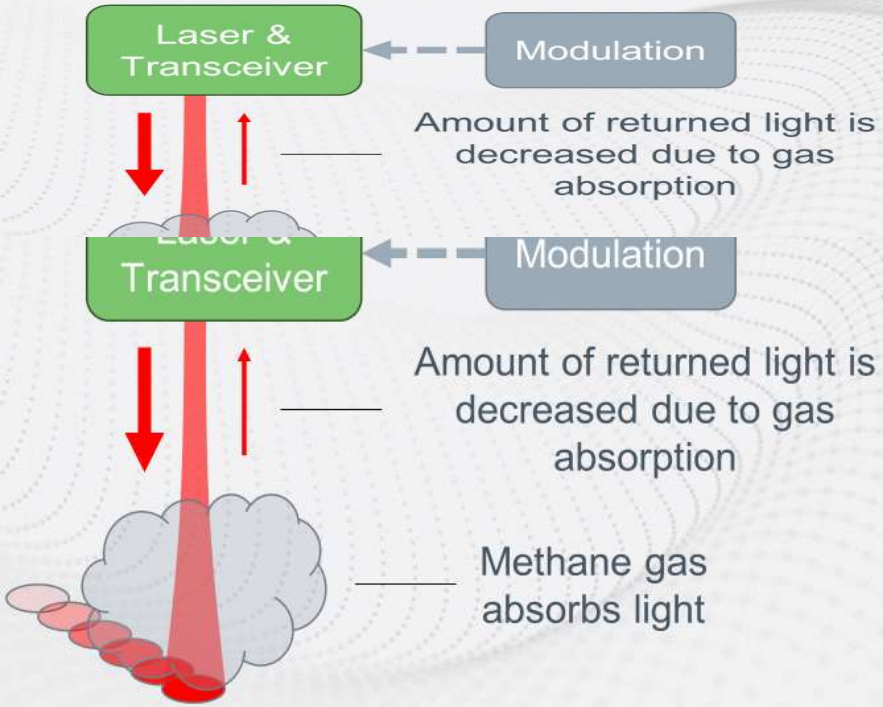


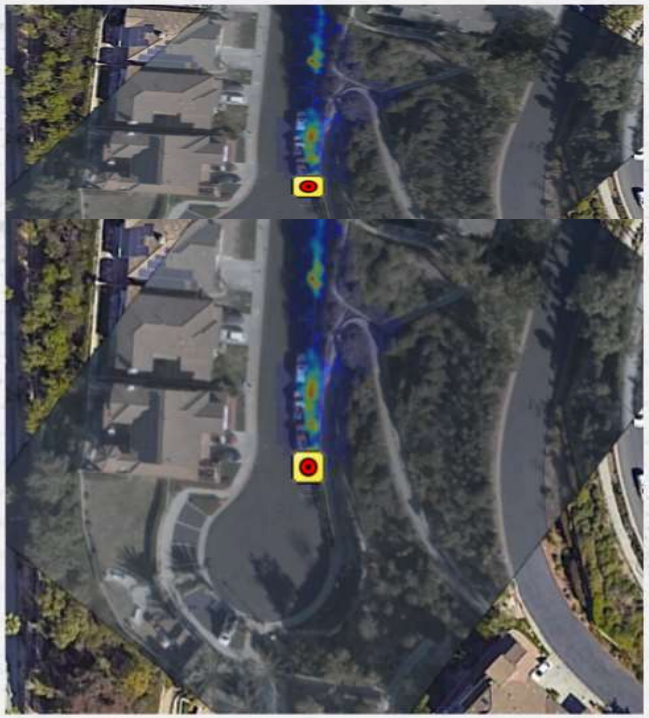


Atmospheric (methane) LiDAR Basics

Measure *Amount* of Returned Laser Light

- Differential Absorption LiDAR (pulsed lasers)
- Wavelength Modulation Spectroscopy (continuous-wave lasers)





Bridger's Gas Mapping LiDAR

Proprietary LiDAR Technology
30+Patents

Deployment Methods

BRIDGER PHOTONICS

Fixed Wing

Applications

- **Consistent** Terrain
- Production/Midstream Facilities
- Gathering/Transmission Pipeline
- Source and Site Level Measurement
- Landfills and RNG

Performance

- Sensitivity as low as **1 kg/hr** (90% PoD)
- Emitter localization to within 2 meters
- Plume and site imagery
- Equipment identification
- Auditable coverage

Rotary Wing

Applications

- **Inconsistent** Terrain and **Urban Areas**
- Production/Midstream Facilities
- Gathering/Transmission Pipeline
- LNG
- Distribution/Utilities Infrastructure
- Source and Site Level Measurement
- Landfills and RNG

Performance

- Sensitivity as low as **0.5 kg/hr** (90% PoD)
- Emitter localization to within 2 meters
- Plume and site imagery
- Equipment identification
- Auditable coverage

Drone

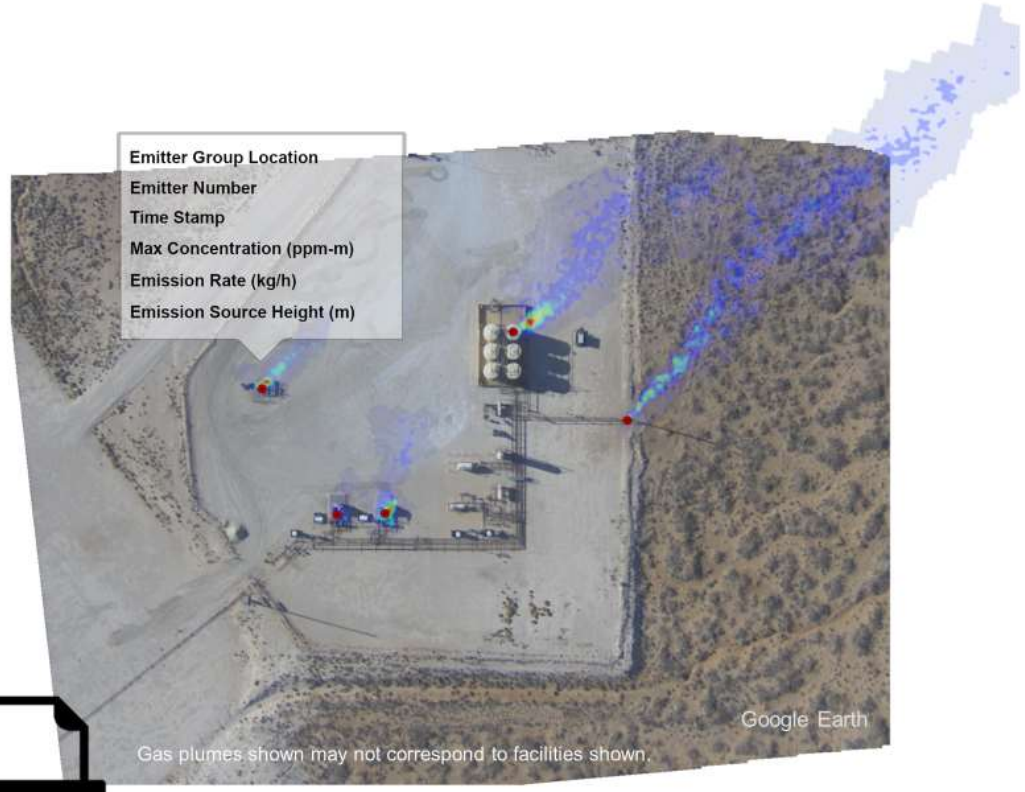
Applications

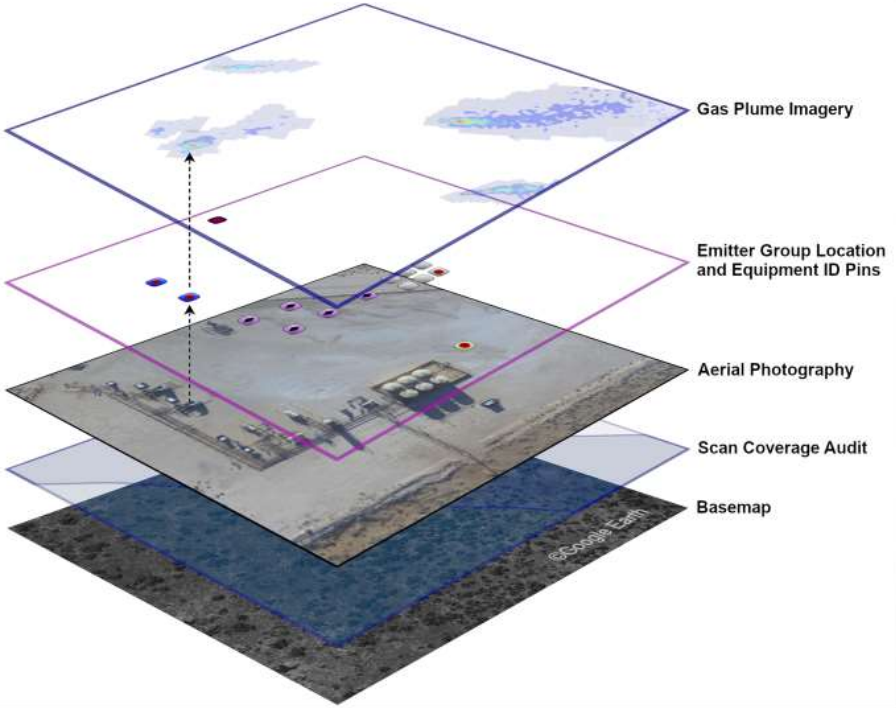
- **Dense** or **Isolated** Assets
- Offshore
- LNG
- Distribution/Utilities Infrastructure
- Source and Site Level Measurement
- Flux Curtain
- Landfills and RNG

Performance

- Sensitivity as low as **0.2 kg/hr** (90% PoD)
- Emitter localization to within 2 meters
- Plume and site imagery
- Equipment identification
- Auditable coverage

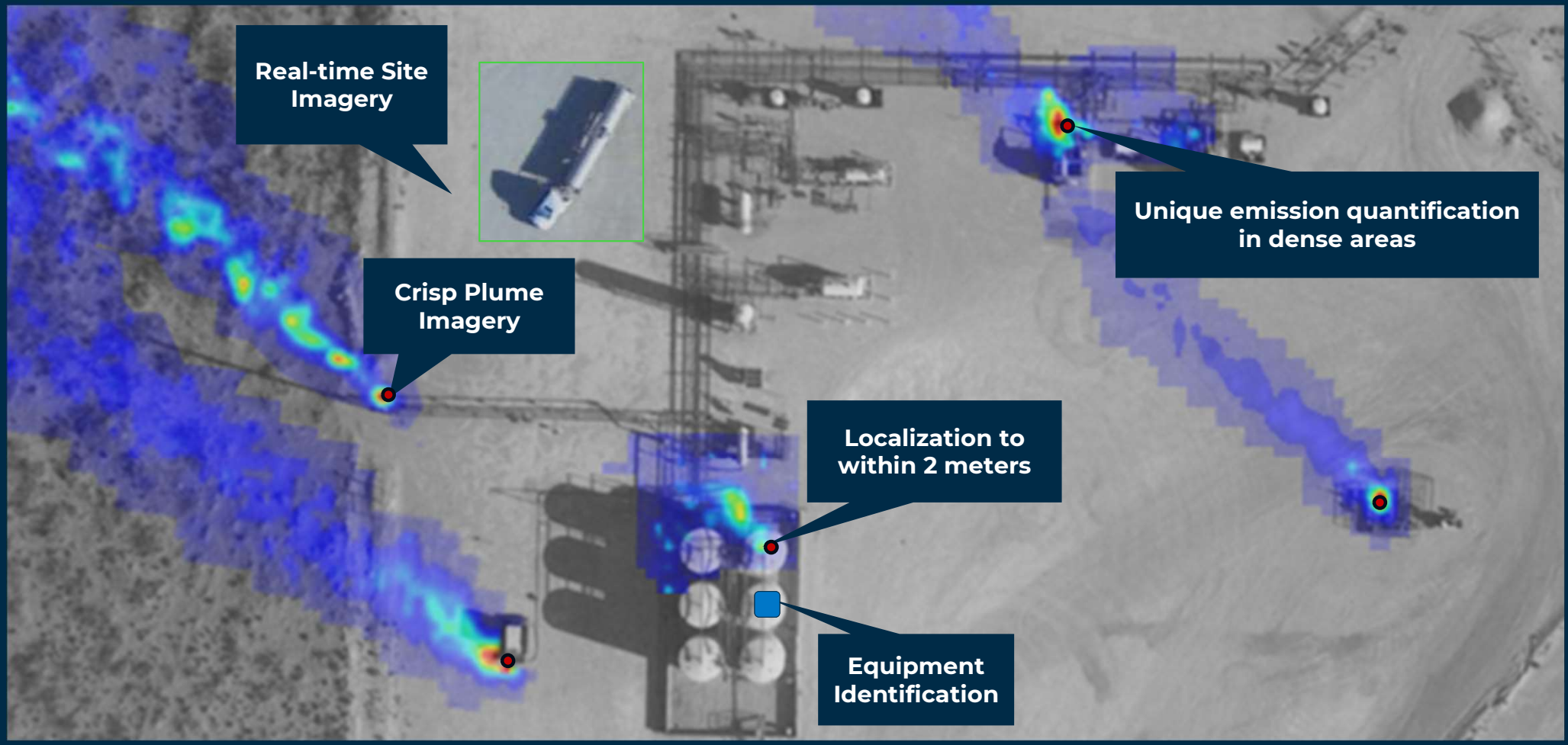
What We Provide



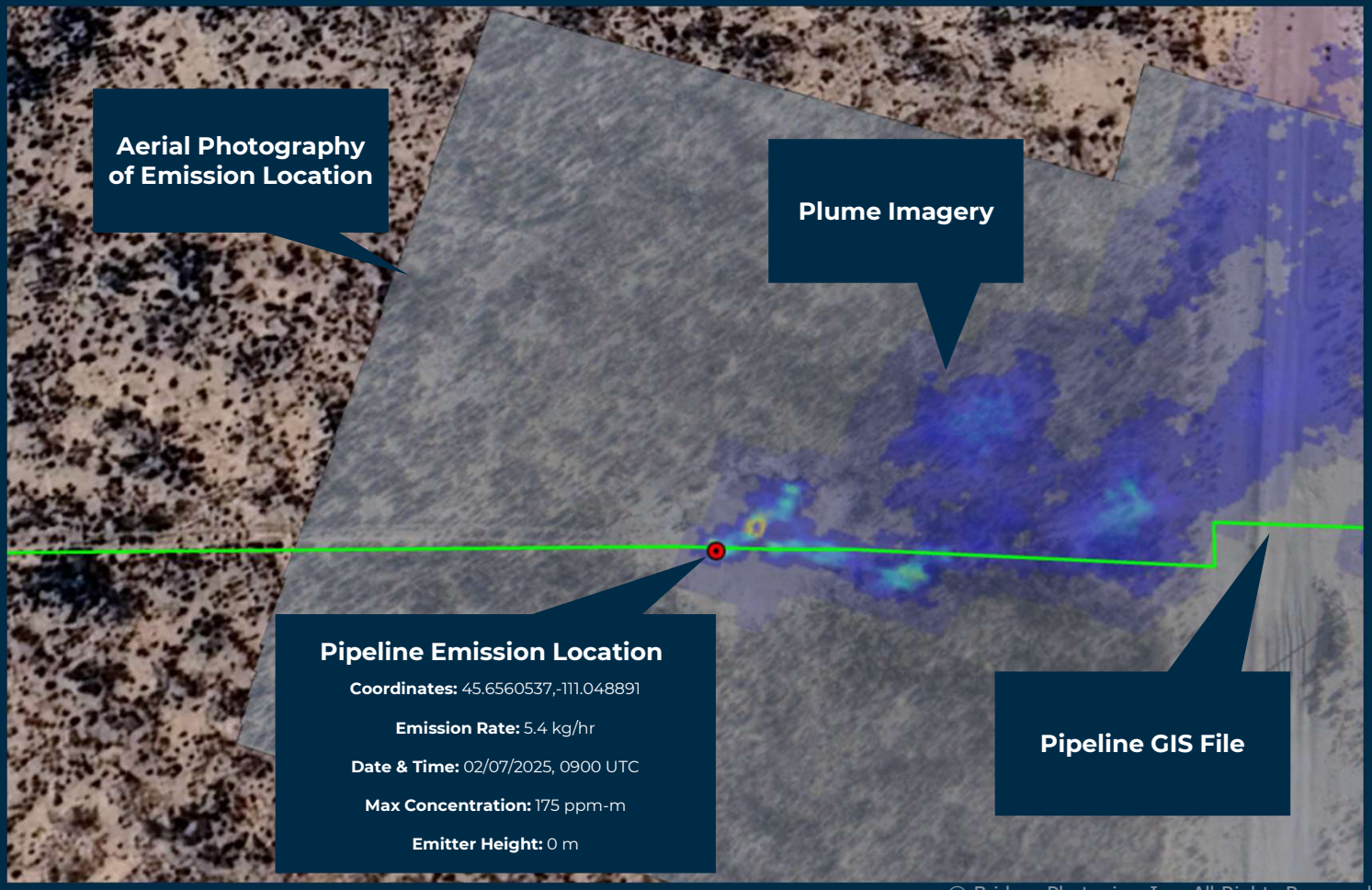


KML

Bridger Data in Action – Production Facility

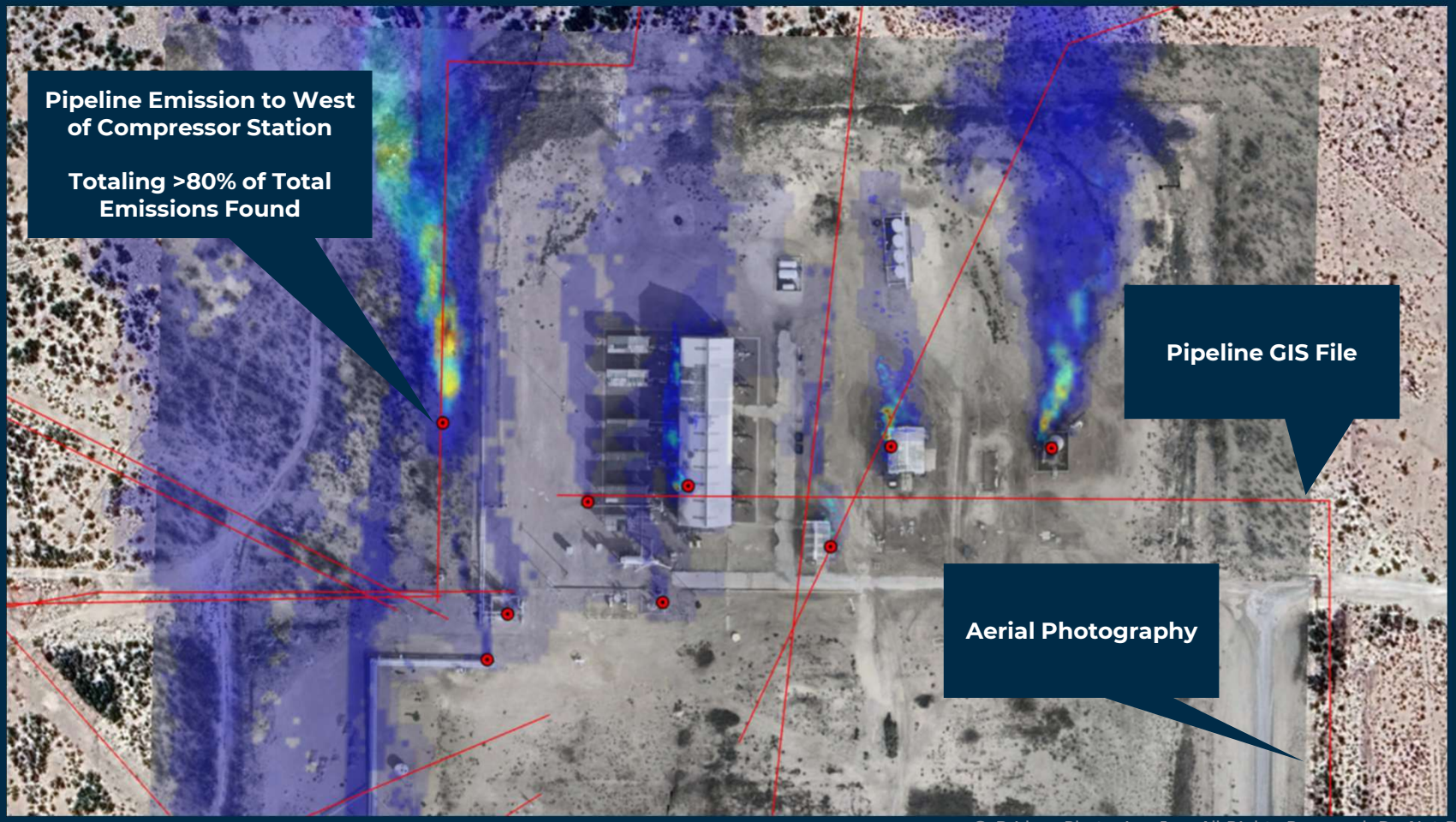


Bridger Data In Action - Pipeline



*Anonymized Example for Illustrative Purposes only

Pipeline Example



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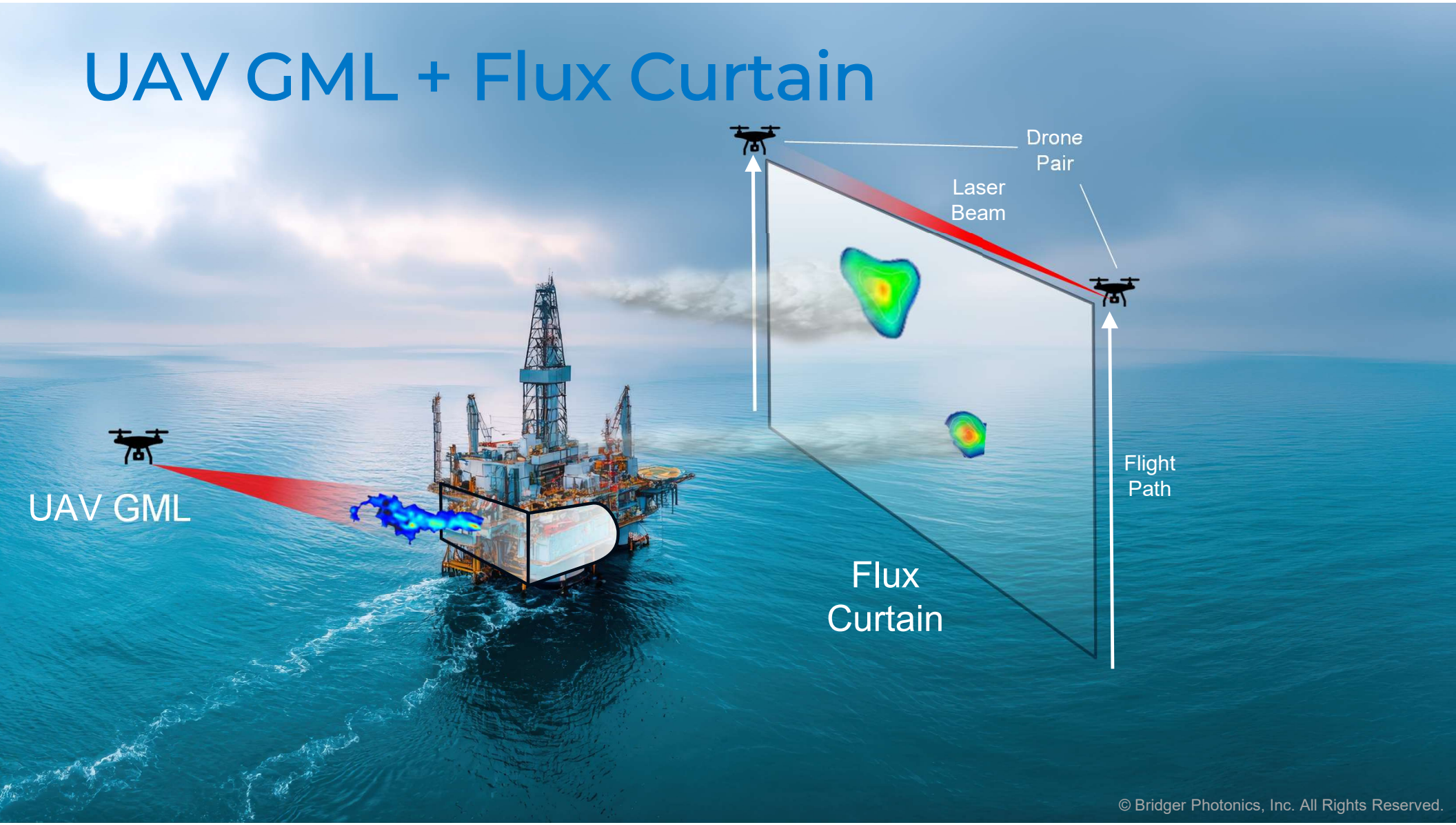
UAV GML + Flux Curtain



Bringing It All Together

Landscape Is Evolving

- Expectations around measurement & verification are rising
- Operational efficiency matters even more in volatile markets
- Scalable, economical solutions are increasingly essential

Today's Leaders Prioritize

- Full visibility across assets
- Accurate, repeatable quantification
- **Actionable insights** that drive meaningful reduction
- Reporting that stands up to verification

Alignment

- Pragmatic, scalable approaches
- Measured baselines that inform decisions
- Integrating the right capabilities across global operations